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The research on the relationship between the self-concept and the personality traits

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LA INVESTIGACIÓN SOBRE LA RELACIÓN ENTRE EL AUTOCONCEPTO Y LOS RASGOS DE LA PERSONALIDAD

KEYWORDS: Adolescent, athlete, self-concept, personality.

ABSTRACT: The Piers-Harris Children's Self-Concept Scale and the Eysenck Personality Questionnaire were tested with 36 adolescent short-track skaters. This paper discussed the overall situation of self-concept of adolescent athletes in short track speed skating team and the relationship between them. The results showed that the self-concept score of athletes was obviously lower than that of the Chinese norm（p＜0.01）. The six factors of adolescent athletes' self-concept were positively correlated with extroversion-introversion（r=0.114~0.560, p＜0.05）, but they are negatively correlated with neuroticism and psychoticism（r=0.142~0.637, p＜0.05）. The interpretation of physical appearance and attributes, anxiety, behavior on the extroversion-introversion, neuroticism and psychoticism were 28.4%, 22.2% and 39.5% respectively. The interpretation of extroversion-introversion factors and neuroticism to self-concept were 26.9% and 42.5% respectively. The conclusion showed that self-concept and personality were mutually influenced and restrained in the process of development. What's more, physical appearance and attributes, anxiety and behaviors were the dominant factors that influenced the extroversion-introversion, neuroticism and psychoticism scores respectively. extroversion-introversion and the psychoticism were the most important personality features that affected the development level of self-concept.

Most researchers in the field of sports psychology now examine self-concept. Theoretically, self-concept is a multidimensional, multilevel and complex psychological system, which refers to individual's perception and subjective evaluation of their own psychological, physical and social function（Fox,Corbin, 1989）. Many studies have shown that the level of self-concept has significant influence on the athletic training effect, athletic performance, social adaptation behavior and moral personality development, as well as the whole career of the athlete. For example, the level of athletes' self-concept is higher than that of nonathletes (Marsh H W, Hey J, Roche L A, et al., 1997). The self-concept can better predict the elite athletes' grades (Marsh H W, Perry C, 2005). The self-concept of adolescents has a good predictability for social adaptation behavior, explain 13.50% to 39.40% of the variation of good adaptation behavior and explain the variation of 5.90% to 14.90% of their bad adaptation behaviors (Nie Y G,Ding L, 2009). Athletes' self-concept is closely related to athletic ability and personality (Findlay LC, Bowker A, 2009).

Self-concept is an important part of the formation of personality and marks the level of personality development. Besides, as important individual variables, they may affect each other. However, at present, there are few studies on the relationship between self-concept and personality traits of adolescent athletes. In order to examine the mutual influencing and restraining relationship between personality and self-

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concept in the process of development（Peng Y S, 1990), and to test what the leading factors that influence the personality activities of adolescent athletes are and how the personality promotes the formation of a positive self-concept level of adolescent athletes, the level of self-concept of adolescent athletes was described. This study aims to provide an important reference for the psychological diagnosis, psychological counseling and psychological selection of athletes.

Method

Participants and procedure

A total of 36 short track speed skaters between the ages of 7 to 15 were selected from the Heilongjiang Province Sports Team in China and were recruited as participants in this study. These included 27 male team members and 9 female team members (25 primary school, 11 junior middle school students) whose average age was 12.54 years old. The Children's Self-Concept Scale and the Eysenck Personality Questionnaire (juvenile) were written by the 36 athletes. All athletes voluntarily agreed to take the exam. According to a strict standard, the measure was administered by two trained psychology teachers in the classroom of school. The scale was filled in by the way of anonymity, and the unified instruction was given before filling in the questionnaire. After completing the questionnaire, the athletes placed the forms in an envelope and the material was inserted into a large and covered box, which could ensure privacy and confidentiality.

Measures

The Piers-Harris Children's Self-Concept Scale was revised by Piers and Harris in 1974, and Su Linyan and others introduced and revised it in 1990 to establish a Chinese norm and evaluate the student's self-concept. The scale includes a total of 80 items, divided into six subscales: behavior, intellectual and school status, physical appearance and attributes, anxiety, popularity, happiness and satisfaction. This scale is a positive score, where the higher the score, the better the subscale evaluation. Besides, α coefficient is equal to 0.858 in this study.

The Eysenck Personality Questionnaire (juvenile) compiled by Professor Eysenck in 1975 was the questionnaire of Chinese version revised by Gong Yaoxian from Hunan Medical University. There are 88 items in the questionnaire, and EPQ is composed of four scales: P, E, N, L. The contents of investigation mainly include three dimensions: internal and external (E), neuroticism (N), psychoticism (P). Moreover, the reliability of the scale is 0.62 - 0.82.

Data analysis 1

Results: Characteristics of self-concept of adolescent athletes

By comparison with the independent sample T test and Chinese norm, it was found that (see Table 1) the average scores of male and female athletes of each dimension were lower than those of the Chinese norm. There was significant difference in intelligence and school status, physical appearance and attributes, and the total score for male athletes (P <0.01). Each dimension and the total score of female athletes were lower than the Chinese norm in different degree, but there was no significant difference (P >0.05).

Discussion 1

The level of self-concept of adolescent short track speed skaters was lower than the Chinese norm. The low level of athletes' self-consciousness is associated with individual factors and environments. Firstly, Athletes were in the stage of puberty, which was the second peak of human growth, accompanied by the rapid development of independence and the feeling of being an adult during this period. Secondly, parents didn't pay enough attention to adolescent's emotions and their ways of communication with their children were not appropriate, which led to a high degree of loneliness and low self-concept level (Liu L J, Sun X et al., 2010). The attitude of teachers or coaches towards students, ways of interaction between them and the harmony between althletes had the effect that can't be ignored in the development of the self-concept of students (Chen W I, Chen C Y, Lin Y H et al., 2012).

Data analysis 2

Results: The relationship between self-concept and personality of adolescent athletes

Through the correlative analysis of self-concept and personality traits of adolescents, there was a significantly positive correlation between athletes' extroversion-introversion and intellectual and school status, physical appearance and attributes, popularity, happiness and satisfaction (r=0.424-0.560, P<0.01), and athletes' extroversion-introversion was positively correlated with anxiety (r=0.401, p <0.05). There was

a significantly negative correlation between neuroticism and anxiety, happiness and satisfaction (r=0.467-0.537, $P<0.01$), and a significant correlation with popularity (r=0.374, $p<0.05$). The psychoticism was significantly negatively correlated with behaviors, happiness and satisfaction of the athletes (r=0.433-0.637, $P<0.01$) and negatively correlated with intellectual and school status, anxiety and popularity(r=0.336-0.394, $p<0.05$).

Regarding separately extroversion-introversion, neuroticism and psychoticism scores as the dependent variable and each dimension of self-concept as independent variables, we conducted multivariate linear stepwise regression analysis and treated F test as the standard of screening of variables: $P < 0.05$ was substituted into the regression equation, and $P > 0.1$ was eliminated, which resulted in the entering of 1 independent variables into the equation, establishing 3 models. In addition, the significant level can be seen in the analysis of variance ($p <0.001$). Therefore, it can be seen that the physical appearance and attributes, anxiety and behavior of the self-concept were respectively substituted into the regression equation of extraversion-introversion, neuroticism and psychoticism scores, and the significant level had been achieved in T test, the amount of the interpretation of which were 28.4%, 22.2%, 39.5%, respectively.

Regarding the total scores of self-concept as dependent variable, and the dimensions of personality scores as independent variables, we conducted multivariate linear stepwise regression analysis, and treated F test as the standard of screening of variables : $P < 0.05$ was substituted into the regression equation, and $P > 0.1$ was eliminated, which resulted in the entering of 2 independent variables into the equation, establishing 2 models. In addition, the significant level can be seen in the analysis of variance ($p<0.001$). As can be seen from table 5, extroversion-introversion factor and neuroticism factor of personality were respectively substituted into the regression equation of the total scores of self-concept and a significant level had been achieved in the T test, the amount of the interpretation of which were 26.9% and 42.5%, respectively.

Discussion 2

The results of self-concept and personality traits of adolescent athletes showed that the adolescent athletes owning a higher level of self-concept were more outgoing and emotionally stable. Foreign studies also have shown that neuroticism and psychoticism were negatively correlated with self-concept, showing a low self-esteem and sense of responsibility. Nevertheless, extroversion-introversion and self-concept were positively correlated (Chan R, Joseph S, 2000). The higher the level of individual self-concept, the more stable the mood and the more outgoing the personality (Francis L J, 1997).

In order to further test the relationship between self-concept and personality, the regression analysis is applied. It was foundathletes with high scores of physical appearance and attributes were more excited and confident in their training and competitions (Thomsen S R et al., 2004). Athletes with high score of anxiety factors had higher emotional stability and were able to face the reality objectively. Athletes with high scores of performance could control their behaviors to a certain extent, and get along well with people at home and school (Wang X, Liu H T, 2016). In addition, outgoing and compassionate athletes were more accustomed to contacting with their surrounding social relations and they will continue to expand their horizons, which enriched the development of self-concept (Robins R W,Tracy J L et al., 2001).

A healthy personality can promote the development of self-concept. When the development of self-concept is faulty, it can provide feedback for them and adjust their direction by giving their subjective initiative into full play, which can make the self-concept in a state of continuous and benignant development all the time (Liu L X, 2009). As a consequence, the conclusion can be drawn that a kind of mutual influencing and restraining relationship was generated between the self-concept and personality in the process of their development. What's more, physical appearance and attributes, anxiety and behaviors were the dominant factors that influenced the extroversion-introversion, neuroticism and psychoticism scores respectively. extroversion-introversion and the psychoticism were the most important personality features that affected the development level of self-concept.

	Gender	Mean Value	Standard Deviation	Norm Mean	Norm Deviation	T	p
Behavior	Male	11.44	2.407	11.94	2.66	-1.070	0.295
	Female	12.7	2.584	12.88	2.35	-0.220	0.831
Intellectual and School Status	Male	8.37	2.976	10.73	3.12	-4.120	0.000***
	Female	9.5	2.953	11.05	3.24	-1.660	0.131
Physical Appearance and Attributes	Male	5.96	3.069	7.98	2.89	-3.415	0.002***
	Female	7	2.667	7.97	2.8	-1.150	0.280
Anxiety	Male	8.52	1.988	9.41	2.54	-2.330	0.028*
	Female	8.8	3.736	9.2	2.54	-0.339	0.743
Popularity	Male	8.22	1.601	8.44	2.01	-0.707	0.486
	Female	8.5	2.173	9.13	1.78	-0.917	0.383
Happiness and Satisfaction	Male	7.22	1.423	7.56	1.65	-1.233	0.229
	Female	7.5	2.173	7.64	1.59	-0.204	0.843
Total Score	Male	49.85	8.95	56.62	9.91	-3.930	0.001***
	Female	52.1	13.3	57.26	9.66	-1.357	0.217

*Note: * p <0.05, ** p <0.01, *** p <0.001*

Table 1 A comparison of self-concept scores with Chinese norm for adolescent

	Behavior	Intellectual and School Status	Physical Appearance and Attributes	Anxiety	Popularity	Happiness and Satisfaction
Extroversion -Introversion	0.114	.424**	.560**	.401*	.428**	.448**
Neuroticism	-0.304	-0.163	-0.193	-.537**	-.374*	-.467**
Psychoticism	-.637**	-.336*	-0.142	-.394*	-.383*	-.433**

*Note: * p <0.05, ** p <0.01, *** p <0.001*

Table 2. The analysis of self-concept and personality traits of adolescent athletes

Dependent Variable	β						Ra^2	F
	X1	X2	X3	X4	X5	X6		
Y1			0.599***				0.284	14.891***
Y2				-0.793***			0.222	10.999***
Y3	-0608***						0.395	23.811***

X1 = Behavior, X2 = Intellectual and School Status, X3 = Physical Appearance and Attributes, X4 = Anxiety, X5 = Popularity, X6 = Happiness and Satisfaction

Y1 = Extraversion-Introversion, Y2 = Neuroticism, Y3 = Psychoticism

*Note: * p <0.05, ** p <0.01, *** p <0.001*

Table 4. The regression analysis of each subscale of the personality from self-concept

Dependent Variable	β	T	R	R^2	Ra^2	F
Extraversion -Introversion	0.538	3.724	0.538	0.290	0.269	13.865***
Neuroticism	-0.412	-3.201	0.677	0.458	0.425	13.941***

Table 5. The regression analysis of self-concept from the personality traits

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PALABRAS CLAVE: Adolescente, atleta, autoconcepto, personalidad.

RESUMEN: La *Piers-Harris Children's Self-Concept Scale* y el *Eysenck Personality Questionnaire* fueron probados con 36 adolescentes patinadores de pista corta. Este documento examina la situación general de autoconcepto de los atletas adolescentes en el equipo de patinaje de velocidad en pista corta y la relación entre ellos. Los resultados mostraron que la puntuación de autoconcepto de los atletas fue obviamente inferior a la de la media china ($p < 0.01$).Los seis factores del autoconcepto de los atletas adolescentes fueron positivamente correlacionados con la extroversión-introversión ($r = 0.114 \sim 0.560$, $p < 0.05$), pero están negativamente correlacionados con el neuroticismo y psicoticismo ($r = 0.142 \sim 0.637$, $p < 0.05$).La interpretación de la apariencia física y los atributos, la ansiedad o el comportamiento en la extroversión-introversión, neuroticismo y psicoticismo fueron 28.4%, el 22.2% y el 39.5%, respectivamente. La interpretación de los factores de extroversión-introversión y el neuroticismo del autoconcepto fueron 26.9% y el 42.5%, respectivamente. La conclusión muestra que el autoconcepto y la personalidad son mutuamente influenciados y contenidos en el proceso de desarrollo. Además, la apariencia física y sus atributos, la ansiedad y el comportamiento fueron los factores dominantes que influyeron en las puntuaciones de extroversión-introversión, neuroticismo y psicoticismo respectivamente. La extroversión-introversión y el psicoticismo fueron las características de personalidad más importantes que afectan al nivel de desarrollo del autoconcepto.

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