

Major Factors of Influencing PE Postgraduates on Psychological Toughness in Yunnan Province

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Abstract: In this study, questionnaire survey, expert interview, mathematical statistics and other methods are used to investigate and analyze the factors of influencing the psychological toughness of yunnan PE graduate students. The results show that the main factors of influencing the psychological toughness of PE postgraduates in yunnan province can be summarized as self-cognition, professional identity, interpersonal relationship, academic performance, employment pressure, family environment and network dependence. On this basis, we put forward countermeasures and Suggestions to enhance psychological resilience, such as strengthening knowledge reserve, enhancing volitional quality, enriching social experience, understanding professional advantages, forming good interpersonal relationship, facing up to their own advantages and disadvantages, having a good family environment, reducing network dependence.

1. Introduction

With the improvement of living standards in modern society, people pay more attention to physical health while pursuing mental health. As we all see that various psychological problems caused by fast-paced life have attracted the attention of scholars at home and abroad. With the rise of positive psychology, the study of psychological toughness played a very important role in the field of psychology, and it was one of the hot spots in psychological research. Hauser, st. (1999) defined psychological toughness as an individual's ability to positively adapt to good results in major difficulties or dangerous situations [1]. APA Help Center (2000) defined psychological toughness as "the dynamic development process of an individual's adaptive response to various pressures, difficulties, threats or other major life events in real life" [2].

At present, researches on psychological toughness tend to be diversified, and the frontier research direction is to understand psychological toughness at the multiple levels. Researchers have studied toughness from different groups, directions and strategies (for example, Chen lulu, 2012; Chen lulu, 2013; Ye lihong et al., 2018) [3-5]. Someone studied psychological toughness, and also discussed the relationship among mental health, subjective well-being and social support (e.g. Zhang haili, 2012; Jiang yuhan et al., 2011; Chao fanfang, 2010) [6-8]. Furthermore, some experts proposed theoretically that psychological toughness was regarded as the mediating factor between mental health and subjective well-being (such as han fang, 2016; Chen xia, 2017 et al) [9-10].

With the gradual implementation of the college enrollment expansion policy, the number of graduate students is increasing rapidly. Graduate education has become an important part of China's higher education. It is well known that the psychological problems of graduate students also show a tendency of complexity and diversity with the increasing age and employment pressure of graduate students. Due to too much psychological pressure, most graduate students did not get timely dredge, resulting in psychological bias. Some of them choose to hurt themselves or others in the face of huge psychological problems, which were common examples. The study found that people with higher psychological toughness showed more self-confidence, optimism, humor, adaptability and other

individual characteristics when faced with difficulties and challenges than people with lower psychological toughness [11].

According to the literature, the research objects of psychological toughness are mainly border guards, autistic children, nurses, college students, teachers and other groups, while the research on psychological toughness of postgraduates in physical education is in a blank stage. As an important part of the graduate student group, the graduate students of physical education are inferior to professional athletes and undergraduates in terms of skills specialization and marketization due to the particularity of their majors. Therefore, the research on the psychological health of the postgraduates of physical education is very important in the current social state. This study will attempt to investigate the factors of influencing the psychological toughness of yunnan PE graduate students, and put forward reasonable Suggestions for the existing problems. We hope to provide countermeasures for the future healthy development of yunnan PE graduate students and realize their own value.

2. Method

2.1 Data Sample

According to the needs of the study, 260 questionnaires were issued to the four institutions (yunnan normal university, yunnan university, yunnan university for nationalities, yunnan agricultural university).All of investigators were enrolled postgraduates of physical education in yunnan province, and 241 valid questionnaires were recovered, with an effective rate of 92.7%.

Literature Review By use of the official website of the library of yunnan normal university, a large number of information related to this study can be found on cnki, wanfang, weipu and other databases, and a detailed understanding and summary can be made to provide a strong theoretical basis for the smooth progress of this study.

Expert Interview This study involved a wide range of subject knowledge, such as psychology, physical education and pedagogy. In order to provide a strong guarantee for the progress of this study, experts who were interviewed in person or by telephone were consulted and learned about the research trend, research framework, research methods and questionnaire design.

Questionnaire Survey Through interviews with experts and data search to understand the factors that may affect psychological toughness, a questionnaire was designed to investigate the influencing factors. There were 25 questions in the questionnaire, which was scored at level 5 from "very inconsistent" to "very consistent" with a score of "1-5", indicating "very inconsistent", "inconsistent", "uncertain", "relatively consistent" and "very consistent".

1) **Reliability Test** In order to ensure the reliability of the results of the questionnaire on influencing factors of psychological toughness, the reliability of the questionnaire was analyzed by retest reliability and clonbach a coefficient.The initial test time of the questionnaire and the retest interval were two weeks. According to the analysis of the two test results, the Pearson correlation coefficient of the retest reliability of the questionnaire was obtained, $r=0.819$ ($p < 0.01$).In addition, the overall value of a coefficient of the questionnaire was 0.865, indicating that the reliability of the questionnaire on influencing factors was good.

2) **Validity Test** Validity was also known as validity, which was usually used to refer to the degree to accurately measure the required measurement objects^[12], including content validity, structure validity, etc. In order to ensure the validity of the research questionnaire, the influencing factors questionnaire was formed after several modifications and improvements under the guidance of experts, so the validity of the questionnaire was acceptable.

Mathematical Statistics The software package of SPSS17.0 was used to input, process and analyze the recovered data, and conducted statistical analysis and research on the scores of various factors in the questionnaire according to the needs of the study.

3. Result and analysis

Factor analysis method was used to classify the influencing factors of psychological toughness. First, KMO statistics and Bartlett's sphericity test were performed, the KMO value was 0.742, the Bartlett's sphericity test result was 5576.228, and the P value was less than 0.000, indicating that it was suitable for factor analysis.

Table 1. Influencing factor variables, load, commonality and contribution rate

Influencing factors	variables	load	commonality	contribution rate (%)
self-cognition	will and quality	0.910	0.883	21.70
	pride	0.910	0.875	
	emotional control	0.532	0.818	
	understanding ability	0.530	0.591	
	knowledge reserve	0.467	0.808	
	social experience	0.449	0.699	
professional identity	confidence	0.887	0.857	15.94
	expectations	0.886	0.862	
	interest	0.592	0.472	
relationships	teacher-Student	0.824	0.583	10.35
	friend's concern	0.667	0.742	
	elder support	0.605	0.670	
	Parental expectations	0.558	0.644	
	school record	0.871	0.782	
performance	master skills	0.828	0.495	9.84
	scientific achievements	0.487	0.777	
	sports level	0.904	0.881	
	competition results	0.896	0.865	
employment pressure	situation	0.910	0.903	8.62
	anxiety	0.908	0.900	
family environment	economic condition	0.749	0.610	6.16
	family atmosphere	0.647	0.620	
	Parents' culture	0.524	0.569	
internet dependence	online game	0.745	0.668	5.32
	news and film	0.690	0.673	

By using the orthogonal varimax rotation in the principal component analysis, the factor loading was higher than 0.4 for the extraction of the standard, and the characteristic values was greater than 1. The result showed self-cognition, professional identity, interpersonal relationships, learning result, the employment pressure, family environment and network were main influencing factors, which got the cumulative variance contribution rate of 77.93% (see chart 1).

Factor 1: self-cognition includes an individual's understanding of his own ability, knowledge reserve, volitional quality and social experience. PE graduate students in Yunnan province at the present stage are mainly after 90, who also gradually understand their own level with the growth of the age. Therefore, students have higher expectations for their future development in the postgraduate study. Under the policy background of our country to develop the sports and cultivate high-quality talents, the level of good psychological toughness and the ability to understand their features become particularly important. If postgraduate students can fully understand their own strengths and weaknesses, they would cope with the difficulties in the process of their development, and make the corresponding adjustment in time when meeting difficulties. Li Wuyi believed that only by evaluating one's own ability and value, including cognition of one's own behavior and psychological state, correct and objective cognition of one's social activities and the relationship

between oneself and the surrounding things, can one have a competitive advantage in the future development [13].

Factor 2: professional identity includes professional interest, expectation, confidence and so on. Due to the particularity of physical education, students' learning is characterized by the combination of sport skills and theories, which requires the coordination of brain and physical strength. Because of the strong professional nature of sports major, it has a relatively narrow employment area. In the society, there are some comments on students majoring in physical education: "simple-minded, well-developed", "loyal and emotionally intelligent". Most postgraduates seek better development in the future through the improvement of professional skills and theoretical knowledge, so professional identity is particularly important. If individual is higher to major approbation, he can appear active on major and study hard full of confidence. On the contrary, If individual seems to be passive in learning, he is very easy to bring about a series of psychological problems. Hu jinxia pointed out if an individual had a thorough understanding of a major, he would spontaneously accept and identify with the major in heart, and take the initiative to learn [14]. As for the postgraduates in yunnan province, it is necessary to know the specialty of physical education correctly, understand the advantages of the specialty and the latest sports trends, and improve the professional identity for the development of students' psychological toughness.

Factor 3: interpersonal relationship includes teachers and students, friends, elders and other aspects. A good interpersonal relationship is a psychological relationship established by people to meet various needs in common activities [15]. British writer George Bernard Shaw pointed out that a good interpersonal relationship involved not only the exchange of knowledge and information, but also other aspects such as ideas. Carnegie once said, "fifteen percent of a person's success was determined by his professional skills, and eighty-five percent was determined by his interpersonal and social skills"[16]. At present, most of the postgraduates of physical education in yunnan province are born after "90". Due to the influence of the elders, many graduate students regard whether it is useful for their studies, life and future career as the starting point of interpersonal communication. Therefore, how to guide the postgraduates in yunnan province to correctly understand interpersonal relationship, grasp the correct way to deal with interpersonal relationship, form a good interpersonal relationship atmosphere, has become an urgent need to consider the important task of yunnan university graduate educators.

Factor 4: performance includes learning, scientific research, training and competition results. As far as students are concerned, the most important task is school work. Due to the special nature of sports, school work includes not only academic achievements and scientific research achievements, but also the mastery of sport skills. It is well known that the process of sports training can cultivate students' sense of competition and active participation and increase social interaction. In the training process, most cases were carried out together with others. Under certain rules and requirements, fair competition can be carried out. Therefore, people must get along with each other. Psychological toughness can be shown in the process of training and competition, and can also be developed in the process of overcoming difficulties. Individuals with higher psychological toughness tend to adapt well and show a positive and enterprising spirit in the face of difficulties. Individuals with higher psychological toughness tended to adapt well and showed a positive and enterprising spirit in the face of difficulties. Previous studies have also shown that graduate students with high sport skills have higher psychological toughness [17].

Factor 5: employment pressure includes psychological anxiety and severe employment situation. Zhang jian pointed out that individuals often faced a series of passive and negative psychological feelings such as confusion and anxiety in the process of career selection or employment consideration^[18]. A large part of the graduate students hope to improve their competitiveness through graduate study, so as to prepare for their future career development. With the promotion of their academic degrees, they have equated advanced degrees with good jobs, which gradually showed some negative emotions in the face of severe employment. Nowadays, graduate students are in an embarrassing state on the way to job hunting, and there are many reports about graduate

students' employment difficulties. It is very important for graduate educators in colleges and universities to help students evaluate their abilities reasonably, establish crisis awareness, and strengthen students' employment guidance.

Factor 6: family environment includes parents' education level, family economic conditions, atmosphere and other aspects. Gao yujia pointed out that economic conditions, environment, education level of family members, family atmosphere, member composition and emotional communication had a profound influence on individual development^[19]. From the birth of an individual, the family environment has an uninterrupted impact, which permeates into all aspects. A good family environment can affect the development of a person's life. According to the results of the study, there is a significant difference in the level of psychological toughness in the variable of family annual income, indicating that family economic level has an impact on the level of psychological toughness. Individuals influenced by different family environments would have different personalities, ways of doing things, world views and attitudes towards life. The relationship between family members and the frequency of contacting between them affects individual growth and psychological toughness level to a certain extent.

Factor 7: network dependence includes network games, news movies. With the time progress and the development of the society, the Internet plays a more and more important role in people's life. The Internet tools people used are also varied, including mobile phones, tablets, etc. people can be in any Internet access to get relevant knowledge and information they need. Especially, students can use the Internet to get more extensive extra-curricular knowledge, expanding their view. In addition, People can also use the Internet to watch videos, listen to music, play games to relax people's mood and so on. But the misuse or overuse of the Internet can have an impact on people's health. At present, the number of people suffering from psychological disorders caused by "Internet addiction" is very high. Spending a long time in the game world or browsing unhealthy websites have an impact on attention, perception and memory, resulting in sluggish response. Therefore, Reducing network dependence, using network platform reasonably, and strengthening network health education have a practical significance to improve the psychological toughness of postgraduates of physical education in yunnan province.

4. Conclusion and Advice

1) The influencing factors of psychological toughness of PE postgraduates in yunnan province can be summarized as self-cognition, professional identity, interpersonal relationship, performance, employment pressure, family environment and network dependence. Self-cognition is the most important factor among seven factors.

2) In order to meet the needs of social development and improve the level of psychological toughness, Postgraduates of physical education in yunnan province should strengthen their knowledge reserve, enhance their volitional quality, enrich their social experience, understand their professional advantages, form a good interpersonal relationship, face up to their own advantages and disadvantages, have a good family environment, reduce network dependence.

3) Colleges and universities should improve the mental health education system and increase the intensity of psychological counseling. We should try our best to help the graduate students of physical education, improve their adaptability, enhance self-confidence in the study, interpersonal processing and other aspects, so that they can calmly deal with setbacks.

4) Warm family atmosphere, parents' guidance, equal dialogue can provide enough sense of security and trust for graduate students in physical education. Emotional communication and full expression among family members have a significant effect on the improvement of individual psychological toughness.

References

- [1] Hauser, ST. (1999). Understanding resilient outcomes: Adolescent lives across time and generations. *Journal of Research on Adolescence*.1-24.
- [2] Zhou min. (2014). A study on the relationship between psychological toughness, core self-evaluation and depression and anxiety of college students. Central south university.
- [3] Chen lulu. (2012). Study on the relationship between post-traumatic stress disorder, mental health, mental toughness, personality and coping styles in gynecological cancer patients. Third military medical university.
- [4] Guo junjun. (2013). A study on the psychological toughness of vocational students and its influencing factors. Nanjing normal university.
- [5] Ye lihong, qian yu, wu rong-kang, Chen kailei, fu chuan-xi, guo xuan, Mao yingying. (2008). Study on the status quo and influencing factors of psychological toughness of left-behind middle school students in mountainous areas. *Journal of zhejiang university of traditional Chinese medicine*, 42, 584-589.
- [6] Zhang haili. (2012). Research on the relationship between toughness and mental health of college students..xi an petroleum university.
- [7] jiang yuhan, li yian. (2011).A study on the relationship between psychological toughness and subjective well-being in high school students. *Chinese journal of health psychology*, 11,1357-1360.
- [8] Chao fanfang. (2010). Relationship between psychological toughness, personality and social support of college students . Northeast normal university.
- [9] Han fang. (2016).Research on the relationship between psychological toughness, employment pressure and subjective well-being of postgraduates . Shanxi normal university.
- [10] Chen xia. (2017).The influence of social support for college students on network interpersonal communication: mediating effect of psychological toughness toughness . Sichuan normal university.
- [11] Hao yue. (2014). Research on the correlation between college students' psychological toughness and career maturity. Jilin university.
- [12] Qi hongmei, liu weina.(2013). Analysis of potential problems in compiling and revising psychological scales or questionnaires in the field of sports psychology in China [J]. *Journal of chengdu university of physical education*,39,91-94.
- [13] Li weiyi, ge jingjing. (2017). Research on college students' lifelong learning ability based on self-cognition theory [J]. *Rural economy and science and technology*, 18, 221-225.
- [14] Hu jinxia. (2014).Study on the relationship between learning burnout, professional identity and psychological toughness of college students majoring in physical education [D]. Fujian normal university.
- [15] Le guoan. (2017). *Social psychology*. Beijing: renmin university of China press.
- [16] Yang qihe. (2015). Research on psychological problems of contemporary college students' frustration . Jilin agricultural university.
- [17] Wang siyu. (2016). Analysis of psychological toughness characteristics of elite athletes and its relationship with sports performance. *Sports world (academic)*, 2016,12,87-92.
- [18] Zhang jian. (2014). Interpreting the employment pressure of young college students from the perspective of social stability. *China youth research*,10, 14-17.

[19] Gao yujia. (2014).Research on the influence of family environment on reading engagement of primary school students . Nanjing university.