

Implications of Resilience for Sports Psychology

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Abstract-In competitive sports, it is very important to have both physical and psychological capacity. Especially when it is a close match with the opponent, the player's ability to adapt and adjust is often the key factor affecting the victory or defeat. In recent years, the concept and theory of "resilience" have been put forward in the field of psychology, and the core concept of mental resilience is to describe the ability of individuals to adapt and adjust. This paper will present the definition and measurement of resilience and the findings of past empirical studies. In the end, this paper illustrates the possible effects of mental resilience on athletes' cognition, emotion and behavior in competitive sports in order to provide some Suggestions for future research and application of mental resilience in sports psychology.

Key words: *adaptation and adjustment; psychological resources; positive psychology*

I. THE HISTORY AND ORIGIN OF RESILIENCE

The concept of resilience is scattered among some other psychological concepts in the past 50 years and lacks an integrated concept. For example, Kashdan and Jonathan(2010) pointed out ego-resiliency, response modulation, self-regulation and executive control are metaphors for an important core concept of resilience: the phenomenon of adaptation and adjustment [1]. Therefore, the author will introduce these four different sources as the theoretical basis of resilience, explain their definitions and situations describing resilience phenomena, and finally integrate the definitions of resilience according to Kashdan and Jonathan, so that readers can further understand the concept of resilience.

A. *ego-resiliency*

Ego-resilience refers to the dynamic ability of an individual to transform and control his perception, tendency and reaction, so that his behavior can meet the requirements of the fluctuating environment [2]. Most studies on ego-resilience focus on the differences in personality traits between individuals with high self-resilience and those with low self-resilience. The research indicates that individuals with high ego-resilience are more energetic, curious, creative and have more meaningful experience, and are capable of facing challenges or recovering from pressure. On the contrary, individuals with low ego-resilience tend to have rigid strategies and inappropriate emotional expressions in the face of stress, and they will show more stress responses (Smeekens, risksen-walraven,&Bakel,2007) [3].

B. *Response Regulation*

Response regulation means that an individual can quickly and autonomously turn his attention to his ability to organize, evaluate and complete goal-oriented behaviors. On the contrary, if the focus of an individual's attention is too rigid or unable to shift his or her point of view, it will lead to an individual's compulsive cognitive style, which is likely to cause depression, anxiety, depression or compulsive symptoms). Patterson pointed out that if an individual loses the ability to adjust his response, when he encounters negative events or negative feedback, he cannot shift his attention to the individual's goal and always focus on the negative events, which will also cause damage to the individual's motivation.

C. *Self-regulation*

Self-regulation refers to individuals with different situation to modify the ability of reaction, so in the study of self-regulation, institute is concerned with how individuals to adapt to the requirement of environment of success, Cheng (2001) points out that only using a specific control strategy are insufficient to successfully adapt to the requirement of environment, such as in the past research that only expression of positive emotion is good emotion regulation strategies, but in fact, in some situations, the appropriate use of negative emotion regulation strategies, Positive results can also be obtained [4]. Therefore, many studies began to further explore the emotional regulation strategies used by individuals, especially in the face of different situations, whether to fully express their emotions or suppress their emotions, is an effective self-regulation strategy? For example, the ability to suppress nervousness or fear in social situations would be good. Bonanno and Keltner(1977) pointed out that in extreme situations, if an individual can "regulate the display of negative emotions", it will help the individual recover from the trauma [5]. Subsequent studies also further indicate that strategies to enhance or suppress the ability to express emotions can be used flexibly to successfully adapt to the requirements of the environment.

D. *Executive control*

Executive control function is simply the main element that allows individuals to quickly shift their cognition and attention to achieve self-control and goal-oriented behavior (Goldberg,2001) [6]. Executive control can further illustrate that there are two important patterns of behavior. Studies have

shown that individuals with executive control can perceive the needs of the situation and will use the strategy with priority rather than relying only on the dominated strategy (Fleeson, 2001) [7]. The second is that individuals have the ability to endure grief and stress and show an open and receptive attitude. If an individual has no way to accept frustration or negative experience, his attention and decision-making ability will be narrowed, so that he cannot meet the requirements of the situation. In summary, executive control describes the ability of an individual to have a goal-directed attention strategy and to endure grief and work memory in the face of environmental demands.

After integrating the above four different sources as the theoretical basis of resilience, we can find that these four core concepts all closely link the variability of the environment to emphasize the ability of individuals to adapt and adjust. However, due to different concepts, the strategies to emphasize the adaptation and adjustment are different. From the above four concepts, it is not difficult to find that the first emphasis of resilience is "to adapt to the various requirements of the fluctuating situation"; On the other hand, it can be seen from the concepts of response regulation and executive control that individual's "ability to divert attention" is also part of resilience. In addition, the executive control function theory also emphasizes that individuals are capable of enduring grief and stress, and are able to face environmental requirements with an open and receptive attitude, which in fact indicates that individuals have the "ability to adjust psychological resources".

Kashdan and Jonathan (2010) further described the four theoretical concepts of adaptation and adjustment and summarized and integrated individuals with resilience, whose behavioral characteristics are: (1) adaptation to requirements in fluctuating situations; (2) shifting perspectives; (3) readjustments of mental resources; and (4) ability to balance desires and needs in life. Among them, the fourth feature is Kashdan and Jonathan's expansion of the definition of resilience. They believe that individuals with resilience will not only pursue their own valuable goals, but also evaluate the balance between their valuable goals and the requirements of the real environment. For example, a high resilient track and field athlete, he not only to pursue the goal of winning the championship in the track and field competition, he also can evaluate the environmental consideration, consideration of track and field sports career is just a part of life, he cannot rely on the track and field sports life for a lifetime, therefore, in the time distribution of his life, the pursuit of contest and invest in the future time is balanced. It can be seen that the current description of individual resilience has expanded from the description of a specific event to the evaluation of life.

II. THE MEASUREMENT AND EMPIRICAL STUDY OF PSYCHOLOGICAL RESILIENCE

Kashdan and Jonathan (2010) depicts the concept of the past on mental flexibility, made a very complete description and definition, but the earliest clinical psychologist will care about psychological elastic resilience is defined as "the ability to fully contact with the thoughts and feelings, show the effort and persistence is in pursuit of goals and personal values in

order to conform to the requirements of the situation, there will be no extra defense and rely on the supply situation"). Among them, the individual has the ability to fully contact with the current idea, which means that the individual has the ability to transfer the idea to the current goal; There will be no unnecessary defense and dependent situation supply, which also means that individuals will readjust their psychological resources. Finally, the pursuit of goals and personal values are the performance of adapting to the requirements of the fluctuating environment. Thus, both Kashdan and Jonathan's definitions of resilience depict similar concepts. Due to traditional clinical psychology focus on the negative psychological traits or individual tendency, so the practice in clinical psychology who focus on low resilience (inflexibility) produced by the physical and mental problems [8]. Therefore, compared with high resilience, low resilience will use rigid psychological response to meet the requirements of the environment, and even try to avoid their own unpleasant experience. Therefore, low resilience of individuals when the event occurs, the privacy of individuals often don't want to go to touch their experience (body feelings, emotions, ideas, memory, imagery, and behavior) and take steps to change the form and frequency experience, lead to behavior result inconsistent with personal values and goals, the low resilience of special phenomenon, commonly known as "experience to avoid" (experiential avoidance, EA).

Therefore, Hayes (2004) [9] refer to the past, such as measuring clinical patients in the counseling practice to escape the pain scale and measuring of the scale of smokers to escape the thoughts and feelings, to develop "acceptance and operation scale" (acceptance and action questionnaire, AAQ), by measuring the individual experience from degree to reflect elasticity of individual psychology [8]. However, Bond et al. (2011) believe that the first version of the scale has the following disadvantages: (1) the reliability of the first version of the scale is .70, and the reliability of the retest four months later is .64, which is criticized for its low reliability; (2) the first version of the scale has inappropriate questions; (3) the first version of the scale has nine questions and 16 questions inconsistent. In order to improve the shortcomings of the first version of the scale, the second version used three studies and six samples (college students, counseling patients, etc.) with a total of 2816 participants to test the reliability and validity of the scale [9]. The mean reliability of the scale in six samples was .84 (.78-.88), and the retest reliability three months and six months later was .81 and .79, respectively. Finally, develop "second edition acceptance and operation scale" (acceptance and action questionnaire - II, AAQ - II). Therefore, the second version has better internal consistency and more cross-sample evidence than the first version of the acceptance and action scale, and is currently the main tool for measuring the good reliability and validity of individual resilience.

After the development of psychological resilience measurement tools with good reliability and validity, subsequent empirical studies have also appeared, among which the relevant researches in the field of clinical psychology to explore the psychological diseases caused by individuals with low psychological resilience are the largest [10]. In general, the most common clinical symptoms, is

anxiety (anxiety), but the past research points out that the influence of the main causes of anxiety fear for individual physiological perception "anxiety", also known as anxiety sensitivity (anxiety sensitivity) (Zvolensky, Schmidt, Bernstein, & Keough, 2006), but Berman, Wheaton, McGrath [11], and Abramowitz (2010) points out that experience to escape is also an important factor to the individual anxiety. Because the individual is afraid of some experience, to suppress their own negative emotions, will cause the individual physiological feel uncomfortable (a racing heartbeat, breathing) and are not willing to the idea that the more negative cognition, make individuals feel anxiety and panic, the results point out that anxiety sensitivity and low has a positive correlation between psychological elasticity, does empirical this two kinds of construct represent different meanings, in control anxiety sensitivity to the effects of anxiety, low resilience or can positively predict anxiety [12].

However, the research on resilience is not limited to clinical psychology, and other different fields have also emerged. For example, family psychology has also begun to care about the psychological adjustment of international foster care providers in a new cultural environment. Past studies have shown that individuals in intercountry foster care are most likely to have negative experience due to racial issues, so they often use avoidance strategies to solve problems, which also makes individuals prone to anxiety. At this point, if an individual has high resilience, he or she can face and accept his or her own racial problems, keep trying and persist in pursuing his or her own goals, and that will help the individual to have a higher racial identity for his or her foster family and generate a higher psychological well-being. The empirical study took Korean born adults in foster care in the United States as the research object, and the results showed that after controlling the age of the individual and the time spent in the foster home, people with high resilience could also positively predict the individual's ethnic identity, psychological well-being, life goal, positive relationship with others and self-acceptance (Sarubbi, block-lerner, Moon, & Williams, 2012) [13]. This study shows that individuals with high resilience are willing to accept and face the exotic foster care experience beyond their control, and they can still actively maintain a good relationship with others, pursue goals and feel satisfied with self-realization.

Elina (2012) began to study the reasons for the success and failure of those who lost weight [14]. Individuals with high resilience will be open to their own inner experience and will focus their attention on the pursuit of desire. The research points out that improving the individual's resilience can effectively improve the individual's weight management. Furthermore, it indicates that individuals with high resilience are willing to change their lifestyle, life pace and health to achieve the goal of weight management in order to pursue their valuable goals.

In the field of business psychology, resilience can promote individuals to pursue goals in accordance with the environment and make individual behaviors more efficient. Bond and Flaxman (2006) used a cross-time experimental design approach to explore the relationship between individual resilience and employees' learning effect, job performance and

mental health after learning new software courses [15]. Employees involved in the software training course software operations when a pretest, employees' psychological elasticity, after a month will measure the employee's performance, and then software operations will be carried out in a month later after the test and measure the employees' mental health, the results showed that employees in a time point of psychological elastic can predict employee's job performance after a month, also can predict after two months of learning situation and mental health of employees [16]. The research results show that employees are willing to contact with current events and work hard to achieve work goals, which can make employees have better learning effect and work more efficiently.

To sum up, different fields of psychology have begun to discuss the impact of resilience on individuals, and the impact of resilience on individuals is related to issues from mental health, happiness, weight management to work efficiency and life, which also reflects the wide impact of resilience. On the other hand, from the beginning of clinical psychology and concerned about low psychological elasticity can cause a variety of physical and mental diseases, gradually evolved to the care of individual mental health and well-being, and further to discuss can increase the efficiency of individual behavior, it can be seen that studies how to make individuals to live happy and valuable, which and positive psychology in the twentieth century thought should actively explore the spindle, the advantage and value of human, therefore, resilience will be a potential prospective issues.

III. IMPLICATIONS

At present, although there have been many studies in different fields of psychology that have confirmed the close impact of resilience on individual physical and mental health and behavioral efficiency, there are no relevant studies on sports situations. , however, the goal of competitive sports are often win the game, the game players often faced to different opponents and the environment, so the players need to continuously adjust and adapt to the volatile situation requirements, timely according to the root of the transfer point of view and readjust the mental resources to face different game, therefore, sports psychology, the researchers, also cannot ignore the effects of mental flexibility for athletes. Resilience ability is to let players can fully contact with the present thinking and feeling, show effort and persistence is in pursuit of goals and personal values in order to conform to the requirements of the situation, the ability to do this in the application of sports psychology should be fairly extensive, probably will undermine the players in the form of cognitive, affective and behavioral.

In the cognitive aspect, for example, been linked to mobilize the enthusiasm, resilience may be related to sports enthusiasm is a kind of let the athletes, the unremitting can also enjoy the key psychological factors, Vallerand puts forward the model of dual enthusiasm, such as think enthusiasm into blenders (harmonious) and obsessive enthusiasm two obsessive, blenders enthusiasm is a kind of let the motive force of individual willing to participate in activities, also because is the free will to participate in activities and personal will [17]. Such enthusiasm can be

aligned with other activities in life and does not create a sense of pressure on the individual, who can have the flexibility to choose whether to continue to engage in activities in case of conflict or negative results. Obsessive compulsion is the compulsion of an individual into an individual's compulsive activity, creating internal pressure to love the activity. As a result, individuals are more likely to feel that passionate activities and other activities in life are in conflict with each other, making them prone to be determined to engage in activities and lack of flexibility. Therefore, it can be inferred that players with high resilience can change their behaviors to achieve their goals according to their environment requirements. Therefore, players will have a high degree of temper enthusiasm. Relatively speaking, players with low mental elasticity cannot change their thoughts and behaviors according to their goal elasticity, which may cause their compulsive enthusiasm to be higher.

Or mental flexibility may also the emotional response of interest rates related to the player, the reason is that low resilience ability of players cannot contact afraid or unwilling to thoughts and feelings of the past, for example, players will dare not to remember lost to rivals embarrassing scene, the next enemy in the face of the lodge cases, players in order to escape his reluctant to contact after the test, will use some appropriate strategies to suppress their own negative emotions, therefore, are likely to lead to a faster physiological heartbeat, or cognitive negative thoughts, which will easily lead to a higher pregame state of anxiety.

And in terms of behavior, when athletes psychological elastic low, could cause attention focal point would be too rigid, or even get lost in the past experience of failure, unable to adapt and adjust and shift focus again, in the long term players could produce not willing to efforts, even escape behavior, the contestant will conflict with the environment of the target, when the player is unable to adapt and adjust, under the condition of environmental objectives, over time, players may will opt out movement environment; Elected palm cut high elasticity, in contrast, represents ability in the face of the game, focus and adapt to the environment and the opponents in the game, even when you meet the situation stalemate or fall after still can adjust mindset, transfer point of view in the pursuit of operator or target, make our actions more efficient to improve athletic performance requirements, furthermore, high resilience player will has the ability to balance life desire and demand, also is in the pursuit of moving target will also balance the investment in the future, so we will see the high resilience, should not only have good performance in the playground, We also expect them to be able to cope with schoolwork and life.

Sum up the above, the ability of athletes psychological elastic to its cognitive, affective and behavioral have close relation, the future study of sports psychology, mental flexibility, can build a good reliability and validity of from sports psychological elastic scale, has the good effect of scale, not only can improve the player's anxiety, can also further discuss to add into the player's mental health and can even more positive increase efficiency in accordance with the behavior of the players in the situation of target achievement. When the evidence from empirical research is sufficient,

resilience can also be used as a tool to improve motor performance or a part of psychological skills and intervention courses to enable players to achieve the goal of improving motor performance.

IV. CONCLUSION

After the reintegration by Kashdan and Jonathan, the concept of resilience has been applied not only to the phenomenon of an individual's adaptation and adjustment to a specific event, but also to the ability of an individual to shift views and adjust psychological resources, and even to the ability to balance desires and needs in life. From psychological elastic past empirical studies can be found that psychological elasticity affect individual layer surface is more and more widely, although there is no related research in the field of sports, but in the context of competitive sports, because it is stressed that the outcome and the uncertainty of many of the outcome, therefore, to explore the ability of race technique athletes psychological elastic for its subsequent cognitive, affective and behavioral issues will be a promising prospective.

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