

## **The Effects of Positive Psychology Intervention on competitive State Anxiety and Perceived Performance of a University Baseball Player**

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The purpose of this study was to examine the effect of positive psychology intervention on competitive state anxiety and perceived performance of a university baseball player. The participant was a university baseball player. The measures were competitive state anxiety inventory-2 and perceived performance scale. The positive psychological intervention program for research participants was composed by integrating data such as prior research, expert advice, and player interview. Positive psychological intervention programs included orientation, recognizing and developing one's strengths, creating an image of goal achievement, being grateful, thinking positive, and creating routines. First, positive psychological intervention programs reduced somatic and cognitive state anxiety of a university baseball player. Also, the positive psychological intervention program increased the self confidence of university athlete. Second, the positive psychological intervention program increased the perceived performance of a university baseball player. The psychological impact of the positive psychological intervention program on athletes and their application method were discussed.

Key words: Positive Psychology Intervention, Somatic Anxiety, Cognitive Anxiety, Sports Confidence, Perceived Performance

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## **Introduction**

Athletes and coaches do their best in life, practice and competition in order to achieve their peak performance in the target competition. Athletes' performance is determined by physical factors, motor skills factors, strategy factors, psychological skills factors, and environmental factors. Performance factors have a greater influence on performance of player. For this reason, the study of psychological skills training (PST), which improves athletes' psychological skills, has increased rapidly since 2000, targeting athletes of various sports and various performance levels.

Sports psychologists used various terms such as mental training, mental practice, visualization, imagery, etc., to develop psychological skills that affected athletes' performance. Vealey (1988) classified psychological skills training into psychological skills and psychological skills training methods while emphasizing mental training in terms of education. Psychological skill referred to the ability to control one's psychological state and perform at its best, and has sub-factors such as positive self-perception, stress coping, anxiety reduction, arousal control, self-confidence enhancement, and self-esteem. Psychological skills training method could be defined as psychological skills training such as goal setting training, image training, relaxation training, attention training, routine training to maintain the psychological skills appropriately.

As a psychological skill training program to improve athletes' psychological skills, the positive psychology program began to be applied. Seligman and Csikszentmihalyi (2000) argued that the best psychological counselors were not just healing wounds of patients, but those who could grasp and develop strengths and virtues. In the field of sports psychology, where the use of athletes' strengths was very important to their performance, positive psychology studied focusing on improving their strengths and virtues can be used as intervention programs. Developing and using positive resources such as human self-elasticity, self-efficacy, optimism, extroversion, hope, purpose in life, and gratitude buffer stress and further helped overcome psychological disorder and difficulty (Peterson, 2000 ; Ryff & Keyes, 1995).

Positive psychological programs used to improve athletes' psychological skills included writing a thank you letter (Park & Shin, 2017; Steven, Kelly, & Patti, 2011), raising hope (Cheavens, Feldman, Gum, Michael, & Snyder, 2006; Susana, Shane, & Pais-Ribeiro, 2011), promoting optimism (Sheldon, & Lyubomirsky, 2006), giving kindness (Myriam, Jacqueline, & Leah, 2011), forgiving (Enright, 2001; Park & Shin, 2017), and finding strengths (Park & Shin, 2017).

Positive psychology (PP) has developed a science of well-being (Seligman, 2002) and a growing body of empirical evidence supports positive psychology interventions (PPIs). There were core pillars behind the PPI-based well-being approaches such as the science of character strengths, health, achievement, and a range of other positive outcomes (Niemi, 2013). PPIs can have a preventive effect

on depression, anxiety, and other mental health disorders and improve confidence and performance.

Therefore, the purpose of this study was to examine the effect of positive psychology intervention on competitive state anxiety and perceived performance of university player. Based on the previous studies presented in this study, the following research hypothesis was established. Firstly, positive psychological intervention program will reduce the competition state anxiety of a university baseball player. Secondly, positive psychological intervention program will increase the perceived performance of a university baseball player.

## **Methods**

### **Participant**

The participant was a university baseball player. The participant in the study was male third graders and pitchers. After explaining the research method to the participant and receiving the research consent, the intervention was conducted in the laboratory.

### **Measures**

#### *Competitive state anxiety*

To verify the content validity of measure, it was used after evaluating the item suitability and item level with two professors of sports psychology. General state anxiety and self-confidence were measured using the Competitive State Anxiety Inventory-2 (CSAI-2; Martens et al., 1990). This instrument assessed both somatic(9 item) and cognitive anxiety(9 item), as well as competitive self-confidence(9 item). This inventory was composed of a 5-point Likert scale, and a doctor of sports psychology conducted a validity test of the items.

#### *Perceived performance inventory*

Since the performance of sports events was affected by opponents and environmental factors, quantifying and comparing had limitations in terms of validity and reliability. In this regard, in this study, the performance evaluation paper developed to measure the performance of the sports where it is difficult to quantify the performance was modified and used for the purpose of this study (Mamassis & Doganis, 2004). This test paper was composed of 8 questions and a 5-point Likert scale to measure the athletes' performance. The 8 items on the performance evaluation paper include: First, physical feeling, second, quality of skills, third timing and rhythm, fourth concentration, fifth effort, sixth mental attitude and thinking, level of confidence in the seventh game, and the eighth game.

It is a comparison between the practice expected in the world and the actual practice. The performance score, which means perceived performance, was analyzed as the sum of 8 questions, and the higher the score, the higher the performance.

### Positive psychology intervention

The positive psychological intervention program for research participant was composed by integrating data such as prior research(Fordyce, 1983; Park & Shin, 2017; Proyer, Ruch & Buschor, 2013; Seligman, Rashid, & Parks, 2006; Steven, Kelly, & Patti, 2011; Sin & Lyubomirsky, 2009; Susana, Shane & Pais-Ribeiro, 2011; White & Waters, 2015), expert advice, and player interview.

The positive psychological intervention program consisted of six sessions, 50 minutes per session, and one session is held once a week. In order to increase the participation rate of research participants in this program, the tension on the program was reduced by providing information and time to think about the topic of the session before each session. In addition, practical tasks were presented for each session. Positive psychological intervention programs were composed of 6 sessions such as orientation(session 1), recognizing and developing one's strengths(session 2), creating an image of goal achievement(session 3), being grateful(session 4), thinking positive(session 5), and creating routines (session 6).

### Procedures and Data analysis

A single subject case design was used to analyze the effect of the positive psychology program on the competitive state anxiety and perceived performance of a university baseball player. The single subject case design consisted of three baseline and two positive psychological intervention stage.

## Results

### Competitive state anxiety

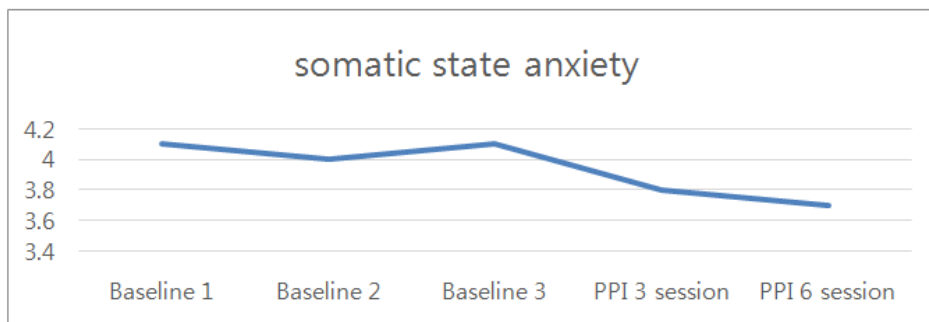


Figure 1. *The effect of positive psychology intervention on somatic state anxiety*

As a result of analyzing the impact of the positive psychological intervention program on somatic state anxiety, the somatic state anxiety was as follows: Baseline 1st 4.1, baseline 2nd 4.0, baseline 3rd 4.1, positive psychological intervention session 3rd 3.8, positive psychological intervention session 6th 3.7. In other words, PPI decreased the somatic state anxiety of a university baseball player(Figure 1).

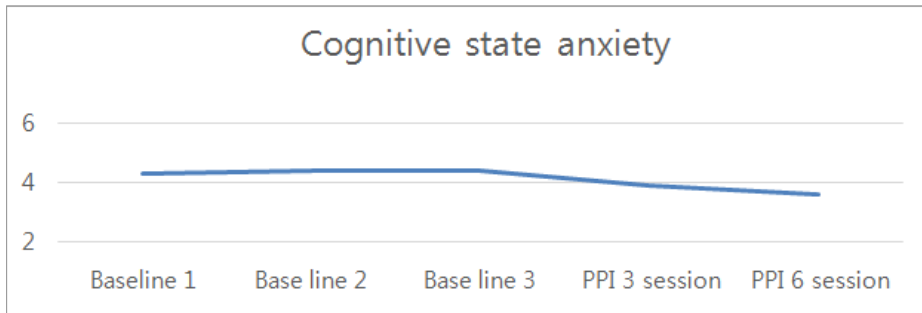


Figure 2. *The effect of positive psychology intervention on cognitive state anxiety*

As a result of analyzing the impact of the positive psychological intervention program on cognitive state anxiety, the cognitive state anxiety was as follows: Baseline 1st 4.3, baseline 2nd 4.4, baseline 3rd 4.4, positive psychological intervention session 3rd 3.9, positive psychological intervention session 6th 3.6. In other words, PPI decreased the cognitive state anxiety of a university baseball player(Figure 2).

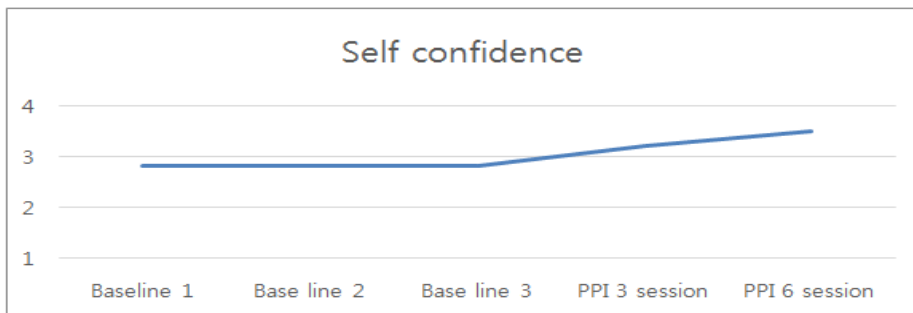


Figure 3. *The effect of positive psychology intervention on self confidence*

As a result of analyzing the impact of the positive psychological intervention program on self confidence, self confidence was as follows: Baseline 1st 2.8, baseline 2nd 2.8, baseline 3rd 2.8, positive psychological intervention session 3rd 3.2, positive psychological intervention session 6th 3.5. In other words, PPI increased the self-confidence of a university baseball player(Figure 3).

### Perceived performance

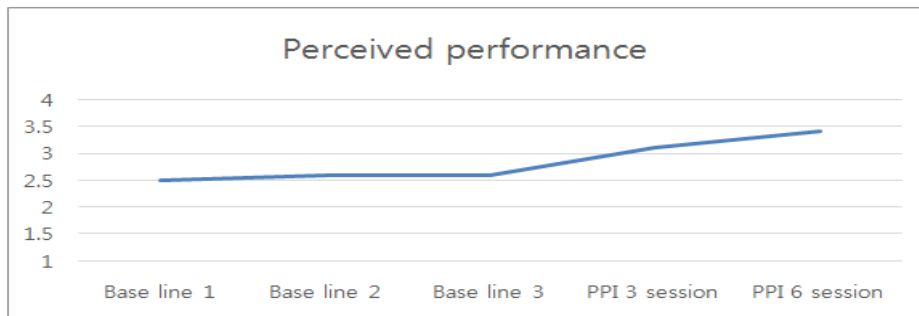


Figure 4. *The effect of positive psychology intervention on perceived performance*

As a result of analyzing the impact of the positive psychological intervention program on perceived performance, perceived performance was as follows: Baseline 1st 2.5, baseline 2nd 2.6, baseline 3rd 2.6, positive psychological intervention session 3rd 3.1, positive psychological intervention session 6th 3.4. In other words, PPI increased the perceived performance of a university baseball player(Figure 4).

### Discussion

The purpose of this study was to examine the effect of positive psychology intervention on competitive state anxiety and perceived performance of a university baseball player. The positive psychological intervention program for research participants was composed by integrating data such as prior research, expert advice, and player interview. Positive psychological intervention programs were composed of orientation, recognizing and developing one's strengths, creating an image of goal achievement, being grateful, thinking positive, and creating routines. The positive psychology program used in the previous studies were writing a thank you letter (Steven, Kelly, & Patti, 2011), inspiring hope(Susana, Shane, & Pais-Ribeiro. 2011), optimism improvement (King, 2001; Sheldon, & Lyubomirsky, 2006), giving kindness (Myriam, Jacqueline, & Leah, 2011), and forgiveness (Enright, 2001, re-quoted) have been proven, and various techniques of positive psychological intervention programs, which consist of a single program, are also being developed and applied (Fava & Rumi, 2003; Fordyce, 1983.; Frisch, 2006; Seligman, Steen, Park, & Peterson, 2005). These PPI programs were consistent with PPI program developed by this study.

Positive psychological intervention programs reduced somatic and cognitive state anxiety of a baseball university player. These findings confirmed that the positive psychological intervention program could be used as a psychological skill training to control the anxiety of the athletes'

competitive state anxiety. Developing and using positive resources such as human self-elasticity, self-efficacy, optimism, extroversion, hope, strengths, purpose in life, and gratitude buffer stress and further help overcome psychological problems in the field of sports field (Peterson, 2000 ; Ryff & Keyes, 1995).

Second, the positive psychological intervention program improved the perceived performance of a university baseball player. The results of this study supported a previous study (Park & Shin, 2017) that the positive psychological intervention program improved the psychological skills and performance variable of athletes. The results of this study suggested that the positive psychological intervention program could be used in the sports field as an intervention program for improving athletic performance.

Based on this research method and result, the content of suggestions for follow-up research was as follows. First, in this study, a single subject case design was conducted to verify the effectiveness of the positive psychological intervention program. In follow-up studies, it is necessary to establish a control group to verify the statistical significance of the positive psychological intervention program. Second, the focus was on personal psychological skill factors and performance improvement in positive psychological intervention programs applied to athletes so far, including this study. In the follow-up study, it is considered necessary to study positive psychological intervention focusing on team cohesion and team performance. Thirdly, it is necessary to increase the sessions of the positive psychological intervention program and verify the stepwise change in program effectiveness through quantitative and qualitative analysis for each session. Lastly, Positive psychological intervention can be used as a character education program in school physical education classes( Kim,So & Cha, 2019) and as a mental training program for athletes(Edwards,Woo & Lee, 2018).

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