



An Exploration of Positive Psychological Training to Enhance the Psychological Resilience of Medical Students

Xiaoxia Zhang, Yi Song*

Chongqing Medical and Pharmaceutical College, Chongqing, China

978157650@qq.com, *604491636@qq.com

Abstract. Objective: To explore the role of positive psychology training in enhancing the level of psychological resilience of medical students. Methods: Taking the two elective courses voluntarily enrolled as an opportunity, the elective course "Positive Psychology - Happiness Class" was set as a training group with 49 students, while the other course was a medical skills course not related to psychology, which was set as a control group with 40 students. The intervention group was given 8 weeks of positive psychology training, while the control group was taught medical skills without psychological training. Psychological resilience levels were measured before and after the intervention for the intervention group and the control group, respectively. The results were analyzed by independent samples t-test and repeated measures anova. Results: The psychological elasticity level of the intervention group significantly increased after the training, while there was no significant change in the psychological elasticity level of the control group before and after the measurement. Conclusions: Positive psychological training can effectively improve the psychological resilience level of medical students.

Keywords: Positive psychological training; Medical students; psychological resilience.

1 Introduction

The research of Positive Psychology (Positive Psychology) focuses on human strengths and seeks to stimulate the inherent positive strengths and qualities of individuals in order to maximize their potential and achieve psychological health [1-2]. Resilience, as one of the important concepts in positive psychology, refers to an individual's ability to effectively cope with and maintain psychological well-being in the face of adversity or significant stress [3]. Psychological resilience is closely related to psychological health, and individuals with high psychological resilience are able to face and effectively solve the setbacks they face, and better adapt to new environments. Some studies have shown that psychological resilience is significantly positively correlated with academic performance[4], self-efficacy [5], and well-being [6] and to a certain extent is effective in preventing and mitigating the occurrence of stress disorders [7]. Medical students in academies face the dual pressure of medical professional courses and training, which

is very likely to cause adverse physical and mental effects, resulting in emotional problems and adaptation disorders, and some studies have found that improving happiness helps to enhance the individual's ability to cope with unfavorable situations and stress resilience, and to improve the bad mood [8]. Therefore it is of great practical significance to understand and enhance the level of psychological resilience of medical students in.

Positive psychological training is a psychological intervention technique that promotes good social adaptation by alleviating individuals' negative emotions and increasing their positive emotions, as well as better understanding of the self, utilizing their personality strengths, and thus enhancing their sense of well-being[9]. Currently, there have been studies that have introduced positive psychological training into college student populations, aiming to enhance the adaptive capacity of college students [10]. However, there are fewer empirical studies that have utilized positive mental training to enhance the psychological resilience of college students. Therefore, this study used Seligman's positive psychology as the theoretical basis to develop a positive psychology training program for medical students, and conducted a 2-month training to explore the effects of positive psychology training on the psychological resilience of medical students.

2 Research Objects and Methods

2.1 Research Objects

Taking an elective course in a medical university as an opportunity, the elective course *Positive Psychology - Happiness Class* was set as an intervention group with 49 people (39 male students and 10 female students); the elective course *Positive Psychology - Happiness Class* was set as a control group with 40 people (25 male students and 15 female students). The two elective courses were conducted simultaneously. The participants of the two elective courses had no other relevant psychological training experience besides. The psychological elasticity levels of the two groups were measured before the start of the course, and it was found that there was no significant difference between the two groups.

2.2 Positive psychological training program

Based on Seligman's 5 elements of well-being - PERMA model, the 5 elements are Positive Emotion (P), Engagement (E), Relationship (R), Meaning (M) and Accomplishment (A). The psychological training program was designed around the 5 elements, as shown in Table 1, and each session consisted of lectures, group psychological training, and classroom exercises, with each session consisting of two credit hours totaling 80 minutes. The intervention group was asked to record one small pleasant thing every day from the beginning to the end of the program. The control group only practiced positive thinking without any psychological training.

Table 1. Detailed program of positive psychological training

| Weeks | Elements | Themes | Specific methods |
|--------|----------------------|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Week 1 | p(positive emotions) | Alleviating Negative Emotions | Participants will learn to effectively cope with revitalizing emotions by focusing on emotion regulation. |
| Week 2 | | Increase Positive Emotions | Centered around the 10 positive emotions (love, admiration, motivation, amusement, interest, serenity, gratitude, pride, hope, joy), participants will learn about the role of positive emotions in counteracting adverse reactions to negative emotions. Teach the college positive emotion up-regulation strategies. Share small moments of happiness in class[11]. |
| Week 3 | E(inputs)) | Positive Living | Focusing on positive raisins and positive breathing exercises, participants are guided to focus on the present moment and gain inner peace. |
| Week 4 | | Creating a "flow of blessings" | Lead participants to discover and consciously create a sense of engagement that is fully focused, knowing and transcending the world. And try to apply it in daily learning and training. |
| Week 5 | R(Relationships) | Proactive Communication | We teach "Sandwich Communication", "Non-Violent Communication" and "Positive Thinking Communication" and have participants practice them in small groups. |
| Week 6 | | Cultivating Good Intimacy | Teach the four horsemen of intimacy, "Criticism, Defensiveness, Contempt, and Walling Off," and effective ways to enhance intimacy. |
| Week 7 | M(Meaning in life) | Enhancing Hope | Based on the theory of hope, the SMART principle of goal setting is taught to guide participants to set reasonable goals and achieve them through effective ways. |
| Week 8 | A(Achievements) | Identify And Utilize Personality Strengths | Teaching the 24 personality strengths and 6 virtues of human beings, and using the "Bombardment of Strengths" to enable participants to identify their own personality strengths and virtues, and enhance self-confidence. |

2.3 Research instruments

The Psychological Resilience Scale (CD-RISC-10) utilizes the CD-RISC as modified by Sills [12] et al. This scale is designed to assess an individual's resilience, i.e., the ability to "thrive in the face of adversity." A 5-point scale was used, with 0-"never," 1-"rarely," 2-"sometimes", 3-"Often", 4-"Almost always". Higher scores indicate better psychological resilience. The revised scale was reduced from 25 to 10 questions,

including "feelings of change, personal problems, illness, stress, failure and pain", and the revised scale scores were highly correlated with the 25-question scale scores.

2.4 Statistical processing

The questionnaire star was used to conduct pre- and post-tests for the intervention group and the control group. In order to ensure the validity of the data, the teachers were trained to administer the questionnaire, and were required to complete it in the classroom, and to give timely feedback and solve any problems. The validity rate of the questionnaire pre- and post-test was 100%. SPSS26.0 was used to analyze the data with independent samples t-test and repeated measures ANOVA.

3 Conclusion

1. Descriptive analysis of psychological resilience level of pre- and post-test in the positive psychological training intervention group and the control group.

Independent samples t-test was used to analyze the psychological elasticity levels of the two groups before training and found that there was no significant difference between the psychological elasticity levels of the intervention group and the control group ($t=-1.22$, $P=0.23$), indicating that the psychological elasticity of the two groups was at the same baseline level; after training, the psychological elasticity level of the intervention group was significantly higher than that of the control group ($t=4.65$, $P<0.001$), as shown in Table 2.

Table 2. Comparison of psychological elasticity level before and after training between the positive psychological training intervention group and the control group ($\pm s$, points)

| Level of psychological resilience | Intervention group(n=49) | Control groups(n=40) | t |
|-----------------------------------|--------------------------|----------------------|---------|
| Pre-training | 35.23 \pm 5.69 | 36.80 \pm 6.35 | -1.22 |
| Post-training | 42.45 \pm 5.24 | 36.90 \pm 5.88 | 4.65*** |

Note: ***: $P < 0.001$

2. Analysis of changes in psychological elasticity levels before and after training in the positive psychological training intervention group and the control group.

Repeated measures ANOVA was used to compare the psychological elasticity levels of the positive mental training intervention group and the control group, and the results showed a significant difference between the pre- and post-tests of the test time ($F=47.54$, $P<0.001$), and a significant interaction effect between the test time and the subgroups ($F=44.93$, $P<0.001$).

The results of the simple effects test showed that there was no significant difference between the pre- and post-test psychological elasticity levels in the control group ($d=0.10$, $P=0.89$), and there was a significant difference between the pre- and post-test levels in the intervention group, with the post-test level of psychological elasticity being significantly higher than that of the pre-test ($d=7.23$, $P<0.001$). It is suggested

that positive psychological training can significantly improve the psychological elasticity level of school medical students. See Figure 1 for details.

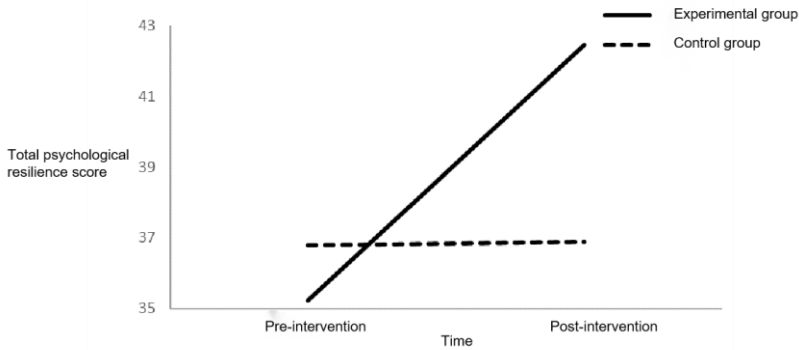


Fig. 1. Pre- and post-test changes in psychological resilience levels

4 Discussion

The results of the repeated measures ANOVA in this study showed that the total psychological resilience score was statistically significant in terms of between-group effect, time effect and interaction effect. It confirms that positive psychological training has a significant effect on enhancing the level of psychological resilience in medical students. This is consistent with previous studies [13]. After the two-month positive psychology training, the students were at the time when some professional courses were concluding their examinations one after another, presenting greater examination pressure, however, the enhancement of their psychological resilience level was not affected, suggesting that once positive cognitions and behaviors are formed and applied to daily life in a timely manner, this effect is relatively stable. The positive psychology training in this study combines the characteristics of contemporary college students, with the main goal of activating and reinforcing trainees' positive mindsets and positive behaviors, starting from the reduction of negative emotions and the increase of positive emotions, and allowing trainees to consciously experience the positive effects of positive emotions on their lives, studies, and interpersonal relationships through classroom lectures and post-class assignments such as recording one pleasant event per day; guiding trainees to apply positive thinking exercises in Through classroom lectures and daily assignments such as recording pleasant events, trainees can consciously experience the positive effects of positive emotions on life, learning, and interpersonal relationships; guide trainees to apply positive thinking exercises in training and daily life, so that they can discover and consciously create their own state of "blessed flow"[14]. Enhance self-confidence. This in turn promotes the enhancement of trainees' psychological resilience.

Currently, mental health education in colleges and universities focuses on the psychological problems and confusion of college students, and pays less attention to positive psychological qualities and personality strengths, while positive psychology is a

psychology that pays attention to and discovers the strengths and virtues of human nature. In this study, positive psychological training is a training model of positive psychology orientation. Previous studies have confirmed that positive psychology training has significant effects on enhancing individual well-being [15] and alleviating anxiety and depression [16]. Medical students not only face heavy pressure of medical study, but also have to experience strict training, which is a serious challenge for both body and mind. By improving the level of psychological resilience of medical students, they can effectively cope with, better adapt to, and maintain their psychological health when facing setbacks and adversities during their student career.

Future research outlook: as this study was conducted with the help of an elective course platform, there were some limitations on the sample of subjects, and future research will conduct multiple rounds of intervention control training to validate the results of the previous study.

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