Original Article

SAT-based Self-image Improvement Intervention to Ameliorate Anxiety in Chinese College Students

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Abstract

Objective: In this preliminary study, we examined the effectiveness of a 6 hours self-image promotion intervention program on improving perceived emotional support variables, self-image variables as well as on ameliorating anxiety. **Participants and Methods:** Participants were university students. We recruited 48 students and randomly assigned them to one experimental group (n=24) and two control groups (n=24). Four participants of the control group 1 ceased participation prior to completing the post-intervention survey; thus, the final sample size of 44 (24 experimental, 20 control) yielded a participation rate of 91% Among them, 36% were male, and 64% were female and ranging in age from 18 to 22 years (Mean=20± .98). The self-image promotion intervention included 2 three-hour parts: Temperament coaching and SAT imagery therapy. Control groups were trained by communication skill and stress management. Measures of perceived emotional support variables, self-image variables and state anxiety were administered at pre-, post- and 5 month follow-up of the intervention to all these three groups. Trait anxiety was only administered at pre- and 5 month follow-up of the intervention. **Results:** Analysis indicated that relative to the control groups, experimental group had greater improvement on the perceived emotional support and self-image (i.e., self-affirmation and problem solving) at post- and follow-up than per-intervention. In addition, the experimental group had lower post- and follow-up scores on trait and state anxiety. **Discussion and Conclusions:** The current study makes clear that the positive self-image is very important for students to maintain low anxiety status. In order to control anxiety disorder self-image change is needed firstly. Additionally, the indepth

understanding of self and self-care behaviors for stress temperament is necessary. The findings indicate that the self-image promotion program might be useful for enabling college students to manage anxiety successfully.

1. Introduction

Anxiety disorder is becoming one of the most common psychological disorders in school aged children and adolescents with high prevalence rate and many of them remaining unidentified and untreated [1]. A 17,415 college freshmen survey showed that from 2005 to 2008, Chinese college freshmen's mental health problem such as anxiety and depression symptoms significantly increased year by year [2]. Furthermore, a study pointed that such psychological problems are becoming the main reasons for high rate of withdraw from school, suicide and murder cases for Chinese students [3]. In addition, studies have proved that anxious individuals tend to choose a negative perception and interpretation on things over other possible ones, and anxiety trait may enhance the interpretation and/or processing of the cues conveying negative emotion [4-6]. Given the high prevalence rate and associated adverse effects, the need to prevent the development of anxiety disorders is paramount [1].

Worldwide, there are an increasing number of school-based and classroom-based intervention studies to treatment or prevention students' mental health or physical problems [7]. The school system has been identified as an ideal avenue for the promotion of prevention and early intervention programs for anxiety [8]. Schools are viewed as having unparalleled contact with youth and provide an opportunity to reach children and adolescents who have previously been unidentified and untreated [9]. Alison L. N. et al. reviewed 20 individual school-based prevention and early intervention programs for anxiety and suggested that both indicated and universal approaches produce positive results with small to moderate reductions in anxiety at post-test and follow-up. However, most of those programs lost follow-up data collected and almost of them take long intervention time range from 8 to 14 sections (one section is about 1.5h) or even lasting for 1 year [1]. Additionally, in another review study, the authors pointed that none of the reviewed programs included among its goals improving adolescents' ability to enjoy life, to laugh at themselves and the world, or to develop emotionally or spiritually, all of which are important components of mental health and nor did they make much systematic use of young people's own goals [7]. Therefore a short anxiety treatment and prevention school based program

that are easy to operate and designed based on focusing on supporting students make self-growth should be considered.

People's anxiety level is related to how they expect things. Those people who tend to feel anxiety is because of they have negative expectations to the future. In another word, people would feel easy and relax if they could have a positive expectation to things. So, what are the determining factors for expectation manner? Munakata suggested that the way that people anticipate things is determined by self-image [10]. Negative self-image always cause people cognize and anticipate things from a negative perspective and people who have positive self-image tent to have good and positive expectations about future.

Traditionally, the Cognitive Behavioral Therapy (CBT), stress management intervention, communication, relaxation and problem solving skills training have been used for treating and preventing anxiety symptom through improving participants' self-image such as self-esteem and self-efficacy [11-19]. However, the effectiveness of those methods was not consistent. This maybe because of the CBT relies heavily on the compliance of the clients, and it focuses on client's problem directly but not resolve the "root causes" [20, 21]. In other words, CBT focus on "solving problem" more than "supporting self-growth" and clients might have the risk of suffering mental health troubles again when other problems happened. There is another problem should be noticed. Emotions have more influence on determine human being's behavior than thought. This is might be one of explanations that why people usually know it is not good, want to make some changes but fail to change finally. Thus we suppose that the characteristic of CBT which try to change people's behavior through changing their thought and believe might be one of the reasons of the inconsistent effectiveness.

Social skills might easy to be carried out and show great effectiveness for managing anxiety for people with positive and strong self-image. However, for those who have negative self-image, the effectiveness might be limited since social skill training itself could not make improvement of self-image. Thus, even people mastered the skills, but it would be very difficult for some of them to put skills into action because of lacking positive expectation, feel powerlessness and lack of confidence.

Ueda et al.'s study pointed that the sense of self-denial, trait anxiety among university students were related to their parents' aversive expression [22]. Young's study also pointed that the negative parental images endorsed by individuals as adults, are the origins of their maladaptive self-images or schemas and these images are in turn responsible for adult emotional distress and disturbances in interpersonal functioning [23]. John et al.'s study supported the predictive relationship between

images of parents, self-image and emotional well-being [24]. Munakata explained the mechanism that how parental image determines self-image. He pointed that it's because people who have negative parental image tend to give up being themselves (i.e., repress their true feelings; emotionally and interpersonal dependent on others) and develop others-rewarded oriented lifestyle without realizing it [25]. According to Munakata (2010) [25], "others-reward oriented behavior" forms and related with aversive parental image. It means individual get dopamine secreted and obtain pleasure motivated by sufficing for human being's "want to be loved desire", pursuing social achievement, view social success as a primary goal and what's more, the judgment and standard of the outcome is controlled and determined by others. Such kind of behaviors will ceaselessly cause one feel anxiety, feel stress, cause negative self-image forming and result in psycho-somatic symptoms. In conversely, "self-rewarded seeking behavior" forms related with positive parental image. It means individuals get dopamine secreted and obtain pleasure motivated by sufficing for human being's "want to love oneself desire" "want to love others desire". For example, only pursue living positively, getting hopes, self-satisfaction, enjoyable, and appreciate others can help people maintain real well-being in such a stressful society. Because such kind of behavior is related to build positive self-image, the judgment and standard of the outcome can be controlled and determined by oneself, those rewards resource belongs to oneself.

Based on these previous research results, and with considering the problems of the existing social skill training and CBT intervention programs, one technique we used here is SAT imagery therapy that developed by Munakata, aimed to improve participants' self-image through the change of their parental image script firstly in an imagery work.

In recent years, self-care has developed as an important health care concept [26]. Self-care behavior based on one's own gene temperaments is also related to build positive self-image and maintain well-being [27]. According to Munakata's temperament theory, temperament is the genetic character about our desire and emotional reaction, which in turn define our behaviors. It contains two parts, one is personality temperament and another is stress temperament which defines the strength of our sensitiveness and reaction, and has been divided into persistence, neuroticism and novelty-seeking temperament [27]. Genetic temperament, nucleus of one's nature consisting of hereditary factors and biological factors related to neurotransmitter, does not change throughout one's lifetime. Among them all, those who have either "persistence temperament" observed in perfectionists or "neuroticism temperament" represented by pessimism and tendency to be opinionated incline to

become powerless, hopeless, fearful, solitary and stressful. Therefore, the self-care behavior becomes extremely essential for those people to manage stress and maintain well-being. However, other researches pointed that the issue of personal identity for the purpose of better understanding of the self, another main feature of managing the self, has received little attention when consider how to improve student's competence [28].

Therefore, in the current intervention program, stress gene temperament coaching was contained to improve participants' self-image through deeply understanding themselves, improvement their interpretation style toward to themselves and significant others and let participants know what kind of self-care behaviors should be done to care their stress gene temperament weak points. In order to compare the effectiveness of the current intervention program we set two control groups which were trained by communication skill and stress management coaching.

The aim of this study is to use a randomized controlled design and validated outcome measures to examine the effectiveness of self-image promotion intervention program on enhancing college students' positive self-image, and on improving participants' anxiety status. Our hypotheses are as the following: 1) social skill training couldn't make self-image improvement; 2) by looking parental substitute representation, self-image could be improved; 3) with the improvement of self-image, the anxiety level would decrease.

2. Methods
2.1 Subjects

Participants were university students recruited to take part in a self-image promotion program for improving anxiety status through improving self-image by doing self-care behavior and changing behavior from others-reward oriented pattern to self-reward oriented pattern. We recruited 48 students and randomly assigned them to experimental (n=24) and two control groups (n=24). Before they completed a pre-intervention survey, we informed all participants of the informed all participants of the natural and purpose of the study, and they voluntarily provided informed consent. Four participants (control group 1) ceased participation prior to completing the post-intervention survey; thus, the final sample size of 44 (24 experimental, 20 control) yielded a participation rate of 91%. The majority of students were second year (n=29, 66%), and then the first year (n=13, 29.5%) only 2 come from the third year (4.5%). Among them, 36% were male, and 64% were female and ranging in age from 18 to 22 years (Mean=20± .98). Persistence temperament score range from 1 to 5 points (Mean=3.91 ± 1.27), neuroticism temperament score range from 0 to 5 points

(Mean=3.36± 1.36).

2.2 Procedure and Setting

Students volunteered by e-mail or telephone in response to flyers which were posted around campus. We informed potential participants that they would be randomly assigned to 1 of 2 groups: the experimental group (EG) involved completing a pre-intervention survey, attending a one day intervention (2 parts, 3 hours each) and completing a post-, one month and five month follow-up surveys; and

the control group involved completing pre-, post-, one month and five month follow-up surveys on the same days as the experimental group. In addition, the control group was randomly divided into two groups: control group one (CG1) attending a one day communication skill coaching course (2 parts, 3 hours each) and control group two (CG2) attending a one day university stress management coaching (4 parts, 1.5 hours each). We give each one of the participants a ball pen and a notebook to encourage them fulfill the checklist seriously.

Self-image promotion intervention

The self-image promotion intervention included 2 three-hour parts: Temperament coaching and SAT imagery work.

The first part is temperament coaching help participants change their interpretation style to themselves' and others' image by making them deep understanding the characteristics of self's and others' genetic temperaments, and support them to know what behaviors they should do to care of the weak point of their temperaments. In this part participants were coached with genetic temperament knowledge and self-care behaviors about stress temperament, such as taking deep breath to calm down, or letting inner voice say that's all right for several times to decrease the expanded demand level. A human relationship improvement skill based on temperament knowledge and self-care behavior also been trained.

Part 2 is SAT imagery work, with the aim of creating a positive self-image, and changing students' behaviors from others-reward oriented to self-reward oriented pattern through changing their parental image to a positive one. SAT (structured association technique) imagery work is a series of techniques that based on structured questions, through makes use of intuition and association to support people finding problem solution method or change behaviors [29]. It is the Third Generation Cognitive Behavioral Therapy which is characterized by focusing on emotional change first. Munakata pointed that parental substitute representation is a very effective, simple and practicable method to help people control emotions[25]. SAT imagery work is a development of traditional CBT and offsetting its weakness which tries to change people's behavior begin with thought change. In the current study, we

support participants change and control their emotion by finding out and using parents substitute representation. Through the imagery work, they would feel unconditional love from parents, with the fulfillment of "want to be loved desire" their parental image would change to a positive one naturally. After changing their parental image, participants could change their behavior to self-rewarded oriented behavior which in turn both contribute to the fulfillment of "want to love oneself desire" and "want to love others desire", and contribute to self-image changing to a positive one.

Communication skill coaching

Communication skill coaching also included 2 three-hour parts: Communication skill lecture and Practice in pairs.

At the part one, participants were taught with listening skill, assertion skill and negotiation skill with the aim of support students' well-being from building empowerment interpersonal relationship. In order to strengthen the effect, at part two, participants practice ask for helping game, refuse game, encourage game, and positive feedback game by using these skills learned at part one.

Stress management coaching

It was with the aim of improving students' well-being through learning how to manage change and difficult situations more effectively. It also included 4 parts: Stress management; Autonomy; Emotional management; and Case analysis by watching DVD.

2.3 Measures

The questionnaire consisted three parts: attributes (age, gender, academic level, stress temperament types); anxiety status; and self-image variables. In the present research, the Japanese version scales were first translated into Chinese and then back-translated into Japanese by two bilingually fluent researchers. High convergence between the two versions was obtained.

Anxiety status

State-Trait Anxiety Inventory (STAI)

Spielberger et al.'s (1983) [30] well-known STAI was designed to assess two types of anxiety, one's mood in the moment (**state anxiety**), and in general (**trait anxiety**). It contains two 20-item scales. For the state anxiety scale, response choices were from (1) "Strongly agree" to (4) "Strongly disagree". On the other hand, for trait anxiety scale, response choices were from (1) "not at all" to (4) "very often". Agreement to positive and disagreement to negative items scored 1 with a total score range from 20 to 80, respectively. We coded all items so that higher scores indicated higher levels of anxiety. In the current study the internal consistency of the Chinese version was 0.91 and 0.89, respectively. In the current study, we estimated the state anxiety at each

time, but for the trait anxiety, we only estimated it at pre- and 5 month follow-up.

Perceived emotional support

Two instruments—Perceived Emotional Support from Family (ESFFA) and Perceived Emotional Support from Peers (ESFP) scales (Munakata, 1996)[31] were used to estimate the subjective experience. Each scale had 10 items. Sample items in ESFP scale were: "Do you have any friend who supports your behavior". "Any friend" was replaced with "Family members" in ESFFA scale. The Cronbach's alpha in the current study was 0.70 for ESFFA and 0.66 for ESFP, respectively.

Self-image variables

Self-affirmation

The converse score of 10-item self-denial scale (Munakata2001)[32] was used to estimate perceived positive feelings of self-affirmation. The scale has 1 positive item ("I do like myself") and 9 negative items (e.g. "I want to die"; "I don't know why I was born"; "I am dirty"). In this study, the items were reverse scored: responses that approximated positive to self-denial were scored "0"("I always think so"), "1" ("sometimes I think so"), and "2"("I don't think so"); responses that approximated positive to self-denial were scored "2"("I always think so"), "2" ("sometimes I think so"), and "0"("I don't think so"). The total scores range from 0 to 20. Higher scores indicate a high level of positive feelings of self-affirmation. Cronbach's alpha for the scale was 0.65 in this study.

Problem solving behavioral trait

10-item problem solving behavioral trait scale (Munakata, 2001)[32] was used to measure individual's behavioral trait that try to deal with the tasks and problems positively, effectively and realistically. The scale comprises of items such as "I always confirm the fact prior to make judgment" and "I always make plan and think about steps to take about what to do". Response choices were scored "2" ("I always do so"), "1" ("I do so"), or "0" ("I don't do so"), with total scores range from 0 to 20 and higher scores indicate high realistic problem solving behavioral trait. Lower score was suggested the tendency to repeat the same kind of failures or postpone to solve problems rather than facing the reality of fact. Cronbach's alpha for the scale was 0.75 in this study.

Self-expression behavioral trait

In this study we used the converse score of 10-item self-repression scale (Munakata, 1996)[31] to measure self-expression behavior trait. The original scale measures the expectations of being acceptable from others by repressing one's true feelings to satisfy people around. An example of a typical item such as "I tend to suppress my feeling" "I usually can't express what I really think easily". Originally,

responses that approximated to self-repression were scored "2" ("I always do so"), "1" ("I do so"), or "0" ("I don't do so"). In the current study, responds were reverse scored "0" ("I always do so"), "1" ("I do so"), or "2" ("I don't do so") with total scores range from 0 to 20 and higher scores indicate a high level of self-expression behavior trait. Cronbach's alpha for the scale was 0.62 in this study.

Emotional autonomy behavior trait

The converse score of Japanese version of Hirschfeld, Gough, and Barrett (1977) [33] interpersonal dependency scale was used to estimate interpersonal independency behavioral trait. The original scale was used for personality assessment (Franche & Dobson, 1992) [34] and validity and reliability was examined. It is an 18-item scale measures one's tendency to socially depend on others and has both "dependence" and "independence" domains. Independence items include "I always rely on my own efforts" and "I don't care about what the other people say". Dependence domain questions include "I'm worried when I lose others' favor" and "I'd rather like become a follower than a leader". In this study the items were reverse scored: the dependence items were scored as "0" ("That's very true"), "0" ("That's true"), "1" ("That's generally true"), and "1" ("That's not so"); those independence items were scored as "1" ("That's very true"), "1" ("That's true"), "1" ("That's generally true") and "0" ("That's not so"). The total scores range from 0 to 18 and higher scores indicate high emotional autonomy behavioral trait. Cronbach's alpha for the scale was 0.66 in this study.

2.4 Ethical Considerations

Before starting the study procedures, the ethical permission was first obtained from the Ethical Committee of Graduate School of Comprehensive Human Sciences, University of Tsukuba. The permission number is No.21-175. Before the test was administered, each student signed an informed consent agreement. A brief description of the study was given to the participants, along with assurance that all answers would remain completely anonymous.

2.5 Data Analysis

SPSS Version 17.0 statistical software was utilized for the statistic analysis of this study. Means, standard deviations and reliability coefficients were conducted for experimental group, for all variables pre-, post- and 5month follow up of the intervention. We also conducted Mann-Whitney tests to determine whether there were any systematic differences between the groups at the baseline prior to the intervention. For each group, we conducted the Friedman test to examine whether there is significant change within group and if it was significant, we conducted Wilcoxon signed-ranks test continually to compare the changes of the data collected

at pre-, post- and 5month follow-up of the intervention. A p-value<0.05 was considered significant (Post hoc test with Bon ferroni correction).

3. Results

3.1 Baseline

The median age of all participants was 20 with no difference between the groups. 63.6% was female and 36.4% was male. All the demographic variables of this study population are depicted in Table 1. By using Mann-Whitney tests the demographics of age, gender, stress temperament (persistence and neuroticism temperament) have no significant difference among study groups (p>0.05). However, for the outcome variables, with regards to perceived emotional support from family there was a significant difference between experimental group (EG) and control group two (CG2) (p=0.049), and between control group one (CG1) and control group two (CG2) (p=0.005). With regards to problem solving, there was a difference between control group one (CG1) and control group two (CG2) (p=0.057), however it was not statistically significant. With regards to self-expression, there was a significant difference between between control group one (CG1) and control group two (CG2) (p=0.039). These differences would be considered which will validity affect the final result.

Table 1. Demographic variables and outcome variables of the participants at pre-intervention

Variable	EG	CG 1	CG 2	p Value
Demographics				
Age (Median± SD)	20.08± 1.10	20.13± 0.64	19.75± 0.96	n.s.
Gender (male/female)	10/14	2/6	4/8	n.s.
Persistence temperament	3.96± 1.26	3.75± 1.48	3.92± 1.24	n.s.
Neuroticism temperament	3.54± 1.17	3.00± 1.51	3.25± 1.65	n.s.
Outcome variables				
Perceived emotional support from family	8.58± 1.47	9.38± 0.74	7.08± 2.27	EG vs CG2 p=.038* CG1 vs CG2 p=.005**
Perceived emotional support from peers	8.54± 1.91	9.50± 0.53	9.00± 1.20	n.s.
Self-affirmation	15.67± 2.33	15.63± 2.77	14.25± 2.95	n.s.
Problem solving	8.79± 3.85	9.00± 1.60	7.50± 1.73	CG1 vs CG2 p=.057†
Self-expression	9.87± 3.23	8.25± 1.83	10.42± 2.53	CG1 vs CG2 p=.039*
Emotional autonomy	12.79± 3.34	12.50± 2.26	12.83± 2.75	n.s.
State anxiety	39.62± 10.60	37.12± 7.40	38.25± 8.30	n.s.
Trait anxiety	41.67± 11.00	46.25± 8.49	45.83± 12.20	n.s.

Note. *** p<.001; ** p<.01; * p<.05; n.s. no significant

3.2 Changes after intervention

Table 2 showed all of the outcome variables changes for three groups from pre- to follow-up of the intervention. For experimental group, except the self expression scale (Friedman test, x^2=4.22, p=0.121) and emotional autonomy scale (Friedman test, x^2=4.76, p=0.092), all the other scales showed significant changes after intervention (Table 2). Comparison with the baseline, Wilcoxon signed-ranks test showed that the perceived emotional support from family significantly increased at post-intervention (p=0.004) and 5 month follow-up (p=0.028), the perceived emotional support from peers significantly increased at post-intervention (p=0.003) and 5 month follow-up (p=0.046), the self conceit significantly increased at post-intervention (p=0.000) and 5 month follow-up (p=0.006), the problem solving behavior significantly increased at post-intervention (p=0.007) and 5 month follow-up (p=0.018). The trait anxiety significantly decreased at 5 month follow-up (p=0.034), and the state anxiety significantly decreased at post-intervention (p=0.000) and 5 month follow-up (p=0.044).

On the other hand, in control group 1 all of the scales did not show any statistical significant changes between at baseline, post-intervention and 5 month later. All most the same, in control group 2, except the self-affirmation scale (Friedman test, x^2=10.44, p=0.015), all the other scales did not showed significant changes after intervention. The post hoc test of self-affirmation significantly increased at post-intervention (p=0.022) and at 5 month follow up (p=0.045). Although the perceived emotional support from family showed statistical significant at Friedman test (Friedman test, x^2=10.73, p=0.013), however, it lost significant at the post hoc test post-intervention vs. pre-intervention (p=0.078) and at 5 month follow up (p=0.062).

Table 2. Outcome variables changes for three groups from pre- to follow-up of the intervention

Scale	Group	Friedman test (P Value)	Pre-			Post-			5 month-			Wilcoxon signed-ranks test P Value (vs. Pre-intervention)	
			25%	median	75%	25%	median	75%	25%	median	75%	Post-	5 month-
PESFFA	EG	.001 **	8.00	9.00	10.00	10.00	10.00	10.00	9.00	10.00	10.00	.008 **	.032*
	CG1	.077 †.	9.00	9.50	10.00	9.00	10.00	10.00	10.00	10.00	10.00	—	—
	CG2	.013 *	4.50	8.00	8.75	8.00	8.00	9.00	7.25	9.00	10.00	.078 †	.062 †
PESFP	EG	.008 **	8.00	9.00	10.00	10.00	10.00	10.00	9.00	10.00	10.00	.006 **	.050 †
	CG1	.112 n.s.	9.00	9.50	10.00	10.00	10.00	10.00	10.00	10.00	10.00	—	—
	CG2	.706 n.s.	8.00	9.50	10.00	8.25	10.00	10.00	9.00	9.50	10.00	—	—

	Group	p	25%	50%	75%	25%	50%	75%	25%	50%	75%	p	p
Self-affirmation	EG	.000 ***	14.00	16.00	17.75	17.25	18.50	19.00	16.25	18.00	19.00	.000 ***	.008 **
	CG1	.172 n.s.	12.75	17.00	17.00	17.00	18.00	19.00	17.00	17.00	18.00	—	—
	CG2	.015 *	13.25	15.50	16.00	13.25	16.00	17.75	12.50	17.00	18.75	.022*	.045*
Problem solving	EG	.033 *	5.25	9.00	12.00	7.50	10.00	15.00	8.00	9.00	13.75	.014*	.028 *
	CG1	.361 n.s.	8.00	9.50	12.75	9.25	12.00	13.75	11.00	11.00	12.75	—	—
	CG2	.096 †	4.50	7.50	8.00	4.25	5.50	8.50	6.25	8.50	10.00	—	—
Self-expression	EG	.121 n.s.	8.25	10.00	12.00	9.00	11.00	12.75	10.00	11.00	13.00	—	—
	CG1	.266 n.s.	7.00	7.50	10.00	7.25	10.00	12.00	7.75	10.00	10.00	—	—
	CG2	.697 n.s.	8.00	11.00	12.00	9.25	10.00	12.75	8.50	11.50	12.75	—	—
Emotional autonomy	EG	.092 †	10.00	13.00	16.00	13.00	14.00	16.00	14.00	14.50	16.00	—	—
	CG1	.090 †	10.50	12.50	14.00	13.00	14.00	15.75	12.25	13.50	15.00	—	—
	CG2	.110 n.s.	10.25	13.00	15.50	10.25	13.00	15.00	11.25	14.50	16.00	—	—
State anxiety	EG	.000 ***	31.50	36.50	48.00	23.25	26.00	34.75	25.00	31.50	43.25	.000 ***	.050 †
	CG1	.090 †	29.75	35.00	40.50	22.25	25.00	28.50	22.25	29.50	41.75	—	—
	CG2	.086 †	28.25	36.00	44.75	32.50	42.50	44.75	31.25	36.50	42.25	—	—
Trait anxiety	EG	.049 *	33.00	41.00	48.75	—	—	—	29.00	36.00	42.00	—	.034 *
	CG1	.157 n.s.	40.25	46.00	53.50	—	—	—	39.25	43.00	48.00	—	—
	CG2	1.00 n.s.	34.50	51.00	55.75	—	—	—	39.25	48.00	53.50	—	—

Note. Perceived emotional support from family (PESFFA), Perceived emotional support from peers (PESFP).

*** p<.001; ** p<.01; *p<.05; n.s. no significant

Wlcoxon signed-ranks test was conducted continually only when Friedman test showed statistic significant.

4. Discussion

In this preliminary study, we examined the effectiveness of a 6 hours self-image promotion intervention program on improving self-image and anxiety status. Findings indicated that experimental group had greater improvement on the perceived emotional support and self-image (i.e., self-affirmation and problem solving) at post- and follow-up than per-intervention. In addition, the experimental group had lower post- and follow-up scores on trait and state anxiety. Oppositely, the social skill training seemed failed to change self-image and failed to make improvement of anxiety status. The reasons that caused different results between the experimental group and control groups might be determined by that whether the method focused on supporting self-growth, and whether the method could make improving of self-image.

A strength of current intervention is that different with traditional CBT and social skill training programs, it emphasized the importance role of parental substitute representation and self-care behavior about stress temperament in both improving

self-image and managing anxiety. The effectiveness of current intervention supports the previous research results [22, 25, 35, 36]. People have negative parental image perception when they have high standard of expectation to their parents. However, through the SAT imagery work, participants could awareness the existing of their unborn siblings who might be their sisters or brothers. They can get energy and emotional support from the unborn siblings, and through this imagery work the expectation standard to their parents would decrease at the same time. Then their parental image script would improve naturally and leads fulfillment of "three love desires". When participants feel secure they can take self-reward oriented behavior which could result in improving perceived emotional support ability, forming positive self-image and positive expectation.

Students also improved their interpretation style of self and others image script by temperament coaching, make them deep understanding self and others, and know what they should do to care of their temperament. With improving of perceived emotional support and self-image, students could recognize and interpret things in a positive manner (i.e., others' emotion, support, and even see a stress thing as a challenge), have positive expectation, and establish secure attachments with others, which in turn contribute to maintain low anxiety status.

Above all, the current study makes clear that the positive self-image is very important for students to control anxiety symptoms. In order to development positive self-image, deep understanding of self and self-care behaviors about stress temperament is needed. Such as students who have anxious temperament should take a deep breath let themselves cool down when they become emotional, and those students who have persistence temperament should let inner voice say "It's ok, that's all right" when they demand a perfect thing. In order to development a positive self-image, parental image must be considered to satisfy student's "to be loved desire". For example, to establish positive parental image by using a "parental substitute representation" or "unborn sibling's substitute representation" (they might be photographs with happy face, or Buddha picture or animated character) and do some efforts such as make the substitute representation portable, or set it to a desktop picture, with such high frequency of stimulation, the positive parental image would be fixed in the mind, replacing the negative one. Along with the parental image changing, students' "love desire" are satisfied, their perceived emotional support ability improved and finally these efforts would contribute to self-reward oriented behavior and individuals would develop positive self-image naturally while such behaviors continued.

Only the stress management training group (CG2) showed effectiveness on

improving the self-affirmation, however, neither the perceived emotional support variables nor anxiety status showed any changes in both the two control groups. Different with the previous researches results [1, 8, 9], in the current study, it seems that training by social skills alone seems impossible to help students who with negative self-image to improve their anxiety status without self-image change. We suggest that unless students develop a positive self-image first, they cannot perform those skills in their daily life, because of the lack of positive expectation, lack of self-confidence and powerlessness.

There are several limitations should be considered when interpret the current results. One is come from the program itself. Among the outcome variables, however, no significant change was observed in the self-affirmation and self-expression. Additional approaches seemed necessary. Second is the relatively small size of the sample, especially the small size of the control groups, which may have been a contributing factor in no significant results. Thirdly, we did not randomly select participants from the population which has implications for the generalizability of the results. The fourth is come from the questionnaires. Most of the scales were translated from Japanese to Chinese, although a back-translated was performed, but we did not make much modification to make the items more suitable for Chinese expression style, more easier understanding for Chinese college students which may be the reason that caused the low Cronbanch's alpha coefficient and affect the current results. Fifth is the ceiling effect which might affect the validity of the result, participants in control groups had a high score on perceived emotional support from peers at the baseline.

current program and cooperated to complete survey questionnaires for 4 times with serious attitude which in turn encourage we greatly. We also grateful thanks to all the staff of Mental Health Counseling Center Yunnan University for their continuous support of recruiting participant's, printing text, providing room and other materials and questionnaires collection. Without their help the current intervention study wouldn't be accomplished smoothly. At last, we'd like to extend our grateful thanks to our families for their unconditional emotional support.

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