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Comparison of Effectiveness of FRIENDS Program, Solution-Focused Brief Therapy, and Aerobic Exercise on Students' Psychological Well-being

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Abstract

Background: Psychoeducation and performing physical activity are believed to be the major duties of academic settings; these might have crucial roles in improving psychological condition of students. The present study was conducted to compare the effectiveness of FRIENDS psychoeducation, solution-focused brief counseling, and aerobic exercise on students' psychological well-being. FRIENDS is acronym of Feeling, Remember to relax, Inner helpful thoughts, Explore solutions, Now reward yourself, Do it every day, and Smile and stay calm.

Method: The present study was quasi-experimental research with pre-test and post-test follow-up stages and control groups in terms of implementation. The statistical population of this research included all 13 to 15-year-old male students at the first grade of Model State High School in Kahrizak Education District, Tehran, Iran during academic year of 2019-2020. Forty students were selected as our sample with non-convenience sampling method utilizing G*Power software. The subjects were assigned randomly into four intervention groups. All the subjects administered Ryff Scale Psychological Wellbeing–Short Form (RSPWB-SF) as the research instrument and consent form.

Results: Statistical analysis of the obtained data via ANCOVA showed a significant difference between the intervention groups in terms of personal growth subscale in the pre-test and follow-up stages (P=0/01); post hoc comparisons indicated that Solution-Focused Brief Therapy was more effective than other interventions. Moreover, ANCOVA indicated a significant difference between the intervention groups concerning self-acceptance subscale in the pre-test, post-test (P<0.001), and pretest-follow-up (P<0.001) stages; post hoc comparisons revealed that FRIENDS was more effective than aerobic intervention in both post-test and follow-up stages.

Conclusion: Students could benefit from psychoeducation programs along with other regular tasks in academic settings in order to improve their psychological well-being.

Keywords: Psychoeducation, FRIENDS, Solution-Focused Brief Therapy, Aerobic, Well-being, Students

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1. Introduction

Well-being interventions focus on different domains; for example, interventions that rely on thoughts, including cognitive behavior therapy, mindfulness training, loving-kindness meditation; social interventions include altruism, forgiveness, gratitude, and social recreation; biological interventions include learning deep relaxation techniques, exercise, and sleep.

The interventions modality have been classified into different types. Group counseling and psychoeducation are among the well-documented methods that influence psychological well-being. Psychoeducation programs consist of different forms and play a significant role in improving psychological well-being, mental disturbances, and academic problems and prevent their recurrence (1). Such programs often adopt a promotion and positivist approach and could be an effective method for improving mental health problems and upholding well-being (2).

Researchers have stated that numerous students are today frustrated with their future because of pessimistic, negative, inconsistent, and irrational thoughts and are at greater risk of mental health problems, such as depression. A number of students have an exaggerated and disturbing view of their problems and see themselves as beings with no control over their environment or destructive

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behaviors; this could be classified in adolescence problems. This means that students need to develop their interpersonal competences, promote physical activity and school performance, and participate in mental health promotion programs (3). Skills training based on positive psychological approaches could help people solve and cope with several problems and difficulties arising from the source of control.

In addition, adopting a positive attitude to everyday problems of life enables human to enjoy a happy life, improving subjective and psychological well-being and depression (4). Psychologists and therapists have always considered positivism as a movement that emerged in response to excessive psychological and psychiatric treatment of mental disorders and negative tendencies. Psychologists believe that psychology focuses too much on negative aspects of behaviors and does not put sufficient emphasis on positive aspects of them (5).

In the third wave of cognitive and behavioral therapies, psychologists and therapists continuously advise people to give up negative and pessimistic thoughts and to look at themselves, those around them, the surrounding world, and events with a hopeful perspective; in fact, positive model believes that well-being is a corner stone for improving life (6). The effectiveness of cognitive-behavioral therapy (CBT) in the treatment of anxiety disorders has been proven and well documented over the last two decades (7).

CBT and its derivations, such as FRIENDS program and Solution-Focused Brief Therapy (SFBT), have been used to describe psychotherapeutic interventions invented to reduce psychological distress and maladaptive behavior by altering cognitive processes and making alternative solutions. FRIENDS is acronym of Feeling, Remember to relax, Inner helpful thoughts, Explore solutions, Now reward yourself, Do it every day, and Smile and stay calm.

Third wave interventions include components that are adjusted to contemporary time; some of them emphasize openness, awareness, and action (8). Cognitive-behavioral therapy is based on the premise that emotion and behavior are mainly the product of cognition; therefore, cognitive-behavioral interventions could change the way of thinking. Thus, CBT incorporates key elements of both cognitive and behavioral theories (9).

Psychological well-being is an important variable in

positivism. Psychological well-being is the ability to flourish latent talents of individuals at a young age, which is a turning point in the development and growth of talent. This variable implies that living in a pleasurable life and developing dimensions of self (10, 11). Over the recent years, a group of researchers in the field of mental health have chosen a different theoretical and research approach in order to explain and study this concept based on positivism.

They have considered mental health to be equivalent to positivism function and conceptualized it in terms of psychological well-being (6). Evidence suggests that wellbeing acts as a preventive function against psychological damage and its recurrence in the future. Moreover, wellbeing predicts positive characteristics such as appreciation, and also reducing well-being is correlated with neuroticism (anxiety, anger, and depression; 12).

Well-being has been defined as the general evaluation of life relying on personal goals and the degree of their accomplishment. Well-being is regarded as one of the most important human psychological issues in life and therefore, has major effects on the development of human personality and the entire human life, which subsequently affects performance at different levels continuously (13).

Psychological well-being consists of different features, all of which have three general characteristics. Primarily, they are internal, that is they are intrapsychic experiences. Secondly, psychological well-being involves positive evaluations, such as mental health, defined by the lack of negative components.

Thirdly, psychological well-being evaluations typically include an overall assessment of all the aspects of a person's life. Although mood and satisfaction also include in this domain, there is usually an emphasis on an integrated judgment of one's life while investigating well-being. Psychological well-being has been defined as the growth of real talents of each person; increasing capacity of positive states, reducing negative states, and improving the level of psychological well-being is among the goals of psychology in 21st century; furthermore, it is associated with a decrease in mortality rate and diseases (14).

Ryff presented a comprehensive assessment of psychological well-being considering the difficulties of determining the basic characteristics of positive psychological well-being in different research areas. Using psychosocial perspective of Erickson and Newgarton regarding personality change in adulthood and Allport's viewpoint on adulthood, he introduced six dimensions of psychological well-being as follows: selfacceptance, personal growth, purpose in life, environmental mastery, autonomy, and positive relations with others (15).

People develop personality traits sometimes based on family education, sometimes according to formal education in schools and educational institutions, and on a number of occasions based on special psychoeducation programs usually done in counseling centers purposefully. The scope of such psychoeducation programs can encompass various counseling approaches, such as SFBT, FRIENDS program, and aerobic exercise.

FRIENDS program developed by Barret in 1990s contends that preventing mental health problems among students (16) helps children and adolescents learn ways to cope with feelings of fear, anxiety, and depression, providing the context for promotion and growth of emotional resilience and self-esteem even after six months of follow-up (17).

FRIENDS is acronym of Feeling, Remember to relax, Inner helpful thoughts, Explore solutions, Now reward yourself, Do it every day, and Smile and stay calm. This kind of treatment commonly consists of 10 sessions and is inspired by cognitive behavior therapy to promote psychological resilience and well-being (18); the program has been effective in helping children manage mental and psychological stresses, such as fear, worry, and anxiety and improving skills for their present and future life (19).

FRIENDS psychoeducation program emphasizes positive psychology and has been highly effective in the prevention and treatment of emotional disorders, anxiety management, increasing self-esteem, and improvement of emotional well-being (20).

Solution-focused brief therapy (SFBT) is another well-documented model developed by Sobhy and Cavallaro; they introduced this modern model to help clients identify problems and make their unique solutions (21). SFBT is based on the assumption that each person has strengths and resources to change and this method could reinforce the process of solution making.

The intervention showed that school students would benefit SFBT to improve academic and goal achievement, decreasing truancy, classroom disruptions, and substance use (22). Solution-focused model utilizes different techniques, for instance, goal setting, finding exceptions, scaling questions, homework, focusing on what is better, miracle question, and positive feedback for children and adolescents (23). The model, as a primary counseling method, is suitable and cost-effective (24).

As mentioned previously, well-being could be influenced by multiple sources. Aerobic exercise is another effective factor considered as an intervention for ameliorating physical and mental disorders, which even prevent diseases and psychological problems. Research has implied that exercise has physiological effects resulting into tranquility in people (25).

Exercise increases the production of serotonin in nervous system, which raises the level of consciousness and general mood of individuals, giving them a feeling of increased energy and happiness to do daily tasks (26). Researchers have shown that aerobic exercise significantly increases the quality of life and well-being (27).

A previous study compared people with and without regular exercise in terms of psychological responses to acute stress. They stated that physical activity has long been beneficial to health and the regular exercise training has been recommended to relieve stress while empirical evidence suggests that these effects are limited (28); they added that regular exercise is associated with emotional resilience to stress in adults.

Nevertheless, the underlying mechanisms of the exercise-associated benefits are ambiguous. The fact that athletes performing regular exercise training experience less reduction in the positive impact of a stressful situation confirms some of the first direct evidence that normal physical activity is associated with stress resilience in healthy individuals.

In cross-sectional studies on adults, exercise has been associated with greater well-being, yet there is limited evidence regarding its advantages. It could be stated that exercise programs and psychoeducation improve individual health whereas social isolation is associated with stress, illness, and premature death.

In summary, this study aimed to examine whether psychoeducation programs, such as FRIENDS, SFBT, and aerobic exercises, affect well-being and which intervention would be more efficient.

2. Method

The present research was quasi-experimental with pre-test, post-test, and a follow-up design and a control group. The statistical population of this study included all the adolescents in High School in Kahrizak Education District, Tehran, Iran during academic year of 2019-2020.

Forty subjects were selected employing nonconvenience sampling method via G*Power software. The subjects first performed a pre-test in psychological well-being questionnaire and 40 students who obtained average scores were selected as the study sample and assigned randomly into three intervention groups and a control group.

The selected sample were matched based on demographic criteria, such as age (13-15 years old), sex (male), family status (cohesive family), and the average score of the last educational semester.

G*Power software was utilized to calculate the samples of the study with 0.05 alpha, 0.2 beta, effect size f 0.75, numerator df 10, and the number of groups 4 for ANCOVA based on clinical implementation studies (29).

Based on clinical expectation, the test power assigned 0.75. The obtained results herein for the four groups revealed that each group should include 9.5 subjects (a total of 38 subjects).

Since in such studies, there would be sometimes subject dropouts, the authors selected 48 subjects; finally, there were 40 of them participated during the study process. Each subject was selected with random numbers table and allocated randomly in one of four groups. ;

The obtained data were analyzed with SPSS version 25 in two sections of descriptive and inferential statistics. The descriptive section included Mean, Standard Deviation, and Number and the inferential section included ANCOVA.

Interventions|Psychoeducations

Ten subjects were categorized in the FRIENDS intervention group and participated in 10 60-minute group sessions. Ten subjects participated in the SFBT intervention group and were subjected to Gutterman advanced techniques for Solution-Focused Counseling Protocol in eight 90-minute group sessions. The other 10 subjects were in the aerobic exercise group, who underwent exercise training; the subjects of aerobic group accomplished six group FitnessGram tests, including pacer test, curl up, trunk lift, push up, back saver sit and reach, and shoulder stretch for nine 60-minute sessions in three weeks.

The other 10 subjects were considered as the control group. All the 40 subjects filled the consent form under supervision of parents³ and school staff.

Instrument

Ryff Scale Psychological Wellbeing–Short Form (RSPWB-SF): This questionnaire was designed by Ryff (1989) and revised in 2002. The short form of this questionnaire has been extracted from the main form, which includes 120 questions. The subjects had to administer this 6-point Likert scale and higher scores indicates better psychological well-being.

RSPWB-SF includes six factors: self-acceptance, personal growth, purpose in life, environmental mastery, autonomy, and positive relations with others. Researchers have reported the correlation of this test to be equal to 0.70-0.89 by comparing 84 items of this questionnaire (30).

In the Iranian version, internal consistency via Cronbach's alpha for self-acceptance, environmental mastery, positive relations with others, purpose in life, personal growth, and autonomy are equal to 0.71, 0.78, 0.7, 0.77, 0.71, and 0.77, respectively. Researchers have also reported the total test-retest coefficient of this scale to be equal to 0.82 (31). Confirmatory factor analysis showed that all the factors in this questionnaire have a good fit.

3. Results

Forty subjects were selected employing nonconvenience sampling method. The subjects' demographic variables were investigated in the study; the GPA of 40 subjects were 18.03 and the mean age was 14.3. Descriptive and inferential statistics are presented in the tables below.

| Comparison of Effec | tiveness of FRIENDS Program | Solution-Focused Brief | f Therapy and A | Aerobic Exercise |
|---------------------|-----------------------------|------------------------|-----------------|------------------|
| | | | | |

| Table 1: Descriptive characteristics of psychological well-being subscales in the control and intervention groups | | | | | | | | | | |
|---|-----------|---------|----------|--------|---------|--------|---------|---------|---------|--|
| Variable | Stage | Control | | Aero | Aerobic | | SFBT | | FRIENDS | |
| | | Mean | SD | Mean | SD | Mean | SD | Mean | SD | |
| Autonomy | Pre-test | 14.90 | 2.233 | 11.90 | 0.994 | 12.10 | 2.330 | 10.40 | 3.134 | |
| | Post-test | 15.20 | 0.632 | 18.00 | 1.054 | 18.30 | 1.888 | 7.40 | 1.837 | |
| | Follow-up | 13.30 | 3.020 | 17.80 | 1.032 | 16.00 | 15.958 | 14.5000 | 4.143 | |
| Environmental mastery | Pre-test | 20.00 | 6.289 | 22.00 | 8.432 | 15.50 | 3.40751 | 16.20 | 8.080 | |
| | Post-test | 21.10 | 2.846 | 18.20 | 0.918 | 19.70 | 4.76212 | 18.90 | 5.915 | |
| | Follow-up | 19.60 | 3.134 | 20.90 | 6.118 | 14.60 | 3.373 | 15.60 | 1.897 | |
| Personal growth | Pre-test | 13.20 | 1.398 | 20.90 | 2.330 | 14.00 | 5.011 | 14.20 | 2.043 | |
| | Post-test | 12.90 | 1.370 | 23.40 | 4.623 | 17.30 | 5.034 | 22.80 | 3.705 | |
| | Follow-up | 11.80 | 6.321 | 21.40 | 4.971 | 16.30 | 5.396 | 21.40 | 3.169 | |
| Positive relations with others | Pre-test | 15.50 | 5.52268 | 15.70 | 3.529 | 15.10 | 4.201 | 18.90 | 14.955 | |
| | Post-test | 16.40 | 3.56526 | 19.70 | 3.198 | 20.0 | 2.211 | 28.60 | 2.27058 | |
| | Follow-up | 13.70 | 2.11082 | 17.70 | 4.854 | 18.10 | 6.154 | 26.70 | 3.77271 | |
| Purpose in life | Pre-test | 20.80 | 6.321 | 20.40 | 4.971 | 19.30 | 5.396 | 17.40 | 3.169 | |
| | Post-test | 21.10 | 5.724 | 24.00 | 4.055 | 21.70 | 6.634 | 21.10 | 3.755 | |
| | Follow-up | 19.90 | 2.726 | 23.60 | 2.366 | 20.40 | 3.533 | 20.60 | 2.011 | |
| Self-acceptance | Pre-test | 34.40 | 5.481 | 44.60 | 5.189 | 41.30 | 7.986 | 38.10 | 7.978 | |
| | Post-test | 31.70 | 4.137 | 49.10 | 5.108 | 45.90 | 8.974 | 48.50 | 5.759 | |
| | Follow-up | 37.00 | 4.7609 | 47.90 | 5.258 | 43.30 | 7.986 | 46.10 | 7.978 | |
| Total score | Pre-test | 106.30 | 12.57025 | 104.80 | 11.905 | 94.20 | 27.030 | 77.00 | 22.340 | |
| | Post-test | 107.30 | 14.016 | 119.0 | 12.364 | 115.20 | 27.263 | 107.50 | 22.46 | |
| | Follow-up | 110.00 | 5.033 | 115.30 | 4.110 | 112.20 | 3.675 | 103.60 | 4.599 | |

Table 1 lists the mean and standard deviation of the subscales of psychological well-being in the pre-test, post-test, and follow-up stages among the intervention groups.

The results in table 2 do not show any significant differences among the interventions concerning both the post-test (Fpretest-posttest=2.18; P=0.116) and follow-up stages (Fpretest-follow-up=2.07; P=0.123) of autonomy.

The findings revealed no significant differences among the intervention groups concerning both the pretest and post-test, and pre-test (Fpretest-posttest=0.619; P=0.607) and follow-up stages (Fpretest-follow-up=2.07; P=0.12) of environmental mastery. Moreover, no significant differences were observed among the pre-test and post-test (Fpretest-posttest=1.487; P=0.235) of personal growth, but there was a significant difference among the interventions in the pre-test and follow-up stages (Fpretest-follow-up=3.495; P=0.02) of the subscale. Based on our findings, although the interventions were effective on improving positive relations with others, there was no significant differences among the posttest=0.822; P=0.49) and follow-up stages (Fpretest-follow-up=0.298; P=0.123). Furthermore, we found that despite the efficiency of the interventions in improving the purpose in life, there was not any significant differences among the interventions in both the post-test (Fpretest-posttest=1.201; p=0.324) and follow-up stages (Fpretest-follow-up=1.852; P=0.156). The results of the last subscale indicated that the interventions were effective on improving self-acceptance and that there was a significant difference among the intervention groups concerning both the post-test (Fpretest=6.378; P<0.001) and follow-up stages (Fpretest-follow-up=6.775; P<0.001).

intervention regarding both the post-test (Fpretest-

As depicted in Table 3, there was a significant difference between the control and aerobic groups (P=0.04) and also between the control and SFBT (P=0.004) in the pre-test and follow-up of personal growth.

This means that both aerobic and SFBT were effective. There was a significant difference between the SFBT and control group concerning self-acceptance (P=0.05) in the

| Source | Stages | Mean Square | F | Sig |
|--------------------------------|--|--|-------|-------|
| Autonomy | Pre-test and post-test of groups | 136.190 | 2.118 | 0.116 |
| Autonomy | Pre-test and follow-up of groups | 136.190 2.118 0.116 33.184 2.073 0.122 5.254 0.619 0.607 9.528 2.088 0.120 28.903 1.487 0.235 3.586 0.280 0.600 19.052 0.822 0.490 4.457 0.298 0.826 23.243 1.201 0.324 34.176 1.852 0.156 41.056 6.378 0.001 | 0.122 | |
| | Pre-test and post-test of groups | 5.254 | 0.619 | 0.607 |
| Environmental mastery | Pre-test and follow-up of groups | 9.528 | 2.088 | 0.120 |
| | Pre-test and post-test of groups | 28.903 | 1.487 | 0.235 |
| Personal growth | Pre-test and follow-up of groups | 3.586 | 0.280 | 0.600 |
| | Pre-test and post-test of groups | 19.052 | 0.822 | 0.490 |
| Positive relations with others | Pre-test and follow-up of groups | 1 2.118 0.11 ps 136.190 2.118 0.11 ps 33.184 2.073 0.12 ps 5.254 0.619 0.60 ps 9.528 2.088 0.12 ps 28.903 1.487 0.23 ps 3.586 0.280 0.60 ps 19.052 0.822 0.49 ps 23.243 1.201 0.32 ps 34.176 1.852 0.15 ps 41.056 6.378 0.00 | 0.826 | |
| | Pre-test and post-test of groups | 23.243 | 1.201 | 0.324 |
| Purpose in Life | attions with othersPre-test and follow-up of groups4.4570.298Ose in LifePre-test and post-test of groups23.2431.201Pre-test and follow-up of groups34.1761.852 | 1.852 | 0.156 | |
| Salf accontance | Pre-test and post-test of groups | 41.056 | 6.378 | 0.001 |
| Self-acceptance | Pre-test and follow-up of groups | 35.225 | 6.775 | 0.001 |

Table 2: Test of between subjects effects of well-Being subscales in the intervention groups

pre-test and post-test, which implies that SFBT was helpful. In addition, there was a significant difference between the SFBT and FRIENDS groups in self-acceptance (P<0.001) in the pre-test and follow-up; based on the mean scores, FRIENDS program were more effective than SFBT for the students of the present study.

Table 3: Pairwise Comparisons

| | (I) Intervention groups | (J) Intervention groups | Mean Difference (I-J) | Std. Error | Sig |
|---|----------------------------|----------------------------|--------------------------|------------|-------|
| Pre-test and follow-up | Control | Aerobic | 3.33 | 1.62 | 0.047 |
| Of personal growth | Control | SFBT | 4.93 | 1.6 | 0.004 |
| Pre-test and post-test/ | FRIENDS | Aerobic | -2.500 [*] | 1.135 | 0.057 |
| Pre-test and follow-up Self-acceptance | Aerobic | FRIENDS | -4.337 | 2.213 | 0.026 |

4. Discussion

The results revealed that FRIENDS program and solution-focused brief therapy (SFBT) affect significantly the students> psychological well-being only in the posttest stage. FRIENDS program is based on the principles and methods of cognitive-behavioral therapy, which could augment competence, feeling of adequacy, social and emotional flexibility contributing to the reduction in serious psychosocial dysfunctions and improvement of psychological condition. As mentioned previously, FRIENDS program, relying on positive CBT approach, could help students to make positive choices for their lives at least in their perceptions related to school environments.

As a postmodern and collaborative approach to family therapy and marriage, solution-focused brief therapy (SFBT) helps clients focus on their abilities, capabilities, and solutions to the hardships of their life instead of emphasizing past events. This model could be highly effective for internalized and externalized psychological problems (22). In this collaborative process, the therapist and client work together to find, define, and explain the solution. Recognizing the capabilities and possibilities of the clients subsequently facilitates the development of positive changes in the client. Furthermore, peer support during group sessions and learning how to solve conflicts are positive outputs of SFBT, which may influence students> well-being (32). In this model, there is always emphasis on what can be done to bring about positive changes. People are encouraged to do what they need to do to solve a problem or to improve a bad condition.

This approach is forward-looking and highlights the situation at this time to find a solution. Studies have indicated that aerobic exercises are effective on psychological well-being; for example, researchers have stated that physical activity and aerobic exercise improve and maintain physical and mental health as well as cognitive activity (33). A large body of research have revealed that aerobics has a repulsive effect against negative states, such as fear, anxiety, and stress.

If aerobic activity is performed regularly, it will lead to better self-awareness, more self-confidence, less anger, improved mental function, further relaxation under stress, and less depression. In the present study; however, the obtained results indicated that aerobic exercise did not influence psychological well-being in the post-test and follow-up. This result might be attributed to the type of exercise, which was individual herein and did not guarantee communication and interactions unlike the two other interventions.

Obviously, every research encounter certain limitations; one of the limitations herein was choosing a suitable school to implement interventions since academic settings are not interested in cooperation with such studies due to numerous reasons. In addition, because there were restrictions in selecting students, the authors could not investigate other demographic data, such as socioeconomic status. Thus, other researchers could consider the limitations in future studies in this regard.

5. Conclusion

According to our findings, even though the data were limited to the post-test stage, it seems that psychological interventions, such as FRIENDS and SFBT, positively influenced psychological well-being, particularly promoting positive relationships. This may improve communicative behaviors and by promoting social support, students may feel better about their lives and circumstances. The findings emphasized the effectiveness of interventions. Thus, schools and other educational environments could benefit such programs for promoting psychological well-being of students. In addition, further studies are required to investigate the effectiveness of aerobic exercises, SFBT, and FRIENDS in longer periods.

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Ethical approval

This article was approved by the Ethics Committee with the code of IR.IAU.SDJ.REC.1399.272 from Islamic Azad University, Ilam Branch, Ilam, Iran. Written informed consent was obtained from the participants.

Conflict of interests

The authors declared no conflict of interest.

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