

Effectiveness of Remote Solution-Focused Brief Counseling for Depression: A Randomized Controlled Trial

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Abstract:

Background: Depression significantly impacts quality of life. Solution-Focused Brief Therapy (SFBT) is a psychotherapy method for addressing various psychological disorders. However, most studies focus on face-to-face SFBT for specific populations, lacking research on remote SFBT's effectiveness in a broader population.

Objective: This study aimed to explore the effectiveness of remote SFBT for depression, providing intervention options for underserved areas.

Method: 73 novice counselors underwent an 18-week SFBT training. A randomized controlled trial with 132 participants assigned to SFBT or a control group followed. The trained counselors provided SFBT interventions to the participants in the intervention group after the training.

Results: Training significantly improved counselors' solution-focused thinking ($F=428.7$, $P<0.001$). The SFBT group had significantly lower depression scores post-intervention compared to the control group ($F=15.4$, $P<0.001$) and pre-intervention ($F=66.1$, $P<0.001$), with reduced levels maintained one month later.

Conclusion: SFBT training enhances novice counselors' skills, and remote SFBT effectively alleviates depression symptoms.

Keywords: Solution-Focused Brief Therapy, depression, remote therapy, novice counselors.

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1. Introduction

According to a brief released by the World Health Organization (WHO) in March 2022, the number of people suffering from depression has increased by 25% since 2019. Depression has become the most common mental disorder globally (Santomauro et al., 2022). The detrimental effects of depression are widespread; studies have shown that depression is associated with significant impairment in the quality of life for patients and their families, and it poses a substantial disease burden and economic cost at the demographic level (Whiteford et al., 2015).

Currently, several psychological interventions worldwide have been proven effective in alleviating symptoms of depression and anxiety disorders. However, most of these treatments focus on a specific type of disorder, and most randomized trials examining the efficacy of these treatments are also concentrated on specific mental disorders (Cuijpers et al., 2016). Solution-Focused Brief

Therapy (SFBT) has been shown to be significantly effective not only in improving anxiety and depressive moods but also in promoting overall mental health. SFBT has been successfully applied to various real-world challenges (Atkins et al., 2010).

Solution-Focused Brief Therapy (SFBT) originated in the early 1980s, developed by Steve de Shazer (1985, 1988), Insoo Kim Berg (1994), and their colleagues (Berg & De Jong, 1996; Berg & Miller, 1992; Cade & O'Hanlon, 1993; Lipchik, 2002; Murphy, 1996). They aimed to study effective therapeutic techniques and the methods that work during therapy. SFBT is an intervention based on clients' strengths and resources, grounded in the therapeutic philosophy that clients possess the knowledge and solutions to solve their problems. The theoretical framework of SFBT posits that the construction of solutions results from changes in clients' perspectives and interaction patterns, co-constructed by the therapist and the client (Berg & De Jong, 1996; Franklin, Zhang, Froerer, and Johnson, 2017). The therapist's active role is to ask questions, help clients view events from different perspectives,

and use solution-focused techniques to identify clues from clients' past solutions that have worked in their lives (Franklin & Jordan, 1999).

SFBT research has evolved over the past decade and is considered an evidence-based intervention in the United States (Smock, Trepper et al., 2008; Bartwal & Nath, 2020). Evidence of SFBT's effectiveness in child protection agencies indicates that SFBT is cost-effective and efficient, making it worth promoting and using (Berg & Shilts, 2005; Beyebach et al., 2021). Furthermore, studies have shown that online counseling is as effective as offline counseling, but online counseling can increase accessibility and reduce costs (Bhattacharya et al., 2019). However, in China, the effectiveness of web-based SFBT still needs validation.

This study involved training novice counselors in SFBT through a solution-focused brief therapy course to demonstrate the effectiveness of the course in enhancing solution-focused thinking among novice counselors. Subsequently, 122 participants were randomly recruited and screened via an online platform, then randomly assigned to two groups: the Solution-Focused Brief Therapy group (SFBT group) and the Waiting List group (WL group). The novice counselors who received SFBT training provided a 4-week, once-weekly web-based SFBT intervention to the SFBT group, while the WL group received the same intervention after 4 weeks. Depression levels of all participants were measured using the Beck Depression Inventory before and after the intervention, with a follow-up measurement for the SFBT group one month post-intervention. This study builds on existing SFBT research, adapting it to the local context and using online interventions to increase accessibility. It aims to evaluate the effectiveness of web-based SFBT in promoting mental health. If the intervention's effectiveness is validated, it will help more individuals with depression and anxiety in China gain access to convenient and effective interventions, thus promoting mental health for various psychological distress populations across society.

2. Methods

2.1 Ethics and Clinical Trial Registration

This study protocol has been approved by the Ethics and Human and Animal Protection Committee of the School of Psychology and Cognitive Sciences at Peking University (Approval No.: #2023-0601). All participants signed written informed consent forms.

2.2 Personnel

A total of 73 counselors participated in the study, including 64 female counselors and 9 male counselors. All counselors were either graduate students specializing in clinical and counseling psychology at the School of Psychology and Cognitive Sciences at Peking University or intern counselors at the Peking University Counseling Center. Before conducting the interventions, the counselors underwent standardized training, which included the principles and techniques of SFBT as well as the study procedures. The SFBT training consisted of weekly 90-minute sessions over a period of 18 weeks. Counselors' solution-focused thinking patterns were assessed at baseline and after the completion of the training.

2.2.1 Training Process

The course was based on Solution-Focused Brief Therapy (SFBT), a modern short-term counseling approach that has rapidly gained

popularity worldwide in recent years. Developed by Steve de Shazer, Insoo Kim Berg, and their colleagues at the Brief Family Therapy Center, SFBT focuses on "future orientation and goal direction," distinguishing it from traditional problem-solving counseling models. This course integrated SFBT techniques, positive psychology, and co-creative coaching techniques to effectively promote internal growth and behavioral change.

2.2.2 Course Characteristics

The course aimed to achieve the PERMA goals of positive psychology, centered around SFBT techniques, and integrated various postmodern counseling approaches. It advocated viewing clients as experts in solving their own problems, focusing on positive, goal-oriented, and outcome-oriented approaches. The course emphasized a holistic perspective, aiming to energize clients, catalyze their transformation, and encourage small actionable steps that foster hope.

2.2.3 Course Format

The course format included lectures, in-class exercises, reading materials, and literature, as well as case studies for counseling practice outside of class.

2.3 Participants

This study employed a randomized controlled trial design to preliminarily explore the effectiveness of web-based SFBT for depression intervention.

2.3.1 Sample Source

Volunteers were recruited via internet platforms, collecting samples through recruitment information posted on WeChat Moments and Treehole. After screening, those who met the inclusion criteria were enrolled in the study.

2.3.2 Inclusion Criteria

- 1). Beck Depression Inventory (BDI) score of 15 or above.
- 2). Adults aged 18 and above, regardless of gender.
- 3). Minimum education level of elementary school.
- 4). Sufficient auditory, visual, and motor abilities.
- 5). Willingness to participate in the study and signing the informed consent form.

2.3.3 Exclusion Criteria

- 1). Individuals with severe physical illnesses.
- 2). Individuals with serious suicidal tendencies.
- 3). Individuals with comorbid psychotic disorders, intellectual disabilities, or personality disorders.
- 4). Pregnant or breastfeeding women.
- 5). Individuals who have not responded to adequate doses and durations of medication and/or psychotherapy.

2.4 Study Design

The study design was a fully randomized pretest-posttest design with experimental and waiting list control groups. Participants were randomly assigned to two groups: the experimental group received a 4-week SFBT intervention with weekly sessions, while the waiting list group only underwent pre- and post-tests without

any intervention. After the experimental group's intervention was completed, the waiting list group received the same intervention. Participants were assessed at baseline, post-intervention, and one month after the intervention.

Based on previous research and sample size calculations for effectiveness trials, each group required 60 participants, totaling 120 participants.

2.5 Intervention Methods

2.5.1 SFBT Intervention Group

The Solution-Focused Brief Therapy (SFBT) intervention consisted of four sessions completed over four weeks, with one session per week, each lasting approximately 60 minutes. The intervention followed the "Solution-Focused Brief Therapy Counselor Manual," providing structured psychological counseling to patients.

2.5.2 Waiting List Group

The waiting list group did not receive any intervention during the SFBT group's intervention period. After the SFBT group's intervention was completed, the waiting list group received the same SFBT intervention, consisting of four sessions over four weeks, with one session per week, each lasting approximately 60 minutes. The intervention also followed the "Solution-Focused Brief Therapy Counselor Manual" for structured psychological counseling.

2.6 Research Tools

2.6.1 Solution-Focused Inventory (SFI)

The Chinese version of the SFI, revised by Xiang Lin (2015), was used to measure solution-focused thinking patterns. The questionnaire consists of 12 items across three dimensions: problem reconstruction, goal orientation, and resource utilization, with four items per dimension. It uses a 6-point Likert scale, where 1 indicates "strongly disagree" and 6 indicates "strongly agree," with the problem reconstruction dimension scored in reverse. The questionnaire has good reliability, with a Cronbach's α coefficient of 0.802 (Xiang Lin, 2015).

2.6.2 Self-Compiled Solution-Focused Brief Therapy Counselor Manual

This manual was used for counselors to implement structured SFBT treatment. It was compiled by the authors of this paper, referencing the "Interviewing for Solutions" manual by the founders of Solution-Focused Brief Therapy, De Jon & Berg (1998). The manual includes an introduction to the operational process, an overall treatment schedule, and specific content arrangements for each of the four sessions. Each session's content includes treatment goals, treatment techniques, structured timelines, and feedback components.

2.6.3 Beck Depression Inventory (BDI)

The Beck Depression Inventory (BDI) is one of the most widely used self-report questionnaires for assessing depressive symptoms, applicable in both clinical and general populations. This study used the first edition (BDI-I), developed by Beck et al. in 1961 (Beck et al., 1961). The Chinese version of the BDI-I is widely used in China, with a split-half reliability of 0.879 and a Cronbach's α coefficient of 0.890. The scale has good validity for both the overall scale and individual items (Zhang Yuxin et al., 1990),

making it suitable for use with Chinese participants. The scale includes 21 items, each with four response options. The total score is the sum of the 20 item results. A total score of ≥ 29 indicates severe depression, 20-28 indicates moderate depression, 14-19 indicates mild depression, and < 14 indicates no depression. In this study, a total score of > 5 was defined as "having depressive symptoms."

2.6.4 Self-Compiled Demographic Questionnaire

The "Demographic Questionnaire" was self-compiled by the authors of this paper, primarily used to collect demographic information such as gender and age of the participants.

3. Results

3.1 Operational Validation

The authors referenced relevant literature to establish the assessment time points: one week before the course intervention as the baseline assessment, and immediately after the course intervention to evaluate the intervention's effectiveness. SFI scores were used as the standard for evaluating the intervention effects of the Solution-Focused Brief Therapy course.

3.1.1 Operational Validation Statistical Methods

Epidata 3.1 database software was used to establish the database, and data entry was independently organized by a single individual. SPSS 25.0 statistical software was used for statistical analysis. Outcome indicators were analyzed using the repeated measures ANOVA statistical method. The level of statistical significance was set at $P < 0.001$.

3.1.2 Operational Validation Results

The pre- and post-intervention assessment results showed that the SFI scores before the intervention were significantly higher than after the intervention. See Table 3.1 for details.

Table 3.1 Comparison of SFI Scores Before and After Intervention (M $\pm$ SD)

group	BDI Scores After Intervention	F	P
T1	50.7 $\pm$ 4.9	428.7***	0.000
T2	56.2 $\pm$ 4.9		

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

3.1.3 Operational Validation Conclusion

This study involved an SFBT course intervention for novice counselors, finding that participants' SFI scores significantly increased after the intervention compared to the pre-intervention scores ($F = 428.7$, $P < 0.001$). This demonstrates that the Solution-Focused Brief Therapy course significantly enhances novice counselors' solution-focused orientation thinking.

3.1.4 Operational Validation Discussion

The results indicate that novice counselors improved their solution-focused thinking through systematic learning of the SFBT course. This improvement demonstrates that as novice counselors practiced solution-focused techniques and understood and mastered the core theories during the course, their solution-focused thinking patterns were positively influenced.

3.2 Statistical Methods

Epidata 3.1 database software was used to establish the database, and data entry was independently organized by a single individual. SPSS 25.0 statistical software was used for statistical analysis. Descriptive statistics methods were used for demographic data, and outcome indicators were analyzed using χ^2 tests, one-way ANOVA, and repeated measures ANOVA. The level of statistical significance was set at $P < 0.001$.

3.3 Study Results

3.3.1 General Data

During the study period, 132 participants were screened, with 122 meeting the inclusion criteria (61 in the SFBT group and 61 in the

waiting list group). Among all enrolled participants, 2 did not undergo any evaluation, 38 only completed the baseline evaluation, and 40 did not complete the 4-week intervention and evaluation. A total of 82 participants completed the 4-week intervention and evaluation. By October 2023, 25 participants completed the one-month follow-up.

Specific reasons for not being enrolled: no typical depressive symptoms (BDI score < 5) (4 cases); high suicide risk (4 cases); diagnosis mismatch (1 case); currently undergoing other psychological treatment (1 case). Reasons for participant dropout: treatment not suitable (4 cases); self-perceived recovery (5 cases); time constraints (3 cases); voluntary withdrawal (2 cases); unreachable (24 cases). The specific process is shown in Figure 3.1.

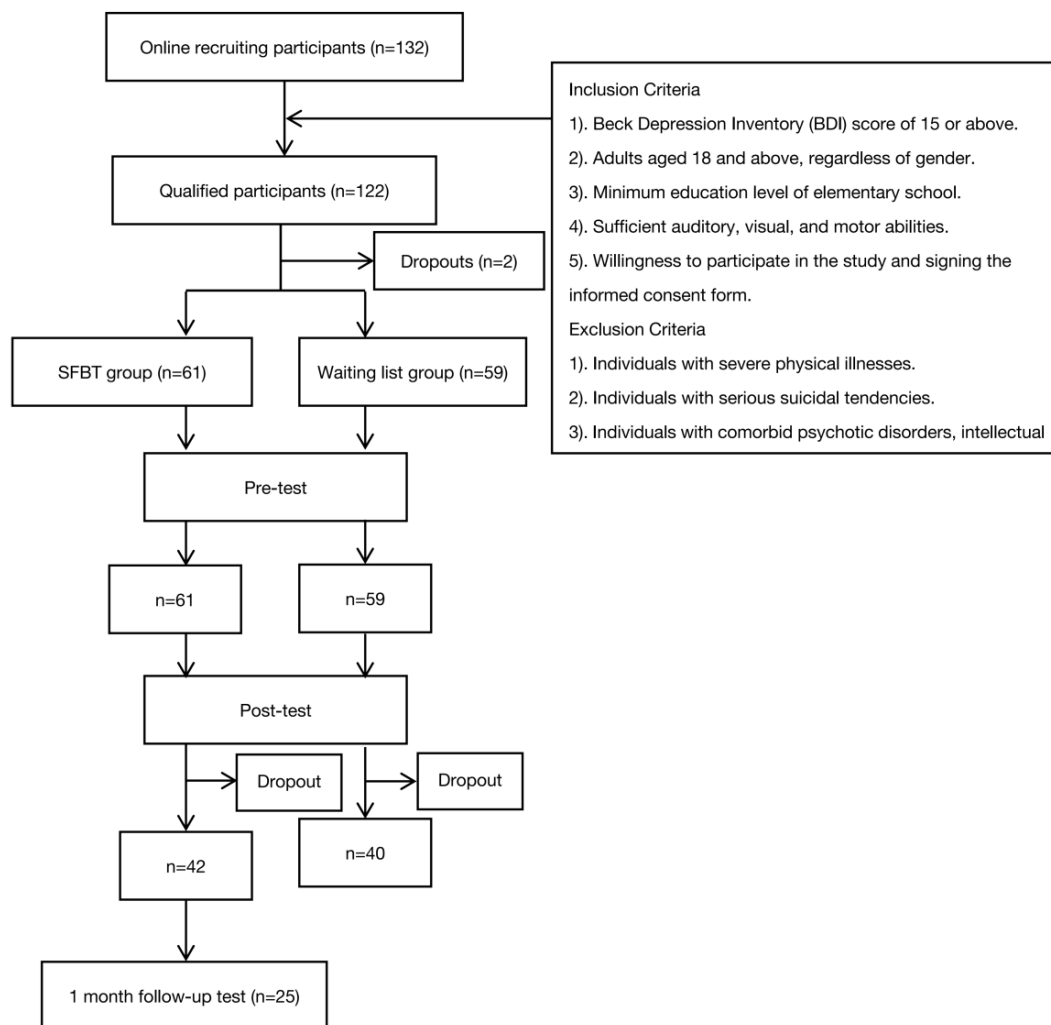


Figure 3.1 Study Flowchart

3.3.2 Basic Demographic Data

The total sample consisted of 120 individuals with depressive symptoms, including 17 males and 103 females, with an average age of 26.1 ± 4.1 years, the oldest being 40 years and the youngest 18 years. Among them, the SFBT group had 61 participants, including 9 males and 52 females, with an average age of 26.3 ± 4.4 years, the oldest being 40 years and the youngest 18 years. The waiting list group had 59 participants, including 8 males and 51 females, with an average age of 25.9 ± 3.8 years, the oldest being 33 years and the youngest 18 years.

The differences in gender and age between the two groups were not statistically significant ($P > 0.05$). Detailed demographic data are shown in Table 3.2.

Table 3.2 Basic Demographic Data of Participants

		Total/Mean	SFBT Group	Waiting List Group	χ^2	P
Sample Size		120	61	59		
Gender	Male	17	9	8	0.04	0.85
	Female	103	52	51		
Age		26.1±4.1	26.3±4.4	25.9±3.8	24.6	0.10

3.3.3 Outcome Indicators

3.3.3.1 Baseline Assessment

The baseline assessment results showed that the BDI total scores for the SFBT group and the waiting list group were (16.7±1.2) and (18.5±1.1), respectively ($P = 0.48$), indicating no significant difference between the two groups.

3.3.3.2 Intervention Effect Evaluation

A repeated measures ANOVA was conducted with time point (pre-intervention BDI scores and post-intervention BDI scores) as the within-subject variable and group (SFBT group and waiting list group) as the between-subject variable. The results showed a significant interaction between group and time point ($P=0.01$). See Table 3.3. Therefore, the main analysis focused on the simple main effects.

Table 3.3 Interaction analysis of group * time (M±SD)

Group	Pre-test (M±SD)	Post-test (M±SD)	F	P	Partial η^2
SFBT Group	17.8±9.4	8.9±6.3			
Waiting List Group	18.2±8.2	15.6±9.0			
Group			3.01	0.09	0.04
Time			29.72	0.00	0.27
Group*Time			6.46**	0.01	0.08

Note: * $p<0.05$, ** $p<0.01$, *** $p<0.001$

3.3.3.3 Post-Intervention Assessment

The post-intervention assessment results showed that the BDI total scores for the SFBT group and the waiting list group were (8.9±6.2) and (15.6±9.0), respectively ($P = 0.000$), with the SFBT group scoring significantly lower than the waiting list group. See Table 3.4.

Table 3.4 Post-test comparison between SFBT group and waiting group (M±SD)

Group	Post-test (M±SD)	F	P
SFBT Group	8.9±6.2	15.4***	0.000
Waiting List Group	15.6±9.0		

Note: * $p<0.05$, ** $p<0.01$, *** $p<0.001$

3.3.3.4 Comparison of Pre- and Post-Intervention Assessments

After the SFBT intervention, the BDI total score for the SFBT group decreased by 6.96 compared to the baseline assessment, showing a significant difference. The waiting list group did not show similar results. See Table 3.5.

Table 3.5 Comparison of Pre- and Post-test for SFBT Group and Waiting List Group (M±SD)

Group	Pre-test (M±SD)	Post-test (M±SD)	F	P
SFBT Group	17.8±9.4	8.9±6.3	66.1***	0.000
Waiting List Group	18.2±8.2	15.6±9.0	4.1	0.051

Note: * $p<0.05$, ** $p<0.01$, *** $p<0.001$

3.3.3.5 Assessments at Different Time Points for the SFBT Group

Repeated measures ANOVA and post-hoc tests were conducted on the SFBT group before the intervention, after the intervention, and one month after the intervention. The results showed that BDI scores continued to decrease, with post-intervention scores significantly lower than pre-intervention scores, and scores one month after the intervention significantly lower than pre-intervention scores. However, the scores one month after the intervention were not significantly lower than the post-intervention scores. See Table 3.6.

Table 3.6 Tests at Different Time Points for the SFBT Group (M±SD)

Time Point		Time Point		Mean Difference	Standard Error	Significance
Pre-test	18.9±2.1	Post-test	9.36±1.3	9.600***	2.34	0.000
Pre-test	18.9±2.1	Follow-up after 4 weeks	8.08±1.2	10.880***	2.542	0.000
Post-test	9.36±1.3	Follow-up after 4 weeks	8.08±1.2	1.228	1.839	0.166

Note: *p<0.05, **p<0.01, ***p<0.001

4. Conclusion

This study initially provided an 18-week SFBT course training for 73 novice counselors. The operational validation revealed that novice counselors' solution-focused thinking patterns significantly improved after training (F=428.7, P<0.001). Subsequently, these trained novice counselors conducted interventions using SFBT, and it was found that the BDI scores of the SFBT group were significantly lower than those of the waiting list group post-intervention (F=15.4, P<0.001). Additionally, the BDI scores of the SFBT group significantly decreased compared to pre-intervention scores (F=66.1, P<0.001), and these lower scores were maintained one month after the intervention, indicating the lasting therapeutic effect of SFBT for depression patients. The waiting list group did not show similar results.

5. Discussion

The results indicate that Solution-Focused Brief Therapy is relatively easy to learn, and novice counselors can quickly master it and effectively intervene with clients through short-term training. Additionally, the study shows that web-based SFBT is effective in alleviating depressive symptoms. The continuous decrease in BDI scores post-intervention may be attributed to SFBT's focus on solving current problems, leveraging clients' resources and solutions, and setting clear goals. Furthermore, the sustained low BDI scores one month post-intervention suggest that SFBT has a long-term therapeutic effect, which helps prevent relapse of depression.

It is worth noting that the waiting list group did not show significant improvement in BDI scores post-intervention, further supporting the effectiveness of web-based SFBT. However, despite the promising results of SFBT in this study, more large-scale, multicenter clinical trials are needed to verify its long-term efficacy and applicability.

In summary, the results of this study indicate that web-based SFBT has significant and lasting therapeutic effects on depression patients. This provides important reference value for clinical practice, demonstrating that SFBT is easy to learn and that novice counselors with limited practical experience can quickly master it. Additionally, it proves that web-based SFBT is effective for a wide range of depressive symptoms, enhancing the accessibility of SFBT and offering a timely, accessible, and cost-effective intervention for individuals in remote areas with limited

psychological support. However, due to the limited sample size, further research is needed to verify its feasibility and efficacy in clinical applications.

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