

THE IMPACT OF SOLUTION-FOCUSED THINKING ON PSYCHOLOGICAL HEALTH: THE CHAIN MEDIATION ROLE OF MINDFULNESS AND PERCEIVED STRESS

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Abstract

Solution-Focused Brief Therapy (SFBT) is effective and cost-efficient. This study examined the impact of solution-focused thinking on psychological health, highlighting the mediating roles of mindfulness and perceived stress. Method: A 1-month survey of 464 participants used established scales to measure key variables. During this period, a total of two measurements were conducted. The interval between the first and second measurement was 3 weeks. Results: Solution-focused thinking positively correlated with mindfulness ($\beta = 0.44$, $p < 0.001$) and life satisfaction ($\beta = 0.16$, $p < 0.01$), and negatively with perceived stress ($\beta = -0.41$, $p < 0.001$) and depression ($\beta = -0.42$, $p < 0.001$). Mindfulness and perceived stress significantly mediated these relationships. Solution-focused thinking enhances psychological health by increasing mindfulness and reducing stress.

Keywords: Solution-Focused Brief Therapy (SFBT), Mindfulness, Perceived Stress, Psychological Health, Depression.

I. Introduction

In recent years, Solution-Focused Brief Therapy (SFBT) has gained widespread use in global psychological interventions due to its effectiveness, low cost, and rapid results (Ho, Goh, Kwan, Lim, & Khor, 2024). However, the underlying mechanisms of SFBT's effectiveness are rarely studied. Previous research suggests that integrating SFBT with mindfulness can enhance its efficacy. Rodriguez (2017) conducted an instrumental multiple case study to investigate the combined use of SFBT and mindfulness, indicating that this model can mitigate the emotional and psychological impact of substance abuse with comorbid emotional disorders. Additionally, a randomized controlled trial by Lin et al. (2021) demonstrated that combining solution-focused thinking with mindfulness-based stress reduction can improve negative emotions, activate patients' agency in treatment, and enhance their quality of life (Lin et al., 2021).

SFBT focuses on alleviating individuals' real-world stress by constructing solutions, while mindfulness emphasizes being present. Thus, it can be hypothesized that SFBT can enhance clients' ability to engage with the present moment, thereby increasing their mindfulness awareness. This could explain why the combination of SFBT and mindfulness significantly improves psychological health.

Numerous studies have shown that mindfulness can promote psychological health by reducing perceived stress. Bajaj et al. (2022) found that psychological resilience and perceived stress partially mediate the relationship between mindfulness and well-being. Their study indicated that mindfulness relates to well-being through two paths: influencing well-being via psychological resilience and reducing perceived stress (Bajaj et al., 2022). Ford & Shook (2019) found that perceived stress mediates the relationship between mindfulness and emotional distress using parallel multiple mediation models. This suggests that mindfulness negatively correlates with perceived stress, and perceived stress positively correlates with emotional distress, highlighting that reducing perceived stress could be a mechanism by which mindfulness benefits psychological health (Ford & Shook, 2019). Valikhani et al. (2020) demonstrated through structural equation modeling with bootstrapping that perceived stress partially mediates the relationship between mindfulness and quality of

life and fully mediates the relationship between mindfulness and psychological health. This study suggests that mindfulness significantly improves individual quality of life and psychological health by reducing perceived stress (Valikhani et al., 2020).

Based on the aforementioned research, it is often suggested that solution-focused therapy combines well with mindfulness. Mindfulness negatively correlates with perceived stress and depression and positively correlates with well-being. Additionally, perceived stress mediates the relationship between mindfulness and psychological health. Depression and life satisfaction represent two different dimensions of psychological health. Greenspoon and Saklofske (2001) proposed the dual-factor model of mental health, emphasizing that psychological health involves not only the absence of mental disorders but also the presence of high subjective well-being. They argue that psychological health includes positive indicators (e.g., life satisfaction, subjective well-being) and negative indicators (e.g., depression, anxiety), which are independent yet interrelated, forming a comprehensive state (Mingke Zhuang, 2016). Therefore, this study uses life satisfaction and depression as indicators of individual psychological health to explore the impact of solution-focused thinking on psychological health.

This study aims to explore the mechanisms of SFBT's impact, with solution-focused thinking as the independent variable, psychological health (depression and life satisfaction) as the dependent variables, and mindfulness and perceived stress as mediating variables.

Research Design and Hypotheses

Based on previous research, this study aims to explore the mechanisms of SFBT's impact. Solution-focused thinking is set as the independent variable, psychological health (depression and life satisfaction) as the dependent variables, and mindfulness and perceived stress as mediating variables.

Solution-focused thinking is significantly positively correlated with mindfulness and life satisfaction and significantly negatively correlated with perceived stress and depression.

Mindfulness and perceived stress have a chain mediation effect between solution-focused thinking and psychological health.

Research Methods

Research Participants

The study used convenience sampling to conduct an online survey via Wenjuanxing. The average age was 18.4 ± 0.7 years; the gender ratio was approximately 1:1; Participant demographic information is shown in Table 3.1.

Table 3.1. Participant Demographic Information

		Frequency	Percentage
Gender	Male	238	54.60%
	Female	198	45.40%
Age (M \pm SD)	18.4 \pm 0.7		
Household Registration type	Urban	318	72.9%
	Rural	110	25.2%
Perceived Economic Pressure	No Economic Pressure	279	64.0%
	Experiencing Economic Pressure	157	36.0%

Research Instruments

Self-Compiled Demographic Questionnaire

This questionnaire, developed by the authors, collects demographic information such as gender and age.

Solution-Focused Inventory (SFI)

The Chinese version of the SFI, revised by Xiang Lin (2015), measures solution-focused thinking. The inventory contains 12 items across three dimensions: problem reconstruction, goal orientation, and resource utilization, each with four items. It uses a 6-point Likert scale, with higher scores indicating stronger solution-focused thinking. The inventory has good reliability, with a Cronbach's α coefficient of 0.802 (Xiang Lin, 2015).

Mindful Attention Awareness Scale (MAAS)

Developed by Chen Siyuan et al. (2012), this scale assesses mindfulness awareness. It consists of 15 items rated on a six-point scale from "almost always" to "almost never." Higher scores indicate stronger mindfulness awareness. The scale has good internal consistency (Cronbach's $\alpha = 0.890$) and test-retest reliability (0.870), suitable for use in mainland China (Chen Siyuan et al., 2012).

Chinese Perceived Stress Scales (CPSS)

This 14-item scale by Li Yajie et al. (2021) covers stress in daily hassles, major events, and changes in stressors. It distinguishes between uncontrollability and tension, with scores ranging from 0 to 56. Higher scores indicate stronger perceived stress. The scale has good reliability and validity in the Chinese context (Li Yajie et al., 2021).

Patient Health Questionnaire-9 (PHQ-9)

This 9-item scale assesses depressive symptoms and their impact on social functioning over the past two weeks (Wang Bin et al., 2018). Scores range from 0 to 27, with higher scores indicating more severe depression. The Chinese version has a Cronbach's α coefficient of 0.897, showing high reliability (Wang Bin et al., 2018).

Satisfaction with Life Scale (SWLS)

Developed by Diener et al. (1985), this scale measures life satisfaction with five items rated on a seven-point scale. It has good reliability and validity. The Cronbach's α in this study was 0.822 (Diener et al., 1985).

Research Procedure

The survey was conducted online via Wenjuanxing (a professional online questionnaire survey platform widely used in China), with two rounds of data collection three weeks apart, tracking participants for one month. The first round measured the independent variable (solution-focused thinking), and the second round measured the dependent variables (depression and life satisfaction) and mediating variables (mindfulness and perceived stress).

In the first round, 464 valid questionnaires were collected, with an effective rate of 94.0%; in the second round, 414 valid questionnaires were collected, with an effective rate of 95.4%. A total of 345 participants completed both rounds. Invalid questionnaires were excluded based on criteria such as abnormal response times and repeated answers. After matching the questionnaires from both rounds, data analysis was conducted using SPSS 25.0.

II. Results

Attrition Analysis

The attrition rate was 5.87%, with no significant differences between participants who completed both rounds and those who dropped out in terms of demographics or primary variables.

Correlation Analysis

Table 4.1 shows the correlations among solution-focused thinking, mindfulness, perceived stress, depression, and life satisfaction. Solution-focused thinking was significantly negatively correlated with perceived stress and depression and positively correlated with mindfulness and life satisfaction. Mindfulness was positively correlated with life satisfaction and negatively correlated with perceived stress and depression. Perceived stress was positively correlated with depression and negatively correlated with life satisfaction. Depression and life satisfaction were negatively correlated.

Table 4.1. Correlation Analysis Results (n=345)

Variables	M	SD	1	2	3	4	5
1. Solution-Focused Thinking T1	4	0.59	1				
2. Mindfulness T2	4.05	0.75	0.439***	1			
3. Perceived Stress T2	2.69	0.52	-0.605***	-0.604***	1		
4. Depression T2	0.61	0.48	-0.358***	-0.643***	0.659***	1	
5. Life Satisfaction T2	4.81	1.01	0.517***	0.432***	-0.668***	-0.525***	1

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

Mediation Analysis

Using the SPSS Process plugin (Preacher & Hayes, 2004), model 6 was selected to test the mediation effects. Bootstrapping (5000 samples) was used, with gender and age as control variables. Solution-focused thinking at T1 was the independent variable, depression and life satisfaction at T2 were the dependent variables, and mindfulness and perceived stress at T2 were the mediating variables. All variables were standardized.

Table 4.2. Regression Analysis of Solution-Focused Thinking, Mindfulness, Perceived Stress, and Depression

Variable	Mindfulness Awareness (T2)			Perceived Stress (T2)			Depression (T2)		
	β	SE	t	β	SE	t	β	SE	t
Intercept	-1.91	1.65	-1.16	0.21	1	0.21	-0.34	1.28	-0.26
Gender	-0.23	0.10	-2.34*	-0.17	0.08	-2.22*	-0.05	0.07	-0.76
Age	0.11	0.09	1.23	-0.01	0.05	-0.13	0.02	0.07	0.29
Solution-Focused Thinking (T1)	0.44	0.049	9.00***	-0.41	0.05	-7.67***	0.11	0.05	2
Mindfulness Awareness (T2)				-0.44	0.06	-7.29***	-0.42	0.07	-6.22***
Perceived Stress (T2)							0.48	0.07	6.54***
R ²	0.22			0.53			0.14		
F	29.04***			61.30***			13.02***		

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

The analysis showed that solution-focused thinking significantly positively predicted mindfulness ($\beta=0.44$, $t=9.00$, $p<0.001$) and negatively predicted perceived stress ($\beta=-0.41$, $t=-7.67$, $p<0.001$). Mindfulness negatively predicted perceived stress ($\beta=-0.44$, $t=-7.29$, $p<0.001$) and depression ($\beta=-0.42$, $t=-6.22$, $p<0.001$), while perceived stress positively predicted depression ($\beta=0.48$, $t=6.54$, $p<0.001$). The mediation effect results showed that

mindfulness and perceived stress had a significant chain mediation effect between solution-focused thinking and depression.

Table 4.3. Mediation Effects of Mindfulness and Perceived Stress between Solution-Focused Thinking and Depression

Effect	SE	LLCI	ULCI	Relative Effect Value
Total Indirect	-0.475	0.055	-0.599	-0.382
Indirect 1	-0.184	0.034	-0.261	-0.125
Indirect 2	-0.093	0.023	-0.146	-0.056
Indirect 3	-0.198	0.042	-0.281	-0.124

Note: Indirect 1 represents Solution-Focused Thinking – Mindfulness – Depression; Indirect 2 represents Solution-Focused Thinking – Mindfulness – Perceived Stress – Depression; Indirect 3 represents Solution-Focused Thinking – Perceived Stress – Depression.

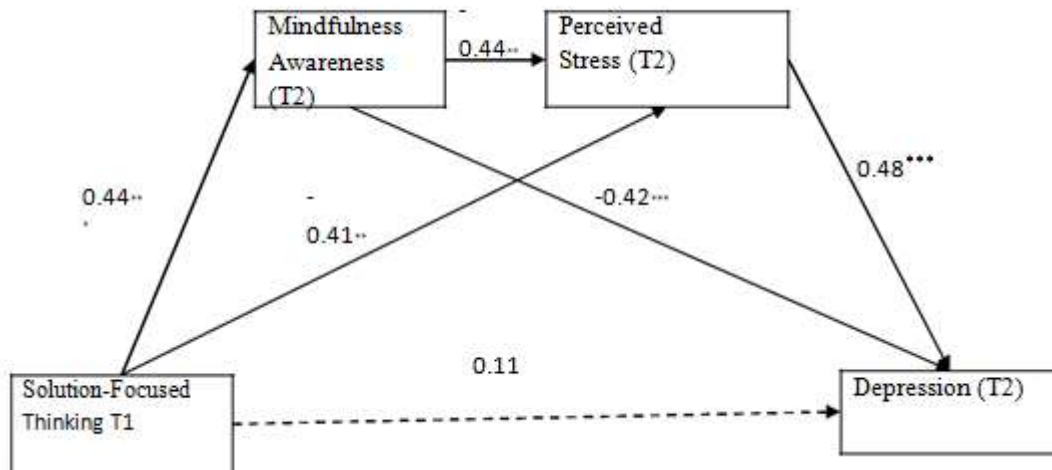


Figure 4.1. Path Diagram of the Impact of Solution-Focused Thinking on Depression

The path diagram suggests that mindfulness and perceived stress have a significant chain mediation effect between solution-focused thinking and depression, with both mindfulness and perceived stress playing individual mediation roles, confirming the hypothesis.

Table 4.4. Regression Analysis of Solution-Focused Thinking, Mindfulness, Perceived Stress, and Life Satisfaction

Variable	Mindfulness Awareness (T2)			Perceived Stress (T2)			Depression (T2)		
	β	SE	t	β	SE	t	β	SE	t
Intercept	-1.91	1.65	-1.16	0.21	1	0.21	-1.17	1.12	-1.04
Gender	-0.23	0.10	-2.34*	-0.17	0.08	-2.22*	-0.05	0.08	-0.59
Age	0.11	0.09	1.23	-0.01	0.05	-0.13	0.06	0.06	1.06
Solution-Focused Thinking (T1)	0.44	0.049	9.00***	-0.41	0.05	-7.67***	0.16	0.05	3.11**
Mindfulness Awareness				-0.44	0.06	-	0.02	0.06	0.38

7.29***

(T2)				
Perceived				-
Stress (T2)			-0.57	0.07 8.34***
R ²	0.22	0.53	0.48	
F	29.04***	61.30***	53.20***	

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

The analysis showed that solution-focused thinking significantly positively predicted mindfulness ($\beta=0.44$, $t=9.00$, $p<0.001$) and life satisfaction ($\beta=0.16$, $t=3.11$, $p<0.01$), and negatively predicted perceived stress ($\beta=-0.41$, $t=-7.67$, $p<0.001$). Mindfulness negatively predicted perceived stress ($\beta=-0.44$, $t=-7.29$, $p<0.001$), and perceived stress negatively predicted life satisfaction ($\beta=-0.57$, $t=-8.34$, $p<0.001$). The mediation effect results showed that mindfulness and perceived stress had a significant chain mediation effect between solution-focused thinking and life satisfaction.

Table 4.5 Mediation Effects of Mindfulness and Perceived Stress between Solution-Focused Thinking and Life Satisfaction

Effect	SE	LLCI	ULCI	Relative Effect Value
Total Indirect	0.356	0.045	0.275	0.450
Indirect 1	0.010	0.027	-0.042	0.063
Indirect 2	0.110	0.025	0.070	0.170
Indirect 3	0.235	0.041	0.162	0.323

Note: Indirect 1 represents Solution-Focused Thinking – Mindfulness – Life Satisfaction; Indirect 2 represents Solution-Focused Thinking – Mindfulness – Perceived Stress – Life Satisfaction; Indirect 3 represents Solution-Focused Thinking – Perceived Stress – Life Satisfaction.

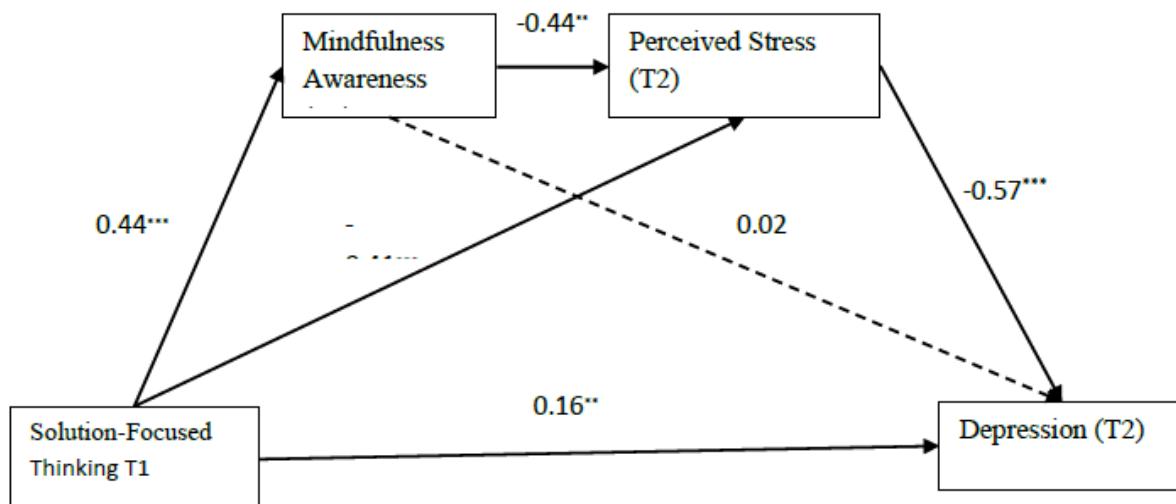


Figure 4.2 Path Diagram of the Impact of Solution-Focused Thinking on Life Satisfaction

The path diagram suggests that mindfulness and perceived stress have a significant chain mediation effect between solution-focused thinking and life satisfaction, with perceived stress playing an individual mediation role, confirming the hypothesis.

I. Discussion

This study examined the relationships and mechanisms between solution-focused thinking and psychological health variables.

The mediation analysis for mindfulness and perceived stress also confirmed the hypothesis. The results showed that mindfulness and perceived stress have a significant chain mediation effect between solution-focused thinking and psychological health

(depression and life satisfaction), with perceived stress playing an individual mediation role. These findings are consistent with the hypothesis.

The Relationship between Solution-Focused Thinking and Psychological Health Indicators

Solution-focused thinking was significantly negatively correlated with depression. Solution-focused thinking was significantly positively correlated with mindfulness and life satisfaction. This suggests that adopting solution-focused thinking may help reduce depressive emotions and increase mindfulness and life satisfaction. Hypothesis 1 is confirmed.

The Relationship between Mindfulness, Perceived Stress, and Psychological Health Indicators

Mindfulness was significantly negatively correlated with perceived stress and depression and significantly positively correlated with life satisfaction, consistent with previous research (Ford & Shook, 2019; Bajaj et al., 2022). Perceived stress was significantly positively correlated with depression and significantly negatively correlated with life satisfaction, also confirming previous research (Bajaj et al., 2022). These findings further indicate that enhancing mindfulness and reducing stress may help improve life satisfaction and reduce depressive emotions.

Mediation Effect Analysis

The mediation analysis showed that mindfulness and perceived stress had a significant mediation effect between solution-focused thinking and depression, indicating that solution-focused thinking reduces depression by enhancing mindfulness and reducing stress. Similarly, mindfulness and perceived stress also mediated the relationship between solution-focused thinking and life satisfaction, suggesting that solution-focused thinking enhances life satisfaction by improving mindfulness and reducing stress, consistent with previous research (Valikhani et al., 2020), thus confirming Hypothesis 2.

Significance and Implications of the Study

This study provides empirical support for the mechanisms through which solution-focused thinking affects psychological health. Through a longitudinal survey, it reveals the relationships among solution-focused thinking, mindfulness, perceived stress, and depression. Based on Greenspoon and Saklofske's (2001) dual-factor model, the study extends the impact of SFBT on depression to life satisfaction, demonstrating the broad impact of SFBT on psychological health and enriching the theoretical model. This provides important theoretical support for research on the mechanisms of psychological interventions and helps deepen the understanding of the mechanisms of Solution-Focused Brief Therapy.

In summary, the results emphasize the importance of solution-focused thinking, mindfulness, and perceived stress in promoting psychological health, providing theoretical and practical support for relevant psychological interventions and the promotion of psychological health.

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