

## Research Paper

## Effectiveness of CBT and SFBT on Cognitive Avoidance and Perceived Stress in Adolescent Girls From Divorced Families in Izeh, Iran

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## ABSTRACT

**Objective:** Divorce significantly impacts adolescent girls, increasing their vulnerability to psychological challenges, such as cognitive avoidance and perceived stress. This study compared the effectiveness of cognitive behavioral therapy (CBT) and solution-focused brief therapy (SFBT) in reducing cognitive avoidance and perceived stress among adolescent girls (aged 12–16 years) from divorced families living in Izeh City, Iran.

**Methods:** This quasi-experimental study utilized a pre-test-post-test and a 3-month follow-up design with one control group. Sixty adolescent girls from divorced families in Izeh, Iran, were purposively recruited from schools and community centers based on parental divorce status and willingness to participate. They were randomly assigned to three groups (n=20 each: CBT, SFBT, and control) using a computer-generated random sequence with allocation concealment via sealed envelopes. The sample size ensured 80% power to detect a moderate effect size ( $f=0.25$ ,  $\alpha=0.05$ ). CBT involved eight 90-minute sessions focusing on cognitive restructuring and coping skills; SFBT emphasized solution-building. The control group received no intervention. Outcomes were measured using the cognitive avoidance questionnaire (CAQ; Cronbach  $\alpha=0.81$ ) and perceived stress scale (PSS-10; Cronbach  $\alpha=0.74$ ). Repeated measures analysis of variance evaluated intervention effects ( $P<0.05$ ), with effect sizes reported as partial  $\eta^2$ .

**Results:** Both CBT and SFBT significantly reduced cognitive avoidance ( $P<0.001$ , partial  $\eta^2=0.79$ ) and perceived stress ( $P<0.001$ , partial  $\eta^2=0.64$ ) from pre-test to post-test, with effects sustained at follow-up. Both intervention groups outperformed the control group, with no statistically significant difference between CBT and SFBT ( $P>0.05$ ).

**Conclusion:** CBT and SFBT are effective in reducing cognitive avoidance and perceived stress in adolescent girls from divorced families, with comparable efficacy. These findings support their integration into mental health programs for this population.

## Keywords:

Cognitive behavioral therapy (CBT), Solution-focused brief therapy (SFBT), Cognitive avoidance, Stress, Adolescents, Divorce

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## Highlights

- CBT and SFBT significantly reduced cognitive avoidance in adolescent girls from divorced families living in Izeh City, Iran.
- Both therapies significantly lowered perceived stress compared to the control group.
- Reductions in cognitive avoidance and stress were sustained at 3-month follow-up.
- No statistically significant difference was found between CBT and SFBT in efficacy.

## Plain Language Summary

This study compared two therapies, cognitive behavioral therapy (CBT) and solution-focused brief therapy (SFBT), to support adolescent girls (aged 12–16 years) from divorced families living in Izeh City, Iran, in managing stress and avoidance behaviors. Sixty girls were recruited from schools and community centers and randomly assigned to three groups: CBT, SFBT, and control. Both therapies significantly reduced stress and avoidance, with benefits lasting 3 months. There was no statistically significant difference between CBT and SFBT, indicating both are equally effective. These findings highlight the value of these therapies in supporting adolescent girls' mental health post-divorce.

## Introduction

**D**ivorce, as an increasingly prevalent global phenomenon, fundamentally alters the family's core structure and significantly impacts its members. While adults navigate the complex dissolution of a marital bond, children, particularly adolescents, often disproportionately bear the psychological and social ramifications (Mentser & Sagiv, 2025). Adolescence itself is a pivotal developmental stage marked by profound physical, emotional, and cognitive transformations, rendering this demographic inherently susceptible to stressors that might be more readily managed by adults (Tullius et al., 2022). When the stability of the family unit, a primary crucible for psychological and social development, is disrupted by divorce, adolescents face an elevated risk for a myriad of maladjustment issues (Cao et al., 2022). Adolescent girls were selected as the focus of this study due to evidence indicating their heightened emotional vulnerability to parental divorce compared to boys. Research suggests that girls tend to internalize emotional distress more frequently, manifesting in higher rates of anxiety, depression, and cognitive avoidance, potentially due to gender-specific socialization patterns that emphasize emotional expressiveness and relational sensitivity (Rejaan et al., 2024; Amato & Keith, 1991). These internalizing behaviors necessitate targeted interventions tailored to their unique psychological needs, justifying the focus on this demographic to address their specific challenges effectively.

One prominent psychological consequence frequently observed in children of divorce is cognitive avoidance. This construct refers to a diverse suite of mental strategies employed to evade confronting undesirable thoughts, feelings, or memories (Godor et al., 2023). While ostensibly offering immediate relief from anxiety and distress, cognitive avoidance, in the long term, paradoxically perpetuates a vicious cycle of intensifying psychological problems (Eftekari & Bakhtiari, 2022). For adolescents grappling with the aftermath of divorce, cognitive avoidance plays a crucial, albeit often maladaptive, role in emotion regulation and psychological adaptation, frequently culminating in significant difficulties across social interactions and academic performance (Shipp et al., 2025). This avoidance can manifest in various forms, including thought suppression, distraction, or the reframing of negative cognitions to escape emotional discomfort. However, by consistently evading direct engagement with their emotional landscape, adolescents may hinder their capacity to process traumatic experiences, develop effective coping mechanisms, and ultimately attain psychological well-being (Songco et al., 2020). The persistent reliance on cognitive avoidance thus poses a considerable barrier to healthy development and adjustment within a post-divorce environment.

Beyond cognitive avoidance, perceived stress constitutes another significant and often pervasive outcome of divorce. Perceived stress is not merely the objective presence of stressors but rather an individual's subjective appraisal of their ability to cope with demanding

life situations and challenges (Naeimijoo et al., 2021). For children of divorce, particularly adolescent girls, heightened levels of perceived stress can manifest as a range of distressing symptoms, including anxiety, depressive symptomatology, and sleep disturbances (Karhina et al., 2023). When individuals perceive their available resources as insufficient to meet the demands of stressful situations, this perceived stress is amplified, creating a detrimental feedback loop that further compromises their emotional and physical health (Thorsén et al., 2022). The inherent instability, pervasive uncertainty, and numerous changes associated with family restructuring post-divorce can create a fertile ground for elevated perceived stress, thereby necessitating effective strategies to bolster adolescents' resilience and coping capabilities (Lengua et al., 1999). Addressing perceived stress is, therefore, paramount for fostering emotional regulation and promoting overall psychological health in this vulnerable group.

In light of the significant psychological challenges confronting adolescents from divorced families, the exploration of effective therapeutic interventions becomes critically important. Cognitive behavioral therapy (CBT) stands out as a highly efficacious and empirically supported therapeutic approach, widely recognized for its effectiveness across a broad spectrum of psychological disorders (Farimani & Bayazi, 2024). At its core, CBT operates on the fundamental premise that dysfunctional thoughts and maladaptive behaviors contribute significantly to emotional distress. This approach actively engages individuals in identifying and challenging negative thought patterns, developing more adaptive cognitive schemas, and acquiring practical coping skills to manage challenging emotions and situations (Halder & Mahato, 2019). CBT was selected for this study because its structured approach directly targets cognitive avoidance by promoting cognitive restructuring, which helps adolescents confront and reframe maladaptive thoughts related to divorce, thereby reducing avoidance behaviors. Additionally, CBT's focus on developing coping skills is hypothesized to mitigate perceived stress by equipping adolescents with tools to manage stressors more effectively, enhancing their emotional regulation and resilience (Stiede et al., 2023).

Another promising intervention, solution-focused brief therapy (SFBT), offers a distinct yet equally valuable approach to addressing psychological distress. Unlike traditional problem-focused therapies, SFBT is a short-term, goal-oriented modality that emphasizes the identification and amplification of clients' existing strengths, resources, and successful past experiences (Reddy et al.,

2015). Rather than dwelling on the origins of problems, SFBT encourages individuals to envision a desired future state and to identify concrete, achievable steps towards realizing their goals (Chen et al., 2023). Through innovative techniques such as the "miracle question" and "scaling questions," SFBT helps adolescents construct alternative, more positive narratives, enhance their sense of self-efficacy, and cultivate hope for the future (Karbaba, 2023). SFBT was chosen for comparison due to its strengths-based approach, which is hypothesized to reduce cognitive avoidance by fostering a forward-looking perspective that encourages adolescents to focus on solutions rather than suppressing distressing thoughts. By amplifying self-efficacy and leveraging existing coping resources, SFBT is expected to lower perceived stress by empowering adolescents to feel more in control of their emotional responses and future outcomes, particularly in the context of divorce-related challenges (Žak & Pečala, 2024).

Given the documented adverse impacts of cognitive avoidance and perceived stress on the mental health of adolescent girls affected by parental divorce, there is a clear and urgent need for empirically validated therapeutic interventions. The comparison of CBT and SFBT is particularly relevant because their distinct mechanisms—CBT's focus on restructuring maladaptive cognitions and behaviors versus SFBT's emphasis on solution-building and strengths—offer complementary approaches to addressing the same psychological outcomes. Understanding their relative efficacy can elucidate whether a problem-focused or solution-focused approach is better suited to this population's needs, informing tailored clinical interventions. While both CBT and SFBT have demonstrated considerable effectiveness in various clinical contexts (Stiede et al., 2023; Žak & Pečala, 2024), a direct comparative study within this specific population and explicitly examining these particular outcomes remains essential. Understanding the relative efficacy and potential differential benefits of these two distinct therapeutic approaches can critically inform clinical practice, optimize resource allocation within mental health services, and facilitate the development of more precisely tailored treatment programs for this highly vulnerable demographic.

## Materials and Methods

### Participants and sampling

This study utilized a quasi-experimental design with pre-test, post-test, and 3-month follow-up assessments, including a non-intervention control group. The target

population comprised adolescent girls aged 12–16 years from divorced families living in Izeh City, Iran, during the 2023–2024 academic year. Sixty participants were purposively recruited through announcements at local schools and community centers, targeting girls whose parents had been divorced for at least one year. Eligible participants were randomly assigned to three groups ( $n=20$  each: CBT, SFBT, and control) using a computer-generated random number sequence. Allocation concealment was achieved using sealed, opaque envelopes prepared by an independent researcher. The sample size ( $n=60$ ) was calculated to achieve 80% power to detect a moderate effect size ( $f=0.25$ ) at  $\alpha=0.05$ , based on prior studies of CBT and SFBT (Karababa, 2023). The inclusion criteria included female gender, aged 12–16 years, parental divorce for at least one year, willingness to participate, and ability to complete questionnaires. The exclusion criteria included severe psychiatric diagnoses (assessed via clinical interview using diagnostic and statistical manual of mental disorders, 5th edition (DSM-5) criteria), concurrent psychological interventions, significant cognitive impairment, or missing more than two therapy sessions—a clinical psychologist screened for severe diagnoses during recruitment. A CONSORT-style flow diagram (Figure 1) details participant flow: 75 girls were assessed for eligibility, 10 were excluded (5 for severe diagnoses, 5 declined participation), 5 dropped out post-randomization (2 CBT, 2 SFBT, 1 control), and 55 were analyzed (intention-to-treat). Missing data were handled using the last observation carried forward. The control group received regular check-ins and psychoeducational materials on stress management, with a post-study workshop offered.

### Study instruments

The cognitive avoidance questionnaire (CAQ; Sexton & Dugas, 2008) is a 25-item measure assessing cognitive avoidance across five subscales (anxious rumination, situational avoidance, imagery-to-verbal transformation, positive thought substitution, distractibility). Items are scored on a 5-point Likert scale (1= “completely incorrect” to 5= “completely correct”; range: 25–125, higher scores indicate greater avoidance). A validated Persian version was used, with translation and back-translation following standard procedures (Mohammadian et al., 2021). In this sample, the Cronbach  $\alpha$  equals 0.81.

The perceived stress scale (PSS-10; Cohen et al., 1983) is a 10-item measure of subjective stress appraisal, scored on a 5-point Likert scale (0= “never” to 4= “very often”; range: 0–40, higher scores indicate greater stress). Four items are reverse-scored. A validated Persian version

was used (Khalili et al., 2017), with Cronbach  $\alpha=0.74$  in this sample.

### Intervention programs

The CBT intervention followed a manualized protocol (Halder & Mahato, 2019), delivered over eight 90-minute sessions by a licensed clinical psychologist (PhD, trained in CBT and SFBT) with weekly supervision. The SFBT intervention adhered to a manualized protocol (Reddy et al., 2015), also delivered over eight 90-minute sessions by the same psychologist (Table 1). Session length was chosen to allow sufficient time for skill-building and discussion, with attendance encouraged through reminders and rapport-building. Treatment fidelity was ensured by recording sessions, with 20% randomly reviewed using adherence checklists. The control group received no intervention during the study but had access to standard school counseling services. A post-study psychoeducational workshop was provided to controls.

### Data analysis

Statistical analyses were conducted using SPSS, version 26—descriptive statistics summarized sample characteristics. Baseline equivalence was assessed using ANOVA and chi-square tests. Repeated measures ANOVA evaluated intervention effects, with Mauchly's test assessing sphericity ( $P>0.05$ , no Greenhouse-Geisser correction needed). Degrees of freedom, F statistics, exact P, and  $\eta_p^2$  effect sizes (small=0.01, medium=0.06, large=0.14) were reported. Post hoc Bonferroni tests included mean differences, standard errors (SE), 95% confidence intervals, and Cohen's d effect sizes (small=0.2, medium=0.5, large=0.8). Significance was set at  $P<0.05$ . Analyses were intention-to-treat, with missing data handled via last observation carried forward.

### Results

Table 2 presents baseline demographic and clinical characteristics, confirming group equivalence (all  $P>0.05$ ). The study included 60 adolescent girls (mean age=14.5 $\pm$ 1.2 years). Table 3 shows Mean $\pm$ SD for cognitive avoidance and perceived stress across groups at pre-test, post-test, and 3-month follow-up (CBT:  $n=20$ , SFBT:  $n=20$ , Control:  $n=20$  at all time points, with 5 dropouts imputed). Both CBT and SFBT groups showed significant reductions in cognitive avoidance and perceived stress from pre-test to post-test, sustained at follow-up. The control group showed a modest decrease in

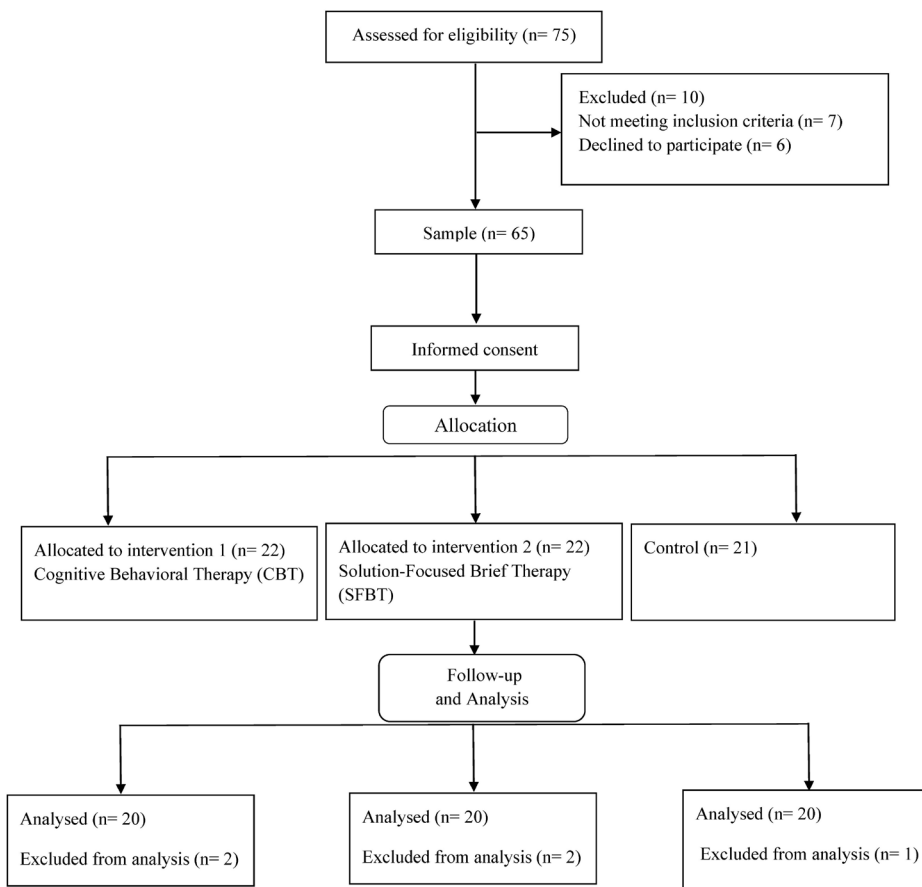


Figure 1. CONSORT flow diagram

perceived stress at follow-up (16.90 vs 19.45), but this was not statistically significant ( $P=0.12$ ).

Assumptions of normality (the Shapiro-Wilk test,  $P>0.05$ ), homogeneity of variances (Levene's test,  $P>0.05$ ), and sphericity (Mauchly's,  $P>0.05$ ) were met. Repeated measures ANOVA for cognitive avoidance showed significant effects for time ( $F=217.93$ ,  $P<0.001$ ,  $\eta_p^2=0.79$ , large), group ( $F=6.35$ ,  $P=0.003$ ,  $\eta_p^2=0.18$ , large), and time  $\times$  group interaction ( $F=41.10$ ,  $P<0.001$ , partial  $\eta^2=0.59$ , large). For perceived stress, significant effects were found for time ( $F=99.28$ ,  $P<0.001$ ,  $\eta_p^2=0.64$ , large), group ( $F=4.57$ ,  $P=0.014$ ,  $\eta_p^2=0.14$ , large), and time  $\times$  group interaction ( $F=27.85$ ,  $P<0.001$ ,  $\eta_p^2=0.49$ , large) (Table 4).

Bonferroni post hoc tests (Table 5) showed that for cognitive avoidance, CBT (Mean $\pm$ SE 9.35 $\pm$ 1.61;  $P=0.015$ ; 95% CI, 0.78%, 8.62%; Cohen's  $d=0.82$ ; large) and SFBT (Mean $\pm$ SE 8 $\pm$ 1.61;  $P=0.006$ ; 95% CI, 1.26%, 9.10%; Cohen's  $d=0.78$ ; large) outperformed the control group (control minus intervention). No significant difference was found between CBT and SFBT (Mean $\pm$ SE 1.35 $\pm$ 1.61;  $P=1.00$ ; 95% CI, -3.44%, 4.4%]; Cohen's

$d=0.12$ ; small). For perceived stress, CBT (Mean $\pm$ SE 5.7 $\pm$ 1.36;  $P=0.022$ ; 95% CI, 0.48%, 7.08%]; Cohen's  $d=0.85$ ; large) and SFBT (Mean $\pm$ SE 5.1 $\pm$ 1.36;  $P=0.028$ ; 95% CI, 0.06%, 6.46%]; Cohen's  $d=0.80$ ; large) outperformed the control group. No significant difference was found between CBT and SFBT (Mean $\pm$ SE 0.60 $\pm$ 1.36;  $P=1.00$ ; 95% CI, -2.78%, 3.82%]; Cohen's  $d=0.15$ ; small).

## Discussion

This study rigorously investigated the comparative efficacy of CBT and SFBT in ameliorating cognitive avoidance and perceived stress among adolescent girls navigating the complexities of parental divorce. The findings suggest that both therapeutic approaches significantly reduced cognitive avoidance and perceived stress, with these beneficial effects sustained at the three-month follow-up assessment. Importantly, these beneficial effects were largely sustained at the 3-month follow-up assessment. A critical observation was that while both interventions consistently outperformed the control group,

**Table 1.** Summary of intervention programs (8 sessions each)

Session	CBT Content	SFBT Content
1	Introduction to CBT, psychoeducation on stress and emotions, establishing therapeutic alliance, and goal setting.	Introduction to SFBT, establishing rapport, identifying best hopes for therapy, "miracle question."
2	Identifying and monitoring automatic negative thoughts (ANTs), the thought-feeling connection.	Exploring exceptions: Times when the problem was less severe or absent, identifying strengths.
3	Cognitive restructuring: Challenging ANTs, evidence gathering, and alternative thoughts.	Scaling questions (e.g. "On a scale of 0-10, where are you now, where do you want to be?"), identifying progress.
4	Behavioral activation: Increasing pleasant activities, overcoming procrastination.	Coping questions: How clients have coped with similar difficulties in the past.
5	Problem-solving skills training and developing coping strategies for stressors.	Relationship questions: How significant others might notice changes, leveraging social support.
6	Emotion regulation techniques (e.g. relaxation, mindfulness) are used to manage emotional distress.	Compliments and bridging to action: validating efforts, encouraging small, actionable steps.
7	Addressing cognitive avoidance explicitly, exposure to feared thoughts/situations (imaginal).	Exploring future possibilities, setting concrete, achievable goals, and consolidating progress.
8	Relapse prevention strategies, maintaining gains, reviewing progress, and termination.	Consolidating gains, planning for future challenges, celebrating successes, and termination.

CBT: Cognitive behavioral therapy; SFBT: Solution-focused brief therapy.

no statistically significant difference in their respective efficacies was discernible between CBT and SFBT.

The observed effectiveness of CBT aligns seamlessly with its well-established theoretical underpinnings, which posit that psychological distress often arises from maladaptive thought patterns and acquired unhelpful behaviors (Ryum & Nikolaos, 2024). Adolescents contending with parental divorce frequently develop distorted cognitions concerning family transitions, harbor self-blame, or engage in catastrophic interpretations of future adversities, alongside employing maladaptive coping mechanisms such as cognitive avoidance (Cao et al., 2022). CBT directly addresses these challenges by empowering participants to identify, scrutinize, and ultimately restructure their negative automatic thoughts. By facilitating the development of more adaptive cogni-

tive schemas and introducing practical behavioral strategies for emotional regulation and problem-solving, CBT equips adolescents with tangible tools to manage their internal experiences and external stressors proactively. The documented reduction in cognitive avoidance likely signifies an enhanced willingness and capacity to process difficult emotions and thoughts, rather than suppress them, thereby leading to a concurrent decrease in perceived stress as their coping repertoire is expanded (Stiede et al., 2023).

In a parallel vein, the significant positive outcomes associated with SFBT underscore the profound influence of its distinctive, strength-based paradigm. Diverging from traditional problem-focused approaches, SFBT intentionally redirects the therapeutic focus towards recognizing and amplifying clients' existing resources, prior

**Table 2.** Baseline demographic and clinical characteristics

Variables	Mean±SD/No. (%)			P
	CBT (n=20)	SFBT (n=20)	Control (n=20)	
Age (y)	14.4±1.1	14.6±1.3	14.5±1.2	0.89
Time since divorce (y)	2.3±0.8	2.5±0.9	2.4±0.7	0.76
Socioeconomic status	Low	8(40)	7(35)	8(40)
	Middle	10(50)	11(55)	10(50)
	High	2(10)	2(10)	2(10)

CBT: Cognitive behavioral therapy; SFBT: Solution-focused brief therapy.

**Table 3.** Mean of cognitive avoidance and perceived stress scores in all three groups at different stages

Variables	Group	Mean±SD		
		Pre-test	Post-test	Follow-up
Cognitive avoidance	CBT	64.95±6.14	52.1±5.13	55±4.69
	SFBT	63.5±5.27	53.45±5.41	53.65±5.07
	Control	62.85±6.1	61.45±5.44	61.39±4.19
Perceived stress	CBT	19.3±4.81	14±3.87	14.1±3.32
	SFBT	19.75±5.18	14.6±4.38	14.61±4.15
	Control	19.45±5.12	19.7±4.34	16.9±4.66

CBT: Cognitive behavioral therapy; SFBT: Solution-focused brief therapy.

successes, and desired future states (Reddy et al., 2015). For adolescents grappling with the often overwhelming and disempowering repercussions of divorce, SFBT’s emphasis on solution-construction, rather than problem-deconstruction, can be profoundly empowering. Techniques such as the “miracle question” and “scaling questions” actively cultivate a future-oriented perspective, ignite hope, and foster a heightened sense of personal agency by highlighting incremental, achievable steps toward preferred outcomes (Žak & Pękala, 2024). This deliberate focus on internal capabilities and leveraging external supports likely fortified the adolescents’ sense of self-efficacy and resilience, consequently diminishing their reliance on cognitive avoidance and mitigating their overall experience of stress.

The finding that both CBT and SFBT yielded statistically comparable and significant reductions in cognitive avoidance and perceived stress is particularly noteworthy within the broader landscape of psychotherapy outcome research. This equipotentiality may be attributed

to several factors, including shared therapeutic elements and contextual influences. Both CBT and SFBT foster a strong therapeutic alliance, instill hope, and promote expectations of positive change, which are well-documented common factors contributing to therapeutic success across modalities (Farimanian & Bayazi, 2024). Additionally, the short duration of both interventions (8 sessions) may have equalized their impact, as brief therapies often yield rapid improvements in symptom-focused outcomes like cognitive avoidance and perceived stress, particularly in motivated populations such as adolescents seeking support post-divorce (Karababa, 2023). Cultural factors specific to Izeh, Iran, such as collectivist values emphasizing family and community support, may have enhanced the effectiveness of SFBT’s strengths-based approach, which leverages existing social resources. At the same time, CBT’s structured problem-solving resonated with participants’ desire for clear coping strategies in a high-stress context (Mohammadian et al., 2021). Furthermore, SFBT’s brevity and focus on immediate, actionable goals may enhance its scalability

**Table 4.** Results of repeated measures analysis of variance for dependent variables

Variables	Group	SS	df	MS	F	P	$\eta_p^2$
Cognitive avoidance	Time	12876.32	2	6438.16	217.93	0.001	0.79
	Group	987.45	2	493.73	6.35	0.003	0.18
	Group × Time	4865.78	4	1216.45	41.1	0.001	0.59
Perceived stress	Time	2456.91	2	1228.46	99.28	0.001	0.64
	Group	387.12	2	193.56	4.57	0.014	0.14
	Group × Time	1378.45	4	344.61	27.85	0.001	0.49

**Table 5.** Post hoc comparisons between groups for dependent variables

Variables	Comparison	Mean Difference	SE	P	95% CI	Cohen's d
Cognitive avoidance	Control group - CBT group	4.7	1.61	0.015	0.78, 8.62	0.82
	Control group - SFBT group	5.18	1.61	0.006	1.26, 9.1	0.78
	CBT group - SFBT group	0.48	1.61	0.999	-3.44, 4.4	0.12
Perceived stress	Control group - CBT group	3.78	1.36	0.022	0.48, 7.08	0.85
	Control group - SFBT group	3.26	1.36	0.028	0.06, 6.46	0.80
	CBT group - SFBT group	0.52	1.36	0.999	-2.78, 3.82	0.15

CBT: Cognitive behavioral therapy; SFBT: Solution-focused brief therapy.

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ity in resource-constrained settings, such as community mental health programs in Iran, where fewer sessions and less intensive training requirements could make it more feasible for widespread implementation compared to CBT, which often requires more extensive therapist training and session time (Reddy et al., 2015).

These findings make a significant contribution to the existing body of knowledge concerning effective therapeutic interventions for adolescents impacted by parental divorce. They unequivocally reaffirm the critical necessity for comprehensive mental health support during this sensitive developmental juncture and specifically delineate cognitive avoidance and perceived stress as pivotal targets for therapeutic intervention. From a theoretical standpoint, the results lend support to both cognitive and solution-focused models of psychological change, suggesting that multiple, distinct pathways can converge to yield improved mental health outcomes. Furthermore, the demonstrated sustained effects at the three-month follow-up underscore the enduring nature of the coping strategies acquired and emphasize the paramount importance of empowering adolescents with practical tools that can be independently utilized beyond the confines of the therapeutic setting.

This study, despite its strengths, has limitations impacting generalizability. The sample was restricted to adolescent girls aged 12-16 years from Izeh, Iran, limiting applicability to other demographics or cultural contexts. Reliance on self-report measures for cognitive avoidance and perceived stress introduces potential response bias. Additional limitations include the small sample size from a single site, which may not capture regional or cultural variations, and the exclusive focus on female participants, which precludes insights into the experiences of male or non-binary adolescents. The absence of blinded assessment may have introduced bias in outcome measurement,

and the three-month follow-up period is relatively short, limiting conclusions about long-term efficacy. Future research should address these limitations by employing larger, multi-site randomized controlled trials that include male and older adolescents to enhance generalizability. Incorporating objective outcome measures, such as behavioral observations or physiological stress indicators, could reduce reliance on self-reports. Longitudinal studies with extended follow-up periods (e.g. 12–24 months) are needed to assess the durability of intervention effects. Additionally, mediator and moderator analyses could elucidate specific mechanisms of change (e.g. therapeutic alliance, cognitive restructuring) and identify which adolescents benefit most from each intervention.

From a clinical perspective, these findings support the integration of both CBT and SFBT into mental health services for adolescent girls from divorced families. CBT could be implemented in settings with access to trained psychologists, leveraging its structured approach to teach cognitive and behavioral skills in school-based or clinical counseling programs. SFBT, given its brevity and lower training demands, may be particularly suitable for community-based interventions or settings with limited resources, such as rural areas like Izeh, where access to specialized mental health professionals is often restricted. To adopt these interventions, mental health services could train school counselors in SFBT protocols to deliver brief, solution-focused sessions. At the same time, CBT could be prioritized in clinical settings with more resources for intensive therapy. Resource considerations include the need for ongoing supervision for therapists, particularly for CBT, and the potential for group-based delivery of both interventions to enhance cost-effectiveness and reach. These practical steps could ensure that adolescent girls receive timely, effective support to navigate the psychological challenges of parental divorce.

## Conclusion

This study provides evidence that both CBT and SFBT effectively reduce cognitive avoidance and perceived stress in adolescent girls from divorced families in Izeh, Iran, with sustained benefits at three months. The lack of significant differences between CBT and SFBT suggests both are viable options, though further research is needed to confirm their efficacy across diverse populations and longer timeframes. These findings advocate for the integration of CBT and SFBT into clinical practice to promote adaptive coping and psychological well-being in this vulnerable group.

## Ethical Considerations

### Compliance with ethical guidelines

This study was approved by the Research Ethics Committee of Ahvaz Branch, Islamic Azad University, Ahvaz, Iran (Code: IR.IAU.AHVAZ.REC.1403.409). Informed consent was obtained from legal guardians through signed consent forms after a detailed explanation of the study's purpose, procedures, and potential risks. Adolescent participants provided assent via verbal agreement and signed forms, ensuring their voluntary participation and understanding of the study.

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### Authors' contributions

All authors contributed equally to the conception and design of the study, data collection and analysis, interception of the results, and manuscript drafting. Each author approved the submission of the final version of the manuscript.

### Conflict of interest

The authors declared no conflict of interest.

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