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Original Article

The effectiveness of time perspective therapy on post-traumatic stress disorder (PTSD) and social anxiety in early adolescent girls victimized by bullying

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Abstract

The psychological consequences experienced by adolescent victims of bullying underscore the urgent need for effective therapeutic interventions to alleviate these adverse outcomes. The present study aimed to examine the efficacy of Time Perspective Therapy (TPT) on Post-Traumatic Stress Disorder (PTSD) and social anxiety in adolescent girls victimized by bullying. The research employed a quasi-experimental design with pre-test, post-test, and follow-up assessments with a control group. The study population comprised early adolescent girls who were victims of bullying residing in Kermanshah, Iran, during the 2023-2024 academic year. The sample consisted of 32 adolescent girls identified as victims of bullying based on the Adolescent Bullying Questionnaire, all of whom also met the inclusion criteria for clinically significant symptoms of PTSD and social anxiety disorder. Participants were randomly assigned to either the experimental (n = 16) or control group (n = 16). Data were collected using the Adolescent Bullying Scale, the Child PTSD Symptom Scale for DSM-5, and the Social Anxiety Scale for Adolescents. Data were analyzed using repeated measures analysis of variance. The results showed that TPT was effective in reducing PTSD symptoms and social anxiety symptoms in adolescent girls who were victims of bullying, and the therapeutic effects were sustained at follow-up for both variables and their dimensions. The findings highlight the potential clinical value of TPT as an intervention for bullied adolescents. Incorporating TPT into psychological and school counseling programs may contribute to improving mental health outcomes in this vulnerable population.

Keywords

Adolescent girls
Bullying victimization
PTSD
Social anxiety

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Introduction

Bullying is a common social issue, frequently reported in schools, where a stronger individual repeatedly harms a weaker peer through aggressive behavior (Baker, 2021; Anjani et al., 2024; Olweus, 2013). It involves an imbalance of power that causes significant harm to victims (Hikmat et al., 2024; Han et al., 2025). Bullying is commonly conceptualized as comprising two dimensions: bullying perpetration and bullying victimization (Shaw et al., 2013). Bullying perpetration refers to engaging in intentional aggressive behaviors toward others, whereas bullying victimization refers to being the target of such unwanted aggression, commonly described as "being bullied" (Hawker & Boulton, 2000). The present study has focused on bullying victimization.

Some students bully physically or verbally to feel powerful, negatively affecting victims' emotional, physical, and academic well-being (Baker, 2021). Bullying victimization is common among adolescent girls and has been consistently associated with adverse mental health outcomes, including PTSD and social anxiety symptoms (Kalman & Hallgren, 2021). Another study found 11.59% overall prevalence, including 4.04% physical, 37.3% cyber, and 18.4% mixed bullying (Li Sha et al., 2023). Bullying's impact extends to victims, bullies, and bystanders, contributing to short- and long-term psychological issues such as hopelessness, low self-esteem, suicidal ideation, post-traumatic stress disorder (PTSD), and anxiety (Basharpoor et al., 2013; Hikmat et al., 2024; Budiarto et al., 2024; Han et al., 2025).

PTSD is a psychiatric disorder that can result from bullying (Fernández-Aldana et al., 2024; Budiarto et al., 2024) and other traumatic events such as disasters, violence, or severe harm, causing persistent distressing thoughts and emotions long after the event (American Psychiatric Association [APA], 2022). In children and adolescents, it arises from severe danger, interpersonal violence, or abuse, impairing

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behavior, emotions, and long-term development (Gkintoni et al., 2024). One study found that 36% of adolescents had complex, chronic PTSD and 10% still met diagnostic criteria after one year; risks increased with traumatic exposure, life stressors, low social support, bullying, and loneliness (Kazlauskas et al., 2024). In Colombian high school students, PTSD symptoms were found among bullying victims, witnesses, and bullies, including social victims, verbal victims, and social aggressors (Fernández-Aldana et al., 2024). Bullying experience increased PTSD risk by 43.5% compared to those without such experiences (Budiarto et al., 2024). Bullying is also linked to anxiety disorders (Li, Jin, et al., 2023).

Social anxiety, a possible consequence of bullying in adolescent girls, is characterized by fear or avoidance of social situations due to perceived negative judgment (Stein et al., 2017; (Nikmehr et al., 2021). Research has shown that, it is common, complex, and debilitating (Abdolghaderi et al., 2021; Talebkhah et al., 2024). Global prevalence is estimated at 1.3% (30-day), 2.4% (12-month), and 4.0% (lifetime) (Stein et al., 2017), with onset often in adolescence; lifetime prevalence among adolescents in some Western countries ranges from 3.58% to 9.1% (Deng et al., 2024). Meta-analyses and longitudinal studies confirm a significant association between bullying victimization and social anxiety (Deng et al., 2024). Bullying perpetration predicts social anxiety, while victimization predicts social withdrawal (Sousa et al., 2024), and victimization is strongly linked to social anxiety disorder (Sireli et al., 2024).

Given the high prevalence of school bullying, particularly among girls (Kalman & Hallgren, 2021), and its psychological consequences such as PTSD (Fernández-Aldana et al., 2024) and social anxiety (Deng et al., 2024), there is a need for effective psychological interventions. Time Perspective Therapy (TPT), shown to benefit Iranian adolescents (Esmaili et al., 2022b; Esmaili et al., 2022a; Mirzania et al., 2021; Ghasemizadeh et al., 2021), focuses on individuals' perceptions of the past, present, and future, helping them replace negative temporal perspectives with positive ones (Akbari et al., 2024: Li et al., 2024; Gökkaya et al., 2025; Sword et al., 2014). Originally proposed for PTSD treatment (Sword et al., 2014), this approach has been supported by recent findings on the role of TPT in mediating the relationship between childhood trauma and posttraumatic growth (Gökkaya et al., 2025) and in psychological distress (Germano & Brenlla, 2021).

The effectiveness of TPT has been demonstrated for PTSD symptoms, anxiety, and depression in women with breast cancer (Mirzania et al., 2021); anxiety (Esmaili et al., 2022b; Soleimani & Amirimanesh, 2024); adolescent risky behaviors (Ariapooran et al., 2024); and childhood separation anxiety (Ghasemizadeh et al., 2021). It has also been shown to enhance psychological well-being and happiness in individuals with PTSD (Malekiha et al., 2019) and to improve time balance and reduce anxiety in ninth-grade female students (Hosseini et al., 2020). However, its effectiveness in reducing PTSD symptoms and social anxiety among female students who are victims of bullying has not yet been examined, indicating a gap in the literature.

Bullying victimization is a common experience among adolescent girls (Kalman & Hallgren, 2021), and is linked to psychological problems such as PTSD and anxiety (Hikmat et al., 2024; Budiarto et al., 2024). This highlights the need for targeted therapeutic interventions, including TPT. The present research aims to identify effective interventions for victims of bullying, offering evidence-based guidance for school psychologists and counselors to apply TPT in supporting adolescent girls. Given the limited evidence on the effectiveness of TPT for reducing PTSD and social anxiety symptoms among adolescent girls who are victims of bullying, this study aimed to address this gap by contributing to evidence-based treatment frameworks and providing practical recommendations for schools and mental health professionals. The central research question was: "Is TPT effective in reducing PTSD and social anxiety in adolescent girls who are victims of bullying?"

Method

Participants

This study employed a quasi-experimental design with pre-test, post-test, and follow-up measurements, using a control group. The statistical population comprised early adolescent girls (aged 13–15 years) in Kermanshah, Iran, who were victims of bullying. Since bullying victimization has a relatively low prevalence (11.59%) among adolescents (Li, Sha, et al., 2023), 500 seventh-, eighth-, and ninth-grade students were screened through multistage cluster sampling to identify a sufficient number of participants who met the inclusion criteria for bullying victimization as well as clinically significant PTSD and social anxiety symptoms. Specifically, nine junior high schools with at least 20 students were chosen, and one class from each grade (seventh, eighth, and ninth) in each school participated. Participants completed the Adolescent Bullying Scale (Shaw et al., 2013).

Of the 469 adolescents surveyed, 103 reported experiencing bullying at least once a week based on the bullying victimization subscale. Following an initial interview, 83 students met the bullying victimization criterion (score > 20). They were then screened for PTSD and social anxiety symptoms using standardized assessment instruments. Overall, 46 participants met the inclusion criteria, exhibiting clinically significant PTSD symptoms and social anxiety scores at least 1.5 standard deviations above the sample mean (M = 41.16, SD = 2.53). As PTSD was one of the dependent variables, participants were also screened using the Children's PTSD Symptom Scale (Foa et al., 2018), where scores of 31 or higher indicate clinically significant symptoms. Since only 24 students scored above 31, those scoring above 27 (n = 18) were also included, resulting in 46 eligible participants. In addition, social anxiety was assessed using the Social Anxiety Scale (La Greca, 1999; cited in Ostovar & Razavieh, 2013), and 44 participants scored at least 1.5 standard deviations above the sample mean (M = 41.16, SD = 2.53), indicating clinically significant social anxiety symptoms.

The researcher explained the study to the students in person and to their mothers by telephone, obtaining consent from 44 students and their mothers. These

participants were randomly assigned to an experimental group (n = 22) and a control group (n = 22). After the intervention, six participants in the experimental group dropped out due to consecutive absences. To equalize group sizes, six participants were randomly removed from the control group during the follow-up phase, resulting in 16 participants per group for the final analysis.

Instrument

Adolescent Bullying Scale (ABS):

The ABS was developed by Shaw et al. (2013), contains 20 items across two subscales: bullying victimization (10 items) and bullying perpetration (10 items). Responses are rated on a five-point Likert scale: Never (hasn't happened to me) = 0, Once or twice = 1, At least once a week = 2, Once a week = 3, and Several times a week = 4. Each subscale yields scores ranging from 0 to 40. Shaw et al. (2013) confirmed the validity and reliability of both subscales, reporting positive correlations between victimization and anxiety, depression, and emotional symptoms, and negative correlations with peer support; perpetration correlated positively with impulsivity and negatively with prosocial behavior, with correlation magnitudes ranging from 0.31 to 0.46. In a study (Ariapooran et al., 2021), Cronbach's alpha coefficients were 0.71 (victimization) and 0.76 (perpetration), with a significant correlation between the two dimensions (r = 0.45). In the present study's initial screening, the Cronbach's alpha for the victimization subscale was 0.73.

Child PTSD Symptom Scale for DSM-5 (CPSS-5):

The CPSS-5 (Foa et al., 2018) includes 27 items, with 20 assessing PTSD symptoms in children aged 8–18. Items are rated on a 5-point Likert scale from 0 (not at all) to 4 (6 or more times per week/almost always), with total scores ranging from 0 to 80. The scale has four subscales: intrusive thoughts (5 items), avoidance (2 items), changes in cognition and mood (7 items), and increased arousal/reactivity (6 items), with a cutoff score of 31 indicating PTSD symptoms. Foa et al. (2018) reported high internal consistency (Cronbach's alpha = 0.92) and test-retest reliability (0.80). In Iran, Cronbach's alpha was 0.86; convergent validity was confirmed with item-to-subscale correlations ranging from 0.52 to 0.84 and correlations of subscales with the total score between 0.61 and 0.91 (Ariapooran et al., 2021). In the present study, the pre-test Cronbach's alpha was 0.81.

Social Anxiety scale for Adolescents (SAS-A):

The Social Anxiety Scale for Adolescents (SAS-A), developed by La Greca (1999; cited in Ostovar & Razavieh, 2013), includes 18 items across three subscales: Fear of Negative Evaluation (8 items), Social Avoidance and Distress in New Situations (6 items), and Social Avoidance and General Distress (4 items). Items are rated on a 5-point Likert scale from 1 (Completely different from me) to 5 (Completely similar to me), with total scores ranging from 18 to 90. La Greca et al. (1999) reported test-retest reliability between 0.54–0.74 at 8 weeks and 0.47–0.75 at 6 months. Discriminant validity showed that adolescents with high social anxiety had low perceived peer acceptance (Ostovar & Razavieh, 2013). In Iran, Ostovar & Razavieh (2013) confirmed a three-factor structure after removing two inadequate items, resulting in a 16-item scale: Fear of Negative Evaluation (7 items), Social Avoidance and Distress in New Situations (5 items), and Social Avoidance and General Distress (4 items). They found significant correlations between the subscales (r = 0.42–0.56) and the total scale (r = 0.59) with the Children's Overt Anxiety Scale. Cronbach's alpha coefficients for the subscales were 0.84, 0.76, and 0.77, respectively. In the present study's pre-test, the scale's Cronbach's alpha was 0.77.

Intervention Method:

TPT (Sword et al., 2014) was delivered to the experimental group over eight 1.5-hour sessions. A doctoral psychology student with prior training in TPT conducted the sessions. Details of each session are provided in Table 2.

Table 1. Summary of 8 TPT Sessions (Sword et al., 2014)

Session	Content	Home Task
1. Pre-test administration, building rapport, conceptualization	Establishing group norms, cohesion, member introductions, group commitment, role-setting, pre-test.	—
2. Awareness of past TPT	sharing past events; intro to TPTs; paradox of shifting from negative past to balanced/positive past.	List 2 negative bullying-related events and 2 positive events (past).
3. Awareness of present TPT	Review home task; discuss fatalistic present experiences; shifting from fatalistic present (biased) to hedonistic present (balanced).	Identify negative bullying-related events in the present (record in form).
4. Awareness of future TPT	Review home task; discuss anticipated future events; shifting from negative future to positive/ideal future.	List negative future predictions (bullying-related).
5. Transforming negative past → positive past	Review home task; evaluate past events; reframing negative memories with positive ones.	Substitute negative past events with positive ones (record in form).
6. Transforming fatalistic → hedonistic present	Review home task; identify pleasurable present activities; practicing mindfulness/joy.	Replace negative present events with positive actions (record in form).

7. Transforming negative → ideal future	Review home task; link positive past/present to future; goal-setting for a positive future.	Replace negative future predictions with positive ones (record in form).
8. Conclusion and post-test	Review sessions; emphasize balanced TPT; post-test.	—

Procedure

Prior to the study, all necessary permissions were obtained, and participants provided informed consent with assurances of confidentiality. Participants were assigned codes to maintain anonymity and were informed they could withdraw at any time. To uphold ethical standards, the control group received the TPT intervention (Sword et al., 2014) after the final analysis. Following approval from the Kermanshah Education Department, the researcher selected three classes from seventh, eighth, and ninth grades in each school via multi-stage cluster sampling. After initial screening and interviews, eligible participants were randomly assigned to experimental and control groups. The experimental group underwent eight sessions of TPT, while the control group received no intervention during this period. Assessments were conducted at pre-test, post-test, and two-month follow-up stages. Mixed analysis of variance (or repeated measures analysis of variance) was used to analyze the data. In addition, SPSS-27 software was used to analyze the data, and a significance level of less than 0.05 was considered.

Results

Descriptive findings revealed that in the TPT group, 25% of adolescent girls were in seventh grade (13 years old), 43.75% in eighth grade (14 years old), and 31.25% in ninth grade (15 years old). The control group had a similar distribution: 31.25% in seventh grade, 37.5% in eighth grade, and 31.25% in ninth grade. Regarding bullying types, the experimental group reported communication bullying most frequently (43.75%), followed by physical and verbal bullying (18.75% each), mixed bullying (12.5%), and cyberbullying (6.25%). The control group followed a comparable pattern, with 50% experiencing communication bullying, 18.75% each for physical and verbal bullying, and 6.25% each for cyberbullying and mixed bullying. The mean age was nearly identical between groups (therapy: 14.06 ± 0.771; control: 14.00 ± 0.816). Further details on dependent variables, including means, standard deviations, skewness, and kurtosis, are presented in Table 1.

Table 2. Means (M), Standard Deviations (SD), Skewness, and Kurtosis of Variables in TPT and Waitlist Control Groups

Variable	Time	TPT				Control Group			
		M	SD	Shapiro-Wilk	p	M	SD	Shapiro-Wilk	p
Intrusive Thoughts	Pre-test	9.56	1.82	0.931	0.256	9.31	1.30	0.904	0.095
	Post-test	5.62	1.31	0.890	0.056	9.18	1.37	0.926	0.214
	Follow-up	5.87	1.26	0.922	0.185	9.62	1.45	0.951	0.531
Avoidance	Pre-test	2.37	0.96	0.894	0.065	2.56	0.89	0.888	0.051
	Post-test	1.06	0.77	0.919	0.236	2.63	0.96	0.910	0.127
	Follow-up	1.18	0.91	0.881	0.053	2.44	1.26	0.901	0.092
Cognition & Mood Changes	Pre-test	10.18	1.17	0.904	0.092	10.56	1.41	0.936	0.300
	Post-test	6.69	0.95	0.895	0.077	10.69	1.14	0.919	0.161
	Follow-up	6.25	1.06	0.912	0.123	10.81	0.98	0.909	0.114
Arousal & Reactivity	Pre-test	10.94	1.65	0.968	0.807	11.25	1.52	0.939	0.334
	Post-test	7.62	1.31	0.957	0.602	11.43	1.75	0.915	0.140
	Follow-up	7.87	1.25	0.901	0.091	11.18	1.51	0.899	0.082
PTSD Symptoms	Pre-test	33.06	3.15	0.899	0.068	33.68	2.12	0.926	0.207
	Post-test	20.94	1.18	0.912	0.131	33.94	2.29	0.926	0.209
	Follow-up	21.06	1.69	0.895	0.066	34.06	2.84	0.948	0.453
Fear of Negative Evaluation	Pre-test	25.19	1.47	0.946	0.423	25.12	1.71	0.951	0.498
	Post-test	20.93	11.61	0.891	0.067	24.95	2.08	0.891	0.085
	Follow-up	21.25	1.39	0.896	0.070	25.31	1.99	0.923	0.191
Social Avoidance (New Situations)	Pre-test	15.12	1.67	0.955	0.570	15.81	1.83	0.922	0.180
	Post-test	12.31	1.85	0.973	0.878	15.75	1.95	0.914	0.134
	Follow-up	12.18	1.87	0.915	0.143	16.06	1.44	0.944	0.398
Social Avoidance and General Distress	Pre-test	6.88	1.36	0.919	0.160	6.62	1.54	0.937	0.310
	Post-test	4.69	0.70	0.896	0.071	6.94	1.39	0.919	0.165
	Follow-up	4.87	0.72	0.889	0.059	7.19	1.76	0.897	0.098
Social Anxiety Symptoms	Pre-test	47.12	2.78	0.912	0.145	47.56	2.58	0.932	0.258
	Post-test	37.94	2.57	0.960	0.658	47.62	2.53	0.938	0.321
	Follow-up	38.31	2.21	0.918	0.156	48.56	2.25	0.953	0.530

According to the results presented in Table 1, the Shapiro–Wilk test indicated that PTSD symptoms and social anxiety symptoms at the pre-test, post-test, and follow-up were normally distributed (all $p > .05$), supporting the assumption of normality.

The Box's M test was used to examine the homogeneity of variance-covariance matrices. The results indicated that this assumption was met for PTSD symptoms ($F=1.68$, $p< 0.13$) and its subscales: intrusive thoughts ($F=0.98$, $p<0.44$), avoidance ($F=0.53$, $p<0.78$), changes in cognition and mood ($F=0.90$, $p=0.49$), and increased

arousal and reactivity (F=0.44, p<0.85). Similarly, the assumption was met for social anxiety symptoms (F=0.27, p<0.95) and its subscales: fear of negative evaluation (F=3.19, p<0.30), social avoidance and distress in new situations (F=0.64, p<0.69), and social avoidance and general distress (F=1.75, p<0.08), since all significance values were greater than 0.05.

The Mauchly's test of sphericity results confirmed the equality of within-subject variances for avoidance (χ^2=1.81, p<0.40), increased arousal and reactivity (χ^2=2.07, p<0.36), social anxiety symptoms (χ^2=24.66, p<0.001), and its subscales: fear of negative evaluation (χ^2=3.03, p<0.22), social avoidance and distress in new situations (χ^2=2.12, p<0.35), and social avoidance and general distress (χ^2=4.19, p<0.13). However, the sphericity assumption was violated for PTSD symptoms (χ^2=15.97, p<0.001), intrusive thoughts (χ^2 = 10.37, p < 0.001), and changes in cognition and mood (χ^2=7.25, p=0.03). Therefore, applying the Greenhouse-Geisser correction for PTSD symptoms (F=124.14, p<0.001), intrusive thoughts (F=31.74, p<0.001), and changes in cognition and mood (F=7.25, p=0.03), it can be concluded that the repeated measures ANOVA test is appropriate despite the violation of sphericity.

Levene's test results confirmed the equality of between-group variances for PTSD symptoms at pretest (F=11.3, p<0.07), posttest (F=1.54, p<0.11), and follow-up (F=14.4, p=0.051). Similarly, intrusive thoughts showed equal variances at pretest (F=1.80, p<0.19), posttest (F=0.02, p<0.89), and follow-up (F = 0.27, p=0.61). Avoidance variances were equal at pretest (F =11.0, p<0.75), posttest (F=26.2, p<0.14), and follow-up (F=36.3, p<0.06). Changes in cognition and mood also met this assumption at pretest (F=0.73, p<0.39), posttest (F =0.75, p<0.39), and follow-up (F=0.40, p<0.72). For increased arousal and reactivity, equality of variances was confirmed at pretest (F=0.02, p<0.89), posttest (F=1.74, p<0.19), and follow-up (F=1.01, p<0.32). Regarding social anxiety symptoms, Levene's test indicated equal variances at pretest (F=0.01, p<0.96), posttest (F=0.001, p<0.98), and follow-up (F=0.20, p<0.65). The subscales of social anxiety—fear of negative evaluation (pretest: F=10.03, p<0.87; posttest: F=15, p<0.29; follow-up: F=1.53, p<0.22), social avoidance and sadness in new situations (pretest: F=0.32, p<0.57; posttest: F=0.26, p<0.61; follow-up: F=2.52, p<0.12), and social avoidance and general sadness (pretest: F=0.47, p<0.49; posttest: F=1.84, p<0.18; follow-up: F=2.94, p<0.09)—also met the assumption of equal variances, as all significance values were greater than 0.05.

Table 2 presents the results of the repeated measures analysis of variance, where the "time" effect corresponds to within-subject factors and the "group" effect corresponds to between-subject factors.

Table 3. Repeated Measures ANOVA for Dependent Variables in Treatment and Waitlist Control Groups

Variable	Source	SS	df	MS	F	p	η^2	Test Power
Intrusive Thoughts	Time	45.562	1	45.562	22.28	<0.001	0.45	0.99
	Time × Group	64.000	1	64.000	39.63	<0.001	0.57	1.00
	Group	133.01	1	133.01	35.14	<0.001	0.54	1.00
Avoidance	Time	6.891	1	6.891	10.29	0.003	0.25	0.87
	Time × Group	4.516	1	4.516	6.74	0.014	0.18	0.71
	Group	24.01	1	24.01	13.89	<0.001	0.32	0.95
Cognition & Mood Changes	Time	54.391	1	54.391	37.97	<0.001	0.55	1.00
	Time × Group	70.14	1	70.14	48.96	<0.001	0.62	1.00
	Group	213.01	1	213.01	113.64	<0.001	0.79	1.00
Arousal & Reactivity	Time	45.25	1	45.25	32.76	<0.001	0.52	1.00
	Time × Group	39.06	1	39.06	30.29	<0.001	0.50	1.00
	Group	152.510	1	152.510	69.99	<0.001	0.24	0.91
PTSD Symptoms	Time	540.562	1	540.562	115.11	<0.001	0.79	1.00
	Time × Group	612.562	1	612.562	130.44	<0.001	0.81	1.00
	Group	1890.375	1	1890.375	187.71	<0.001	0.86	1.00
Fear of Negative Evaluation	Time	56.25	1	56.25	33.29	<0.001	0.53	1.00
	Time × Group	68.062	1	68.062	40.28	<0.001	0.57	1.00
	Group	33.896	1	33.896	1.63	0.210	0.07	0.33
Social Avoidance (New Situations)	Time	28.891	1	28.891	34.71	<0.001	0.54	1.00
	Time × Group	40.641	1	40.641	48.83	<0.001	0.62	1.00
	Group	170.667	1	170.667	20.94	<0.001	0.41	0.99
Social Avoidance and General Distress	Time	8.266	1	8.266	7.30	0.011	0.19	0.74
	Time × Group	26.266	1	26.266	23.19	<0.001	0.44	0.99
	Group	94.59	1	94.59	14.26	<0.001	0.32	0.95
Social Anxiety Symptoms	Time	244.141	1	244.141	83.02	<0.001	0.73	1.00
	Time × Group	385.141	1	385.141	130.97	<0.001	0.81	1.00
	Group	1107.042	1	1107.042	81.21	<0.001	0.73	1.00

According to Table 3, there were significant differences in the mean scores of PTSD and social anxiety symptoms, along with their subdimensions, across pretest, posttest, and follow-up assessments between the TPT group and the control group. Both the interaction effect of group × period and the main effect of group on these variables and their

dimensions were significant. The effect sizes (partial eta squared) for time, group × time, and group on PTSD symptoms were 0.79, 0.81, and 0.86, respectively. For social anxiety symptoms, the corresponding effect sizes were 0.73, 0.81, and 0.73. Table 4 also presents the Bonferroni post hoc test results comparing PTSD and social anxiety symptoms at pretest, posttest, and follow-up between the experimental and control groups.

Table 4. Repeated Measures ANOVA for Dependent Variables in Treatment and Waitlist Control Groups

Variable	Group	Time	Comparison Group	Post-Test	Follow-Up
	TPT	**Pre-Test**	**Control**	***3.94**	***3.69**
Intrusive Thoughts		Post-Test	Control	-	-0.25
	Control	Pre-Test	TPT	-0.12	-0.31
		Post-Test	TPT	-	-0.44
Avoidance	TPT	Pre-Test	Control	*1.31	*1.19
		Post-Test	Control	-	-0.125
	Control	Pre-Test	TPT	-0.06	-0.13
		Post-Test	TPT	-	-0.19
Cognition & Mood Changes	TPT	Pre-Test	Control	*3.50	*3.95
		Post-Test	Control	-	-0.41
	Control	Pre-Test	TPT	-0.14	-0.26
		Post-Test	TPT	-	-0.11
Arousal & Reactivity	TPT	Pre-Test	Control	*3.31	*3.19
		Post-Test	Control	-	-0.115
	Control	Pre-Test	TPT	0.19	0.06
		Post-Test	TPT	-	0.26
PTSD Symptoms	TPT	Pre-Test	Control	*12.12	*12.01
		Post-Test	Control	-	-0.125
	Control	Pre-Test	TPT	-0.25	-0.37
		Post-Test	TPT	-	-0.12
Fear of Negative Evaluation	TPT	Pre-Test	Control	*4.25	*3.93
		Post-Test	Control	-	-0.32
	Control	Pre-Test	TPT	0.19	-0.18
		Post-Test	TPT	-	-0.375
Social Avoidance (New)	TPT	Pre-Test	Control	*2.81	*2.94
		Post-Test	Control	-	-0.135
	Control	Pre-Test	TPT	0.055	-0.25
		Post-Test	TPT	-	-0.30
Social Avoidance (General)	TPT	Pre-Test	Control	*2.20	*2.00
		Post-Test	Control	-	-0.18
	Control	Pre-Test	TPT	-0.31	-0.56
		Post-Test	TPT	-	-0.255
Social Anxiety Symptoms	TPT	Pre-Test	Control	*9.19	*8.81
		Post-Test	Control	-	-0.375
	Control	Pre-Test	TPT	-0.06	-1.00
		Post-Test	TPT	-	-0.94

Based on the results presented in Table 4, the experimental group showed a significant reduction in the mean scores of PTSD symptoms and their subdimensions, as well as social anxiety symptoms and their subdimensions, in both the posttest and follow-up compared to the control group. In contrast, the control group exhibited no significant changes between the pretest, posttest, and follow-up. These findings indicate that time perspective therapy was effective in reducing PTSD and social anxiety symptoms among adolescent girls who were victims of bullying, and that the treatment effects were sustained over time for both variables and their respective dimensions.

Discussion

The present study aimed to investigate the effectiveness of time perspective therapy on PTSD symptoms and social anxiety in adolescent girls who were victims of bullying. The findings indicated that time perspective therapy significantly reduced PTSD symptoms and its subdimensions, including intrusive thoughts, avoidance, changes in cognition and mood, and increased arousal and reactivity. In other words, this intervention not only improved PTSD symptoms but also maintained its effectiveness during the follow-up phase. Although no prior research has examined the impact of time perspective therapy on PTSD symptoms specifically in adolescent girls who have experienced bullying, studies in other populations have confirmed its effectiveness in reducing PTSD symptoms (Mirzania et al., 2021) and in enhancing psychological well-being and happiness in individuals with PTSD (Malakiha et al., 2019). Thus, the results of the present study are consistent with previous findings.

In explaining this finding, time perspective therapy (Sword et al., 2014), is a relatively new approach for treating

PTSD. It is essentially a form of narrative therapy in which clients initially present with a trauma-focused life story. The therapist works to help them replace this negative narrative with one that highlights positive aspects of their past, fosters constructive experiences in the present, and cultivates a vivid, hopeful vision of the future. By addressing clients' perceptions of their past, present, and future, time perspective therapy teaches techniques for identifying and shifting maladaptive time perspectives toward more adaptive ones. For adolescent girls who are victims of bullying, this process can reduce PTSD symptoms by reframing their interpretation of the traumatic event—transforming intrusive thoughts, avoidance, negative changes in cognition and mood, and heightened arousal into more adaptive emotional and cognitive patterns. In essence, the intervention reconstructs their time perspective by reducing a negative past and fatalistic present orientation, while enhancing a positive past and hopeful future outlook, thereby alleviating PTSD symptoms.

Furthermore, the effectiveness of TPT in reducing PTSD symptoms among adolescent girls who are victims of bullying can be understood in light of previous research showing that, in survivors of abuse, low levels of "positive past" and "future" orientations, along with high levels of "negative past" and "fatalistic present" orientations—indicative of an imbalanced time perspective—are associated with greater severity of PTSD symptoms (Tomich et al., 2022; Ahmadi et al., 2019; Hosseini Ramaghanet al., 2019). Time perspective therapy addresses this imbalance by reconstructing the individual's temporal orientation, reducing negative retrospection and fatalistic present focus, while enhancing positive past and positive future orientations. This restoration of temporal balance can stabilize time-related cognitive-emotional fluctuations, thereby alleviating PTSD symptoms and promoting improved mental health in adolescent girls who have experienced bullying.

The results of the study also showed that the effectiveness of time perspective therapy on reducing social anxiety symptoms and its dimensions, namely fear of negative evaluation, social avoidance and sadness in new situations, and social avoidance and general sadness, was significant. In other words, this treatment improved social anxiety symptoms, and the effect of the treatment was also sustainable in the follow-up phase. No research has been conducted on the effectiveness of time perspective therapy on social anxiety symptoms in adolescent girls who are victims of bullying; however, similar studies among adolescent girls have shown that this treatment was effective in reducing anxiety scores and improving time perspective scores (Hosseini et al., 2020). The effectiveness of this treatment has also been confirmed in reducing anxiety symptoms in adolescents (Esmaili et al., 2022b; Soleimani & Amirimanesh, 2024), general anxiety in adult samples (Mirzania et al., 2021), and separation anxiety in children (Ghasemizadeh et al., 2021).

This finding can be explained in light of recent research on time perspective, which suggests that individuals with social anxiety often exhibit unbalanced time orientations—characterized by a negative outlook on both the past and the future (Stout et al., 2024). Studies have also confirmed a negative relationship between future-oriented, positive past, and hedonic present perspectives with perceived social isolation, and a positive relationship between negative past orientation and perceived social isolation (Stout et al., 2024). Time perspective therapy addresses this imbalance by fostering a positive balance between past, present, and future orientations, thereby potentially reducing social anxiety symptoms in adolescent girls who are victims of bullying. Specifically, the intervention shifts focus away from negative views of the past and future toward strengthening beliefs in a positive future, hope, and motivation (Sword et al., 2014). This shift reduces repetitive negative thinking patterns such as worry and rumination, which are common in individuals with social anxiety (Wu et al., 2024; Zhang et al., 2025), and consequently alleviates fear of negative evaluation, social avoidance, and general sadness. Moreover, time perspective therapy enhances the perceived control and predictability of social situations, adjusts negative self- and other-related beliefs, and increases motivation to engage socially. By encouraging individuals to focus on positive future experiences rather than fears tied to social interactions, the therapy helps reframe negative attitudes, ultimately leading adolescent victims of bullying to feel more in control, experience fewer anxious thoughts, and reduce avoidance behaviors. Consistent with this mechanism, prior research has shown that balanced time perspective—characterized by an increased positive future orientation and reduced negative past focus—is associated with lower social anxiety and greater resilience in adolescents (Jankowski et al., 2020).

TPT effectively reduces PTSD and social anxiety in bullied adolescent girls by addressing maladaptive temporal orientations, as outlined in Burzynska and Stolarski's (2020) four models. The trait-behavior model explains how TPT cultivates well-being enhancers (e.g., positive past reflection, present savoring), while the accumulation model highlights time perspectives as mediators of symptom reduction. The feedback loop model demonstrates their mutual reinforcement with adaptive behaviors, creating a positive cycle. Finally, the congruence-incongruence model shows how future-oriented thinking moderates outcomes (e.g., reducing fear of negative evaluation). For bullied adolescents, TPT's promotion of balanced time perspectives—encouraging appreciation of the past, engagement in the present, and optimism for the future—disrupts negative thought patterns, thereby alleviating symptoms.

This study was conducted exclusively on adolescent girls who were victims of bullying; therefore, generalizing the findings to other at-risk groups should be approached with caution and requires replication in different populations. Moreover, the study did not compare the effectiveness of time perspective therapy with other therapeutic approaches. Future research is recommended to examine its comparative efficacy, particularly against interventions that have demonstrated effectiveness in adolescent populations.

Conclusion

The findings confirmed the effectiveness of time perspective therapy in reducing PTSD symptoms and social anxiety in adolescent girls who were victims of bullying, with effects sustained at follow-up. Based on these results, the application of time perspective therapy is recommended for addressing the psychological consequences of bullying in this population. Additionally, it is advisable to organize training workshops on time perspective therapy for clinical psychologists, school counselors, and educational psychologists to equip them with practical skills for helping adolescent girls who have experienced bullying improve their mental health outcomes, including reductions in PTSD and social anxiety symptoms.

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The authors declare that they have no potential conflicts of interest.

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