



## EFFICACY OF SCHOOL BASED INTERVENTION IN REDUCING POST-TRAUMATIC STRESS DISORDER SYMPTOMS AND PSYCHOLOGICAL DISTRESS AMONG ADOLESCENTS EXPOSED TO TRAUMA

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### ABSTRACT

**Introduction:** Post-traumatic symptoms are prevalent among youth in conflict-affected areas. Individuals who have experienced accidents, abuse, neglect, violence, loss of loved ones, or disasters are at heightened risk for developing such symptoms throughout their lives. These traumatic experiences can significantly impact mental health, often leading to anxiety, depression, and PTSD. Without proper support, the effects of trauma can persist into adulthood. One promising approach to address adolescent trauma is through school-based interventions.

**Objective of the current study:** The current study aimed to examine the effects of the Support for Students Exposed to Trauma Program (SSET) on adolescents who have experienced traumatic events and exhibit symptoms of post-traumatic stress disorder and psychological distress.

**Materials and Methods:** Ethical approval was obtained before the conduction of this study (FJWU/EC/2022/45). Initially, a sample of 450 school children (aged 10-16 years) from Govt. High Schools of Muzaffarabad region completed a cross sectional survey using Child & Adolescent Trauma Screen Questionnaire (CATS) in order to screen them for the presence of subclinical levels of Posttraumatic Stress Symptoms. A total of 131 out of 450 participants met the screening criteria. In next phase Clustered Randomized Controlled Design (cRCT) was used to determine the efficacy of school based intervention in which schools were randomly assigned into four clusters i.e, intervention group (two schools; n=65) and the control group (two schools, n=66) by using excel software. A baseline assessment at time1 (pre-test) was carried out with both groups using Child & Adolescent Trauma Screen Questionnaire (CATS) and Revised Children Anxiety & Depression (RCADS). The Interventional group was given a 10 weeks SSET intervention. On the other hand, the control group received no intervention. After completion of the intervention phase, participants from both groups were reassessed at time2 (post-test) using the same measures.

**Results:** Paired sample t-test analysis was applied to assess the differences between Time1 and Time2 assessments. Results revealed that the participants in the interventional group showed a significant reduction in a) post-traumatic stress symptoms from time1 to time2 ( $t=6.40^{***}$ ,  $p<0.001$ ,  $M1=27.43+SD1=9.56$ ;  $M2=17.60+SD2=8.33$ ) with high effect size (Cohen's  $d=0.80$ ) b) psychological distress ( $t=5.22^{***}$ ,  $p<0.001$ ,  $M1=62.90+SD1=20.31$ ;  $M2=43.63+SD2=22.74$ ) with medium effect size (Cohen's  $d=0.64$ ). On the other hand, no significant differences were

observed in the control group from the time1 to time2 on these measures. In addition, t-tests applied to assess the differences at time2 between intervention and control group. Results showed significant differences between groups at time2 on posttraumatic stress symptoms [ $t=-.51, p<.001$ , interventional group ( $M+SD= 17.60+8.33$ ); control group ( $M+SD= 26.22+10.68$ )] and psychological distress [ $t=-5.9, p<.001$ , interventional group ( $M+SD=43.63+22.74$ ); control group ( $M+SD= 69.33+26.42$ )].

**Conclusion and Implications:** The study found that the Support for Students Exposed to Trauma Program (SSET) effectively supports school students who have experienced trauma, highlighting its potential in developing nations such as Azad Jammu & Kashmir, Pakistan, where access to counseling is limited. To enhance its impact, it is recommended to expand SSET implementation in schools, train educators to identify trauma symptoms, collaborate with mental health professionals for ongoing support, monitor the program's effectiveness regularly, and advocate for mental health initiatives in educational policy.

**Keywords:** Support for Students Exposed to Trauma (SSET), Clustered Randomized Controlled Trial (cRCT), Post-traumatic Stress Disorder (PTSD) ClinicalTrials.gov Identifier: [NCT05631691](https://clinicaltrials.gov/ct2/show/study/NCT05631691)

## INTRODUCTION

The prevalence, burden of diseases, and disability makes mental health one of the most urgent global public health concerns (Vigo, Thornicroft, & Atun, 2016). Children and adolescents are particularly vulnerable to the effects of traumatic experiences due to developmental stage and reliance on caregivers for protection and support. In recent years, numerous studies have been conducted on the epidemiological, neurobiological, or therapeutic aspects of posttraumatic stress disorder (PTSD) however, few of these studies have included school-age children and adolescents particularly in developing nations (Astitene, & Barkat, 2021). According to Diagnostic Statistical Manual of Mental Disorders (DSM-V) classification, a person is diagnosed with PTSD if they have experienced or witnessed one or more traumatic events that involve serious injuries, death or the threat of death, threat to their physical integrity or the integrity of others (DSM-V).

Additionally, they must have reacted to these events with intense feelings of fear, helplessness, or horror (Austitine & Barkat, 2021). After experiencing, witnessing, or learning about a traumatic event—such as a death, injury, or violent incident people are vulnerable to develop post-traumatic stress disorder (PTSD) (American Psychiatric Association, 2013). Anxiety, avoidance, memory distortion, intrusive thoughts, and flashbacks are some of the signs of PTSD. Previous research showed that nearly 6% of young adults between the ages of 18 and 29 are thought to have dealt with PTSD at some point in their lives (Kessler et al., 2005). According to Ndeti et al., (2007) and Silva et al., (2000), traumatized adolescents have higher rates of psychiatric co-morbidity and PTSD prevalence which can range from 22% to 51%. Becoming physically abused (18.6%), being in a potentially fatal accident (19.3%), road traffic accidents (Stallard, Salter, & Velleman, 2004) and witnessing violence (24.1%) were the most frequent traumatic experiences which resulted in developing PTSD (McLaughlin et al., 2013) and among them most common traumatic events were accidents, physical abuse and violence (Copeland, Keeler, Angold, & Costello, 2007).

In low- and middle-income nations, one in three teenagers may develop some PTSD symptoms after witnessing a traumatic event with one in ten having enough symptoms to receive a full DSM-5 PTSD diagnosis (Stupar, et al., 2021). People are vulnerable to psychological issues including PTSD and depression (Espejo et al., 2007; Ekşi et al., 2007; McLaughlin et al., 2017; Kessler et al., 2017; Wang et al., 2023) when they endure interpersonal trauma (Gardner, Thomas, & Erskine, 2019) or natural trauma (Wadsworth Wadsworth, Santiago, & Einhorn, 2009). According to the dose-response paradigm (Dohrenwend & Dohrenwend, 1974, as cited in Kaysen, Rosen, Bowman, & Resick, 2010), the more intense the trauma, the more serious its consequences related to mental health issues.

Consequently, for the treatment of trauma-related psychopathology in children, there are multiple evidence-based therapies and intervention plans. Many psychotherapeutic interventions implemented to address traumatic stress in children and adolescents in the form of different activities and skills. Cognitive behavioral therapy (CBT) which targets many of the threat processing processes highlighted underlying trauma mechanism considered as the most well-established treatment for child trauma-related psychopathology (Dorsey, et al., 2017).

Evidence based Cognitive-behavioral therapies have been shown to be effective in treating children's symptoms of PTSD and studies have suggested that individuals with PTSD symptoms benefit from CBT interventions (Amin et al., 2020). Systematic review shows that trauma focused cognitive behavior therapy is more efficient for treating post-traumatic stress symptoms and depression among children and adolescents (Lenz, & Hollenbaugh, 2015). One of the cognitive behavior interventions for trauma is SSET (Support For Students Exposed To Trauma) is a school based intervention specifically designed for students who have experienced one or more traumatic events and show symptoms of PTSD. SSET is an adapted version of CBITS (Cognitive Behavior Interventions for Trauma in Schools) designed for student support for students exposed to trauma and pilot study on SSET showed that it is an effective intervention in schools to deal with post-traumatic stress symptoms in children & adolescents (Jaycox, Langley, & Dean, 2009).

In reflection of treating trauma in schools through school based interventions, it is considered that school is the foundation of developing children's social and emotional wellbeing. Growing evidence suggests that schools can play a significant role in providing early interventions because of a number of factors: they are places where kids and teenagers hang out on a regular basis; they are nurturing environments that prioritize learning and growth; they interact daily with each other (Fazel, Patel, Thomas, & Toll, 2014). Unfortunately, there are not enough resources available to meet the growing needs for mental health disorder screening and treatment (Alvi et al., 2023). In high income countries strong intervention evidence exists to enhance mental health and to prevent mental health problems in school settings (Das et al, 2016). But in low income (developing) countries there are not enough facilities regarding mental health services. This study examines the middle/high schools in Muzaffarabad, a district of Azad Jammu & Kashmir (AJ&K), situated in the northeastern region of Pakistan covering area of 13,297 km<sup>2</sup> with a population of approximately 4.32 million and operating under a self-governing system overseen by Pakistan.

The devastating 2005 earthquake in Azad Jammu & Kashmir (AJ&K) resulted in the destruction of over 7,000 schools and educational institutions, either fully or partially (Farooq & Kai., 2016). Muzaffarabad district was among the five most severely affected districts, experiencing widespread devastation. The existing policy framework of the AJ&K government reveals a critical shortage of mental health professionals, including psychologists and psychiatrists. This scarcity is particularly alarming as Pakistan has the lowest ratio of mental health professionals in the World Health Organization's (WHO) Eastern Mediterranean Region, inadequately addressing the specific needs of children and adolescents (Abbas & Dars, 2023). In the context of mental health and adolescent development studies, a critical gap exists in government policies addressing the mental health needs within the education system particularly regarding teacher and student well-being assessments. Therefore, the adolescent's mental health needs greater attention and it is essential to implement intervention to deal with mental health issues of youth particularly to deal with their trauma and distress. This study constitutes a pivotal step towards bridging this gap by investigating mental health issues among elementary/middle/high school students.

## **MATERIALS AND METHODS**

### **Objectives**

The objective of the present study was to find out the effectiveness of SSET in reducing a) post-traumatic stress symptoms and b) psychological distress in adolescents exposed to trauma.

## Hypotheses

1. There would be a significant reduction in *post-traumatic stress symptoms* among adolescents exposed to trauma within and between intervention and control group.
2. There would be a significant reduction in *psychological distress* among adolescents exposed to trauma within and between intervention and control group.

## Research Design

The study design of the current study was pre-post Clustered Randomized Control Design. Four high schools were selected and enrolled in study with (1:1 ratio in each arm). The study was approved by the ethical committee of Fatima Jinnah Women University (*FJWU/EC/2022/45*). The study was also registered at clinical trial: ClinicalTrials.gov Identifier: [NCT05631691](https://clinicaltrials.gov/ct2/show/study/NCT05631691).

## Participants

The study participants of present study were adolescents within the age range 10-16 years. Sample was selected through convenient and purposive sampling from Government High Schools, District Muzaffarabad, Azad Jammu & Kashmir, Kashmir. Additionally, G-power was used to estimate sample size. For the one-tailed hypothesis, a minimum sample size of 102 participants was recommended, with roughly 51 participants in each group ( $\alpha=0.05$ , effect size=0.5, and  $\beta=0.80$ ). In the current study a total of 131 students served in experimental (n=65) and control group (n=66) with mean age range (M+SD= 14.21=1.06), which is relatively larger than estimation.

## Inclusion & exclusion criteria

1. Participants in the age range 10-16 were included in the study.
2. Participants who had experienced some traumatic event and scored equal or more than 21 on CATS were included in the study.
3. Participants having psychological or psychiatric history were not part of the study.
4. Participants taking any psychotherapy or psychiatric medication were not part of the study.

## Operational definitions

1. **Post-traumatic Stress Disorder:** Post-traumatic Stress Disorder is an anxiety disorder often developed when a person experiences some stressful life event. In the current study PTSD symptoms operationalized on scores of Child & Adolescent Trauma Screen Questionnaire.
2. **Psychological distress:** According to Mirowsky and Ross, (2002) Psychological Distress is defined as a condition of emotional distress illustrated by feeling of tension and restlessness as symptoms of anxiety while hopelessness, sadness, and loss of interest as symptoms of depression. In the current study psychological distress operationalizes on scores of Revised Children Anxiety & Depression Scale.

## Measures

**Demographic information sheet:** The demographic information sheet used in the present study to collect information on the following variables: gender, age, family system, birth order and perceived social status.

## Child and Adolescent Trauma Screen (CATS)

The DSM-5-TR based "Child and Adolescent Trauma Screen (CATS)" developed by Sachser, et al., (2017), consists of 15 traumatic events or series of events, twenty posttraumatic stress symptoms items, and 5 items of impairment. It ranges from 0 (never) to 3 (almost always). The possible range of CATS is 0-60 and total score is calculated by adding up the raw scores of all 20 items. The recommended cut-off  $\geq 21$  as indication of a clinically relevant level of symptoms. In the present study, this scale was translated into Urdu by following World Health Organization guidelines (WHO, 2009). The permission was taken from the original author to translate the English version of CATS

into Urdu language and reliability was reported .84, suggesting high acceptability and suitability for the Pakistani population.

1. **Revised Children’s Anxiety and Depression Scale-47 (RCADS-47):** Developed by Ross, Gullone, & Chorpita, (2002), consisted of 47 items with subscales major depressive disorder (MDD), generalized anxiety disorder (GAD), separation anxiety disorder (SAD), panic disorder (PD), social phobia (SP), and obsessive compulsive disorder (OCD). Reported reliability is 0.8 to 0.9 which is highly acceptable (Chorpita, 2002). In the present study, the existing Urdu version translated by (Mehmood, & Sultan, 2014) was used and reliability found in this study is 0.94, which is highly acceptable.
2. **Intervention Protocol [Support for Student Exposed to Trauma Program (SSET)]:** Support for Students Exposed to Trauma Program comprises 10 lessons mentioned in below figure 1. SSET implemented once in a week comprising 45 mint to 1hr session and delivered in groups consisting of 6-10 student (Jaycox, Langley, & Dean, 2009). After the end of group homework assignments assigned to practice skills on their own throughout the week necessary for associating the skills learned during lessons. The program of each lesson involves an independent practice review, homework assignment, teaching and practicing new skills and. practice assignments (Jaycox, Langley, & Dean, 2005). In the current study the Urdu version of SSET worksheets and material were used translated by Amin et al., (2020).

	Weekly sessions 45mint-1hr		Weekly sessions 45mint-1hr
1.	“Introduction of SSET (Support for students exposed to trauma)”	6.	“Exposure to trauma memory: trauma narrative”
2.	“Common reaction to traumas and strategies for relaxation”	7.	“Exposure to trauma narrative, part two”
3.	“Cognitive restructuring: thoughts and feelings”	8.	“Problem solving”
4.	“Cognitive restructuring: helpful thinking”	9.	“Practice with social problem, hot seat exercise”
5.	“Facing your fears”	10.	“Planning for future and graduation”

### Procedure

Following approval from the university's institutional ethics review committee, researchers obtained formal permission from relevant authorities for data collection. Initially 8 high schools were approached within the municipal administration of Muzaffarabad, AJK for study purposes. Due to school engagements and the busy schedule of students only four schools permitted data collection. Afterward, parental and participant permission was also taken. Additionally, the participants were assured that their personal information remains confidential and utilized only for research purpose. The questionnaires were administered in classrooms with detailed explanations provided to ensure that participants understood the questions and their responses. Similarly, formal permission was taken via email before using SSET program in current study. The researcher also completed online training and received certification in this program. During the administration of SSET the respective teachers and clinical psychologist were also present to provide any emergent help in case of high distress. By completing all the procedure of intervention participants were thanked with gift hampers for their participation. Later the schools were also provided psychoeducation trainings to brief them about findings of this study and provided with resources to help their students when needed.

## Analysis

After the data collection, data was analyzed through descriptive and inferential statistics. To determine the characteristics of the sample, descriptive analysis was used and for scales reliability analysis was used respectively. In addition to this normality analysis including skewness, kurtosis also applied to ensure that data is normally distributed. For demographic differences between experimental and control group chi square test of contingencies ( $\chi^2$ ) was used. Independent sample t-test was used to determine the equivalency of the control and experimental groups before giving intervention and at time 2 to find differences. For the comparison between groups and within groups paired sample t-tests were used respectively.

## RESULTS

**Table 1: Frequency and percentages of sample characteristics of interventional and control group across demographics (N=131)**

Number	Variables		Interventional group(N=2,n=65) f(%)	Control group(N=2,n=66) f(%)
1.	<b>Gender</b>	Boys	42(64.6)	35(53.0)
		Girls	23(35.4)	31(47.0)
2.	<b>Age(years)</b>	Mean+SD	13.98+1.19	13.62+ 1.14
3.	<b>Family system</b>	Joint	17(26.2)	21(31.8)
		Nuclear	48(73.8)	45(68.2)
4.	<b>Birth order</b>	Eldest	15(23.1)	14(21.2)
		Middle	46(70.8)	51(77.3)
		Younger	4(6.2)	1(1.5)
5.	<b>Perceived Social Status</b>	Upper class	2(3.1)	2(3.0)
		Middleclass	61(93.8)	57(86.4)
		Lower class	2(3.1)	7(10.6)

Demographic analysis shows that 42(64.4%) boys and 23(35.4%) girls were in interventional group whereas 35(53.0%) boys and 31(47.0%) girls were in control group. In terms of family system 17(26.2%) were from joint family system and 48(73.8%) were from nuclear family system in interventional group, whereas 21(31.8%) were from joint family system and 45(68.2%) were from nuclear family system in control group.

In terms of birth order 15(23.1%) were eldest, 46(70.8%) were middle, and 4(6.2%) were younger in interventional group. Whereas in control group 14(21.2%) were eldest, 51(77.35) were middle and 1(1.5%) were younger. Furthermore, interventional group 2(3.1%) participants were from perceived upper class, 61(93.8%) were of perceived middle class and 2(3.1%) were of perceived lower class. Whereas in control group 2(3.0%) participants were from perceived upper class, 57(86.4%) were from perceived middle class and 7(10.6%) were from perceived lower class. In addition, chi square test of contingencies was carried out to find the baseline differences across gender, age, birth order, family system and social status. No differences shown in age  $\chi^2 (1) = 4.06$  with  $p > .05$ , gender  $\chi^2 (1) = 1.1$  with  $p > .05$ , birth order  $\chi^2 (1) = 2.08$  with  $p > .05$ , family system  $\chi^2 (1) = .510$  with  $p > .05$  and perceived social status  $\chi^2 (1) = 2.90$  with  $p > .05$ .

**Table 2: Pre-interventional differences between intervention and control group at baseline time1 (N=131)**

Variables	Intervention group (n=65)		Control group (n=66)		t(df)	p	95% confidence Interval		Cohen's d
	M	SD	M	SD			LL	UL	
Post-traumatic Stress Symptoms	27.43	9.56	28.22	8.60	-.50(129)	.61	-3.94	2.34	0.08
Psychological Distress	62.90	20.31	69.33	19.61	1.84(129)	.06	-13.32	.47	0.32

Note. *M*=mean, *SD*=standard deviation, *df*=degree of freedom, *p*=level of significance, *LL*=lower limit, *UL*=upper limit, *CI*=confidence interval, *Cohen's d*=effect size

Firstly, the independent sample t-test was used to determine the equivalency of the interventional and control groups before treatment (Table 2). There were no significant differences on post-traumatic stress symptoms between interventional ( $M=27.43, SD=9.56$ ) and control group ( $M=28.22, SD=8.60$ ) at time1 prior to treatment. Similarly, on psychological distress no significant differences between interventional ( $M=62.90, SD=20.31$ ) and control group ( $M=69.33, SD=19.61$ ) at time1 that confirms that participants in both groups were equal on their mean scores of post-traumatic stress symptoms and psychological distress at baseline. Hence, any variation in post-traumatic stress symptoms and psychological distress would most likely due to SSET.

**Table 3: Paired sample t-test for time1 (pretest) and time2 (posttest) data of intervention and control group (n=131)**

Variables	N=131	Pretest assessment (time1)		Posttest assessment (time2)		t	p	Cohen's d
		M	SD	M	SD			
Post-traumatic Stress Symptoms	Int (65)	27.43	9.56	17.60	8.33	6.40***	.000	0.80
	Cont (66)	28.22	8.60	26.22	10.68	1.20	.23	0.14
Psychological Distress	Int(65)	62.90	20.31	43.63	22.74	5.22***	.000	0.60
	Cont (66)	69.33	19.61	69.30	26.42	.008	.99	0.001

Note: *M*=mean, *p*=level of significance, *SD*= standard deviation

A paired sample t-test was used to find out the efficacy of SSET on post-traumatic stress symptoms and psychological distress among adolescents (table 3). There was a statistically significant decrease in the scores of post-traumatic stress symptoms from time1 ( $M1=27.43, SD=9.56$ ) to time 2 ( $M2=17.60, SD=8.33, p<0.001$ ) and scores of psychological distress at time 1 ( $M1=62.90, SD=20.31$ ) to time 2 ( $M2=43.63, SD=22.74, p<0.001$ ) for interventional group. The effect size (cohens'd) is 0.8 for post-traumatic stress symptoms indicated high effect size which suggested that intervention is highly effective in reducing post-traumatic stress symptoms. Similarly, for psychological distress

effect size was 0.6 indicated medium size effect. The overall effect size suggested the suitability of intervention. For control group no significant differences found from time1 (pretest) to time2 (posttest) on post-traumatic stress symptoms ( $M1=28.22, SD= 8.60; M2=26.22, SD=10.68, p>0.05$ ) and psychological distress ( $M1=69.33, SD=19.61; M2=69.30, SD=26.42, p>0.05$ ).

**Table 4: Post intervention differences between intervention and control group at time2 (N=131)**

Variables	Intervention group (n=65)		Control group (n=66)		<i>t(df)</i>	<i>p</i>	95% confidence Interval		<i>Cohens'd</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			<i>LL</i>	<i>UL</i>	
<b>Post-traumatic Stress Symptoms</b>	17.60	8.33	26.22	10.68	-5.1(122.5)	.000	-11.93	-5.31	0.90
<b>Psychological Distress</b>	43.63	22.74	69.30	26.42	-5.9(126.7)	.000	-34.19	-17.15	1.00

Note. *M*=mean, *SD*=standard deviation, *df*=degree of freedom, *p*=level of significance, *LL*=lower limit, *UL*=upper limit, *CI*=confidence interval, *Cohens'd*=effect size

In addition, independent sample t-test used to find out the differences between interventional and control group at time2 (post-test). Table 4 shows the mean differences between interventional and control group at post assessment (time2). Results showed significant differences between groups at time 2 on posttraumatic stress symptoms [ $t=-.51, p<.001$ , intervention group ( $M+SD= 17.60+8.33$ ); control group ( $M+SD= 26.22+10.68$ )] and psychological distress [ $t=-5.9, p<.001$ , intervention group ( $M+SD=43.63+22.74$ ); control group ( $M+SD= 69.30+26.42$ )].

## DISCUSSION

After traumatic exposure children are more likely to develop PTSD ranging from 25% to 50% than adults (Huemer, Erhart, & Steiner, 2010). Previous studies confirm the presence of PTSD in school-aged children and adolescents (Yule, 1992; Austitine & Barkat, 2021). This study aims to assess the impact of a trauma-focused school-based intervention on adolescents in reducing traumatic stress symptoms and psychological distress, contributing to the growing body of evidence for accessible scalable trauma solutions in schools. It was hypothesized that SSET would reduce the post-traumatic stress symptoms and psychological distress between and within groups (interventional and control). The results revealed that SSET effectively reduces the post-traumatic stress symptoms and psychological distress among adolescents with traumatic exposure.

The results were supported by previous studies (Jaycox, Langley, Stein et al., 2009; Amin et al., 2020; Jaycox, Langley, & Hoover, 2021). These previous studies indicated that trauma focused school based interventions found to be effective in treating post-traumatic stress disorder and its comorbidities among children & adolescents. As the mental health of children and adolescents has elevated to a global priority, there is growing interest in how to reduce the additional risks of comorbidities and their subsequent life-long effects of early onsets (Appleton, Connell, Fairclough, Tuomainen & Singh, 2019). Adolescents are growing individuals so they are specifically vulnerable to psychological shock (Fortin, Marcotte, Diallo, Potvin, & Royer, 2013).

In terms of social and psychological readiness, they are less developed than adults to deal with trauma. These factors make them more susceptible to developing PTSD than adults. Children, adolescents and adults all frequently experience mental health problems and challenges but owing to social stigma



they are rarely adequately treated (Khaliliy, 2011). This intervention, which employs standard cognitive-behavioral techniques is intended with the goal of increasing children's awareness of their thoughts, feelings, and behaviors following traumatic exposure. When it comes to meeting the needs of traumatized students who may also be displaying other emotional or behavioral issues connected to or unrelated from their exposure to trauma, school-based mental health programs can serve as early intervention and preventative care (Mendelson, Tandon, O'Brennan, Leaf, & Ialongo, 2015). Offering school-based interventions to students exhibiting symptoms of trauma has the potential to address unmet mental health needs, foster resilience, and assist students in enhancing their growth and wellbeing.

## CONCLUSION

In conclusion, the findings of this study are promising for Pakistani society where the general public has limited access to mental health services. This research provides empirical data from a developing nation and contributed in terms of mental health services in school setting in developing nation like AJK, Pakistan. Considering groundbreaking studies on Pakistani adolescents' mental health, this one has long-term implications for the country's young population's mental health.

## Limitation and implications

The study on SSET's effectiveness in AJK, Pakistan, shows promise but has limitations. Data collection involved only children, omitting insights from teachers and parents, which future studies should include for a fuller picture. The control group received no alternate treatment, which could influence effect size; comparing SSET with other interventions is recommended for more robust results. Adding individual and booster sessions may also enhance efficacy. Nonetheless, the study highlights the potential of cognitive behavioral interventions in schools, suggesting non-clinicians could support children's mental health effectively. SSET shows value in reducing trauma symptoms from various adverse experiences, with potential for broader application in Pakistani and South Asian school settings.

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**Ethical approval:** This study was approved by the university ethical committee.

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