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RESEARCH PAPER

Adverse Childhood Experiences and PTSD Symptoms among Young Adults: Role of Social Connectedness

[1]Adeena Ahmed and [2]Ayesha Malik

1. MS Clinical Psychology, Department of Psychology, Riphah International University, Islamabad, Pakistan
2. Lecturer, Department of Psychology, Riphah International University, Islamabad, Pakistan,

Corresponding Author: adeenaahmed99@gmail.com

ABSTRACT

The goal of the current study was to determine how young people' social connectedness (SC), Post Traumatic Stress Disorder (PTSD) symptoms, and Adverse childhood experiences (ACE) relate to one another. For the study, (N = 300) participants were chosen. They ranged in age from 19 to 40. Purposive sampling was employed to get data for the cross-sectional design. The Social connectedness Scale (SCS), which gauges social connection, the PTSD Checklist for DSM-5 (PCL-5) for PTSD symptoms, and the Adverse Childhood Experiences Questionnaire (ACE-Q) for adverse childhood experiences were all utilized. For analysis, the independent sample t-test, Pearson correlation, and moderation analysis were performed. The findings indicated a substantial negative relationship between ACE and SC and a significant positive correlation between Adverse Childhood Experiences and Post Traumatic Stress Disorder Symptoms. Additionally, there was a strong negative relationship between Social Connectedness and Post Traumatic Stress Disorder Symptoms. The results demonstrated that there was a substantial gender difference in Post-Traumatic Stress Disorder Symptoms between the male and female populations, with females scoring higher than males. Furthermore, the findings showed that social connectedness had no significant moderating effect on the relationship between Adverse Childhood Experiences and Post Traumatic Stress Disorder Symptoms. As the present study is purely quantitative in nature, It is suggested for the future researchers to focus on mixed method approach in future studies, in order to understand the relationship between study variables comprehensively.

KEYWORDS Adverse Childhood Experiences, Post Traumatic Stress Disorder (PTSD) Symptoms, Social Connectedness

Introduction

Over two-thirds of people worldwide are impacted by adverse childhood experiences (ACEs), which have a long-lasting impact on mental health. Post-traumatic stress disorder (PTSD), which impacts mental health and adult functioning, has been connected to these early traumas (Danielsdotter et al., 2024). Social functioning has been identified as a significant element in the relationship between ACEs and poor mental health outcomes (Tzouvara et al., 2023). The purpose of the study was to ascertain how exposure to adverse childhood experiences (ACEs) affected young adults PTSD. The function of social connectivity in this relationship is also examined in the study. Adverse childhood experiences (ACEs) refer to traumatic events experienced by children and adolescents under the age of eighteen. ACEs as a wide range of traumatic events, including drug addiction, family imprisonment, mental health concerns, exposure to marital violence, physical, sexual, and emotional abuse, and physical and emotional neglect. Individual, family, and societal variables that may increase a child's chance of suffering ACEs include growing up in places with high levels of social and environmental dysfunction, having parents who have experienced ACEs, and living in insecure housing. According to epidemiological studies, ACEs impact millions of youngsters worldwide every year. Race and socioeconomic level are known to have an impact on the prevalence of ACEs, which also varies over time. ACEs effects, however, probably cut beyond national and cultural

boundaries. As a result, the ACEs study has been carried out in many places, including Asia, and has expanded globally (Wakuta et al., 2023). For example, Qu et al. found that 51.2% of Chinese elementary and junior high school pupils had experienced at least one negative event (Qu et al., 2022).

The prevalence of ACEs was 39.9% for no ACE, 22.4% for one ACE, 13.0% for two ACEs, 8.7% for three ACEs, and 16.1% for four or more ACEs, according to a meta-analysis of 206 research including 546,458 adult participants in 22 countries. One in six persons say they were exposed to four or more ACEs before the age of 18, and six out of ten say they have had at least one ACE. Consequently, ACEs vary in prevalence even though they are common in the overall population. They are a significant worldwide societal concern since they are among the primary underlying threats to individual well-being. To reduce the frequency and lessen the severity of the effects, both preventative actions and downstream initiatives are required (Madigan et al., 2023). Another study found that 78% of the study group reported having at least one ACE, compared to 40% who reported having at least two. The cumulative effect of the ACEs was significant ($p < .001$) for all four outcomes, according to Brockie et al. (2015). The probability of depressive symptoms (57%), PTSD symptoms (55%), poly-drug use (51%), and suicide attempt (37%), increased with each new ACE. ACEs, or adverse childhood experiences, involve being around potentially upsetting situations at home, such as intimate partner violence, mental illness, or substance abuse, as well as being exposed to violence during childhood (physical, emotional, sexual, or psychological). These experiences can have severe and long-lasting negative effects on ones physical and mental health.

Children between the ages of 0 and 17 may experience traumatic events known as Adverse Childhood Experiences (ACEs), which include being the victims of domestic violence, abuse, or neglect. Poor health outcomes, particularly chronic health issues in adulthood, are linked to ACEs (Tabb et al., 2022). Furthermore, many studies have found the correlation of adverse childhood experiences with physical, mental and behavioral conditions such as substance and alcohol abuse, symptoms of anxiety and/or depression, poor sleep, psychological discomfort, and low self-rated health (Westermair et al., 2018). Child abuse and neglect, often known as child maltreatment (MT), is a concerning heath problem for the general public as it impacts a persons life in a serious manner for a long period of time. Today, abuse of children and other forms of trauma are categorized as adverse childhood experiences (ACEs) (Felitti et al., 2019). There may be immediate, intermediate, or long-term effects of MT. Traumatic injuries (such as bruising, abrasions, hematomas, fractures, and traumatic brain injury) and psychosomatic problems linked to stressful events (such as food or sleep disorders, anxiety disorders) are the most common and direct impacts. Physical and mental health issues, as well as health risk behaviors, may develop in the medium and long term (in adolescence and adulthood) (King, 2021). The World Health Organization (2020) defines adverse childhood experiences (ACEs) as severe and frequent stressful events that happen throughout childhood and can negatively impact a persons physical and mental health for the rest of their life. The first research to highlight their health consequences was Felitti and colleagues (2019), who deemed them a risk factor (Boullier and Blair, 2018).

However, it's crucial to remember that these results vary from person to person. The victim's age, resilience, personality traits, developmental stage at the time of the bad experience, the type, frequency, duration, and severity of the maltreatment, and the proximity or relationship between the victim and the abuser all have an impact on individuals (Leitch, 2017). Their occurrence is also influenced by the quality of professional care received and the early identification of negative childhood experiences. Therefore, while not all adults who have experienced ACEs more especially, maltreatment will have worse health outcomes, a significant percentage are anticipated to be at higher risk for them (Monnat and Chandler, 2015). Therefore, it is now known that childhood trauma can result in a variety of diseases and pathologies that show up as adults, many of which may have

gone undiagnosed in children health settings (Kalmakis and Chandler, 2015). ACEs include physical and emotional neglect, sexual, physical, and emotional abuse, dysfunctional family environments (domestic violence, substance abuse by a household member, parental separation or divorce, incarceration of a family member, mental illness or suicide of a family member), and dysfunctional family environments (Silveira and Pereira, 2023). Adverse childhood experiences (ACEs) are a common societal issue that affects people's health all over the world. The term ACEs typically refers to two general categories of unpleasant events that take place during a person's first eighteen years of life: domestic challenges and child abuse or neglect. Child abuse and neglect include physical, sexual, and emotional abuse as well as emotional and physical neglect of children. Five such negative events in a household are referred to as household challenges: substance misuse, mental illness, imprisoned household members, separation or divorce of parents, and household dysfunction including violence at home and violence against mother (Chen et al., 2021).

Symptoms of reexperience and avoidance, along with unfavorable alternations in cognition and arousal, are characteristics of PTSD, a possibly chronic disabling disorder. A common and usually incapacitating mental illness, posttraumatic stress disorder causes severe functional disruption in a number of areas. It's complicated etiology and expression have made it challenging to identify and diagnose the illness (Miao et al., 2018). The DSM-5-TR states that posttraumatic stress disorder (PTSD) is caused by exposure to a traumatic event that involves sexual assault, serious injury, or real or threatening death. Direct exposure, observation, hearing about it impacting a close friend or family member, or frequent professional exposure to upsetting details can all result in this exposure. Intrusive experiences like flashbacks, nightmares, or upsetting memories; avoiding reminders of the trauma; unfavorable shifts in attitude or beliefs, such guilt, anger, or a sense of detachment; and elevated arousal, such as irritability, hypervigilance, or trouble sleeping, are all signs of PTSD. The symptoms an individual experiences must be severe enough to interfere with day-to-day functioning, last more than a month, and not be brought on by substance abuse or illnesses. There are other types of PTSD, such as delayed onset, which manifests symptoms months or years later, and dissociative symptoms, which are frequently associated with severe trauma or abuse throughout childhood (Mann et al., 2024). After experiencing stressful events, people may develop posttraumatic stress disorder (PTSD), a chronic impairing disorder. This illness can cause serious medical, financial, and social issues by interfering with family and individual functioning. The most often used diagnostic criteria for PTSD are the most current editions of the DSM-5 and ICD-11 (Miao et al., 2018).

Post-traumatic stress disorder is characterized by exposure to a stressful incident or circumstance, followed by intense, continuous memory of the stressor, and avoidance of circumstances associated with the stressor. A PTSD diagnosis is made based on significant changes in arousal and reactivity linked to the traumatic experiences, which might be partially reflected in irritable conduct, usually shown as physical or verbal hostility toward others or things (Paulino et al., 2023). According to Qassem et al. (2021), Psychiatric illness and PTSD are significantly correlated. Major depression is thought to be present in 48% of PTSD patients, and it commonly coexists with increased levels of aggressiveness and impulsivity, suicidal thoughts, signs of generalized anxiety disorder, and alcoholism. The feeling of being a part of a social network or relationship is known as social connectedness. The way members of a macrosystem interact with social networks, including their neighborhood, school, or other group organizations, is referred to as connectivity. A person's health and capacity to handle hardship and difficulties are significantly impacted by the support they receive from their friends, family, community, or place of education (Zhao et al., 2022). Despite the lack of a universally accepted definition, social connection is typically understood to refer to a group of related ideas, such as social networks, social support, and the absence of perceived social isolation (Lamblin et al., 2017). The range of social ties someone has, how frequently they communicate with their social network, or how often they engage in social activities have historically been used to gauge social connectivity. The perceived feeling of meaningful social connection with others is one way to define social

connectivity, and this kind of social interaction has been consistently associated with positive psychological outcomes (Taylor-Jackson et al., 2021).

Literature Review

Adverse childhood experiences (ACEs) increase a person's risk of experiencing stress and trauma later in life (Frewen et al., n.d.). Additionally, ACEs have been linked to PTSD and a number of clinical disease processes, such as diabetes, depression, and other metabolic indicators (Huffmaster et al., 2022). Adverse childhood experiences, or ACEs, include parental separation, abuse, neglect, and other stressful or traumatic childhood events that occur before the age of 18 (Gilgoff et al., 2020). ACEs are a problem that is becoming more well recognized. They can have a lasting impact on a persons physical and mental health, including PTSD following adult trauma (Xie et al., 2022). At least one ACE category was encountered by the majority of women (58%) most frequently by neglect (20.1%) and domestic violence (38.3%) came next (Le et al., 2021). 56% of study participants (Pakistani adults) reported having at least one negative childhood experience, according to another study. The most often reported adverse occurrences included low family support and affection, as well as verbal, physical, and sexual abuse.

Findings of an Indian study showed that, these PTSD-assessed individuals have a number of negative childhood experiences, including repeated exposure to emotional, physical, or sexual abuse, emotional neglect, violence at home or marital violence (violence from partner), psychological history of the family, peer rejection, and verbal or physical arguments between parents. A Pearson correlation analysis revealed a link between a numbers of often occurring ACE elements. This demonstrates how developmental trauma contributes to the occurance of mental health issues and stress related mental impairments for example PTSD (Trivedi et al., 2023). Studies have indicated that interventions aimed at enhancing connectedness and decreasing social isolation result in significant improvements in health and well-being (Bender et al., 2015). Social connectivity may lessen the detrimental effects of stressful life events on mental health, according to earlier research. Two meta-analytic studies have shown the importance of social connectedness in relation to PTSD. The biggest correlation between PTSD and social support (Charuvastra and Cloitre, 2008).

According to a study by Martin et al. (2023), both men and women are susceptible to ACE. Men mean ACE scores were 1.98 (SD=1.88), while women were 2.59 (SD=2.45). According to a different study, women (19.2%) and those between the ages of 25 and 34 (25.2%) had the highest prevalence of four or more ACEs (Swedo, 2023). Women are estimated to have a 1.5 to 5 times higher chance of developing PTSD than males, with an average risk that is around double that of men (Soegaard et al., 2021). PTSD is two to three times more common in women than in men, according to community studies. 3.6% of American men and 9.7% of American women report having lived with PTSD at some point in their lives, according to the National Comorbidity Survey Replication. Posttraumatic stress disorder (PTSD) is two to three times more common in women than in males. 5 to 6% of males and 10-12% of women will experience PTSD at some point in their lives (Olff, 2012).

Theoretical Framework

Trauma and Recovery Theory

Judith Herman's, (1992) trauma and recovery theory served as the foundation for this study's theoretical approach. According to this idea, long-term trauma, such imprisonment or childhood abuse, is the source of PTSD and complex PTSD (C-PTSD), which is characterized by intrusive symptoms, a shattered identity, and persistent hypervigilance. Social ties are crucial for healing from early trauma, according to trauma theory. Empowerment and the development of new, supportive relationships are essential for

trauma healing, and the therapeutic alliance is a key component of this process. A special kind of assistance is offered by survivor groups and group solidarity, which eliminate stigma and feelings of loneliness while promoting empowerment and support among members (Herman, 2015).

Symptoms of Post-Traumatic Stress Disorder (PTSD) and Trauma

The idea of this theory states that the three main symptom categories linked to post-traumatic stress disorder (PTSD) are hyper arousal, intrusion, and constriction. A continuous state of awareness and physiological arousal, known as hyper arousal, makes the traumatized individual prone to being startled and agitated. The usual course of life is disrupted by intrusion, which is the repeating of the traumatic experience through nightmares and flashbacks. When someone closes down emotionally and mentally, they experience constriction, also known as numbing, and frequently feel cut off from reality (Huang et al., 2021). According to Herman, traumatic memories differ from regular memories in that they are frequently disjointed and devoid of a clear narrative. They feel as though the terrible experience is happening again and again since these memories are embedded in vivid sensations and visuals. The traumatized individual may feel strong emotions without distinct memories or comprehensive recollections without emotional context as a result of this fragmentation, which can cause a separation between emotion and memory (Herman, 2015).

Recovery from trauma through the formation of social connections

Herman highlights that empowerment and the development of new, supportive relationships are the only ways to repair the fundamental experiences of trauma disempowerment and alienation. Reconnection is a crucial phase in recovery. During this phase, survivors rebuild their lives by discovering a sustaining faith, creating a new identity, and establishing new connections. Reconnection also entails forging new bonds with others and creating a new identity. Survivors acquire the skills necessary to uphold boundaries, have reciprocal friendships, and form close connections (Walker, 2015). According to trauma theory, symptoms of post-traumatic stress disorder may be exacerbated by adverse childhood events. Disengagement and disempowerment are essential experiences of trauma. A person who feels disempowered experiences sentiments of panic and powerlessness and becomes Hypervigilent and hyper-aroused. People who have emotions of separation lose their sense of security and trust, which can cause issues in their interactions with others. Only by establishing new supportive relationships where a person feels included, heard, and understood can these fundamental issues be resolved (Herman, 2015).

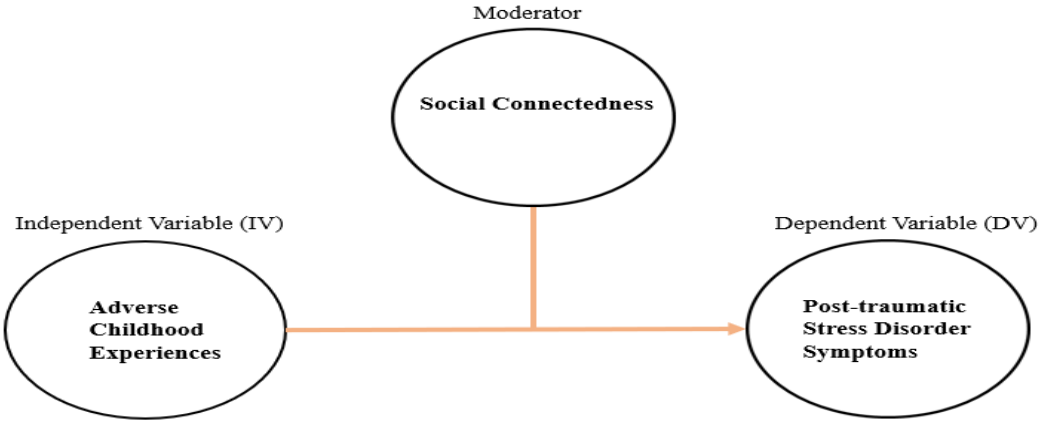

Figure 1 Conceptual Framework

Hypotheses

H_1 Adverse childhood experiences will be positively linked with PTSD symptoms among young adults.

H_2 Adverse childhood experiences will be negatively linked with social connectedness among young adults.

H_3 PTSD symptoms will be negatively linked with social connectedness among young adults.

H_4 Females will score high on adverse childhood experiences and PTSD symptoms as compared to males.

H_5 Males will score high on social connectedness as compared to females.

H_6 Social connectedness will act as a moderator between adverse childhood experiences and PTSD symptoms among young adults.

Material and Methods

Research Design

The study employed a cross-sectional research design.

Sample

The sample consisted of a total of (N=300) participants out of which (N=150) females and (N=150) males were selected from Rawalpindi and Islamabad. According to Erik Erikson's age range for young adults, age range of the sample was between the age of 19 to 40 years. The technique of convenient sampling was used to gather data.

Inclusion Criteria: Only young adults (with age 19-40 years) were selected.

Exclusion Criteria: Participants with any physical or mental health issues were not selected.

Instruments

Demographic Sheet

Gender, age, education, socioeconomic status, and work status were all listed on the demographic sheet.

Adverse Childhood Experiences Questionnaire (ACE-Q)

An assessment of a persons adverse childhood experiences (ACEs) is called the ACE-Q. Felitti created and released it for the first time in 1998. A household dysfunction (5 items; parent divorce/separation, witnessing intimate partner violence towards their mother or stepmother, having a household member engage in substance abuse, having a household member with a mental illness or who attempted suicide, having a household member be incarcerated) and abuse (3 items; emotional, physical, and sexual) comprise the 10 items that make up ACEs. After reading a one- to two-sentence question, respondents selected Yes or No based on whether or not the incident occurred before the age of 18. It takes about three to five minutes to finish the ACE-Q. It was stated that the ACE-Q's alpha reliability was .88.

PTSD Checklist for DSM-5 (PCL-5)

A 20-item self-report questionnaire called the PTSD Checklist for DSM-5 evaluates the existence and intensity of PTSD symptoms. It was created in 2013 at the National Center for PTSD by Frank Weathers and associates. The PCL-5's items match the DSM-5's criteria for PTSD. Both in-person and online, respondents can read the PCL-5, a self-report measure, or they can read it to themselves. It takes about five to ten minutes to finish. Using a 5-point Likert scale from 0 to 4, respondents are asked to score how disturbed they have been by each of 20 things over the last month. A total severity score (range = 0-80) with a cut-off score between 31 and 33 is obtained by adding together the items. 0 = Not at all 1 = A small amount 2 = Moderately 3 = Quite a little 4 = Very much. According to reports, PCL-5's alpha reliability is .94 (Blevins et al., 2015).

Social Connectedness Scale-Revised (SCS-R)

The purpose of this 20-item scale is to gauge how attached people feel to others in their immediate social circle. Richard Lee and associates created it in 2000. The Likert scale ranges from 1 (strongly disagree) to 6 (strongly agree). A self-report questionnaire called the Social Connectedness Scale (SCS) gauges how connected people feel to one another in their social surroundings. The SCS evaluates several aspects of social connectedness, such as: belongingness; the sense of belonging to a group or community; closeness; the sense of intimacy and closeness to others; support; the sense of having people to turn to for understanding and assistance; satisfaction; and the degree of contentment with one's social relationships. reverse score items are reversed. A total score is then calculated by adding together all of the items. Greater social connectivity is indicated by a high score. The reliability of the scale was acceptable (alpha = .94) (Lok and Dunn, 2023).

Procedure

There were (N=300) participants in all, of them (N=150) were males and (N=150) were females who were chosen from Rawalpindi and Islamabad. The participants were given the Adverse Childhood Experiences-Questionnaire, the Social Connectedness Scale-Revised (Lee et al., n,d), and the PTSD Checklist for DSM-5 (Westermair et al., 2018). Two months were spent gathering the data. It took ten to twelve minutes for each participant to complete the questionnaire. The purpose and nature of the study were explained to the participants. Additionally, respondents were asked for their informed permission. Participants had the choice to discontinue participation at any time without incurring any costs if they do not feel comfortable, and confidentiality was upheld. Following completion of the form, the participants received a thank-you message for their cooperation and time.

Results and Discussion

The current study aimed to determine the relationship between adverse childhood experiences and post-traumatic stress disorder symptoms among young adults and the moderating role of social connectedness in this relationship. To determine the objectives and hypothesis of the present research quantitative analysis was carried out by using SPSS 25. The statistical analysis consists of descriptive statistics including Cronbach alpha, mean, standard deviation, range, skewness, and kurtosis, and inferential statistics including Pearson correlation, t-test and moderation analysis.

Table 1
Frequencies and Percentages of Demographic Variables of study (N=300)

Demographic Variables	f	(%)
Age Range		
19-29	253	(84.3)
30-40	47	(15.7)

Gender		
Male	151	(50.3)
Female	149	(49.7)
Education		
Intermediate	19	(6.3)
Bachelors	187	(62.3)
Masters	54	(18.0)
MS/MPhil	31	(10.3)
PhD	2	(0.7)
Others	7	(2.3)
Socio-economic Status		
Upper Class	25	(8.3)
Middle Class	268	(89.3)
Lower class	7	(2.3)
Employment Status		
Employed	139	(46.3)
Unemployed	161	(53.7)
Do you have ever faced any Adverse Childhood Experiences	300	(100.0)
Yes	0	(0.0)
No		
Do you have any physical or mental health conditions?	0	(0.0)
Yes	300	(100.0)
No		

Note: f = frequency, % = Percentage.

In Table 1, the demographics of the participants in the primary study are displayed. There were 151 males and 149 females among the 300 participants. Compared to women, more male respondents participated in the study as there were 50.3% male and 49.7% female participants, both genders older than 19 years of age. Similarly higher number of individuals with 19-29 age group (84.3%) participated in the study as compared to the individuals with age range 30-40 years (15.7%). There were 46.3% employed and 53.7% unemployed participants in the sample. Most of the individuals belonged from the middle class of society (89.3%) followed by upper class (8.3% participants) and lower class (2.3% participants). Level of education of most of the participants of the study was bachelors (62.3%), followed by masters (18%) and MS/MPhil (10.3%), Intermediate, PhD and others; 6.3, 0.7 and 2.3 percent respectively. All participants of the study have faced adverse childhood experiences and none of the participants of the study had any physical and mental health conditions.

Table 2
Descriptive Statistics and Cronbach alpha coefficients of Adverse Childhood Experiences, PTSD Symptoms and Social Connectedness

					Range			
Variables	**K**	**α**	**M**	**SD**	**Potential**	**Actual**	**Skew**	**Kurt**
Adverse Childhood Experiences	10	.70	2.28	2.079	0-10	0-9	.97	.45
PTSD Symptoms	20	.94	25.32	18.382	0-80	0-71	.47	-.78
Social Connectedness	20	.84	75.19	14.268	20-120	30-111	.22	-.11

Note. K = No of items, α = Alpha Reliability, M= Mean, SD= Standard Deviation, Skew = Skewness, Kurt = Kurtosis.

In Table 2, study's alpha coefficient, skewness, kurtosis, mean, and standard deviation are displayed for each scale. According to the reliability analysis, the scales have exceptional alpha values, which range from.70 for the Adverse Childhood Experiences Questionnaire (ACE-Q) to.94 and.84 for the PTSD Checklist for DSM-5 (PCL-5) and the Social Connectedness Scale (SCS). The number of items, sample normality, and reliability

coefficients were displayed in the table. The practical application of the research constructs is supported by these reliability estimates, which demonstrate the internal consistency of every instrument utilized in this investigation. Since the values fall within suitable ranges when taking into account the prospective and actual ranges of scores, there are neither particularly high nor low standard deviation ratings for the variables. The idea that mean values were accurate representations of the qualities being studied is supported by the moderate range of standard deviation scores.

Table 3
Bivariate Correlation between all Study Variables (N=300)

Variables	1	2	3
Adverse Childhood Experiences	-	-	-
PTSD Symptoms	.47**	-	-
Social Connectedness	-.19**	-.41**	-

Note. *p < .05. **p < .01.

Table 3 illustrated the correlational analysis between study variables. The results showed that adverse childhood experiences had a significant positive correlation (r= .47**) with PTSD symptoms and a significant negative correlation (r= -.19**) with social connectedness. Moreover, results revealed that PTSD symptoms had a significant negative relationship (r= -.41**) with social connectedness.

Table 4
Difference along Gender on Adverse Childhood Experiences, PTSD Symptoms and Social Connectedness among young adults (N=300)

	Male	Female					
	(n=151)	(n=149)	t(298)	P	95% CI		
Variables	M(SD)	M(SD)			LL	UL	Cohen's d
ACE	2.27(2.17)	2.28(1.99)	-.05	.95	-.48	.46	-
PTSD Symptoms	22.20(17.88)	28.48(18.39)	-2.99	.00	-10.40	-2.15	0.34
SCS	76.46(15.06)	73.91(13.33)	1.54	.12	-.69	5.77	-

Note. M = Mean, SD = Standard Deviation, CI = Confidence Interval; LL = Lower Limit, Ul = Upper Limit, ACE= Adverse Childhood Experiences, PTSD Symptoms= Post Traumatic Stress Disorder Symptoms, SCS= Social Connectedness Scale.

In Table 4, the mean difference between participant genders with respect to the study variables is displayed along with the results of the independent sample t-test. Results showed that there were notable gender variations in PTSD symptoms. Females responded higher in PTSD Symptoms (M=28.48, SD= 18.39) with a significant difference reported (p= .00) as compared to males (M=22.20, SD= 17.88). The table also indicates the non-significant differences of adverse childhood experiences (p= .95) and social connectedness (p= .12) across male and female sample.

Table 5
Moderating role of social connectedness in relationship between adverse childhood experiences and PTSD symptoms among young adults (N=300).

			95% CL	
Predictors	B	S.E	LL	UL
Constant	58.24**	7.71	43.05	73.43
Adverse Childhood Experiences	.80	2.70	6.12	4.51
Social Connectedness	-.54**	.10	-.74	-.35
Interaction ACE × SC	.06	.03	-.01	.13
R^2	.32			
F	47.88			

*p < .05. **p < .01.

Note: Cl= Confidence Interval; LL= Lower Limit; UL= Upper Limit, B= Unstandardized Regression.

In Table 5, a moderation test was conducted using social connectedness as a moderator, PTSD symptoms as a dependent variable, and adverse childhood events as an independent variable. The findings showed a non-significant main impact (b=-.80, p=.76) between PTSD symptoms and adverse childhood experiences. Social connectedness and PTSD symptoms also showed a significant main effect (b=-.54, p=<.001). Furthermore, there was a non-significant interaction impact of social connection on PTSD symptoms and unfavorable childhood experiences (b=.06, p-=.09), which disproved the idea that social connectedness moderates the relationship between PTSD symptoms and adverse childhood experiences.

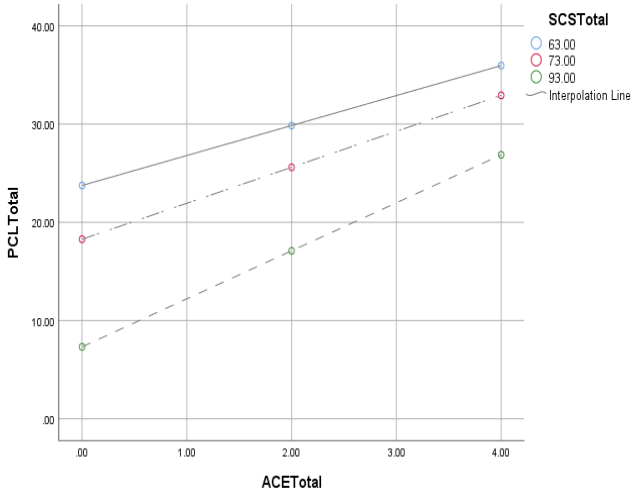

Figure 2 Moderation Analysis

In Figure 2, the graph indicating the moderating effect of social connectedness on the association between PTSD symptoms and adverse childhood experiences is displayed. Graph shows that Individuals with low social connectedness exhibited the highest PTSD symptoms at all levels of adverse childhood experiences (IV). The steepest slope is observed in this group. Moreover, graph indicated that high social connectedness is associated with lowest PTSD symptoms (DV) across all levels of adverse childhood experiences. An upward trend is observed in PTSD symptoms as adverse childhood experiences increases, but the increase is less pronounced as compared to low social connectedness.

Discussions

The current study was aimed at investigating the moderating effect of social connectedness (SC) and the relationship between symptoms of PTSD in young adults and adverse childhood experiences (ACE). PTSD is a prevalent mental illness that has been associated with substantial psychiatric morbidity. Knowledge and interest in PTSD risk factors and treatments have increased dramatically in recent years (Khan et al., 2024). The purpose of the study was to assess the connection between social connections, PTSD symptoms, and adverse childhood experiences. Determining the moderating function of social connection in the relationship between ACE and PTSD symptoms was another goal of the study. The sample included (N=300) young adults between the ages of 19 and 40, with (N=151) males and (N=149) females. The data were collected using a cross-sectional research design and standardized self-report measures. The sample was drawn from Rawalpindi and Islamabad, and the data was acquired using the convenient sampling technique. Only young adults were approached for the research, and those with any physical or mental health issues were excluded. This was accomplished by adding a screening question to the demographics.

Table 1 highlights the distribution of the data on demographic variables was calculated and reported. Demographic variables used in the study were age range, gender, education, socioeconomic status, employment status, and two screening question to access that if the participant has ever faced any ACE, and do they have any physical or mental health conditions. These questions were added in the demographics to abide by the inclusion and exclusion criteria of the study. In Table 2, the measures reliability as well as the descriptive statistics (mean, standard deviation, range, skewness, and kurtosis) were examined. PTSD Checklist for DSM-5 (PCL-5) for PTSD Symptoms (Blevins et al., 2015), Adverse Childhood Experiences Questionnaire (ACE-Q) for adverse childhood experiences (Felitti et al., 2019), and Social Connectedness Scale (SCS) for social connectedness (Lok and Dunn, 2023) were the tools utilized for this purpose.

To make sure that the study measures were adequate and stable, the psychological aspects of the instruments were created in the early phases of the research. Alpha reliability was used to assess scales internal consistency. Findings indicated that the reliabilities of all three measures ranged from (alpha = .70 to .94). The permitted range for the coefficient of alpha dependability is as follows .60 (Tabb et al., 2022). The alpha reliability of adverse childhood experiences questionnaire (ACE-Q) was alpha= .70, PTSD Checklist for DSM-5 (PCL-5) was alpha= .94, and social connectedness scale (SCS) was alpha= .84. The scales can be utilized in future research because they are reliable within an acceptable range of reliabilities. As predicted in hypothesis 1, adverse childhood experiences would be positively linked with PTSD Symptoms among young adults. Adverse childhood experiences and PTSD symptoms were shown to be significantly and positively correlated (r=.47) in Table 3 of the current study. Additionally, hypothesis 2 predicted that adverse childhood experiences would be negatively linked with social connectedness among young adults. Results in Table 3 of the study illustrated a significant negative correlation between adverse childhood experiences and PTSD Symptoms (r= -.19). Hypothesis 3 of the study predicted that, PTSD symptoms would be negatively linked with social connectedness among young adults. The results of the study also showed that PTSD symptoms had a significant negative relationship (r= -.41) with social connectedness.

According to a study, 78% of the participants had at least one ACE, with 40% reporting at least two. ACEs had a substantial cumulative influence ($p < .001$) on four outcomes: PTSD symptoms (55%), depressed symptoms (57%), polydrug usage (51%), and suicide attempt (37%) (Brockie et al., 2015). A widespread and complex psychiatric illness that arises in response to stressful experiences and has a significant impact on a person's mental health is posttraumatic stress disorder (PTSD). Many symptoms of PTSD can affect behavior, emotion, body experiences, and thought processes. These symptoms can lead to long-term impairments and a higher risk of related mental illnesses, such as an increased risk of suicide. This activity describes how to assess and treat PTSD and highlights how the multidisciplinary team may improve treatment for those who are affected (Mann et al., 2024). According to the hypotheses 4 of the study, Females would score high on adverse childhood experiences and PTSD Symptoms as compared to males. Study results in Table 5 indicated that there were significant gender differences (p= .00) across PTSD symptoms. Females responded higher in PTSD Symptoms (M=28.48, SD= 18.39) with a significant difference reported (p= .00) as compared to males (M=22.20, SD= 17.88).

Results also indicated non-significant differences (p= .95) across male and female sample on adverse childhood experiences. Hypothesis 5 of the study predicted that, males would score high on social connectedness as compared to females. Results in Table 4 of the study displayed that there were non-significant (p= .12) differences across male and female sample on social connectedness. Hypotheses 6 of the study predicted that, social connectedness would act as a moderator between adverse childhood experiences and PTSD Symptoms among young adults. Results in table 5 of the study indicated a non-significant interaction effect by social connectedness on adverse childhood experiences and PTSD symptoms, b=.06, p=.09. Moreover, the results showed that while there was a non-

significant main effect between adverse childhood experiences and PTSD Symptoms, b= -.80, p=.76, significant main effect was apparent between social connectedness and PTSD Symptoms b= -.54, p=<.001. As indicated by the results, social connectedness was unable to moderate the relationship between adverse childhood experiences and PTSD Symptoms.

The majority of women (58%) had at least one ACE, with neglect coming in second (20.1%) and domestic violence (38.3%) being the most common. Another study found that 56% of the participants (adults from Pakistan) had had at least one adverse childhood experience. The most commonly reported adverse experiences were verbal, physical, and sexual, as well as a lack of support and affection from loved ones. Prior research has shown that positive and negative childhood experiences are associated with lower and higher likelihood of social isolation, respectively. However, research has yet to study holistic profiles of both ACEs and PCEs in the general population, as well as their capacity to predict social connectedness (Willis et al., 2024).

Conclusion

The study's objective was to ascertain the connection between young adult's social connectedness, PTSD symptoms, and adverse childhood experiences. The result of the study indicates that Hypothesis 1 is true because the study found a strong positive correlation between PTSD symptoms and adverse childhood experiences. The findings also demonstrated a strong negative relationship between social connectedness and adverse childhood experiences, supporting Hypothesis 2. The study's findings demonstrated that social connectedness and PTSD symptoms had a substantial negative relationship, supporting Hypothesis 3. The current study determined how males and females differed in terms of social connectedness, PTSD symptoms, and adverse childhood experiences. The findings showed that there were substantial gender disparities in PTSD symptoms, with women rating higher than men. The findings also showed that social connectedness and negative childhood experiences were not significantly impacted by gender. The study's findings also demonstrated that the association between PTSD symptoms and adverse childhood experiences was not moderated by social connectedness.

Practical Implications

The present study can provide useful information about the relationship between adverse childhood experiences, PTSD Symptoms and social connectedness. The study will help to understand the negative link of adverse childhood experiences on mental health of young adults. Through understanding the association between the adverse and traumatic events faced by individuals until age 18 and the possible relationship with the mental health of these individuals; more understanding can be developed and work can be done on how to make early years of a child as secure as possible. The findings of the current study are also useful to understand the link between PTSD Symptoms and social connectedness of individuals. As the results showed that high social connectedness is associated with low PTSD Symptoms, this finding can be used further to explain and understand the behaviors of the individuals who experience PTSD Symptoms and copying strategies can be developed. Results will also help to devise better techniques and use better ways in dealing with the female population of the society as the results displayed that female were showing more symptoms of PTSD as compared to males.

Recommendations

The study contains various limitations that should be noted when assessing research conclusions. These constraints include:

- The major limitation of the study was that the participants were taken only from the particular areas of Pakistan; Rawalpindi and Islamabad; hence the results of the study may not be generalized to a larger population.
- The present study is purely quantitative in nature which limits the in-depth knowledge about the relationship between adverse childhood experiences, PTSD symptoms and social connectedness. It is suggested for the future researchers to focus on mixed method approach in order to understand the relationship between these variables comprehensively.
- The present study has taken only young adults as a sample therefore the results cannot be applied to other age groups like adolescents and children. It is suggested to the future researchers to consider other age groups in the research as well.
- The present study only saw the difference on one demographic variable (gender), future researchers should focus on other demographic variables as well, in order to get in depth knowledge about the topic.
- Future researchers can analyze the outcome variable amongst PTSD symptoms social connectedness as the current study has only checked the correlation between two variables.

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