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Impact of Childhood Trauma on Social Intelligence among undergraduate students

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Research Article

Keywords:

Posted Date: May 18th, 2026

DOI: https://doi.org/10.21203/rs.3.rs-9311218/v1

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Additional Declarations: No competing interests reported.

Abstract

This study investigates the impact of childhood trauma on social intelligence in undergraduate students. Childhood trauma, which includes emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect, has been found as an enormous impact on an individual's psychological and social development. The current study included 620 undergraduate students (310 males and 310 females) aged 20–22 years from six institutions in the Malwa district of Punjab. Data were collected using standardised instruments, specifically the Childhood Trauma Questionnaire (CTQ) (Bernstein and Fink 1998) and Social Intelligence Scale (Chadha and Ganesan 2009). Regression analysis was applied to investigate the relationship between childhood trauma and several dimensions of social intelligence, such as patience, cooperation, confidence, sensitivity, social environment recognition, tactfulness, sense of humour, and memory. The findings showed that childhood trauma had a considerable impact on various aspects of social intelligence, with notable gender variations. Female respondents reported a higher negative impact of trauma on aspects such as patience, sensitivity, tactfulness, and overall social intelligence, whereas male respondents showed fewer significant effects. Certain types of trauma, including physical abuse, emotional neglect, and physical neglect, have been shown to significantly predict lower social intelligence levels in females. Overall, the study emphasises the long-term effects of negative childhood experiences on interpersonal functioning and the necessity of early intervention and support structures in promoting healthy social development.

Introduction

Traumatic and distressing occurrences that occur to children when they are young, typically before the age of 18, have an impact on their health and well-being both during the exposure period and later in life. These incidents are known as adverse childhood experiences (ACEs) and are a public health concern (Wiehn et al 2018). A child may suffer trauma as a result of an event, a series of events, or a set of circumstances that they consider to be frightening or harmful to their physical or mental health. These experiences can have long-term detrimental consequences for the child's functioning and physical, social, emotional, or spiritual well-being (SAMHSA, Trauma and Justice Strategic Initiative 2013). Trauma is a perceived incident that causes feelings of terror, horror, and powerlessness, as well as endangers one's life and bodily integrity. These experiences can result from repeated (chronic) exposure or a single occurrence (The American Psychiatric Association, 2000). As a result, traumatic events can cause serious psychological problems in youngsters.

Childhood trauma is described as any physical, mental, or sexual abuse, neglect, or exploitation that endangers a child's health, life, development, or dignity (World Health Organization 1999). Childhood trauma is associated with a variety of long-term biological, behavioural, and emotional consequences (Felitti 1998). Childhood trauma can be caused by physical, emotional, or sexual abuse, as well as physical and emotional neglect (Bernstein and Fink 1998). Physical abuse happens when a child is hurt by behaviours like striking, slapping, or beating (Kimberly et al 2016). It can cause anxiety, risk-taking behaviour, and suicidal ideation (Manly et al 2001). Physical neglect occurs when parents or carers fail

to provide a child with basic requirements such as food, shelter, and medical treatment, impairing their growth and well-being and leading to behavioural difficulties and low self-esteem (Finzi et al 2002).

Trauma can also result from emotional abuse, such as criticism, rejection, or withholding affection, which is harmful to a child's emotional health. Children enduring emotional neglect exhibit identical symptoms, and it is regarded as one of the "most predictively potent maltreatment types" (Spinazzola et al 2015). Emotional neglect, defined as parental unresponsiveness and restricted engagement, is associated with emotions of guilt, humiliation, and worthlessness (Glaser 2002). Child sexual abuse (CSA) is when an adult or older adolescent exploits a child for sexual objectives, such as indecent exposure or sexual actions with a child (Williams 2019). It can have both acute and long-term repercussions, including psychopathology in adulthood (Nelson et al 2002).

Human survival and fulfilment depend significantly on our capacity to interact socially. Social interactions are essential to our daily lives because they enable us to function in public, school, and corporate settings, establish and sustain connections, and relate appropriately to those around us. Children who have had traumatic experiences in their early lives are more likely to develop social behaviour problems, such as decreased social responsiveness, abnormal social interactions, reduced social competence, social communication deficits (verbal and nonverbal, usage and comprehension), and impaired adaptive behaviours (Ryan et al 2016), all of which have an impact on a child's social intelligence.

Social intelligence is defined as the ability to understand, relate to, and engage with others in a flexible manner. It is the ability to cope with people's emotions, ideas, and behaviours in social or interpersonal contexts and respond appropriately to the context of such understanding (Thorndike 1920). A person's success is more dependent on social intelligence than cognitive intelligence, which means he will succeed if he interacts with others positively (Kriemeen and Hajaia 2017). As a result, social intelligence is important since it allows people to perform tactfully and confidently. The endeavour to duplicate spending quality time with family members aims to improve social intelligence by instilling a sense of security and confidence (Huda and Salem 2022). Instilling social intelligence in familial contexts improves performance in society.

Childhood trauma has a significant impact on a child's social abilities and behaviour. For example, physical abuse may affect a child's ability to regulate their emotions. This makes youngsters less cooperative, reducing patience and tact (Dubowitz 2013). When interacting with others, this may elicit anger, agitation, or hostility. Emotional abuse, such as constant criticism or rejection, can harm a child's feelings while also impairing their confidence and sensitivity, all of which are necessary for good social relationships (Spinazzola et al 2014). Physical and emotional neglect, defined by a lack of care and emotional sensitivity, are linked to an inability to detect social signs and form cooperative connections. Furthermore, sexual abuse has been shown to impair memory and social judgement, leaving a person less able to feel amused, safe, or confident in social circumstances (Trickett et al 2011).

As a result, carers and parents must grasp how social intelligence develops in childhood and how it determines an individual's future personal, intellectual, and professional successes. It teaches children how to interpret emotions, manage relationships, and adjust to various social settings, all of which will be useful in later life (Goleman 2006). Individuals with strong social intelligence are more likely to form positive relationships, excel at collaborative work, and effectively deal with life's problems (Bar-On 2006). Early social intelligence predicts emotional well-being and resilience in adulthood (Zamani et al 2019). Thus, building social intelligence early on builds the groundwork for a successful, emotionally healthy, and socially competent adult existence. Furthermore, trauma can lead to the development of maladaptive coping strategies such as social withdrawal, aggressiveness, or hypervigilance in social situations, further isolating a child from peers and valuable social learning experiences (Cook et al 2005). As a result, trauma has far-reaching consequences for a child's emotional and cognitive development, influencing how they interact with and interpret their social environment.

Method

Sample

The sample consisted of 620 undergraduate students aged 20 to 22, with an equal distribution of males and females. The study was carried out in six institutions in the Malwa region of Punjab, specifically in Ludhiana, Patiala, and Moga. After presenting the study's objectives to the principals, authorization to collect data was granted. The questionnaires were then handed over to students, who were requested to respond honestly and informed that their responses would be kept anonymous and utilized solely for research purposes.

Research Tools

Both standardised and self-structured instruments were used to gather data as follows:

Demographic Profile Questionnaire

A self-structured demographic profile questionnaire that included questions about their age, gender, birth order, family type, family size, parents' educational history, and occupation.

Childhood Trauma questionnaire

The respondents' childhood trauma was assessed using Bernstein and Fink's childhood trauma questionnaire (1998). A 28-item self-report questionnaire that provides a rapid, reliable, and acceptable method of screening for past abuse and neglect. The CTQ can be used by both adults and adolescents (ages 12 and up). The CTQ has five items for each of the five types of maltreatment: physical abuse (9,11,12,15,17), physical neglect (1,2,4,6,26), emotional abuse (3,8,14,18,25), emotional neglect (5,7,13,19,28), and sexual abuse (20,21,23,24,27). This includes the following:

1. Physical Abuse

2. Physical Neglect
3. Emotional Abuse
4. Emotional Neglect
5. Sexual Abuse

The CTQ includes a three-item Minimization/Denial Scale to help identify falsely negative trauma claims. On a 5-point Likert scale, respondents score how frequently they agree with a series of statements about their childhood experiences. The answers range from Never True to Very Often True.

The level scores for the different dimensions were interpreted using the following procedure:

Classification				
Dimensions	**None (or minimal)**	**Low (to moderate)**	**Moderate (to severe)**	**Severe (to extreme)**
Emotional abuse	5-8	9-12	13-15	≥16
Physical abuse	5-7	8-9	10-12	≥13
Sexual abuse	5	6-7	8-12	≥13
Emotional neglect	5-9	10-14	15-17	≥18
Physical neglect	5-7	8-9	10-12	≥13

Social Intelligence scale:

The social intelligence scale developed by Chadha and Ganesan (2009) was used to assess social intelligence. The scale contains 66 objects in 8 dimensions, which are as follows:

A. Patience
B. Co-operativeness
C. Confidence Level
D. Sensitivity
E. Recognition of Social Environment
F. Tactfulness
G. Sense of Humor
H. Memory

The scale has eight dimensions and 66 items. Except for tactfulness, replies were in the form of 'Yes' or 'No', and memory was rated 1 or 0 based on whether the subject's response was correct or wrong. The

scale's reliability was assessed using split-half and test-retest techniques. The split-half reliability coefficients ranged from 0.89 to 0.96, while the test-retest reliability coefficients ranged from 0.84 to 0.97, indicating that the scale is highly consistent and stable.

The total scores on the scale were computed to determine students' overall social intelligence, using the following three levels:

S.No.	Levels of Social Intelligence	Range of Raw Scores
1.	Low	≤69
2.	Medium	70-103
3.	High	>103

Statistical Analysis

Statistical method regression was employed to assess the impact of childhood trauma on social intelligence.

Results

Table 1: Impact of Childhood Trauma on 'Patience' dimension of Social Intelligence among respondents

Childhood trauma (Independent variable)	Patience (n=620)					
	Males (n_1=310)			Females (n_2=310)		
	b	S.E.	t-value	b	S.E.	t-value
Constant	21.731	0.435	49.912**	23.516	0.543	43.284**
Emotional abuse	-0.012	0.226	0.054	-0.338	0.125	2.706**
Physical abuse	0.075	0.239	0.314	-0.445	0.142	3.137**
Sexual abuse	-0.110	0.208	0.530	-0.312	0.135	2.310*
Emotional neglect	0.004	0.228	0.019	-0.356	0.124	2.862**
Physical neglect	0.048	0.239	0.200	-0.349	0.149	2.339*
Overall abuse	-0.069	0.224	0.307	0.262	0.116	2.253*
R^2	0.147			0.204		
F ratio	8.682**			12.980**		

*Significant at the 0.05 level

**Significant at the 0.01 level

The regression analysis in Table 1 indicated significant gender variations in how different aspects of childhood trauma affected patience. For females, all dimensions of childhood trauma had a significantly negative influence on patience, with the exception of overall trauma, which had a large favourable impact. Males showed no significant differences in patience across any dimension of childhood trauma. Among females, emotional abuse (t=2.70**, p ≤0.01), physical abuse (t=3.13**, p ≤0.01), sexual abuse (t=2.31*, p ≤0.05), emotional neglect (t=2.86**, p ≤0.01), and physical neglect (t=2.33*, p ≤0.05) all exhibited significantly negative impact on patience. Overall, abuse had a significant favourable impact (t=2.25*, p ≤0.05), while males had a negative impact with an insignificant difference. The regression analysis found significant results among females (F = 12.980**, p≤0.01), and the coefficient of determination (R^2 = 0.204) indicated that childhood trauma accounted for approximately 20.4% of the variance in female patience. Similarly, among males, total regression was shown to be significant (F = 8.682**, p≤0.01). The coefficient of determination (R^2 = 0.147) suggested that childhood trauma dimensions reported roughly 14.7% of the variance in patience.

Table 2: Impact of Childhood Trauma on 'Cooperativeness' dimension of Social Intelligence among respondents

Childhood trauma (Independent variable)	Co-operativeness (n=620)					
	Males (n_1=310)			Females (n_2=310)		
	b	S.E.	t-value	b	S.E.	t-value
Constant	28.787	0.689	41.800**	30.432	0.742	41.004**
Emotional abuse	0.127	0.357	0.355	-0.023	0.171	0.137
Physical abuse	0.384	0.378	1.015	-0.457	0.194	2.361*
Sexual abuse	0.060	0.330	0.181	0.005	0.185	0.025
Emotional Neglect	-0.148	0.361	0.410	-0.221	0.170	1.299
Physical Neglect	0.365	0.378	0.967	-0.153	0.204	0.750
Overall abuse	0.333	0.355	0.937	-0.003	0.159	0.016
R^2	0.205			0.272		
F ratio	13.042**			18.861**		

*Significant at the 0.05 level

**Significant at the 0.01 level

Table 2 illustrates that female respondents reported a negative impact on cooperativeness due to physical abuse, which was statistically significant (t=2.36*, p ≤0.01). On the contrary, physical abuse among males had a non-significant favourable influence. The remaining dimensions were not significantly different between genders. Emotional abuse had no significant positive impact on males, but a negative impact on females. Sexual abuse in both males and females exhibited a positive and non-significant impact. Both males and females felt that emotional neglect had a negative impact on cooperativeness. Physical neglect had a positive impact on male cooperativeness, but it had a negative and non-significant effect on female cooperativeness.

Overall, abuse had a positive impact on male cooperativeness but was not significant. On the contrary, in females, overall abuse had a negative and non-significant impact on cooperativeness. The regression analysis found significant results among females (F=18.861**, p≤0.01), and the coefficient of determination (R^2 = 0.272) indicated that childhood trauma explained roughly 27.2% of the variance in cooperativeness among females. Similarly, in males, total regression was found to be significant (F = 13.042, p≤0.01), and the coefficient of determination (R^2 = 0.205) suggested that childhood trauma dimensions reported roughly 20.5% of the variance in cooperativeness.

Table 3: Impact of Childhood Trauma on 'Confidence' dimension of Social Intelligence among respondents

Childhood Trauma (Independent variable)	Confidence (n=620)					
	Males (n_1=310)			Females (n_2=310)		
	b	S.E.	t-value	b	S.E.	t-value
Constant	21.545	0.512	42.053**	22.329	0.506	44.146**
Emotional abuse	-0.163	0.266	0.613	-0.016	0.116	0.141
Physical abuse	0.156	0.282	0.554	0.105	0.132	0.798
Sexual abuse	-0.249	0.245	1.014	-0.082	0.126	0.650
Emotional neglect	-0.164	0.268	0.610	-0.154	0.116	1.330
Physical neglect	0.041	0.281	0.146	-0.091	0.139	0.652
Overall childhood trauma	0.021	0.264	0.078	-0.019	0.108	0.179
R^2	0.157			0.174		
F ratio	9.394**			10.656**		

*Significant at the 0.05 level

**Significant at the 0.01 level

The regression analysis presented in table 3 measured the dimension-wise impact of childhood trauma, found no significant variations in confidence between males and females. Males and females who experienced emotional abuse had negative impact of confidence. In cases of physical abuse, both males and females displayed positive impact on confidence. On the contrary, sexual abuse of both males and females had a negative impact. Similarly, both genders reported that emotional neglect had a negative impact on their confidence. Male confidence was positively impacted by physical neglect, while female confidence was negatively impacted.

In overall abuse, males had a positive and insignificant impact. On the other hand, overall abuse generally had a detrimental and insignificant effect on confidence in females. Regression analysis showed significant results for females ($F = 10.656^{**}$, $p \leq 0.01$), and the coefficient of determination ($R^2 = 0.174$) showed that childhood trauma accounted for about 17.4% of the variance in female confidence. The results were significant ($F = 9.394$, $p \leq 0.01$) for males as well, and the coefficient of determination ($R^2 = 0.157$) showed that childhood trauma components reported around 15.7% of the variance in confidence.

Table 4: Impact of Childhood Trauma on 'Sensitivity' dimension of Social Intelligence among respondents

Childhood trauma (Independent variable)	Sensitivity (n=620)					
	Males (n_1=310)			Females (n_2=310)		
	b	S.E.	t-value	b	S.E.	t-value
Constant	20.751	0.471	44.079**	22.655	0.492	46.090**
Emotional abuse	-0.314	0.244	1.286	-0.244	0.113	2.157*
Physical abuse	-0.172	0.259	0.666	-0.423	0.128	3.301**
Sexual abuse	-0.282	0.225	1.252	-0.212	0.122	1.735
Emotional neglect	-0.365	0.247	1.483	-0.238	0.112	2.114*
Physical neglect	-0.208	0.258	0.804	-0.305	0.135	2.259*
Overall abuse	0.243	0.243	1.001	0.214	0.105	2.038*
R^2	0.086			0.124		
F ratio	4.749**			7.170**		

*Significant at the 0.05 level

**Significant at the 0.01 level

Table 4 illustrates the impact of childhood trauma on sensitivity in females indicated significant differences with the exception of sexual abuse. Emotional abuse was significant (t=2.15*, p ≤0.05) among females, with a negative impact on sensitivity. On the contrary, males had a negative but non-significant impact on sensitivity. Physical abuse was found to have a negative impact on sensitivity in both males and females, with females showing a significant difference (t=3.30**, p ≤0.01). Sexual abuse had a negative and insignificant effect on both males and females. Similarly, in emotional neglect, sensitivity was negatively impacted by both genders, with the exception of females, who showed a significant (t=2.11*, p ≤0.05) unfavourable influence. Physical neglect had a negative impact on both genders, with the exception of females, who showed a significantly (t=2.25*, p ≤0.05) negative impact on sensitivity.

Overall, abuse in males showed a positive but non-significant impact on sensitivity. In females, overall abuse had a positive but significant impact (t=2.03*, p ≤0.05) on sensitivity. The regression analysis revealed significant results among females (F = 7.170**, p≤0.01) and the coefficient of determination (R^2 = 0.124), indicating that childhood trauma reported roughly 12.4% of the variance in sensitivity among females. Among males, the results were found to be significant (F =4.749**, p≤0.01) and the coefficient of determination (R^2 = 0.086) revealed that childhood trauma dimensions reported roughly 8.6% of the variance in sensitivity.

Table 5: Impact of Childhood Trauma on 'Recognition of social environment' dimension of Social Intelligence among respondents

Childhood trauma (Independent variable)	Recognition of social environment (n=620)					
	Males (n_1=310)			Females (n_2=310)		
	b	S.E.	t-value	b	S.E.	t-value
Constant	1.740	0.165	10.556**	1.775	0.162	10.986**
Emotional abuse	-0.126	0.085	1.475	-0.031	0.037	0.846
Physical abuse	-0.070	0.091	0.778	-0.036	0.042	0.846
Sexual abuse	-0.089	0.079	1.128	-0.076	0.040	1.895
Emotional neglect	-0.082	0.086	0.955	-0.048	0.037	1.310
Physical neglect	-0.085	0.090	0.939	-0.052	0.044	1.160
Overall abuse	0.084	0.085	0.989	0.039	0.035	1.141
R^2	0.032			0.035		
F ratio	1.683			1.819		

*Significant at the 0.05 level

**Significant at the 0.01 level

The results regarding recognition of social environment are presented in table 5. The regression analysis that examined the effects of childhood trauma indicated no significant impact on both genders. The research demonstrated that emotional abuse had a negative impact on both males and females towards recognition of social environment. In the case of physical abuse, both males and girls had a negative and insignificant impact. Similarly, sexual abuse and emotional neglect had a negative impact on both genders, with no significant differences in recognition of social environment.

Overall, male and female abuse had a positive and non-significant impact. The regression analysis found no significant results among females, and the coefficient of determination ($R^2 = 0.035$) indicated that childhood trauma explained 3.5% of the variance among females. Males similarly showed non-significant results, with factors explaining 3.2% of the variation ($R^2 = 0.032$).

Table 6: Impact of Childhood Trauma on 'Tactfulness' dimension of Social Intelligence among respondents

Childhood trauma (Independent variable)	Tactfulness (n=620)					
	Males (n_1=310)			Females (n_2=310)		
	b	S.E.	t-value	b	S.E.	t-value
Constant	3.840	0.205	18.777**	4.418	0.220	20.091**
Emotional abuse	-0.128	0.106	1.209	-0.033	0.051	0.661
Physical abuse	-0.108	0.112	0.960	-0.136	0.057	2.367*
Sexual abuse	-0.020	0.098	0.200	-0.123	0.055	2.244*
Emotional neglect	-0.074	0.107	0.694	-0.120	0.050	2.386*
Physical neglect	-0.081	0.112	0.719	-0.057	0.060	0.941
Overall abuse	0.076	0.105	0.725	0.077	0.047	1.627
R^2	0.041			0.082		
F ratio	2.145*			4.512**		

*Significant at the 0.05 level

**Significant at the 0.01 level

The regression analysis in table 6 demonstrates the impact of childhood trauma on tactfulness which revealed that physical abuse, sexual abuse, and emotional neglect all had a significant impact, with the

exception of emotional abuse, physical neglect, and overall childhood trauma among both genders, which were not significant. Females who experienced physical abuse (t=2.36**, p ≤0.05), sexual abuse (t=2.36**, p ≤0.05), and emotional neglect (t=2.38*, p ≤0.05) reported significantly negative impact on tactfulness. On the contrary, among males, these dimensions had no significant negative impact on tactfulness. Emotional abuse and physical neglect in both males and females had non-significant negative impact on tactfulness. Overall, abuse in males and females had a positive but non-significant impact on tactfulness. The regression analysis found significant results among females (F = 4.512**, p≤0.01). The coefficient of determination (R^2 = 0.082) indicated that childhood trauma accounted approximately 8.2% of the variance in tactfulness among females. Among males, the results were found to be significant (F =2.145*, p≤0.05). The coefficient of determination (R^2 = 0.041) suggested that childhood trauma dimensions reflected approximately 4.1 per cent of the variance toward tactfulness.

Table 7: Impact of Childhood Trauma on 'Sense of humor' dimension of Social Intelligence among respondents

Childhood trauma (Independent variable)	Sense of humor (n=620)					
	Males (n_1=310)			Females (n_2=310)		
	b	S.E.	t-value	b	S.E.	t-value
Constant	4.503	0.267	16.874**	4.644	0.265	17.521**
Emotional abuse	-0.123	0.138	0.891	0.096	0.061	1.573
Physical abuse	-0.066	0.147	0.451	0.069	0.069	0.994
Sexual abuse	-0.114	0.128	0.890	0.029	0.066	0.438
Emotional neglect	-0.124	0.140	0.887	0.074	0.061	1.225
Physical neglect	-0.084	0.146	0.574	0.047	0.073	0.648
Overall abuse	0.084	0.138	0.609	-0.089	0.057	1.571
R^2	0.060			0.066		
F ratio	3.211**			3.547**		

*Significant at the 0.05 level

**Significant at the 0.01 level

The impact of childhood trauma on sense of humor is illustrated in table 7 found no significant contribution among both genders. It was found that emotional and physical abuse had a positive impact on females' sense of humour. In males, emotional and physical abuse had a negative impact. Sexual abuse had a positive impact on females, but a negative impact on males. Females showed positive

impact of emotional and physical neglect. On the contrary, males had a negative impact on their sense of humour.

Overall, male abuse had a positive and insignificant effect on humour. On the other hand, overall abuse generally had a negative and insignificant effect on females. Regression analysis showed significant results among females (F = 3.547**, p≤0.01), and the coefficient of determination (R^2 = 0.066) showed that childhood trauma accounted for around 6.6 per cent of the variance in females' sense of humour. The findings were significant for males as well (F = 3.211*, p≤0.01), and the coefficient of determination (R^2 = 0.060) showed that childhood trauma factors explained about 6 per cent of the variance in sense of humour.

Table 8: Impact of Childhood Trauma on 'Memory' dimension of Social Intelligence among respondents

Childhood trauma (Independent variable)	Memory (n=620)					
	Males (n_1=310)			Females (n_2=310)		
	b	S.E.	t-value	b	S.E.	t-value
Constant	10.407	0.347	30.026**	11.430	0.262	43.677**
Emotional abuse	-0.174	0.180	0.969	-0.067	0.060	1.116
Physical abuse	-0.226	0.190	1.185	-0.019	0.068	0.273
Sexual abuse	-0.242	0.166	1.461	-0.030	0.065	0.467
Emotional neglect	-0.261	0.181	1.437	-0.008	0.060	0.136
Physical neglect	-0.153	0.190	0.804	-0.081	0.072	1.132
Overall abuse	0.193	0.179	1.082	0.008	0.056	0.137
R^2	0.053			0.102		
F ratio	2.839**			5.735**		

*Significant at the 0.05 level

**Significant at the 0.01 level

Regression analysis presented in table 8 evaluated the impact of childhood trauma which revealed no significant impact on memory. The results showed that both male and female emotional and physical maltreatment had a negative impact on memory. In the same way, sexual abuse also negatively affected memory. Similarly, both males and females, in emotional and physical abuse demonstrated its negative impact on memory. Overall, abuse in males and females demonstrated a positive but non-significant impact on memory. The regression analysis found significant results among females (F = 5.735**, p≤0.01) and the coefficient of determination (R^2 = 0.102) indicated that childhood trauma accounted for

approximately 10.2 per cent of the variance in memory among females. Among males, the results were found to be significant (F =2.839**, p≤0.01). The coefficient of determination (R^2 = 0.053) suggested that childhood trauma dimensions reflected roughly 5.3 per cent of the variance in memory.

Table 9: Overall impact of Childhood Trauma on overall Social Intelligence among respondents

Childhood trauma (Independent variable)	Overall social intelligence (n=620)					
	Males (n_1=310)			Females (n_2=310)		
	b	S.E.	t-value	b	S.E.	t-value
Constant	112.840	1.544	73.075**	122.080	1.728	70.642**
Emotional abuse	-1.071	0.801	1.337	-0.679	0.398	1.708
Physical abuse	-0.186	0.849	0.220	-1.340	0.451	2.971**
Sexual abuse	-1.134	0.739	1.534	-0.668	0.430	1.554
Emotional neglect	-1.117	0.809	1.382	-1.016	0.396	2.568*
Physical neglect	-0.349	0.847	0.412	-1.228	0.475	2.584*
Overall abuse	0.478	0.796	0.600	0.469	0.370	1.268
R^2	0.308			0.389		
F ratio	22.477**			32.152**		

*Significant at the 0.05 level

**Significant at the 0.01 level

The overall impact of childhood trauma on social intelligence is shown in table 9. Regression analysis showed that physical abuse, physical neglect, and emotional neglect had a significant impact on females' overall social intelligence. Males exhibited non-significant differences in every dimension. Both genders were shown to be negatively impacted by physical abuse, with the exception of females, who were found to be significantly affected (t=2.971**, p ≤0.01). Similarly, emotional neglect had significantly (t=2.56*, p ≤0.05) negative impact on overall social intelligence in females, while it had a non-significant negative impact in males. Males and females were negatively impacted by physical neglect, with the exception of females, who were significantly affected (t=2.58*, p ≤0.05) in terms of overall social intelligence. Overall social intelligence was negatively impacted by emotional and sexual abuse in both males and females, but this effect was not statistically significant.

Overall social intelligence was positively and non-significantly impacted by overall abuse in both males and females. Regression analysis showed significant results among females (F = 32.152**, p≤0.01), and the coefficient of determination (R^2 = 0.389) showed that about 38.9 per cent of the variance in females'

overall social intelligence was related to childhood trauma. The results were significant for males as well ($F = 22.477$, $p \leq 0.1$), and the coefficient of determination ($R^2 = 0.308$) showed that childhood trauma dimensions explained around 30.8 per cent of the variance overall social intelligence.

Discussion

The impact of childhood trauma on patience, a dimension of social intelligence, varied significantly across all levels. The current study found a significant detrimental affect on patience in females, but not in males. Burns et al (2010) found that higher exposure to cumulative childhood trauma, such as emotional, physical, or sexual abuse and neglect, dramatically lowers female responders' ability to be patient in interpersonal or stressful situations.

The current study found that childhood trauma had a significant detrimental impact on the sensitivity dimension of social intelligence, particularly in females. Overall, childhood trauma had a significant negative effect on female sensitivity, showing that the cumulative load of abuse and neglect has a considerable impact on their social-emotional functioning. The findings are congruent with Leadbeater et al (2007) research findings, which show that early exposure to violence diminishes emotional openness and trust, resulting in less sensitive responses to others among females. Unmet emotional and physical needs impede the development of socioemotional skills such as sensitivity and collaboration.

The findings revealed gender differences in how different types of childhood trauma influence the tactfulness dimension of social intelligence. Tactfulness, or the capacity to communicate gently and deliberately, appeared to be more negatively impacted by trauma in females than in males. The current findings are consistent with prior research by Heleniak et al (2016). The findings suggested that females who have undergone physical and sexual abuse in infancy may struggle with conscious social interaction and develop maladaptive communication patterns, which are most likely the outcome of dysfunctional emotional control and trust. Sexual trauma victims usually struggle in social situations, using avoidance, hypervigilance, or direct communication as protective strategies. Emotional neglect had a significant impact on female tactfulness, implying that a lack of emotional support throughout development may hamper the internalisation of socially sensitive behaviour and empathetic engagement with others (Finkelhor and Browne 2000).

Childhood trauma severely impacts social development, influencing how people connect with themselves and others. The findings revealed that children from nuclear families experience higher levels of emotional and physical neglect, but joint family models, while more supportive, nevertheless pose risks such as covert sexual assault due to complex family dynamics. Gender disparities were evident, with females more frequently subjected to emotional and sexual abuse and men experiencing more physical violence and emotional neglect. These negative experiences have a direct impact on social intelligence traits such as patience, sensitivity, and tact, reducing the ability to control emotions, develop empathy, and engage in healthy social relationships. The findings highlight the long-term effects

of trauma on interpersonal functioning, as well as the need of early detection and intervention in fostering social-emotional resilience in afflicted persons.

Conclusion

The current study comes to the conclusion that social intelligence is significantly shaped by childhood trauma, especially in undergraduates. Early experiences of abuse and neglect have a detrimental impact on important aspects of social intelligence, including tactfulness, patience, sensitivity, and general interpersonal functioning. The findings unequivocally show that females are more vulnerable in the social and emotional spheres and are more negatively impacted by childhood trauma than males. The study also found that different types of trauma have variable effects on specific dimensions of social intelligence. While certain qualities, such as confidence, memory, and sense of humour, had modest or non-significant effects, others, such as patience, sensitivity, and tactfulness, were considerably influenced, particularly among female responders. These data indicate that the effects of childhood trauma are challenging and multifaceted. Overall, the findings emphasise the long-term psychological and societal consequences of negative childhood experiences. It emphasises the importance of early detection, preventive measures, and intervention tactics to help affected persons. Raising awareness among parents, educators, and mental health professionals can help to promote resilience and social competency among persons who have experienced childhood trauma.

Abbreviations

CT: Childhood trauma **SI:** Social intelligence

Declarations

Ethics approval

The study was conducted with approval from [Punjab Agricultural University/ Department of Human Development and Family Studies]. Ethical considerations were maintained throughout the research process. Already previous research on childhood trauma was conducted, so ethical considerations were taken care of.

Accordance Statement

The research was performed in accordance with relevant guidelines and regulations.

Consent to participate

The manuscript has been updated to state that informed consent was obtained from all participants prior to data collection.

Consent for publication

Not applicable

ADM statement request

Data availability statement has been added to the manuscript indicating that data are available from the corresponding author upon reasonable request.

Competing interests

No competing interests

Funding

Not applicable

Authors' contributions

Annie Sareen: A.S. conceptualized , and conducted the literature review. A.S. was responsible for data collection, data coding, and statistical analysis. A.S. also interpreted the results and drafted the original manuscript.

Dr. Prachi Bisht: P.B. provided overall supervision and guidance throughout the research process. P.B. contributed to the refinement of the research design, validated the analytical approach, and provided critical revisions to improve the intellectual content of the manuscript.

Acknowledgement

The authors expresses gratitude to all participants who contributed to this study.

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