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Impact of Adverse Childhood Experiences on the Emotional Intelligence and Future Time Perspectives among Young Adults

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Abstract

Purpose: The concept of social, psychological and biological factors impacting adverse childhood experiences has drawn a significant amount of scholarly interest in the recent past; however, attempts to measure the psychological impacts of adverse childhood experiences remains a fairly unexplored area of research. The present study aimed at understanding the impact of adverse childhood experiences on the future orientation and emotional intelligence in a young adult Indian population. In addition, the impact of gender on childhood traumas was also analyzed.

Method: The study was conducted on a sample of 359 males and females from an urban India population assessing their emotional intelligence, future time perspectives and childhood traumas. The data was analyzed using the linear regression analysis model.

Result: The results indicated that significant gender differences exist on ACE's. Males were found to score higher on both Emotional Intelligence and Future Time Perspective in comparison to females.

Conclusion: Adverse childhood experiences were found to significantly impact emotional intelligence and future orientation among young adults.

Practical implications: Past literature indicates that, no specific interventions are in existence for children who have undergone adverse childhood experiences in India. The results generated can be helpful for government institutions to initiate interventions focusing on the psychological health of school children whilst laying their focus on childhood traumas experienced by them, factors impacting those experiences and keeping gender differences in mind.

Keywords: Adverse childhood experiences • Gender • Emotional intelligence • Future orientation • Young adults

Introduction

Adverse childhood experiences (ACE's) are traumatic events that occur during childhood. As per the Center for Disease and Control Kaiser study, ACE's can have a significant impact on a person's physical health, mental health and future opportunity all through their life [1]. The Kaiser study conducted in the year 1998 concluded that Adverse Childhood Experiences impact adult health in several ways and ACE's are a huge risk to adult life. The study concluded that, people who experienced zero ACE's during their lifetime have a low risky adult health. On the contrary, the adult health of those individuals who suffered from four or more ACE's during their lifetime was poor. The CDC Kaiser study identified ten prominent ACE's that an individual can suffer during the course of their life span being neglect which can be physical or emotional; abuse which can be physical, sexual or emotional and household dysfunctions that can include mental illness, divorce, mother treated violently, substance abuse or incarcerated relative [1]. A study conducted by Center for Disease Control and Prevention found that people below the poverty line experienced more ACEs as compared to people who belonged to higher income groups [2]. This indicated that the Socio-economic Status of an individual could be a causal factor impacting their adverse childhood experiences. This study showcased statistics in an American population. However, this has not been addressed in an Indian population.

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Emotions play a significant role in a child's life and maltreatment during childhood can hamper the socioemotional development leading to a poor adult mental health [3]. The Emotional Intelligence of an individual could be impacted by Adverse Childhood Experiences. Emotional Intelligence (EI) is defined as the ability to address one's own emotions, manage those emotions and to understand the emotions of another individual. A person high on emotional intelligence is generally found to possess the skill of self -awareness as they are able to understand their own emotions and the emotions of others. Self-awareness, empathy, social skills, self-regulation and motivation are the five elements which formulate emotional intelligence in an individual [4]. As per studies, Emotional Intelligence is valuable in the prevention and treatment of psychiatric disorders like depression, anxiety, thereby making it an important aspect of investigation in relation to adverse childhood experiences as traumas impact the emotional intelligence in an individual [5,6], conducted on intimate partner violence suggested that psychical and mental abuse impact emotional intelligence among individuals. Abuse being a component of adverse childhood experiences could impact the emotional intelligence of an individual [7]. However, the impact of Childhood adversity on emotional intelligence has not been addressed in an Indian population. Emotional intelligence can be defined in different ways but in this study Schuttes scale was used. Schutte defines emotional intelligence as the ability to identify and manage one's own emotions, as well as the emotions of others. "The Schutte Self-Report Emotional Intelligence Test (SSEIT) is a method of measuring general Emotional Intelligence (EI), using four subscales: emotion perception, utilizing emotions, managing self- relevant emotions, and managing others' emotions."

Studies suggest that, children who undergo ACEs have lower future opportunities because of a lower future orientation, thereby impacting their planning, employment and future goals [2]. Along with the emotional development, future Orientation (FO) plays an important role in the identity development of oneself. An individual with a high future orientation has a stronger focus on their future goals, plans their future better and organizes their life better.

Based on studies conducted, a high future orientation reduces the

chances of sexual behavior, violence, addictions and improved outcomes in relation to education [8]. All these factors are also caused due to Adverse Childhood Experiences, as per the CDC Kaiser study. Having a high future orientation could be useful in the prevention of problems that ACE's could cause. Future orientation can be defined in a variety of ways but this study defines it as a process through which future related behaviors are influenced by both cognitive and motivational/affective factors [8].

Analyzing the variables of emotional intelligence and future time perspective, the study focused on studying the impacts of ACE on a young adult population as this age range has not been studied widely in context to ACEs [9]. In addition, the long- term impacts of Aces cause dysfunction in adulthood and hence it becomes significant to analyze its impacts on a young adult population between the ages of 18-25 years of age. Gender differences and its impact on ACE's were also assessed to understand the role of gender in childhood traumas and formulate interventions keeping gender differences in mind. The theoretical basis applied in the present research was Bronfenbrenner's Ecological Systems Theory. This theory states that the development of a child is not merely impacted by the environment but by the interaction with the various aspects of the environment [10]. There are 5 stages in Bronfenbrenner's ecological model and childhood adversity can occur during the interaction with any of the 5 stages. The 5 stages are Microsystem, Mesosystem, Macrosystem, Chronosystem and Exosystem. In the 5 systems the child interacts with various parts of his environment and forms social relationships. Adverse Childhood Experiences can be linked to this theory as it focuses on the adverse experiences a child faces based on his environmental interactions [11].

In a 6-year retrospective chart review of 16 patients in Texas, a cluster of mucormycosis cases were noted during the months of February and March when the average temperature rarely exceeded 25°C [6]. The demographics of invasive fungal infections reflect that of the general trauma population with a male predominance and a mean age between 27 and 48 years old [7]. Here, we report a rare fatal case of mucormycosis tracheitis in a 23-year-old male after blunt trauma in a woodland area in West Texas.

Rationale and significance

The rationale behind conducting this research was to understand the psychological aspects which could be impacted due to adverse childhood experiences in a young adult population, thereby improving their overall well-being as they move towards adulthood. Most studies on ACE have laid their focus on the physiological impacts of ACE. The current study solely focuses on the psychological aspects that could be associated with childhood adversity. Problems caused by childhood adversity can be addressed from a young age so that children grow into physically and mentally healthy adults. Adverse childhood experiences impact the mental health, physical health and future achievement of an individual and disrupt their entire life cycle. It is extremely crucial to understand the factors associated with adverse childhood experiences to help enhance the economic development of our country, a developing nation. In addition, the role of gender differences in childhood traumas were addressed to create customized interventions based on the gender differences. It is not known to what extent adverse childhood experiences could impact the emotional intelligence and future orientation of both male and female young adults. Hence the current study aims to analyze these impacting effects.

In addition to analyzing the factors impacting Ace's the results from the study can be used by government organizations to create gender specific interventions to help growing children in India combat childhood traumatic experiences from a younger age, thereby building a strong psychological health care system for the child.

Review of Literature

Past literature on ACE's have highlighted that ACE's impact the mental, physical health and future achievement of individuals. The ACE's study, which was conducted in the year 1998, found the importance of understanding ACE's and highlighted the link between childhood adversity, adult health, behavior and social consequences [12].

A study focusing on the impacts of a high ACE score and its impact on the mental health of adults in Southern California was conducted. In addition, the individual impacts of ACEs were also analyzed. The results concluded that, a high ACE score not specifying individual domains as well as a high Ace score specifying individual domain scores both impacts adult mental health equally. Hence childhood adversity should be studied cumulatively and individually. On account of these impending reasons, a higher focus should be laid on the prevention of Adverse Childhood Experiences [2]. While addressing the issue of a disrupted adult mental health caused due to Ace's emotions play a crucial role [3]. Emotional intelligence could be strongly associated with childhood adversity and studies conducted in the past have showcased the long-term effects of Ace's on emotional intelligence and its impact on the growth of individuals. A study conducted on 202 adults taking psychosocial treatment resulted in the understanding that, emotional intelligence is valuable in the prevention and treatment of depression, anxiety, and somatization symptom clusters among individuals exposed to trauma, in particular among individuals with low income and education. Emotional intelligence becomes an important aspect to investigate in relation to adverse childhood experiences as it impacts traumas [5,6] Further, a high emotional intelligence in people is known to reduce thoughts of suicide in individuals who have undergone sexual abuse. Sexual abuse is a component of adverse childhood experiences. Whilst mentioning literature on abuse, studies on Intimate partner violence, an aspect of ACE, showcased that, the low emotional intelligence of women undergoing intimate partner violence lowers their future orientation, thereby showcasing a relationship between the two variables. The impact of Ace's on the future orientation of young adults should be addressed as the findings could be useful. A study conducted by the Department of Criminal Justice in the University of North Texas on the ACE crime relationship showcased that, individuals who experienced a high number of ACEs had a low future orientation and that was a cause for increased offending in young adults [13]. Another research focused on the impact of Ace's on juvenile crimes and showcased that a low future orientation could lead to high juvenile crime rates thereby indicating a relationship between Adverse Childhood Experiences and Future Orientation. However, studies related to ACE and future orientation has not been conducted in an Indian context.

In order to customize intervention plans to combat and prevent traumas caused by childhood adversity, gender differences play an important role. Studies conducted on gender differences and Ace's stated that, male and female populations are impacted differently by the Ace's they experience [14]. Females are more likely to face mental health issues and males are more likely to be impacted by substance abuse due to traumatic childhood experiences. These individual differences are necessary to curate customized interventions keeping gender differences in mind.

Individual factors like emotional intelligence and future time perspective which could possibly cause negative impacts due to adverse childhood experiences have not been studied on a young adult Indian population. The present research helped gather literature on the factors which could impact Ace's in a young adult, Indian population. The long- term impacts of Ace's cause dysfunction in adulthood and hence it becomes significant to analyze its impacts on a young adult population. The derived data also helped understand the impact of Ace's on individual's genders, thereby creating a foundation for devising future intervention projects.

Objectives

- To ascertain gender differences on ACE, EI and FO among young adults.
- To study the impact of ACE on EI, and FO among young adults.
- To determine does ACE significantly predicts EI and FO among young adults.

Methods

Sampling technique and sample profile

A sample size of 359 young adults was chosen using the convenience/ incidental sampling method, ranging between 18-25 years of age. The male sample size consisted of 194 participants and the female sample size consisted of 165 participants. The age range of young adults was chosen using Levison's theory. They were screened using the ACE International Questionnaire devised by the World Health Organization.

The demographic details on the ACE screening tool also included the Marital status which constituted 288 single individuals, 76 married, 4 who refused to reveal their marital status and 66 who had children in a marriage. The average age of the participants was 22 years. The family type consisted of 109 individuals in joint families, 185 in nuclear families and 74 individuals living alone. On an average the number of siblings was 1 for most individuals.

Research design

The research design chosen is an ex-post facto research design to study the impact of Adverse Childhood Experiences on the Emotional Intelligence, Future Orientation and Gender among a young adult Indian population.

Tools

ACE (International Questionnaire): It is a 44- item questionnaire that is used to measure the various types of emotional and physical abuse, household dysfunction and various other kinds of trauma that lead to childhood adversity. It was formulated by the World Health Organization). The Adverse Childhood Experience International Questionnaire devised by WHO (World Health Organization) was used as a screening tool to analyze the childhood traumas of young adults. The ACE International Questionnaire (ACE-IQ) is intended to measure ACE's in all countries, and the association between them and risk behaviors in later life. ACE-IQ is designed for administration to people aged 18 years and older. Questions cover family dysfunction; physical, sexual and emotional abuse and neglect by parents or caregivers; peer violence; witnessing community violence, and exposure to collective violence. The ACE-IQ is divided into 13 dimensions; emotional abuse; physical abuse; sexual abuse; violence against household members; living with household members who were substance abusers; living with household members who were mentally ill or suicidal; living with household members who were imprisoned; one or no parents, parental separation or divorce; emotional neglect; physical neglect; bullying; community violence; collective violence. The scoring in the ACE-IQ was divided into 6 major codes like core questions, marriage, parent guardian questions, family questions, abuse questions and violence questions. The scoring was done using the binary method of scoring. The Cronbach's alpha for the ACE International Questionnaire was.918 which is considered as having an excellent internal reliability.

Schutte self-report emotional intelligence (SSEIT): It is a 33 item self-report questionnaire used to measure the emotional intelligence of young adults. It includes 4 scales that are, managing one's own emotions, another's emotions, perception of emotion and utilizing emotions. It is based on a 5 point scale. Example of an item: Do you understand other people's point of view? The EI scale of SREIT is reliable as it measures all components of EI and is one of the widely used and accepted scales to measure EI. The Cronbach's alpha for the self-report Emotional Intelligence Questionnaire was.918 which is considered as having an excellent internal reliability.

Future time perspective questionnaire: It is a 7 point scale that ranges from very untrue to very true and allows us to measure an individual's views on their future (SOBC, n.d.) Example of an item: How does your future look to you? Future time perspective scale for adolescents and young adults. between each factor and the total scale fall between 0.60 and 0.78 and are greater than the correlations between each factor, indicating that FTPS- AYA has good construct validity. The Cronbach's alpha for the Future Time Perspective Questionnaire was.804 which is considered as having a good internal reliability.

Procedure

Ethical considerations were taken throughout the conduction of the study. No data was collected prior to issue of the ethical clearance certificate by the board. Participants were free to withdraw from the study at any point in time. A google form containing a brief of the study and consent to take part in the study were sent to all the participants upon receiving the ethical clearance. If the participants agreed to participate in the study then the consent form was signed by them. Consent forms were duly signed by all participants who took part in the study. Post this step, there was a demographic sheet containing all the details of the participant which was filled. The study was conducted purely in an online setting. The participants were screened using the ACE International questionnaire. Once the consent form, demographic sheet and screening questionnaire were filled the questionnaires were rolled out to measure the emotional intelligence and future time perspective. Towards the end of the questionnaire contacts of counselors were also provided to the participants in case they faced any kind of distress during the study. On completion of the data required, the analysis process began. Data was analyzed using the method of linear regression analysis.

Results

From Table 1, it can be inferred that the respondents of the current study have better emotional intelligence and future time perspectives as the obtained mean is found to be significantly higher than the scale mean ($t(368)=15.42$; $p<.01$ level of significance). A Shapiro-Wilk test showed a significant departure from normality, $W(368)=0.966$, $p<.001$ A Shapiro-Wilk test showed a significant departure from normality, $W(368)=0.98$,$p<.001$

There is a significant departure from normality in both the variables as $p<.001$ and hence the data is not normally distributed. Shapiro-Wilk was used to detect normality since the data set was not extremely large. Although, both Kolmogorov-Smirnoff and Shapiro-Wilk predicted that the data was not normally distributed. The data was also transformed through double transformation and LG (10) but the data was not normally distributed (Table 2).

Ideally, a non-parametric tool should be used for the purpose of further analysis but a parametric test was used for the inferential statistics as the

Table 1. Descriptives.

Measure	M	SD	t
ACE			
Female	12.09278	7.26205	0.52139
Male	10.0121	7.39807	0.57594
EI			
Female	109.634	14.375	1.0321
Male	116.315	18.623	1.44982
PE			
Female	29.623	4.22767	0.30353
Male	31.1152	5.50986	0.42894
MOE			
Female	16.7577	2.54657	0.18283
Male	17.6727	3.20853	0.24978
MOTE			
Female	11.3505	2.31705	0.1663
Male	12.6061	3.0697	0.2389
UE			
Female	10.6804	2.05139	0.14728
Male	11.3818	2.14269	0.1668
UC			
Female	41.2216	5.88731	0.42268
Male	43.53939	7.22081	0.56213
FTP			
Female	45.80927	9.05822	0.65034
Male	48.96363	9.98834	0.77759

Note: M and SD represent mean and standard deviation, respectively. N=368
**p<.01 level of significance

Table 2. Test of normality.

Test	Shapiro-Wilk			Kolmogorov-Smirnoff		
	Statistics	df	Sig.	Statistics	df	Sig.
EI	0.966	368	<.001	0.86	368	<.01
FTP	0.984	368	<.001	0.55	368	<.01

Note: Null Hypothesis is accepted

sample size was large. Central limit theorem is a statistical theory which states that when the large sample size is having a finite variance, the samples will be normally distributed and the mean of samples will be approximately equal to the mean of the whole population.

The results aimed at understanding the gender differences on ACE, EI and FTP. In addition, the impact and significance of ACEs on EI and FTP was also analyzed (Table 3).

- Gender
- t-test
- Correlation
- Regression

An independent t-test was conducted to measure gender differences on ACE, EI and its dimensions and FTP.

It can be inferred that on EI 194 Females (M= 109.6340, SD= 14.3759) were compared to the 165 Males (M=116.3152, SD=18.62329) showing a significant difference between the two genders (t= -3.832; p<.01).

It can be inferred that on PE 194 Females (M= 29.623, SD= 4.22767) were compared to the 165 Males (M=31.1152, SD=5.50986) showing a significant difference between the two genders (t= -2.898; p<.01).

It can be inferred that on MOE 194 Females (M= 16.7577, SD= 2.54657) were compared to the 165 Males (M=17.6727, SD=3.20853) showing a significant difference between the two genders (t= -3.011; p<.01).

It can be inferred that on MOTE 194 Females (M= 11.3505, SD= 2.31705) were compared to the 165 Males (M=12.6061, SD=3.0697) showing a significant difference between the two genders (t= -4.409; p<.01).

It can be inferred that on UE 194 Females (M= 10.6804, SD= 2.05139) were compared to the 165 Males (M=11.3818, SD=2.14169) showing a significant difference between the two genders (t= -3.163; p=.164).

It can be inferred that on UC 194 Females (M= 41.2216, SD= 5.8873) were compared to the 165 Males (M=43.5394, SD=7.22082) showing a significant difference between the two genders (t= -3.35; p<.01).

An independent t-test was run to measure the gender differences on FTP. The 194 Females (M= 45.8093, SD=9.05823) were compared to the 165 males (M=48.9636, SD=9.98834); showing a significant difference between the gender and Ftp (t=-3.316; p=.037). The results indicate that males have better FTP in comparison to females.

Significant gender differences were found on emotional intelligence, its dimensions and FTP. Results indicated that males are found to be more emotionally intelligent and have a higher future time perspective than females (Table 4).

The results indicated that there exists a significant negative correlation between ACE, EI, its dimensions and FTP. There by showing a significant negative correlation (Table 5).

Table 3. Independent T-test for gender differences.

Test	Gender	N	Mean	Std. Deviation	t
Total EI	Females	194	109.634	14.37597	-3.832
	Males	165	116.3152	18.62329	
Total FTP	Females	194	45.8093	9.05823	-3.316
	Males	165	48.9636	9.98834	
Perception of emotion	Females	194	29.6237	4.22767	-2.898
	Males	165	31.1152	5.50986	
Managing own emotion	Females	194	16.7577	2.54657	-3.011
	Males	165	17.6727	3.20853	
Managing other's emotions	Females	194	11.3505	2.31705	-4.409
	Males	165	12.6061	3.06971	
Utilization of emotions	Females	194	10.6804	2.05139	-3.163
	Males	165	11.3818	2.14269	
uncategorized	Females	194	41.2216	5.88731	-3.35
	Males	165	43.5394	7.22082	
ACE	Females	194	12.0928	7.26206	2.682
	Males	165	10.0121	7.39808	

Note: Gender differences and t-test

Table 4. Correlation among ACE, FTP, EI (and its dimensions) for males and females.

Tests	ACE	PE	MOE	MOTE	UE	UC	EI	FTP
ACE	1**	-.018**	-.144**	-.216**	-.128**	-.173**	.155**	-.222**
PE	-.367**	1**	-.556**	-.491**	.545**	.622**	.804**	.333**
MOE	-.276**	.725**	1**	.473**	.621**	.738**	.808**	.553**
MOTE	-.378**	.603**	.469**	1**	.598**	.631**	.733**	.429**
UE	-.403**	.671**	.716**	.585**	1**	.784**	.831**	.475**
UC	-.346**	.795**	.741**	.683**	.758**	1**	.933**	-.173**
EI	-.399**	.906**	.834**	.756**	.827**	.905**	1**	.549**
FTP	-.356**	.531**	.662**	.475**	.632**	.665**	.680**	1**

Note: ACE had a significant negative correlation with the variables

Table 5. Regression analysis for ACE predicting EI and FTP among genders.

Source	SE B	β	t	P
		EI		
Female	0.141	-0.155	-2.172	-0.031
Male	0.181	-0.399	-5.556	0.001
		FTP		
Female	0.088	-0.222	-3.16	0.002
Male	0.099	-0.356	-4.865	0.001

Note: For females the regression model for EI is R2=.046,F(1,192)=9.292,p=.003; For male the regression model for EI is R2=.127,F(1,163)=23.739,p=<.001; For females the regression model for FTP is R2=.046, F(1,192)=9.292,p=.003; For male the regression model for FTP is R2=.127,F(1,163)=23.739,p=<.001

For Males the regression model for EI is R2=.046, F (1,192)=9.292,p=.003c, which is significant at .01 level. Male population is, b= -.003, t=-3.048, p=.003 significant at 0.01 level.

For females the regression model for EI is R2=.127, F (1,163)=23.739,p=<.001 which is significant at .01 level. Female population is, b=-.004, t=-4.872, p=<.001 significant at .01 level.

For Males the regression model for FTP is R2=.046, F (1,192)=9.292, p=.003c, which is significant at .01 level. Male population is, b= -.003, t=-3.048, p=.003 significant at 0.01 level.

For females the regression model for FTP is R2=.127, F (1,163)= 23.739,p=<.001 which is significant at .01 level. Female population is, b=-.004, t=-4.872, p=<.001 significant at .01 level.

Discussion

Data generated on ACE's in the past has laid its primary focus on the Physiological impacts of childhood adversity, which leaving aside psychological factors that could negatively impact adult mental health in a young adult Indian population. The prime focus of the study was to understand, "What is the impact of adverse childhood experiences on the emotional intelligence and future time perspective among young adults?"

The first objective of the study was to understand the gender differences among ACE, EI and FO in a young adult population. Gender differences were found in ACE in the present study as males were found to have a higher

Emotional Intelligence. Studies conducted in Tunisia, have suggested that males are more prone to addictive behaviors when compared to females if they have experienced more ACE's [15]. Studies conducted on post-traumatic stress and emotional intelligence indicated that males have a higher EI when compared to females who underwent trauma. This was in accordance with the results of the present study. However, no studies have been conducted on the emotional intelligence of males and females with respect to adverse childhood experiences in an Indian population. Studies have suggested that traumatic experiences during childhood could impact the future time perspective in an individual [16].

There were significant differences between the gender and ACE with respect to FTP, in the present study. Male participants scored higher on the Future Time Perspective Scale when compared to females. Studies on ACE and its impact on gender differences, has not been conducted on the variables presently used in the study. However, studies on gender and birth order suggest that FTP is impacted could be a result of the birth order of the child alongside other factors [17]. Some studies suggest that there are gender differences in a few factors of ACE's whereas some studies go against this notion. The debate can be resolved by studying more factors that could be impacted by ACE's in an Indian context.

The second objective was to study the impact of ACE on EI, and FO among young adults. The results of the study indicated that, childhood relationships with elders, family environment, peer and community violence, exposure to any kind of war could play a role in negatively impacting the emotional perception, emotions of others, emotions of self and utilization of emotions. Further, it can also impact the future orientation of an individual in a negative manner. Childhood trauma has unavoidable emotional implications, making the development of coping and management techniques critical and necessary. A high Emotional intelligence in the young adult population is crucial to cope with traumatic childhood experiences, as per studies. The present study showcased that the score of traumatic childhood experience was high in the urban population who had a low emotional intelligence and a low future orientation. Studies suggest that a high score on complex traumatic childhood experiences reduces the emotional regulation and emotional intelligence of individuals. This was in accordance with the results obtained in the present study where regressions analysis detected a decrease in the emotional intelligence of individuals with a high score on the ACE international questionnaire. Studies have also concluded that experiencing Post traumatic stress disorder, a result of trauma caused by various experiences that could increase the likelihood of juveniles committing heinous crimes and these individuals tend to have a low future orientation. Having a low future orientation leads to frequent criminal activities performed by minors. A study conducted by the Department of Criminal Justice in the University of North Texas on the ACE crime relationship showcased that, individuals who experienced a high number of ACEs had a low future orientation and that was a cause for increased offending in young adults [13]. These results are in accordance with the present study highlighting that, a high ACE score leads to a decrease in the FTP in both male and female populations. An increase in the ACE score reduces the scores on EI and FTP among individuals, in a young adult urban Indian population. There exists an inverse negative relationship between ACE, EI and FTP in the present study showcasing the impact of ACE on EI and FTP.

Finally, the study focused on determining whether ACE significantly predicts EI and FO among young adults. ACE was shown as a significant predictor of both EI and FTP. The regression analysis indicated that an increase in ACE led to a decrease in both EI and FTP in young adults. There was a decline in the emotional intelligence and the future time perspective of both males and females, thereby showcasing the ACE is a significant predictor of both EI and FTP. However, the decline in the Emotional Intelligence and Future Time Perspective was greater in females when compared to males.

ACE's impacts the mental health, physical health and future achievement of an individual and disrupts their entire life cycle [6]. The current study helped understand the factors that are associated with adverse childhood experiences to help educational institutions and health care organizations address problems caused by childhood adversity from a young age so that children grow into physically and mentally healthy adults. In addition, most studies on ACE have laid their focus on the physiological impacts of ACE. The current study has solely focused on the psychological factors that could be associated with childhood adversity, thereby focusing on this ignored aspect attached to childhood trauma.

Emotional intelligence and Future time perspective play a key role in shaping the future of budding adults. Studies on young adults indicate that a high Emotional Intelligence can improve overall life satisfaction. A high emotional intelligence is found to reduce the symptoms of a mental disorder caused due to childhood adversity [18]. Studies conducted in China suggest that individuals who tend to have a consistently good family environment tend to have a higher future orientation and are more likely to be satisfied in their lives in the long run. These studies and the present study showcase the impact of childhood traumas and its effect on young adults all through their life. A United Nations study conducted in 2014 suggested that India has the world's highest young adult population in the world. Therefore, addressing these causes in an Indian setting is was essential in a country like India which is a developing nation and whose primary population consists of young adults.

The setbacks in the present study were that it does not include the distinction between the lower and higher income groups, something that is crucial when understanding the impact of childhood adversity. As the study was conducted during the pandemic, adding this clause was not very feasible. Besides this, the BG Prasad SES scale is not very reliable and valid to study the SES of an Indian population. Socioeconomic status in relation to the two variables should be studied to find out how the SES impacts the FTP and EI. The current study could not include the SES as a variable due to certain unforeseeable factors like the COVID-19 pandemic and the Indian version of the BG Prasad Socio economic status scale is not considered very reliable. Hence devising a tool to measure the SES in India could be the first recommendation. Secondly, SES in relation to ACE can be studied to understand if any relationship exists between the socioeconomic status and adverse childhood experiences of an individual residing in India. Previous studies conducted outside of India have proved that there exists a relationship between these two variables.

Another limitation of the study was that it was conducted during the pandemic and the results of the study could be influenced by the same. Although, studies suggest that traumas in childhood are more impactful and impact the entire adult life of an individual compared to traumas faced during adulthood. Further childhood traumas significantly influence adult traumas [19]. Nonetheless, a post pandemic study can be conducted in the future to analyze the significance of the results concluded from the present study.

Although the reliability and cultural adaptability of the tools used were very high, all tools used in the study were not developed in India. Not using Indian tools could pose a limitation for the study. In subsequent studies, varying tools could be used to analyze different factors impacting an adult life due to childhood traumas. Since most of the tools used in the study have not been developed in India as of today, these tools could be devised and used in future studies related to Adverse Childhood Experiences. The ACE-IQ studies the combined factors of childhood adversity, while ignoring the individual analysis of each factor, posing as a limitation for the study. In future studies, these factors can be looked into specifically.

The study used the random sampling technique and the participants were recruited via the online mode. This could be a limitation as the participants could not be chosen at random in person and that could impact the identity issues which come along with this type of a sampling selection and recruiting technique. The Sample size used in the study only consisted of 300 plus participants belonging to urban areas of India, in future studies a larger sample size can be tested consisting of populations from both urban and rural parts of India.

Gender could play a role in the level of impact caused by adverse childhood experiences. Few studies have suggested that, there is a gender difference between certain factors that are a part of ACE. The current study highlighted a difference in the male and female populations in relation to emotional intelligence and the future time perspective. Males in general were found to be higher on both EI and FTP. However, there are certain studies that showcase results against this notion of gender differences when studying the

Table 6. Regression analysis for ACE predicting FTP.

Source	B	SE B	β	t	p	CI
Constant	1.705	0.008		207.98	0	1.689,1.721
ACE	-0.004	0.001	-0.301	-6.049	<.001	-.005,-.001

Note: ACE scores predicted FTP, R2 = .091, F(1, 366) = 36.590, p <.001

Table 7. Regression analysis for ACE predicting EI.

Source	B	SE B	β	t	p	CI
Constant	2.076	0.006		352.473	0	2.064, 2.087
ACE	-0.003	0	-0.299	-6.001	<.001	-.004, -.002

Note: ACE scores predicted EI, R2 = .090, F(1, 366) = 36.018, p < .001

various factors of ACE. Hence, further studies should be conducted on other variables that could be impacted by ACE and gender differences for the same should be formulated (Table 6).

A simple linear regression was calculated to predict FTP based on ACE, b= -.301, t= 207.890, p=<.001. A significant regression equation was found (F(1,366)=36.590,p<.001), with an R2 of.091. Their predicted ACE scores are -.004+ 1.705 when ACE is measured. The participants' FTP score decreases -.004 with an increase in the independent variable.

R is the value of correlation and it Is the same as Pearson's output. The R2 stands for the variance or the variation of data that can be explained through this model and it indicates that about 0.091 or 9.1% of the data can be explained through this model. The R2 should be between 0-1 and it is in this case, hence it is a significant model to explain the data. The standard error is.08627 which measures the dispersion of the regression line. The null hypothesis states that the model is not a significant model. The p value <0.001 and hence the null hypothesis is rejected, as the model is a significant model.

The regression equation indicates that an increase of 1.705 in the ACE (predictor variable) will cause a decrease of -.004 in the FTP (output variable) Dividing the unstandardized B and SE we get the t value, which is -.004/.001 = -6.049. The constant and the predictor variable (ACE) are significant and are <.05 and hence the null hypothesis is rejected again.

The Standardized Beta Coefficient showcases a negative relationship between the outcome and predictor variable. Hence, an increase in the predictor variable (ACE) would cause a decrease in the outcome variable (FTP) (Table 7).

A simple linear regression was calculated to predict EI based on ACE, b= -.299, t= 352.473, p=<.001. A significant regression equation was found (F(1,366)=36.018,p<.001), with an R2 of.090. Their predicted ACE scores are -.003+ 2.076 when ACE is measured. The participants EI score decreases -.003 with an increase in the independent variable.

R is the value of correlation and it is the same as Pearson's output. The R2 stands for the variance or the variation of data that can be explained through this model and it indicates that about 0.090 or 9% of the data can be explained through this model. The R2 should be between 0-1 and it is in this case, hence it is a significant model to explain the data. The standard error is.06194 which measures the dispersion of the regression line. The null hypothesis states that the model is not a significant model. The p value <0.001 and hence the null hypothesis is rejected, as the model is a significant model.

The regression equation indicates that an increase of 2.076 in the ACE (predictor variable) will cause a decrease of -.003 in the EI (output variable) Dividing the unstandardized B and SE we get the t value, which is -.003/.000 = -6.001. The constant and the predictor variable (ACE) are significant and are <.05 and hence the null hypothesis is rejected again

The Standardized Beta Coefficient showcases a negative relationship between the outcome and predictor variable. Hence, an increase in the predictor variable (ACE) would cause a decrease in the outcome variable (EI).

Conclusion

The data post correlation and regression analysis showcased a negative inverse relationship between the independent and both the dependent variables. Correspondingly, the good R-squared value signifies that the chosen regression model explains a good proportion of the variability in both the dependent variables.

The primary findings of the study revealed:

- From the regression analysis, it was understood that an increase in the predictor variable (ACE) would cause a decrease in both the output variables (EI and FTP). Thereby the data indicates that adverse childhood experiences could predict the scores of both Emotional Intelligence and Future Time Perspectives.
- The correlation analysis showcased the gender differences between the independent variable and both the dependent variables and a linear regression analysis was run to predict the scores of Males and females in each of the variables. Males in general were found to score higher on both EI and FTP.
- ACE's significantly impact emotional intelligence and future time perspective among young adults in an Indian population.

EI and FTP seem to be impacted by adverse childhood experiences in both male and female populations. In this regard, other factors related to ACE should be identified and assessed as detecting these factors and ruling them out during childhood can help children grow into physically and mentally stronger adults. The practical implications of the study could create awareness among government institutions in India to create interventions focusing on childhood traumas, whist keeping gender differences and multiple factors impacting adult mental health in mind. Addressing the factors springing out of childhood traumas could improve the well-being and economic situation of children within and outside institutional care homes in a developing country like India.

Conflict of Interest

The authors declare that there was no conflict of interest in the present study.

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