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Adverse childhood experiences and Well-being during emerging adulthood: The protective role of Resilience

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Growing body of research indicates that adverse experiences such as assault, abuse, poverty etc during the childhood may have negative effects on development jeopardize the ability to recover and maintain good health. The present study aims to explore the protective role of resilience between adverse childhood experiences (ACE) and well-being. The data was collected from a sample of 110 participant within the age range 18-29 (M= 24.37). There were 49 female participants and 61 male participants. The self-report measures were used to collect the data, viz., Adverse Childhood Experience Questionnaire (Felitti et al., 1998), Brief Resilience Scale (Smith et al., 2008) and WHO-5 well-being index (WHO, 1998). ACE had a significantly negative correlation with resilience and well-being. The resilience acted as a significant partial mediator between the ACE and well-being. The present study will be of interest for all the intervention developers, mental health practitioners, health care workers and policy makers.

Keywords: Adverse childhood experiences (ACE), Resilience, Well-being, Mental health, mediation analysis.

Adverse childhood experiences

Certain events that happen during an individual's childhood, and are traumatic or extremely stressful to the child, are referred to as "adverse childhood experiences," or "ACEs" (0-17 years). Experiencing assault, abuse (physical, emotional, sexual), or neglect, witnessing or experiencing violence in the society or at home for instance are examples of ACEs. Since the initial CDC-Kaiser study in the late 1990s, the long-term bad health outcomes in those who had several adverse childhood events have been well established. In the study, it was observed that those who have had four or more adverse childhood incidences during their childhood are more vulnerable and have greater chances of developing mental health issues, health risky behaviours, and chronic diseases like cancer, heart disease, and diabetes (Boullier & Blair, 2018). Following the research, that examined the prevalence of ACEs tended to categorise ACEs into three general groups (*abuse, household challenges and neglect*) and ten different types of adversity *(Abuse: "physical abuse, emotional abuse, sexual abuse"; Household challenges: "mother treated violently, household substance abuse, mental illness in household, parental separation or divorce, criminal household member"; Neglect: "emotional neglect, physical neglect")*. These categories are not an exhaustive list and the incidences may vary on frequency, duration, intensity etc.

Our bodies are so designed that whenever we face a stressful event, our HPA axis releases cortisol. If the stress is normal, our body recovers from the sympathetic over activity and HPA activation but in cases of severe or prolonged stress, and in absence of protective factors, one might suffer from permanent damage and dysregulation of our biological processes which may lead to "disrupted neurodevelopment; social, emotional and cognitive impairment; adoption of health risk behaviours, disease disability and social problems and early death" (the ACE Pyramid model).

ACEs have been linked to a variety of "negative health outcomes, including physical and mental illness, risky behaviours, developmental disruption, and higher healthcare use". The majority of studies measuring childhood adversity use self-report measures,

which restricts the generalizability of the findings (Kalmakis, 2015).

Well-being

People and civilizations both perceive happiness as a condition of being. Happiness and well-being are used interchangeably as both are considered to be important in our daily life. Our well-being is influenced not just at individual level but at all levels including social, economic, and environmental factors. For a society to function optimally, the well-being of its members is of great importance since only the individuals who are physically, emotionally and mentally well, can contribute positively to the society and make it better. Thus, well-being is a component that cannot be ignored. Tracking the equitable distribution of resources, general flourishing, and sustainability is made easier by putting a strong emphasis on well-being. Mental well-being of an individual is affected by various situational and institutional factors and it also affects not just the individual but also the society as a whole. It is a per-requisite condition for effective functioning of the individual and society. Based on this reason, it is imperative that we preserve mental health, giving it utmost importance by trying to promote and maintain it and restore mental well-being of those who may have suffered any loss or faced trauma. It is in fact a necessary condition for the welfare of the society and thus, everyone should be concerned about mental well-being just like they are concerned about their physical well-being. Well-being does not only include our physical health but also our mental health, psychological and emotional health. Mental well-being does not limit to just the absence of mental disorders or disability. It is a measure of an individual's happiness, social well-being and emotional well-being.

Resilience

Understanding resilience's significance has been a constant in the review of literature. . In literature, resilience frequently has two totally different meanings. Resilience can, on the one hand, be defined as the capacity to withstand and face the loss or pain that is brought to one by the toughest of the challenges. Resilience, on the other hand, can also refer to the ability to quickly "bounce back" or recover from those challenges and thrive. According to the former definition, resilience is a trait everyone needs to have in order to survive. As a way of thriving, resilience is emphasized in the second description. This distinction is crucial because it allows a person who is experiencing hardship to move beyond merely coping by giving the traumatic events meaning and using that meaning to build upon their well-being. Such a person, who builds upon the meanings of the losses and failures, is more inclined to grow positively post-trauma where he connects all the hardships and challenges and views them as an occurrence that led him to positive outcomes. (Elder, 1998; Jayawickreme et al., 2014; Feeney et al., 2014).

Adverse childhood experiences and Well-being

Youth who are exposed to communal violence experience repeatedly "nightmares, intrusive thoughts, and flashbacks", avoid traumatic triggers, get constricted emotionally (emotionally numb), and physiological hyperarousal as posttraumatic stress symptoms like "hypervigilance, insomnia, behavioural problems" (Berman at al., 1996). These symptoms have an effect on both academic achievement and behavioural and emotional development (Carrion et al., 2002). Furthermore, it has been demonstrated that the effects of stressand trauma may lead to both, physiological and non-physiological ailments in an individual (Dong et al., 2004). The original ACE Study revealed that persons who scored at least four ACE categories (i.e., had an ACE score of four or more) are more vulnerable to developing chronic diseases as compared to those who score zero adverse childhood experience (Felitti et al., 1998). According to follow-up research, the former category where the individuals score 4 or more have 2.6 times more chances of having "chronic obstructive pulmonary disease (COPD)" than adults who scored zero (Anda et al., 2008). Similar outcomes were observed for many conditions and behaviours, including hepatitis, STIs, and injectable drug use (Felitti, 2002, Felitti et al., 1998). A lot many studies have been conducted in this field and all of them have unanimously pointed out at similar health outcomes.

Adverse childhood experiences and Resilience

There is a wealth of research demonstrating the connection between childhood experiences and adult resilience (e.g. Masten, 2001; Obradovic et al., 2009). According to Schibli et al. (2017), a background of "poverty, illness, or abuse" is often linked lower levels of resilience as the individual moves into adulthood. While some studies show a negative relationship between ACE and resilience, there are few contradictory studies which point out that under certain circumstances, ACE can foster resilience since they provide people the chance to learn the abilities they'll need to deal with difficulties as they arise (e.g. Goldstein, 2008; Rutter, 1999). To put it another way, going through stressful or difficult times can help some people learn and develop, making them more equipped to handle the next challenge. People who seldom face difficulties may have high levels of well-being in their daily lives if everything goes smoothly, but they are also more vulnerable to breakdown when they come across stressful situations (Davydov et al., 2010).

Resilience and Well-being

Resilience and well-being are inextricably linked, and as was already mentioned, in some cases resilience is also quantified using tools for measuring well-being (Davydov et al., 2010). Where to place resilience in well-being models is complicated by this confusion. However, there is compelling evidence that resilience self-report measures are not simply synonymous with well-being indices. (Burns & Antsey, 2010; Martnez-Marti & Ruch, 2017). A lot of meta-analysis and reviews have shown that both the measures, resilience and well-being are strongly associated with each other (Lee et al., 2013). However, it is not simple to determine how resilience and well-being are related.

According to some researchers (e.g. Kuntz et al., 2016), resilience is antecedent to having higher levels of well-being. Numerous studies, in particular, have demonstrated how resilience is facilitated by pleasant emotions (e.g. Fredrickson et al., 2003; Ong et al., 2006; Ong et al., 2010; Tugade et al., 2004). According to studies done, positive emotions are antecedents to resilience because they support flexible thinking (Isen et al., 1987), encourage "adaptive coping" (Folkman et al., 2000), and help people maintain social connections (Keltner et al., 1997). According to others, the link between resilience and well-being might also go in the other direction. For instance, resilience has been shown to accurately predict a variety of outcomes related to well-being, such as "depression" (Loh et al., 2014), "work satisfaction" (Luthans at al., 2007), and "subjective well-being" (Luthans et al., 2007). Others studies have pointed out that resilience and other related concepts can act as mediators between stressors and outcomes related to well-being (e.g. Min et al., 2015).

Hypotheses

Based on the literature review, the following hypotheses have been given:

H1a: Adverse childhood experience and Psychological well-being will be negatively and significantly correlated.

H1b: Adverse childhood experience and Resilience will be negatively and significantly correlated.

H1c: Psychological well-being and Resilience will be positively and significantly correlated.

H2: Resilience will mediate the relationship between Adverse childhood experience and Psychological well-being.

Method

Participants

The present study employed 110 participants in the age group 18-29 (emerging adulthood). Out of 110, female participants were 49 and male participants were 61. The average age of male participants was 24.21 while the average age of female participants was 24.57. The average age of all the participants was 24.37.

Tools

The following self-reporting measures were used in the present study:

Adverse Childhood Experiences (ACEs) Questionnaire (Felitti et al., 1998): A ACE Questionnaire is a 10-item questionnaire which was developed to assess childhood trauma. The ACE Study addressesd 10 categories of

childhood trauma which are evaluated using the developed tool. Personal factors are five and include - "physical abuse, verbal abuse, sexual abuse, physical neglect, and emotional neglect". The other five are connected to the other members of the family - "a parent who is an alcoholic, a mother who has experienced domestic violence, a family member who is incarcerated, a family member who has been diagnosed with a mental illness, and the disappearance of a parent due to divorce, death, or abandonment".

Brief Resilience Questionnaire (Smith et al., 2008): On a five-point Likert scale, the Brief Resilience Scale, a brief six-item assessment, rates one's capacity to "bounce back" from stress. It demonstrated strong internal consistency and retest reliability along with positive psychometric qualities. It has been demonstrated that the unidimensional scale correlates with other resilience indicators like CD-RISC, LOT-R.

World Health Organization - Five well-being index (WHO, 1998): The WHO-5 Well-Being Index (WHO-5) is a succinct, self-reported indicator of mental health of an individual in the present. The Regional office of WHO Regional in Europe initially launched the measure in its current format in 1998 as a component of the "DEPCARE project" on well-being measures in primary healthcare.

Results

Pearson's correlation was used to test the correlation among the variables. The correlation matrix for the strength of relationship among adverse childhood experiences (ACE), Resilience and Well-being (WB) is shown below in Table 1.

H1a: Adverse childhood experience and Well-being will be negatively and significantly correlated.

The $r_{ACE\text{-}WB}$ = -.537 which is negative and significant. Thus, the hypothesis has been accepted.

H1b: Adverse childhood experience and Resilience will be negatively and significantly correlated.

The $r_{ACE\text{-}Resilience}$ = -.295 which is negative and significant. Thus, the hypothesis was accepted.

H1c: Well-being and Resilience will be positively and significantly correlated.

The $r_{WB\text{-}Resilience}$ = .473 which is positive and significant. Thus, the hypothesis has been accepted.

H2: Resilience will mediate the relationship between Adverse childhood experience and Well-being.

Table 1: Correlation Matrix

		ACE	Resil-ience	WB
ACE	Pearson correlation	1.000	-.295*	-.537*
	Sig. (2-tailed)		.002	.000
	N	110	110	110
Resil-ience	Pearson correlation	-.295*	1.000	.473*
	Sig. (2-tailed)	.002		.000
	N	110	110	110
WB	Pearson correlation	-.537*	.473*	1.000
	Sig. (2-tailed)	.000	.000	
	N	110	110	110

* Significant at .05 level

Mediation analysis was conducted via regression analysis. The path c (total effect of ACE on WB) was significant at p<=.01. Unstandardized coefficient *B= -1.68*. The path a (direct effect of ACE on Resilience) was significant (p= .002). Unstandardized coefficient *B= -.32, S.E.= .10*. The path *b* (direct effect of Resilience on WB) was significant at p<=.01. Unstandardized coefficient *B= .99*. The path *c-prime* (direct effect of ACE on WB, when resilience is controlled) was significant at p<=.01. Unstandardized coefficient *B= -1.36.*

Since the value of unstandardized coefficient of path *c-prime<c*, resilience will partially mediate the relationship between ACE and WB. *SOBEL* test was conducted to calculate the indirect effect and significance of the mediation. The findings demonstrated that the association between ACE

and WB was significantly mediated by resilience; indirect effect = -2.57 *(S.E.= .12, p-value= .01).*

Discussion

The results can be broken down into two parts. In the first part, we discuss the correlation among the variables. The correlation among the variables was statistically significant. There is an extant of research done which prove that the adverse childhood experiences can negatively affect our well being. The negative impact on physical as well as mental well-being has been demonstrated in various studies (E.g. Berman et al.). The children showed more mental health issues with increasing ACE scores (Hughes et al, 2016). Ample research has been conducted to show a negative relationship between ACE and well-ing in terms of academics (Carrian et al., 2002) and with poor physical health (Dube et al., 2009). Thus, the results support the already existing research work in this field. Secondly, the relationship between ACE and resilience is highly controversial. Though a great deal of research has been done (Masten & Tellegen, 2012) but the results are contradictory. Some studies indicate that higher ACE incidences result in lower resilience (Windle, 2011) but at the same time many research work also indicate that the higher ACE scores may make an individual more resilient (Crane et al, 2016; Duckworth, 2016;). The studies had their methodological limitations such as small sample sizes, inability to control the protective factors that may affect the resilience levels etc. Our research indicates a negative and significant correlation between the two, i.e., higher the ACE scores, lower is the resilience of an individual. Thirdly, the relationship between resilience and well-being has been thoroughly looked into and all the research work done unanimously indicate a positive correlation between the two. The previous literature supports the findings of the study that both have a positive and significant correlation (Hu et al., 2015). Though it is difficult to point out whether well-being is the antecedent of resilience or vice-versa.

Second part of the research study deals with the mediating role of resilience between ACE and well-being. Some studies have shown that resilience plays a mediating role between stressors and well-being outcomes (Flinchbaugh et al., 2015). The present study shows that resilience acts as a partial mediator between ACE and well-being.

Conclusion

The present study aims to find the mediating role of resilience between ACE and well-being. Though the study has certain limitations. Firstly, the sample size taken is small so the generalization of the results is not possible. Secondly, the protective factors could have played a very important role in the development of resilience and well-being. The protective factors have not been controlled in the study.

Despite the limitations, we cannot undermine the importance of the study and its findings for practitioners, health care workers, intervention developers as the role of resilience is very important. If resilience can be built in individuals, through primary or secondary interventions, the impact of ACE incidences on well-being can be considerably reduced.

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