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CHILD AND YOUTH RESILIENCE AMONG RESIDENTS OF SELECTED ORPHANAGES IN KOLKATA, WEST BENGAL: AN EXPLORATORY CROSS-SECTIONAL STUDY

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ABSTRACT

Introduction: Resilience is a dynamic capability that helps children to survive challenges. Children and Youth living in underprivileged situations may have issues related to resilience, particularly in the phase of adverse childhood experiences. However, not much is known about it in Indian settings. The objective of this study was to assess the resilience levels among residents of selected orphanages in Kolkata, as well as the factors influencing their resilience.

Methodology: This descriptive study was conducted in four orphanages among 140 children aged 6-18 years in 2021. Data were collected by a predesigned, pretested, structured schedule on adverse childhood experiences using the ACE Questionnaire, and resilience was assessed using the Child & Youth Resilience Measure-28 questionnaire (CYRM-28 Questionnaire). Statistical analysis was done using IBM SPSS 16. Factors affecting child and youth resilience were put in a Multiple Linear Regression Model.

Results: The mean of the resilience score (CYRM-28) was found 87.21±8.72. Age of the participants showed a significant negative correlation with log_e Cyrm-28 Score (p-value 0.039, correlation coefficient -0.175). Multiple linear regression found that 14% of the variance of the dependent variable, i.e., log_e Cyrm-28 value, can be explained by the model with predictors age, sex, education level, religion, type of orphan, type of orphanage, duration of staying in orphanage, and ACE score of the participants. ANOVA table indicated that the model is statistically significant (p-value 0.012)

Conclusion: Understanding the factors that drive their resilience and educational aspirations is essential for developing effective interventions and support systems.

Keywords: Resilience, Adverse Childhood Experiences, Orphanages, Child.

INTRODUCTION

Resilience comes from the Latin word 'resilire,' which means to rebound, recoil, or spring back. It is defined as the ability of a dynamic system to withstand or recover from significant challenges that threaten its stability, viability, or development. The ability to rapidly and completely recover from the effects of a stressor often indicates resilience.[1] They can navigate their way to the psychological, social, cultural, and physical resources that support their well-being and their capacity, both individually and collectively, in the context of facing significant adversity.

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Resilience is the quality of both the individual and the individual's environment that potentiates positive development. The term "resilience" refers to the pathways and processes that lead to positive adaptation and development, particularly in the context of adverse experiences. The early studies on resilience focused on understanding why only some individuals can react to adversity in a positive way by transforming it into opportunities for growth and new adaptation.[2]

Children are naturally vulnerable because of their physical and psychological levels of maturity. Children stay in orphanages for various reasons, one main reason being the loss of one or both parents. Generally, orphanages are institutions dedicated to housing children whose biological parents or guardians are deceased or otherwise unable or unwilling to support their children's lives or needs.

Orphanages provide shelter for children who have been abandoned or are in need of care and protection. These children may stay in orphanages until their parents are able to provide the necessary support—be it socially, emotionally, economically, or in other ways.[3] Resilient children possess protective skills and thrive in supportive environments, which help them cope with difficult situations. To foster resilience in children, it is essential to provide them with the necessary material resources and stimulation. This includes supporting stable and positive relationships, as well as helping them develop self-regulation skills. These skills allow children to manage their attention, regulate their emotions, adhere to rules, inhibit impulsive behaviors, and control their actions in adaptive ways. Moreover, reducing exposure to overwhelming adversities and toxic risks is crucial for promoting resilience.

The resilience of a person depends upon several factors, e.g., optimism, self-efficacy, impulse control, perseverance, flexibility, and emotional awareness.[4] The Penn Resilience program proposed that building self-belief and self-efficacy makes an individual more likely to seize power and overcome setbacks.[5]

The majority of orphans have low psychological well-being. Orphans were found to experience lower levels of emotional stability and higher levels of depression than nonorphans. Adverse Childhood Experiences (ACEs) are harmful incidents occurring in childhood, defined as one or more negative experiences between the ages of 0 and 17. [6]ACEs present a disruption in the safe and nurturing environment that children need to develop positively. Resilience among maltreated children & youth is a significant social issue, as orphaned children are very vulnerable to child labor, trafficking, prostitution, abduction, stigma, and discrimination, which results in risks of problems often due to mental illness.[7] Understanding naturally occurring resilience offers valuable insights for developing policies and practices aimed at promoting healthier development in children facing adversity or disadvantage. It is also essential to explore how to encourage positive change to enhance the chances of favorable development. The objective of this study was to assess the resilience levels among residents of selected orphanages in Kolkata, as well as the factors influencing their resilience.

MATERIALS AND METHODS

Study design: This institution-based observational descriptive cross-sectional study was conducted in four selected orphanages located in Kolkata from July 2021 to December 2021. Study Participants: The study participants were 6- to 18-year-old residents of the orphanage residing for more than one year. Research Instruments: An in-depth interview method was used for each participant with a predesigned questionnaire containing the sociodemographic characteristics of the participants, an Adverse Childhood Experiences (ACE questionnaire),[8] Child & Youth Resilience Measure-28 questionnaire (CYRM-28).[9] The ACE questionnaire represents a tally of 10 different types of childhood trauma, including abuse, neglect, and other hallmarks of a tough early life. According to the original research, the tougher your childhood, the higher your score is likely to be, and the higher your risk for health and social problems later in life. The ACE questionnaire has a minimum attainable score of 0 and a maximum attainable score of 10.[10]The Child & Youth Resilience Measure (CYRM-28) is a tool designed to assess resilience in children and adolescents. The CYRM-28 evaluates various protective factors and resources that contribute to a child's or youth's ability to cope with challenges.[11] The CYRM-28 questionnaire's minimum attainable score was 28, and the maximum attainable score was 140.[12] Sample Size and Sampling method: The sample size of this study was estimated by Cochrane's formula i.e. $z^2 \times P \times (1-P)/d^2$, where $z_{1-\alpha/2}$ =1.96 at α=0.05 & 95% confidence interval, P=0.50 as considered, d=10% absolute precision, sample size came out 96 after consideration of the non-response rate of 20% effective sample size, would be 96/ (1- 0.2) =120. Sampling was done by the census method, and 140 participants were incorporated into the study. Variables: The CYRM score is the dependent variable, whereas educational level, age, duration of stay in orphanage, sex, and ACE score are considered independent variables. Types of orphanages are classified as public government-sponsored, and private, NGO-funded. The types of orphans are classified as paternal, maternal, double, and social. Statistical

Table 1: Sociodemographic Characteristics of the participants (n = 140))

Variable	SUB Group	Frequency (%)
SEX	Male	81(57.9)
	Female	59(42.1)
AGE	6 Years to 9 Years	23(16.4)
	>9 Years to ≤12 Years	36(25.7)

	>12 Years to ≤18 Years	81(57.9)
Religion	Hindu	89(63.6)
	Muslim	37(26.4)
	Christian	14(10)
Caste	ST	29 (20.7)
	SC	14(10).
	OBC	32(22.9)
	Others	65(46.4)
Type of Orphans	Social	126 (90)
	Paternal	7 (5)
	Maternal	4 (2.9)
	Double	3(2.1)
Type of Orphanage	Private	109(77.9)
	Public	31(22.1)
Duration of Staying in Orphanage	≥3 Years	11(7.9)
	< 3 Years	129(92.1)
Education Level	No Formal Education	3 (2.1)
	Below Primary	41 (29.3)
	Below Secondary	85(60.7)
	Above Secondary	11(7.9)

Analysis: The data were analysed in Microsoft Excel and then transferred to SPSS IBM Chicago version 16. Categorical data were expressed in numbers and frequency. Continuous data were expressed as mean with SD or median with IQR. Normality was checked by the Kolmogorov-Smirnov test and the Shapiro-Wilk test.[13] CYRM-28 scores of the participants were not normally distributed, as both the K-S Test & S-W test were significant. CYRM-28 scores were transformed into logarithmic values, which showed a very close-to-normal distribution. Factors affecting child and youth resilience were put in a Linear Regression Model.

RESULTS

More than half of the study participants were female, and almost two-thirds of them were Hindu. More than half of the study participants belonged to the mid and late adolescence age group, and the majority of them were residing in the orphanage for less than three years. (Table No 1). The mean Adverse Childhood Event Score of the study participants was 3.86 ± 2.42, and that of the Child & Youth Resilience Measure (CYRM-28) was 87.21 ± 8.73. (Table No 2).

CYRM-28 scores of the participants were not normally distributed as both the K-S Test & S-W test were significant. CYRM-28 scores were transformed into logarithmic values, which showed a very close to Normal Distribution. (Fig:1)

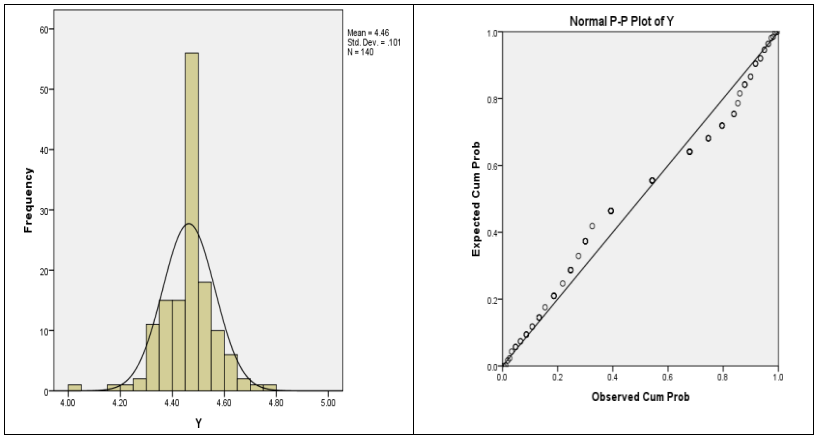

Figure 1: Histogram and P-P Plot Showing Distribution of Logarithmic Values of CYRM-28 Scores (N-140)

The age of the participants showed a significant negative correlation with *loge* Cyrm-28 Score (p-value 0.039, correlation coefficient -0.175). Adverse Childhood Events showed no significant correlation with resilience score (p-value 0.297). Multiple linear regression was
done and found that a 14% variance of the dependent variable, i.e. *loge* Cyrm-28 value, can be explained by the model with predictors Age, sex, education level, religion, type of orphan, type of orphanage, duration of staying in orphanage, and ACE score of the participants. ANOVA table indicated that the model is statistically significant with a p-value of 0.012.

Table No 2: Description of Adverse Childhood Events and Child &Youth Resilience Measure Score of the Study Participants (N=140)

Variables	Vital Statistics		
	Mean	Median	*SD*
Adverse Childhood Event Score	3.86	4.00	2.42
Child & Youth ResilienceMeasure (CYRM-28)	87.21	88	8.73

Multicollinearity was absent in the model, as each factor had a tolerance factor of more than 0.10 and the VIF value was less than 10 for each factor. The linear regression model showed that the dependent variable
log CYRM=4.560 + (0.005) × Education Level + (0.009) ×duration of Staying in orphanage+(-0.007) ×Age +(-0.002) ×ACE Score+(0.061) ×Type of Orphanage(=Public) +(-0.017) ×Type of Orphan*+(0.018) × Sex(=Female) +(0.025) ×Religion**
* *loge* Cyrm-28Value is comparatively lower for maternal or paternal orphans compared to social or double orphans
** *loge* Cyrm-28Value is comparatively higher in the case of Hindus compared to Muslims and Christians
***** Using the backward stepwise regression model, it is seen that the covariate caste doesn't have any impact on the r square value; rather, it decreases the adjusted r square value, and the model with the max r square value is obtained considering the covariate caste.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Errorof the estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.374[a]	.140	.086	.09663	.140	2.597	8	128	.012
2	.370[b]	.137	.090	.09641	-.003	.425	1	128	.516
3	.364[c]	.133	.093	.09626	-.004	.588	1	129	.445
4	.352[d]	.124	.091	.09638	-.009	1.332	1	130	.251
5	.330[e]	.109	.082	.09684	-.015	2.243	1	131	.137

a. *Predictors: (Constant), ACE _SCORE, duration_of _staying_ in_orphanage, Type _of _Orphan, Religion, Type_of_orphanage, SEX, Class, Age*
b. *Predictors: (Constant), duration_of _staying_ in_orphanage, Type _of _Orphan, Religion, Type_of_orphanage, SEX, Class, Age*
c. *Predictors: (Constant), duration_of _staying_ in_orphanage, Type _of _Orphan, Religion, Type_of_orphanage, Class, Age*
d. *Predictors: (Constant), Type _of _Orphan, Religion, Type_of_orphanage, Class, Age*
e. *Predictors: (Constant), Religion, Type_of_orphanage, Class, Age*

DISCUSSION

The resilience factor network offers an innovative approach to understanding the intricate dynamics of mental health. [14] This promising framework can help us uncover valuable insights and enhance our strategies for supporting well-being. It should be addressed as a presumption of mental health characteristics of the population. This study examines the resilience magnitude of the population and its factors like age, sex, duration of stay, adverse childhood events, etc., where we have found that every such factor has a contribution developing resilience among the population. Both studies by Fritz J et al [15] and Samson B et al [16] found that children having adverse childhood experiences have lower resilience factors. In this study, we discovered that while there is a weaker correlation between adverse childhood experiences and resilience, the presence of these adverse experiences significantly

undermines the resilience score. This indicates that individuals who have encountered challenging or traumatic events during childhood tend to exhibit lower levels of resilience. A study conducted in India found that negative life events do not significantly impact the development of resilience. [17] The result is similar to the findings of our study. Two studies in India found that older orphan children, mostly females, have higher resilience. [18] [19] Similar to our study, these studies also found that age and female sex had a higher impact onresilience. In this study, we clearly observed that the education level of the participants positively impacts their resilience. A research study conducted by Mishra R et al highlighted that providing institutional care for orphans could serve as a viable solution to help secure their futures. This approach not only addresses their immediate needs but also plays a crucial role in fostering resilience among these vulnerable children. By creating a supportive environment, institutions can empower orphans to develop the skills and confidence necessary to navigate life's challenges.[20]In our research, we decisively found that longer stays in an orphanage significantly contribute to the development of resilience in children. This compelling evidence indicates that institutional care can effectively enhance resilience, demonstrating that such environments can play a vital role in fostering positive adaptations and strengths in children facing adversity.

The study highlights that several factors influence resilience. Orphan children, facing low resilience, may experience significant psychosocial challenges. Education is essential for enhancing resilience among marginalized children. Ongoing programs for orphans should address both material and psychosocial needs. However, further research is necessary to validate these findings and explore the determinants of resilience in children.

CONCLUSION

The studies raise important questions about resilience and its correlation with orphaned children and adolescents, revealing a significant positive relationship between the two. Resilience acts as a protective factor for orphaned children, emphasizing the importance of self-esteem, self-awareness, self-care, mindfulness, and nurturing relationships. There is a need for continuous psychological interventions—such as individual and group counseling, communication skills improvement programs, and moral support from caretakers, teachers, and volunteers. This will contribute to enhancing the resilience levels among orphans.

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