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Research Paper



Impact of Resilience, During Covid- 19 Pandemic Related Social Isolation, On Mental Health of Children, As Seen in Terms of Anxiety and Depression

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ABSTRACT

Since it began, the physical as well as psychological impacts of the Covid 19 pandemic have been discussed extensively. What has been discussed less, however, is the psychological impact that the social isolation associated with the pandemic has had on children, who do not completely understand the gravity of, or need for the same. The aim of this study is to assess the mediating effect of resilience on the mental health concerns in children, seen in terms of anxiety and depression, in face of the Covid 19 pandemic related social isolation. For the purpose of this study, a correlational research design was used and 124 children between the ages of 10 to 18 years were selected as sample. They were administered the Child and Youth Resilience Measure- Youth (CYRM- Y), Center for Epidemiological Studies Depression Scale for Children (CES- DC) and Screening for Child Anxiety Related Disorders (SCARED). Pearson correlation and regression analysis were used to analyze the responses. The results of the study showed a significant negative association between resilience levels and anxiety and depression symptoms in the participants. Also, the study suggests that resilience level of children can be used to predict their mental health. In conclusion, resilience building based intervention strategies might help in preventing mental health concerns like anxiety and depression in children facing social isolation due to the Covid 19 pandemic.

Keywords: Covid 19 Pandemic, Social Isolation, Resilience, Children's Mental Health, Anxiety, Depression

Resilience is the capability to face adverse situations without being overwhelmed by them and bouncing back up and growing through the difficult periods. Resilience is a dynamic trait. It is a skill that can be built with proper emotional, behavioural and psychological guidance. Flexibility, adaptability and perseverance are the core factors that need to be worked upon to build resilience. Having resilience does not mean not undergoing stress, emotional turmoil and devastation, but rather it refers to the ability to adapt to such situations and bounce back up with the best possible outcome.

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Characteristics of a resilient person

Internal Locus of Control, reaching out for social support, problem- solving skills, optimism and hope, healthy coping mechanisms, focus on self-care, self- acceptance, self-awareness, ability to self- calm, emotional expressivity, non- judgment of self, hardiness, sense of coherence.

Why is resilience important?

Resilience helps deal with stress in a healthy manner and helps adapt to adverse situations while staying positive and taking proactive steps to tackle the situation. Resilient people are less likely to feel overwhelmed and helpless in stressful situations. People who lack resilience are more likely to depend on unhealthy coping mechanisms like avoidance, aggression and social isolation.

Resilience in children

The development of children, both physically as well as psychologically, during their early years is affected by a lot of factors including internal biological and genetic factors as well as external environmental factors. So, providing children with healthy, happy and enriching environments is very important during their childhood. However, contrary to popular belief, stress and anxiety is not at all uncommon during childhood. Hence, it is very important to build resilience in children from an early age so that they are able to deal with these stressors in a healthy way and turn the experience into a positive learning curve instead of being overwhelmed by them.

Mental health, depression and anxiety

The definition of **mental health**, as provided by American Psychological Association (APA), states that it is "a state of mind characterized by emotional well-being, good behavioral adjustment, relative freedom from anxiety and disabling symptoms, and a capacity to establish constructive relationships and cope with the ordinary demands and stresses of life". Mental health is dynamic and changes according to the biological and environmental changes and influences in life. Positive mental health allows people to reach their full potential, demonstrate healthy coping mechanisms, and be productive and efficient. Since evaluating mental health, as a whole is a complicated matter, this study evaluated mental health in terms of the two most common mental health concerns around the world, namely, **depression and anxiety**.

Depression

According to American Psychological Association (APA), **depression** is a common and serious mental health issue that has a majorly negative impact on the way a person thinks, feels and/or behaves. It is majorly characterized by feelings of sadness, loneliness and loss of interest in previously enjoyed activities, weight and appetite loss or gain, lethargy and slowed physical motions, feeling of worthlessness and self-deprecating thoughts, indecisiveness, difficulty concentrating, constant thought of death, self-harm and suicidal ideation.

Anxiety

American Psychological Association (APA) defines **anxiety** as chronic or acute states of extreme tension, worried thoughts and associated physical changes like increased heart rate and blood pressure. It usually entails recurrent intrusive thoughts, which keeps increasing the distress. Symptoms include extreme worrying and stress about various things, feeling restless

and on edge, easily tired and lethargic, concentration problem, racing thoughts, blank mind, irritability, muscular tension, sleep and eating disturbance.

Childhood

For the purpose of uniformity and precision, this study considers the definition of 'child' as that given by the United Nations Convention on the Rights of the Child, which states that child is "a human being below the age of 18 years, unless under the law applicable to the child, majority is attained earlier". Since this study includes only Indians as sample, a child is being defined as any individual under the age of 18 years.

Covid- 19 pandemic and social isolation

During the Covid 19 pandemic, people have been isolated within their homes, away from social relationships and daily activities for years. Just as much as this affects adults, the social isolation must have affected children too, especially because they might not fully understand the necessity for such measures. In light of this observation, the current study aims to evaluate the mental health of children in terms of depression and anxiety, during the social isolation associated with the Covid 19 pandemic. The study aims to demonstrate the impact of level of resilience in children on their mental health.

METHODOLOGY

Aim

To assess the impact of resilience, during social isolation associated with Covid 19 pandemic, on mental health of children, as seen in terms of depression and anxiety.

Objectives

- To understand whether resilience building in children, helps in coping with mental health issues like depression and anxiety, associated with social isolation during the Covid 19 pandemic.
- To study the relation between resilience level and depressive symptoms in children.
- To study the relation between resilience level and anxiety symptoms in children.

Hypothesis: Alternate hypothesis

H_A: There will be a significant association between the mental health of children and their resilience level.

- a) H_{A1} : There will be a significant negative relationship between resilience level and anxiety in children.
- b) H_{A2} : There will be a significant negative relationship between resilience level and depression in children.
- c) H_{A3}: There will be significant impact of resilience level on anxiety.
- d) H_{A4}: There will be significant impact of resilience level on depression.

Design

The study used a Correlational Research Design.

Variables

The dependent variable was Mental Health (Defined in terms of Anxiety and Depression), the independent variable was Resilience and the control variable was Social Isolation due to Covid 19 pandemic.

Sample

The sample comprised of 124 children (47 males and 77 females), aged between 10 years to 17 years. Convenience sampling technique was used to select the sample. The inclusion criteria were that the subject must be affected by social isolation during Covid 19 pandemic and the subject should know basic English to be able to fill the questionnaires. The exclusion criteria was that the subject should not have been diagnosed with any mental disorder or illness.

Instruments

Three measures were used in this study:

1. Child and Youth Resilience Measure Revised- Youth (CYRM- R)[1]:

The author of Child and Youth Resilience Measure-Revised Youth (CYRM- R) is Dr. Michael Ungar from the Resilience Research Centre. The measure was developed in the year 2018. The age range on which the measure can be used is 10 years to 23 years. It has 17 items, all directly scored, based on the scoring- Not At All (1), A Little (2), Somewhat (3), Quite A Bit (4), A Lot (5). The minimum score that can be obtained is thus 17 and the maximum score is 85. The measure has a good internal reliability with chronbach alpha 0.87, and good content and construct validity.

2. Screen for Child Anxiety Related Disorders (SCARED)[2]:

The Screen for Child Anxiety Related Disorders (SCARED) was authored by Birmaher et al. in the year 1999. The measure can be used for the age range 8 years to 18 years. It has 41 items all of which are directly scored according to the scoring Not True or Hardly True (0), Somewhat True or Sometimes True (1), Very True or Often True (2). The cutoff score for considering the presence of anxious symptoms is 25 and above. The measure has a reliability coefficient of 0.89 and good discriminant validity.

3. Center for Epidemiological Studies Depression Scale for Children (CES- DC)^[3]:

The Center for Epidemiological Studies Depression Scale for Children (CES- DC) was authored by Weissman et al. in the year 1980. The age range applicable for the measure is 6 years to 17 years. It consists of 20 items out of which items '4', '8' and '12' are reverse scored and all the others are directly scored, based on the scoring Not At All (0), A Little (1), Some (2), A Lot (3). The cutoff score for determining depressive symptoms is 15 and above. The measure has a reliability coefficient of 0.89 and has 80% sensitivity.

Procedure

Research question was formulated as 'Does resilience impact the mental health of the children affected by social isolation due to Covid 19 pandemic?'. Variables were decided to be 'Resilience' and 'Mental Health' ('Anxiety' and 'Depression'). 'Social Isolation due to Covid 19 Pandemic' was selected as the control variable. In depth review of available literature on all the variables and their associations was conducted to ascertain the research gap and formulate the study accordingly. The research topic was formulated from the analysis of the research gap. The aim and objectives of the study were finalized. The research design for the study including the sampling, instruments and proposed statistical analyses, was formulated. The null and alternate hypotheses were generated along with the sub-hypotheses according to the research design. The tools were converted into an electronic medium (Google Form) measure to fit the Covid 19 pandemic situation. The finalized tool was then administered on the sample as decided, for data collection. All ethical considerations were taken into account while administering the tool. Once data collection was completed, the scores from the tools were recorded into files for statistical analysis. Once the data was sorted and cleaned, statistical analysis procedures were run on the data using IBM SPSS software.

The results of the statistical analysis helped us test our hypotheses and reach the results of our study. Conclusions were drawn according to the results obtained.

Statistical Analyses

As we are aiming to assess the impact of level of resilience, during pandemic related social isolation, on mental health of children, as seen in terms of anxiety and depression, the association of the variables will be tested. The variable Resilience will be tested first with anxiety and then with depression.

The association will be checked in terms of correlation separately, both times. For this **'Pearson Product Moment Correlation'** will be used to study the strength and nature of the relationship between resilience and mental health, and **'Regression Analysis'** will be used to ascertain the directionality of the relationship.

Ethical Considerations

The current study has been carried out keeping in mind and following all the required ethical considerations and guidelines. Informed consent delineating the nature, purpose of the study, confidentiality of responses and voluntary participation was clearly taken from the participants.

Since the participants were minors, parent/ guardian consent was also seeked regarding allowing their ward to be a part of the current study.

The current study has been carried out according to the guidelines provided by the World Medical Association Declaration of Helsinki on Ethical Principles for Medical Research Involving Humans.

RESULTS

Descriptives

Table 1. Descriptive Statistics for Variables

	N	Minimum	Maximum	Mean	Std. Deviation	Skewnes	s	Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Resilience Scores	124	46	84	69.38	8.382	447	.217	395	.431
Anxiety Scores	124	4	75	29.65	14.908	.498	.217	083	.431
Depression Scores	124	2	52	24.73	13.309	.233	.217	936	.431
Valid N (listwise)	124								

Figure 1. normal Q-Q plot of resilience scores

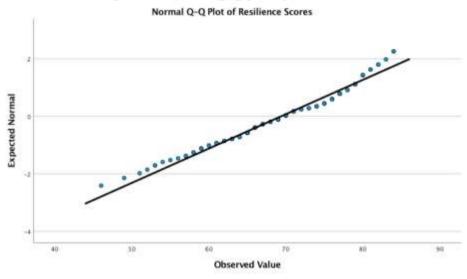


Figure 2. normal Q-Q plot of anxiety scores

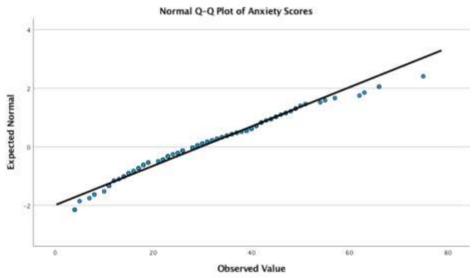


Figure 3. normal Q-Q plot of depression scores

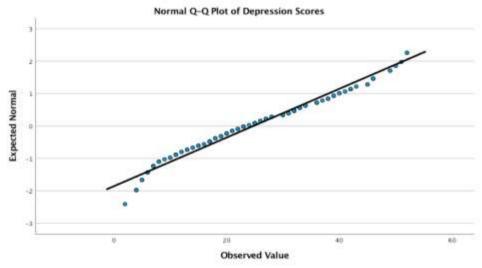


Table 2. Correlations (Resilience and Anxiety)

		Resilience Scores	Anxiety Scores
	Pearson Correlation	1	423**
Resilience Scores	Sig. (2-tailed)		<.001
	N	124	124
	Pearson Correlation	423**	1
Anxiety Scores	Sig. (2-tailed)	<.001	
	N	124	124

^{**.} Correlation is significant at the 0.01 level (2-tailed).

The Pearson Product Moment Correlation Coefficient is -. 423. Resilience and anxiety scores are significantly correlated.

Table 3. Correlation (Resilience and Depression)

		Resilience Scores	Depression Scores
	Pearson Correlation	1	520**
Resilience Scores	Sig. (2-tailed)		<.001
	N	124	124
	Pearson Correlation	520**	1
Depression Scores	Sig. (2-tailed)	<.001	
	N	124	124

^{**.} Correlation is significant at the 0.01 level (2-tailed).

The Pearson Product Moment Correlation Coefficient is -.520. Resilience and depression scores are significantly correlated.

Regression (Resilience and Anxiety):

Table 4. Model Summary^b

36 33	R	R Square	Adjusted R Square	Std. Error of the
Model		1	3 1	Estimate
1	.423a	.179	.172	13.565

a. Predictors: (Constant), Resilience Scores

Table 5. ANOVA^a

Mode	el	Sum of Squares	df	Mean Square	F	Sig.
'	Regression	4888.356	1	4888.356	26.567	<.001 ^b
1	Residual	22448.031	122	184.000		
	Total	27336.387	123			

a. Dependent Variable: Anxiety Scores

b. Dependent Variable: Anxiety Scores

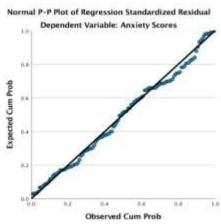
b. Predictors: (Constant), Resilience Scores

Table 6. Coefficients^a

			dardized ficients	Standardized Coefficients	t	Sig.
Model		В	Std. Error	Beta		
1	(Constant)	81.827	10.197		8.025	<.001
1	Resilience Scores	752	.146	423	-5.154	<.001

a. Dependent Variable: Anxiety Scores

Figure 4. normal P-P plot for regression standardized residual of resilience scores and anxiety scores



Regression (Resilience and Depression):

Table 7. Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.520a	.271	.265	11.413

a. Predictors: (Constant), Resilience Scoresb. Dependent Variable: Depression Scores

Table 8. ANOVA^a

Mod	lel	Sum of Squares	df	Mean Square	F	Sig.
	Regression	5897.115	1	5897.115	45.274	<.001 ^b
1	Residual	15891.102	122	130.255		
	Total	21788.218	123			

a. Dependent Variable: Depression Scores

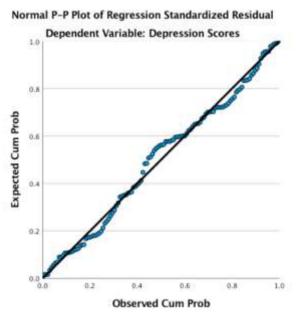
Table 9. Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		В	Std. Error	Beta		
1	(Constant)	82.048	8.579		9.563	<.001
1	Resilience Scores	826	.123	520	-6.729	<.001

a. Dependent Variable: Depression Scores

b. Predictors: (Constant), Resilience Scores

Figure 5. normal P-P plot for regression standardized residual for resilience scores and depression scores



DISCUSSION

The **aim** of the study was to assess the impact of resilience, during social isolation associated with Covid 19 pandemic, on mental health of children, as seen in terms of depression and anxiety.

Resilience is the capability to face adverse situations without being overwhelmed by them and bouncing back up and growing through the difficult periods. It is a skill that can be built with proper emotional, behavioural and psychological guidance. Resilience is important because it helps deal with stress in a healthy manner and helps adapt to adverse situations while staying positive and taking proactive steps to tackle the situation. It is very important to build resilience in children from an early age so that they are able to deal with these stressors in a healthy way and turn the experience into a positive learning curve instead of being overwhelmed by them.

Mental health deals with the state of one's emotional, social and psychological well-being. Since evaluating mental health, as a whole is a complicated matter, this study evaluated mental health in terms of the two most common mental health concerns around the world, namely, depression and anxiety.

According to American Psychological Association (APA), **depression** is a common and serious mental health issue that is majorly characterized by feelings of sadness, loneliness and loss of interest in previously enjoyed activities.

American Psychological Association (APA) defines **anxiety** as chronic or acute states of extreme tension, worried thoughts and associated physical changes like increased heart rate and blood pressure.

Childhood is defined as a phase of life, in accordance with chronological age, lying between the stages of infancy and youth. For the purpose of uniformity and precision, this study

considers the definition of 'child' as that given by the United Nations Convention on the Rights of the Child, which states that child is "a human being below the age of 18 years, unless under the law applicable to the child, majority is attained earlier".

Social isolation due to the global pandemic of Covid 19 that has been raging on for over a year now has affected one and all, including adults as well as children. The long-lasting nature of the pandemic has made it distressing for the children as their social life consisting of friends and school has been blocked out completely. As an obvious consequence, the mental health of children has been severely affected by the social isolation imposition during the pandemic, as seen in various studies conducted over the last year.

Ravens- Sieberer et al. (2021) conducted a study to assess the changes in the quality of life and mental health of children and adolescents nationwide, as a result of the Covid 19 pandemic. The sample consisted of 1586 children on whom internationally validated measured were administered. The findings suggested that children and adolescents had lower quality of life and increased mental heath concerns like high anxiety as compared to their scores before the pandemic began. Hence, health promotion and preventive intervention have been suggested.^[4]

Goncalves et al. (2020) conducted a study to assess the psychological impacts of pandemic related social isolation on mental health. The sample consisted of 539 Brazilian adults whose mental health was assessed in terms of anxiety, depression, stress, loneliness and well being. The findings suggested that social isolation due to Covid 19 pandemic did affect the mental health of the participants but it can be moderated to some extent by maintaining significant interpersonal relationships.^[5]

In light of these observations, the current study tried to assess whether the trait of resilience can be a moderating factor for how much the mental health of these children are affected due to the social isolation during Covid 19 pandemic.

The primary **objective** of the current study was to understand whether resilience building in children, helps in coping with mental health issues like depression and anxiety, associated with social isolation during the Covid 19 pandemic.

The study had a correlational research design with the alternate hypothesis-

H_A: 'There will be a significant relationship in the mental health of children and their resilience level.'

The study was conducted on **124 children** (47 males and 77 females) between ages 10 years to 18 years, matching all the inclusion and exclusion criteria. The CYRM- R, SCARED and CES- DC were the tools administered on the sample through an online google form.

Once the scores were obtained, statistical analyses were run to test the hypotheses. The statistical analyses chosen were 'Pearson Product Moment Correlation' and 'Linear Regression'.

The statistical analyses were carried out using Microsoft EXCEL and the IBM SPSS Statistics software. In order to apply these parametric tests on the sample, the **normality** of the data was first ascertained using the kurtosis and skewness scores of each set of data individually, as seen in *Table 1*. The data from all three variables, namely resilience, anxiety

and depression were found to be normally distributed according to the norms discussed in the paper by Mishra et al. (2019) on normality tests for statistical data. [6] Further the descriptive data was generated for all the three variables. *Figure 1*, *Figure 2* and *Figure 3* display the normal Q-Q plot of all three variables respectively.

The **Pearson Correlation** of the data was carried out individually, first for the scores of resilience and anxiety and then for the scores of resilience and depression. As seen in *Table 2*, the Pearson Product Moment Correlation coefficient of the correlation analysis between resilience and anxiety scores was found to be -.423. As seen in *Table 3*, the Pearson Product Moment Correlation coefficient of the correlation analysis between resilience and depression scores was found to be -.520. In both the cases, the P value was found to be significant at 0.01 level of significance. Hence, the null hypothesis was rejected and the alternate hypotheses stating that there is a significant correlation between resilience and anxiety (H_{A1}) and resilience and depression (H_{A2}) were retained.

Next, **linear regression** was run for the variables individually. In the regression for resilience and anxiety, the R value was found to be 0.423 which confirmed that the regression model could be considered for further analysis, as seen in $Table\ 4$. In the ANOVA table, $Table\ 5$, to determine whether the model is significant enough to determine the outcome, the significance value is seen to be P<0.001 which is less than 0.01. Hence, the regression model is taken to be significant. Finally, the coefficient table, $Table\ 6$, which predicts the strength of the relationship between the variables, shows the tolerable level of significance of the variable to be P<0.001 which is less than 0.01. Hence, the null hypothesis is rejected and the alternate hypothesis, H_{A3} , which states that there is a significant impact of resilience on anxiety, is retained.

Similarly, in the regression analysis for resilience and depression, the R value was found to be 0.520 confirming the model for further analysis, as seen in $Table\ 7$. In the ANOVA table, $Table\ 8$, the significane of the model was found to be P<0.001 which is less than 0.01. Thus, the regression model was taken to be significant. Finally, in the coefficient table, $Table\ 9$, the tolerable level of significance of the variable was found to be P<0.001 which is less than 0.01. Hence, the null hypothesis is rejected and the alternate hypothesis, H_{A4} , which states that there is a significant impact of resilience level on depression level, is retained.

Figure 4 and Figure 5 display the normal P-P plot for regression standardized residual of resilience and anxiety scores and resilience and depression scores respectively.

Since all the sub- hypotheses, H_{A1} , H_{A2} , H_{A3} and H_{A4} are retained, it can be safely assumed that the alternate hypothesis, H_{A} , stating that there is a significant association between mental health of children and their resilience level can be retained.

Hence, it can be concluded that a significant correlation exists between resilience and mental health of children. Further, the resilience level of children can be used to predict their mental health. On this note, this study hopes to see further research on resilience- based intervention for children in the future.

CONCLUSION

Social isolation due to Covid 19 pandemic has affected the mental health of all children and adults, as seen in various studies conducted over the past year. The current study aimed to

explore if resilience level of children can be a predictor of their mental health during the pandemic related social isolation. Based on a thorough review of the available literature, it was hypothesized that resilience level of children does have a significant impact on their mental health, which was seen in terms of anxiety and depression. Data collection and further statistical analysis proved the hypothesis to be true. It was found that there was a significant correlation between resilience and mental health of children. Further, it was also found that resilience level of children can be used to predict their mental health. On this note, this study hopes to see further research on resilience based intervention for children soon.

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Conflict of Interest

The author(s) declared no conflict of interest.

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