

An Analytical Study of Resilience and Mental Health of College Students

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Abstract

The present study attempting to discover the impact of sex and resilience on mental health of college students. The study encompasses of 120 college students in which 60 were girls and 60 were boys. Rural and urban ratio kept 1:1. The age ranges between 18 to 21 years. The purposive sampling technique was used to selecting the Ss for the study. Two psychometric scales were used to obtain data from Ss; viz. Resilience scale developed by Gardland and Mental Health scale constructed by Anand Kumar and Thakur. Further, Two Way ANOVA was used to analyze the obtained data. Findings revealed that, Boys and girls has the more or less equal level of mental health. Furthermore, it was also found that students having higher level of resilience can cherish high level of mental health than those of having low resilience level and vice versa. Finally, interaction effect sex and resilience were found statistically not significant.

Keywords: Sex, Resilience, Mental Health

Mental health issues are a few of the maximum crucial individuals to the worldwide burden of sickness and incapacity. Mental and neurological situations account for 12.3% of incapacity-adjusted existence years (DALYs) misplaced globally and 31% of all years lived with incapacity at every age and in each sex, in line with 2000 estimates. These situations are a situation in industrialized in addition to in growing nations, in which the intellectual fitness scenario has proven restrained development and might have deteriorated considerably in lots of communities.

In addition to the millions tormented by described mental issues, there are hundreds of thousands of others who, due to extraordinarily hard situations or situations of existence, are at a unique chance of being suffering from mental health problems. These encompass individuals residing in severe poverty, youngsters

and teenagers experiencing disrupted nurturing, abandoned elderly, girls and youngsters experiencing violence, the ones traumatized by battle and violence, refugees and displaced individuals, and plenty of indigenous people.

Research suggests that socially built variations among women and men in roles and responsibilities, status, and power, have interaction with biological variations among the sexes to make contributions to variations with inside the nature of mental health issues suffered, a fitness-seeking conduct of these affected, and responses of the health area and society as a whole. However, it's far crucial to remember, while reviewing available proof in this regard, that there are essential gaps. More is known approximately variations among women and men in a few mental health issues such as depression and schizophrenia than others; approximately person women and men than about teenagers and youngsters; and about the scenario in industrialized nations than in the growing world.

Gender and Mental Health

(Afifi, 2007) A gender approach to health approach to differentiate biological and social elements whilst exploring their interactions and to be sensitive about how gender inequality affects health outcomes. A gender approach to mental fitness affords steering to the identity of suitable responses from the mental healthcare system, in addition to from public policy. Gender variations certainly exist, even in which the socioeconomic gradient might not be strong. Never married and separated/divorced men have better overall admission rates to mental health facilities than girls in the same marital status categories. In contrast, married women have higher admission rates than married men. Gender, like other stratifies, does not function in isolation. It interacts in an additive or multiplicative way with other social markers like class and race.

Astbury discovered that gender variations in mental disorders enlarge beyond differences in the rates of diverse disorders or their differential time of onset or course and encompass a number of of things which can have an effect on risk or susceptibility, diagnosis, remedy and adjustment to mental disorder. Gender variations in the incidence of mental issues vary across age groups. Conduct ailment is the commonest psychiatric ailment in childhood, with 3 times as many boys as girls being affected. During adolescence, women have a higher incidence of depression and consuming disorders and engage more in suicidal ideation and suicide attempts than boys, who're greater at risk of interacting in excessive risk behaviors and devote suicide more frequently.

In adulthood, girls had a better incidence of most affective issues and non-affective psychosis, and men had better rates of substance use issues and antisocial personality disorder. Men can also additionally increase alternative disorders in reaction to stress, such as antisocial behavior and alcohol abuse. They can be much more likely to were socialized to explicit anger or other types of acting out, while girls can be much more likely to be socialized to explicit dysphoria in response to stress. In help of this, research have proven that predicted gender differences in depressive disorders have been balanced out through higher male rates of alcohol abuse and drug dependency.

Resilience and Mental Health

Resilience is extensively defined as the capacity of people exposed to an unwanted occasion to stay healthy and to deal flexibly with the problems of existence (Sabouripour et al., 2018, as cited in, Bonanno, 2004). Resilience is a term used to explain relative resistance to psychosocial risk experiences (Rutter, 1999). There is ample proof that there's a large variation in youngsters's responses to such experiences however studies to decide the approaches underlying the variations wish to take account of numerous critical methodological issues. The findings emphasize that a couple of chance and shielding elements are involved; that youngsters vary in their vulnerability to psychosocial stress and adversity due to each genetic and environmental impacts; that family-extensive experiences tend to impinge on individual youngsters in quite

unique ways; that the reduction of negative, and growth of positive, chain reactions affects the extent to which the effects of adversity persist over time; that new experiences which open up opportunities can provide beneficial 'turning- point' effects; that despite the fact that positive experiences in themselves do not exert much of a protective effect, they may be useful if they serve to neutralize a few chance factors; and that the cognitive and affective processing of experiences is possible to influence whether or not resilience develops.

Resilience is an important aspect of attaining an appropriate level of mental health (Coope et al., 2020, as mentioned in, Todd & Rottenberg, 2010). Resilience denotes the individual's capacity to deal cleverly and assuredly with the unique needs of life despite surrounding pressures and crises. It additionally helps people gain psychosocial adjustment and stress management while life conditions become more critical. Therefore, resilience is a key element in speaking with life and dealing with adversity (Coope et al., 2020, as mentioned in, Grotberg, 2003).

REVIEW OF LITERATURE

Surzykiewicz et al., (2021) conducted survey using a questionnaire measuring well-being, anxiety, obsession, stress, and resilience. This study consisted of 1758 people (in which 73% were women) with aged ranged 18 to 80 years. Bootstrap sampling analysis was used to analyze the obtained data. it showed significant partial mediators for the association between well-being and resilience. Coronavirus anxiety, persistent thinking, and perceived stress were important mediators. Results revealed that Resilience plays a significant role in abating negative and enhancing positive health indicators in the adverse life events.

Ginja et al., (2020) arranged cross-sectional study to explore the gender differences in mental health of perinatal women. Findings revealed women living in rural areas were at higher hazard of anxiety and depression than their counterparts.

Gheshlagh et al., (2017) conducting meta-analysis on The Relationship Between Mental Health and Resilience to answer the question, why some people exhibits positive adaptation and evade mental health disorders? They examined total sixteen correlational studies. They found resilience and mental health are positively associated to each other.

Goel & Narang, (2012) designed a study to find out the mental health, marital adjustment, and frustration responses of males and females. The sample consisted of 300 in which, one hundred-fifty were males and also one-fifty were females, within the age range of 40 to 55 years. Results revealed men are found more mentally healthy than the female.

METHODOLOGY

Sample

A sample consisted of 60 male and 60 female students from Kolhapur, Kagal, Hupari and nearby villages (60 rural; 60 urban) was assigned using purposive sampling technique for the present study. The age range of Ss was 18 to 21 yrs.

Design for study

A balanced 2 x 2 factorial design was used for the present study.

Statistical Treatment of the data

Initially data was screened for outliers and skewness. After removing outliers further, Descriptive statistics namely; Mean and Standard Deviation and inferential statistics; viz. Two Way ANOVA were used to analyze the obtained data.

Tools used for Data collection

The following are the standardized psychological tests used to examine the selected problem.

- A) **Resilience Scale:** This scale is prepared by Gardland. This scale consisted total 88 items with five alternatives viz. totally disagree, disagree, indifferent, agree, and totally agree. This scale comprehends five factors i.e. individual, family, peer, school and social. The factor wise reliability coefficient is as per following; .80, .81, .81, .88, and .88 correspondingly. High scores obtained on the scale indicates a high level of resilience and vice versa.
- B) **Mental Health Test:** This test was prepared by Anand Kumar and Giridhar Thakur. Total 50 items consisted in this test in which five sections of mental health is covered; viz. Egocentrism, Alienation, Emotional Un-Stability, Expression, and Social Non-Conformity. Each section of this test has positive and negative statements. The reliability of this scale by the Split- half reliability was .90 and by test-retest was .87.

Variables under study

1. Independent Variables

- A. Sex: Male & Female
- B. Resilience: High Resilience & Low Resilience

2. Dependent Variables

A. Mental Health

Procedure

Before filling the tests, a good rapport was established with participants and assure them that their ID and responses given by them will be kept confidential and this information would not be unveiled anywhere. Therefore, they can give their responses honestly and comfortably. After assigning participants' the tests were distributed to them. After that the instructions were given as per the test manual. After response, test booklets and answer sheets were collected.

Aim of the study

The aim of the study is to measure the resilience level and mental health of subjects and examine the effect of sex and Resilience on the mental health of the subjects.

Objectives of the study

Following main objectives were framed for the present study;

- 1. To assess the level of resilience and mental health of Subjects (college students).
- 2. To study the impact of Sex, Resilience and their various interactions on Mental Health of college students

Hypothesis

To serve the objective of the study, following several hypotheses are framed and these were tested. Assuming that other variables are kept constant

- 1. There will be significant influence of students' sex on their mental health level.
- 2. There will be significant impact of students' resilience level on their level of mental health.
- 3. Interaction between sex and resilience will be significantly influenced on Mental Health of students.

Results, interpretation and discussion

Present study was undertaken with the aim of, ‘to examine the effect of sex, residency (raring environment) and Resilience on the mental health of the subjects’. There were three variables which were treated as independent variables viz. Sex (*A*) and Resilience (*B*). Each of them was varied at 2 levels. Therefore, balanced 2 x 2 factorial design was used to analyze obtained data for present study.

Table 1 Shows the *Mean, SD, Kurtosis, Standard Error of Kurtosis, Skewness, and Standard error of Skewness* values of Mental health measure. At first glance it is observed from table that the Mean values of all groups are larger than three times of their corresponding SD values. It is also observed that the Kurtosis values are less than 2 (two) and the Skewness values are less than ‘one’ (01). Which indicates distribution of mental health measure for all groups were normal or near normal. **Table 1** also denotes, the level of mental health of Girl students are relatively higher than Boys. Furthermore, highly resilient students show more score on mental health level than those of low resilient students.

Table 1: Mean, SD, and other descriptive statistics of Mental Health measure

Groups	N	Mean	SE _M	s	Ku	SE _{KU}	SKW	SE _{SKW}
Boys	60	71.98	2.37	18.33	-.352	.608	.885	.309
Girls	60	74.22	2.42	18.77	-.252	.608	.656	.309
High RES.	60	85.58	2.30	17.85	-.749	.608	-.059	.309
Low RES.	60	60.62	0.96	7.43	-.547	.608	-.070	.309

RES = Resilience; N = no of sample; SE_M = standard error of the Mean; s = Standard Deviation; Ku = kurtosis; SE_{KU} = standard error of kurtosis; SKW = Skewness; SE_{SKW} = standard error of Skewness

Since, the distributions of Mental health measure for all groups are normal or near normal, ‘Parametric Statistics’ i.e. Two Way ANOVA was used to analyze the data obtained. Subsequently, a 2² design was used, there were 4 classified groups. Means and SDs attained as per by level of IV’s and the four classified groups on Mental Health measure are denoted in **Table 2**.

Table 2: Mean, and SD, obtained by eight classified groups on Mental Health measure.

	A ₁ B ₁	A ₁ B ₂	A ₂ B ₁	A ₂ B ₂
M	82.73	61.23	88.43	60.00
s	19.98	6.72	15.24	8.15
n	30	30	30	30

M = Mean; s = standard deviation; n = no. of sample in group; A₁= male; A₂ = female B₁ = high resilience; B₂ = low resilience;

More score on Mental Health show better Mental Health. While, less score indicates poor Mental Health level. A closer look of the table depicts, group ‘A₂B₁’ which is corresponding to ‘Girls having high resilience level’ exhibits high level of mental health (*M* = 88.43; & *SD* = 15.24). Whereas, group ‘A₂B₂’ (which corresponding to those girls who showed low level of resilience) denoting relatively lower level of Mental health (*M* = 60.00; & *SD* = 8.15). Difference between highest and lowest Means is large, hence, the groups might differ significantly to each other. But, it is not promising to derive particular interpretations only on the basis of ‘Descriptive Statistics’ namely; Mean and SD. Hence, to derive proper inference further data was treated by ‘Inferential Statistic’ viz. ‘Two Way ANOVA’.

To verify hypotheses *Two Way ANOVA* was used and results were exhibited in **Table 3**. To explore the influence of independent variables on Mental Health following hypotheses were tested.

Table 3: Summary of Three-way analysis of variance (ANOVA) of Mental Health Measure

Source	SS	df	MS	F	Sig.	Partial η^2
A	149.63	1	149.63	0.81	0.371	0.007
B	18700.03	1	18700.03	100.65	0.000	0.465
A X B	360.53	1	360.53	1.94	0.166	0.016
ERROR	21552.60	116	185.80			
TOTAL	40762.80	119				

A = Sex; B = Resilience; * = significant at .05 level; ** = significant at .01 level

H₁: There will be significant influence of students' sex on their mental health level.

It denotes from **Table 3** that the *F*-ratio in respect of Factor *A* is 0.81 [$F(1, 116) = 0.81$; $p = .371$]. Consulting *F*-critical with 1/116 *df*, the *F*-critical value at .05 is 3.92 and at .01 level is 6.84. Since, the obtained value of *F* (0.81) is less than the *F*-critical values, it is not significant. Hence, it was a chance factor or sampling error. Therefore, we accept the null hypothesis (H_0) that the two groups selected on the basis of sex are random sample from the same normally distributed population. It is concluded further that boys and girls has the more or less equal level of mental health.

This finding is some extent in agreement with the findings of Rudwan & Alhashimia, (2018); GhorbaniAmir et al., (2011); Shari'ati (1981); Dadkhah (1985); Kohret (1977) Hashemi (1984) and Farahbakhsh (1986), who claimed there is no significant difference in mental health of girls and boys.

Some previous researches were inconsistent with present findings which appealed males are more mentally healthy than females (Campbell et al., 2021; Sialino et al., 2021). Further, Goel & Narang, (2012), and Gove, (1978) also claimed that older women reports lower level of mental health compared to men. Ginja et al., (2020), showed from their study that, women live in rural areas were at higher hazard of depression and anxiety than their counterparts (urban). These mixed previous findings indicate in-depth study on mental health is needed.

H₂: There will be significant impact of students' resilience level on their level of mental health.

Moreover, the **Table 3** shows main effect 'B' yielded the '*F*-ratio' is 100.65 and corresponding *df* are 1 & 116; [$F(1/116) = 100.65$; $p < .000$; partial $\eta^2 = .465$]. Consulting critical *F* value, the obtained value of '*F*-ratio' is beyond the required value ($\alpha .01 = 6.84$) for significance. Further, the Mean score of Mental Health of highly resilient students is 85.58 (with 17.85 Standard Deviation), which is found to be higher than their lower resilient counterparts ($M = 60.62$; and $SD = 7.43$) (see, **Table 1**). Therefore, it proposes Mental Health of highly resilient students has higher level of mental health than those of having low resilience level. Hence, rejecting null hypothesis, we accept alternative (H_1) hypothesis and further conclude that Resilience level of students has significant effect on their Mental Health; students having higher level of resilience can cherish high level of mental health than those of having low resilience level and vice versa. Further, Partial η^2 (.465) value depicts large effect size and indicates resilience accounted for 46.50% of variance in Mental Health.

It was as expected, Resilience can sustain and improve mental health by providing behavioral, cognitive, and emotional responses in hazardous or stressful situations and it can make people face adversities in more strong way. Prior studies have also supports this result. (Rudwan & Alhashimia, 2018) reported positive association between resilience and mental health. Resilient people are optimistic and have a feeling

of internal control in dealing with adverse events of life, eventually resulting in advantageous health outcomes and cultivating their physical as well as psychological health (Gheshlagh et al., 2017; Surzykiewicz et al., 2021; and Coope et al., 2020)

H₃: Interaction between sex and resilience will be significantly influenced on Mental Health of students

Furthermore, the F-ratio in respect of $A \times B$ interaction for 1 and 116 df is found to be 1.94. This obtained F -value is less than $\alpha .05$ which is 3.92, therefore not significant [$F(1/116) = 1.94; p > .05$]. Thus, it could be concluded that hypothesis stated earlier, which read as, 'Interaction between sex and resilience will be significantly influenced on Mental Health of students' is rejected.

Conclusions

On the basis of statistical analysis following conclusions are derived...

1. Boys and girls have the more or less equal level of mental health.
2. Students having higher level of resilience can cherish high level of mental health than those of having low resilience level and vice versa.
3. There was no significant interaction effect of sex and Resilience found on Mental Health of students.

Limitation

1. The topographical area of study was restricted for Kolhapur, Kagal, Hupari and nearby villages area.
2. There are many variables which have an influence on mental health of students but in present study sex and resilience level of students were taken into account only.
3. Only 120 participants were taken for the present study.

Suggestions for further study

1. There are wide range of variables which can predict mental health such as education, socio-economic status etc., taken into account such variables further research can be conducted.
2. Large set of samples from various cities may be taken.
3. More advanced statistical analysis should be used for further study namely; simple and contrast effects, omega square etc.

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