Indian Juvenile Depression And Future Criminal Behavioral Forensic Analysis of Udaipur District Population

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Abstract: India has the biggest youth power in the whole world, this research study shows that the Indian juveniles are involved in many activities such as online gaming, drugs, alcohol, etc., and hence their depression level increases. The depression level increase, can be co-related with crime & criminal behavior. This study is based on the Patient Health Questionnaire-9 (PHQ-9) and the data is being collected from Udaipur district. Students from three schools, aged between 12-16 years (both male and female) are surveyed and the collected data is being analyzed to establish a relationship between depression & criminal behavior in juveniles. In our research analysis, we collected data of 596 students who belongs to the different areas of Udaipur and have different standards and are from distinct communities. Their families and school background describe the level of the mental pressure, and the reasons for these conditions could be correlated with both childhood depression and adult criminality. This study describes the percentage level of depressions in the male & female students.

I. INTRODUCTION

According to the World Health Organization (WHO), depression is the leading cause of disability and the fourth leading contributor to the global burden of disease [1]. Nevertheless, although such research into biological aspects of mental disorder is both welcome and productive, it is important that the research be properly integrated with psychological and social accounts of the phenomena in question. Some observers fear the retrenchment of a reductionist, biomedical approach to mental disorder [2]. As such, it is timely to examine more closely the nature of the relationship between becoming a victim of crime and an individual's subsequent mental health. There are numerous ways in which an individual can be affected as a victim of crime [3]. Traditionally the study of problem behavior focused on the individual child, or on the mother-child relationship. Today *developmental psychopathology* has emerged as a key perspective on both developmental processes and the causes and course of psychopathology [4]. Higher levels of parental supervision during childhood have been found to predict less antisocial behavior during adolescence [5-8]. Lax supervision plays a stronger role in late childhood and adolescence than in early childhood, with poor parental supervision playing an especially important role in late onset (*adolescence-limited)* aggressive behavior [9]. Often parents of antisocial youth don't discourage antisocial behavior. They consider it to be appropriate and normal. In a sense, such children are given permission to be aggressive by their parents [10,11]. The influence of delinquent peers on later-onset *(adolescence-limited)* antisocial behavior appears to be much stronger, however. Association with antisocial peers was related to the emergence of antisocial behavior at adolescence among youths who had not previously exhibited behavior problems [12, 13].

II. MATERIAL & METHOD

This research data is used for the purpose of study of depression level of juvenile Health. The data was collected as per the format of "Patient Health Questionnaire-9 (PHQ-9)" [14] during the 2016-2017 academic year. Juveniles were surveyed from 3 schools that were selected to ensure representation with respect to Udaipur region of our country. The selected 12 to 16 years age group students(male & female) answered all the PHQ-9 question and then those answer sheets were evaluated to extract scores.

III. RESULT & DISCUSSION

After doing Analysis of data of we found that many students of age group 12-16 are suffering from severe anxiety. The estimates shows the relationship between adolescent depression and subsequent criminal behavior for each of the four crime outcomes. This data was being analyzed in R Studio using R language and we have used percentage analysis for this data to describe/Predict the outcomes.

Age Group 12

We have founded the various depression levels in male and female. Various parameters are present in PHQ-9 and according to those factors we have calculated and segregated each gender in different depression level. Female depression levels are Shown in Table-1 & male depression levels are shown in Table 2. Male & Females depression analysis graph is showed in Figure-1

Minimal Level Depression	35%
Mild Level Depression	31%
Moderate Level Depression	17%
Moderate Severe Level Depression	13%
Severe Level Depression	4%

Table-1: Shows the percentage level in female age group 12

Minimal Level Depression	13%
Mild Level Depression	40%
Moderate Level Depression	27%
Moderate Severe Level Depression	13%
Severe Level Depression	7%

Table-1: Shows the percentage level in male age group 12

This result shows that in the age group of twelve, Minimal depression difference in female is 22% higher than male and Mild level depression difference in male is 9% Higher than female and Moderate level depression difference in male is 10% higher than female and Moderate Severe level depression is same for both male & female and Severe level depression in male is 3% higher than female.
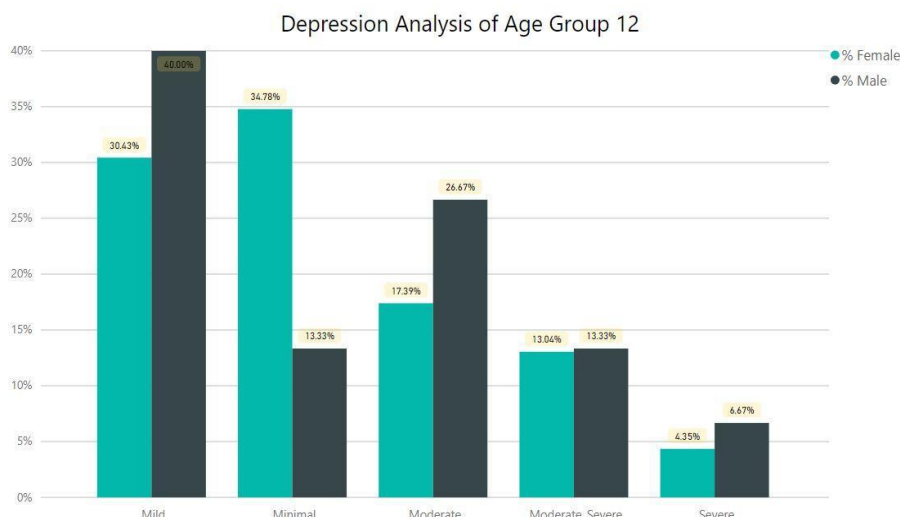

Figure-1: Depression Analysis of age group 12 (Male & Female)

Age Group 13

We have founded the various depression levels in male and female. Various parameters are present in PHQ-9 and according to those factors we have calculated and segregated each gender in different depression level. Female depression levels areShown in Table-3 & male depression levels are shown in Table 4. Male & Females depression analysis graph is shown in Figure-2

Minimal Level Depression	0%
Mild Level Depression	43%
Moderate Level Depression	32%
Moderate Severe Level Depression	21%
Severe Level Depression	4%

Table-3: Shows the depression level percentage in female age group 13

Minimal Level Depression	5%
Mild Level Depression	13%
Moderate Level Depression	62%
Moderate Severe Level Depression	16%
Severe Level Depression	4%

Table-3: Shows the depression level percentage in male age group 13

This result shows that in the age group of thirteen, Minimal depression difference in male is 5% higher than female and Mild level depression difference in female is 30% Higher than male and Moderate level depression difference in male is 30% higher than female and Moderate Severe level depression is in female 5% higher than male and Severe level depression are both male and female are same.
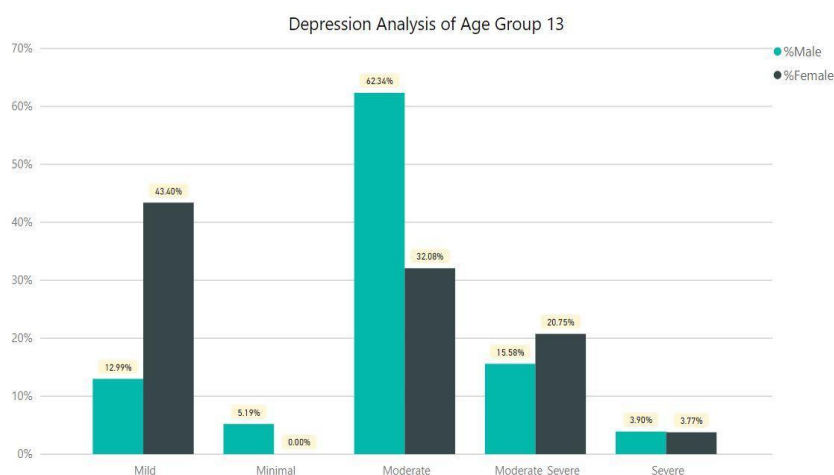

Figure-2: Depression Analysis of age group 13 (Male & Female)

Age Group 14

We have founded the various depression levels in male and female. Various parameters are present in PHQ-9 and according to those factors we have calculated and segregated each gender in different depression level. Female depression levels are Shown in Table-5 & male depression levels are shown in Table 6. Male & Females depression analysis graph is shown in Figure-3

Minimal Level Depression	6%
Mild Level Depression	20%
Moderate Level Depression	36%
Moderate Severe Level Depression	33%
Severe Level Depression	5%

Table-5: Shows the depression level percentage in female age group 14

Minimal Level Depression	3%
Mild Level Depression	16%
Moderate Level Depression	34%
Moderate Severe Level Depression	33%
Severe Level Depression	14%

Table-6: Shows the depression level percentage in male age group 14

This result shows that in the age group of fourteen, Minimal depression difference in female is 3% higher than male and Mild level depression difference in female is 4% Higher than male and Moderate level depression difference in female is 2% higher than male and Moderate Severe level depression same for both male & female and Severe level depression difference in male 9% higher than female.
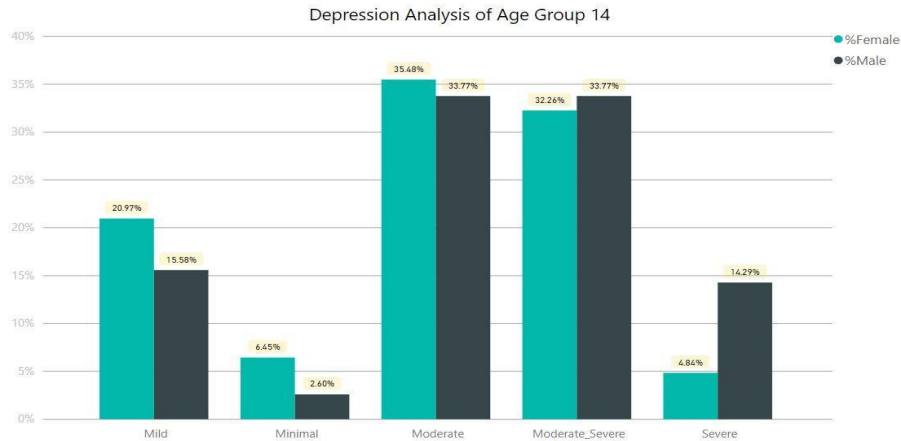

Figure-3: Depression Analysis of age group 14 (Male & Female)

Age Group 15

We have founded the various depression levels in male and female. Various parameters are present in PHQ-9 and according to those factors we have calculated and segregated each gender in different depression level. Female depression levels are Shown in Table-7 & male depression levels are shown in Table 8. Male & Females depression analysis graph is shown in Figure-4

Minimal Level Depression	0%
Mild Level Depression	16%
Moderate Level Depression	47%
Moderate Severe Level Depression	28%
Severe Level Depression	9%

Table-7: Shows the depression level percentage in female age group 15

Minimal Level Depression	5%
Mild Level Depression	19%
Moderate Level Depression	44%
Moderate Severe Level Depression	26%
Severe Level Depression	6%

Table-8: Shows the depression level percentage in male age group 15

This result shows that in the age group of fifteen, Minimal depression difference in male is 5% higher than female and Mild level depression difference in male is 3% Higher than female and Moderate level depression difference in female is 3% higher than male and Moderate Severe level depression is in female 2% higher than male and Severe level depression difference in female 3% higher than male.
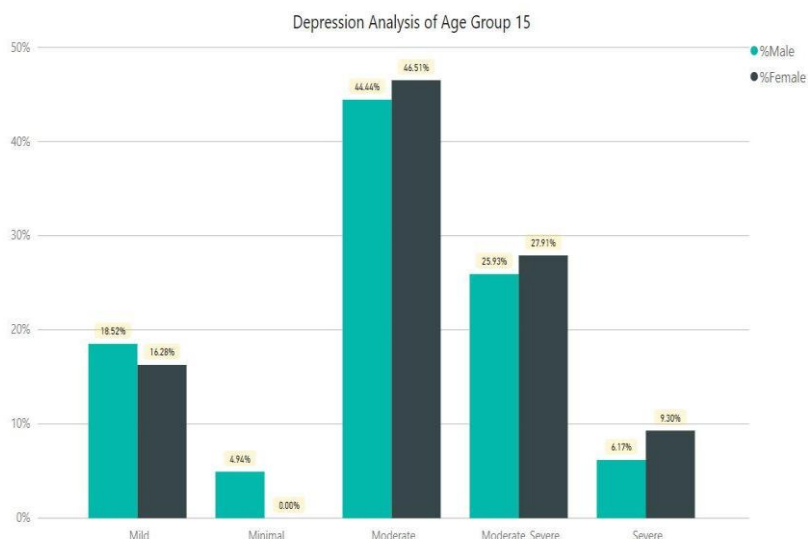
Figure-4: Depression Analysis of age group 15 (Male & Female)

Age Group 16

We have founded the various depression levels in male and female. Various parameters are present in PHQ-9 and according to those factors we have calculated and segregated each gender in different depression level. Female depression levels are Shown in Table-9 & male depression levels are shown in Table 10. Male & Females depression analysis graph is shown in Figure-5

Minimal Level Depression	6%
Mild Level Depression	23%
Moderate Level Depression	24%
Moderate Severe Level Depression	47%
Severe Level Depression	0%

Table-9: Shows the depression level percentage in female age group 16

Minimal Level Depression	4%
Mild Level Depression	16
Moderate Level Depression	35%
Moderate Severe Level Depression	36%
Severe Level Depression	9%

Table-10: Shows the depression level percentage in male age group 16

This result shows that in the age group of sixteen, Minimal depression difference in female is 2% higher than male and Mild level depression difference in female is 7% Higher than male and Moderate level depression difference in male is 11% higher than female and Moderate Severe level depression is in female 11% higher than male and Severe level depression difference in male 9% higher than female.
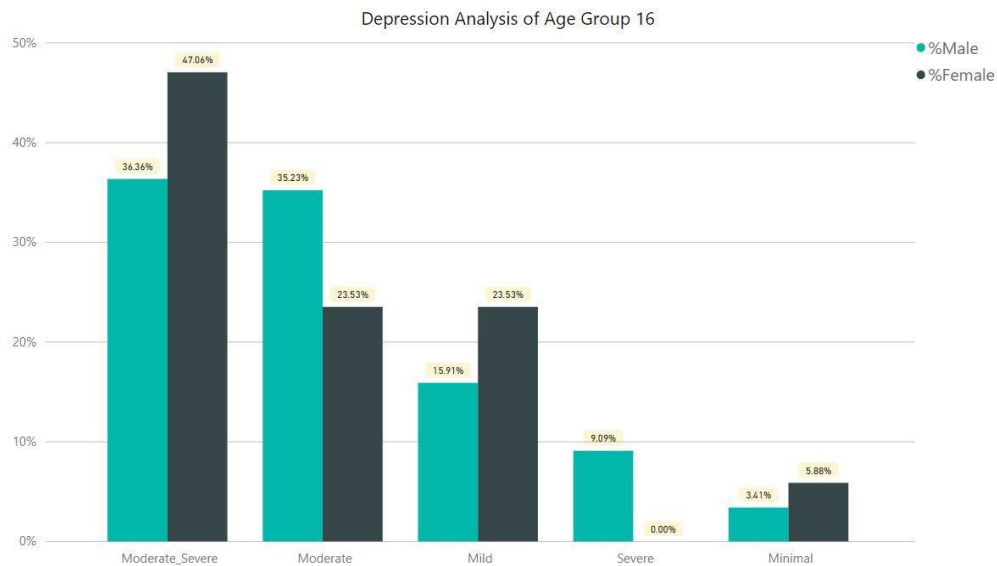
Figure-5: Depression Analysis of age group 16 (Male & Female)

Over All (12-16) Age Group

We have founded the various depression levels in male and female. Various parameters are present in PHQ-9 and according to those factors we have calculated and segregated each gender in different depression level. Female depression levels are Shown in Table-11 & male depression levels are shown in Table 12. Male & Females depression analysis graph is shown in Figure-5

Minimal Level Depression	7%
Mild Level Depression	28%
Moderate Level Depression	34%
Moderate Severe Level Depression	26%
Severe Level Depression	5%

Table-11: shows the overall depression level percentage in female

Minimal Level Depression	5%
Mild Level Depression	18%
Moderate Level Depression	42%
Moderate Severe Level Depression	27%
Severe Level Depression	8%

Table-12: shows the overall depression level percentage in male

This result shows that in the age group of (12-16), Minimal depression difference in female is 6% higher than male and Mild level depression difference in female is 10% Higher than male and Moderate level depression difference in male is 8% higher than female and Moderate Severe level depression is in male 1% higher than female and Severe level depression difference in male 3% higher than female.
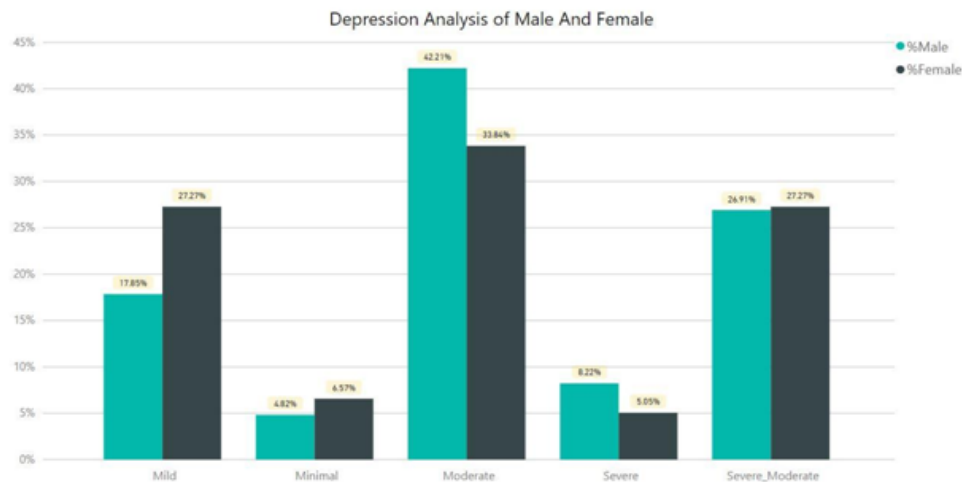
Figure-5: overall depression analysis of male and female

IV. CONCLUSION

Understanding the type of mental health problems that precede future criminal behavior is critical for developing effective intervention programs which are targeted at juvenile people who suffer from these disorders [15]. These Research outcomes, in this paper provides strong sustenance for a progressive and severe depression possibility of committing crime during adulthood. Our Research result shows that 8% male & 5% female are suffering from severe depression which indicates the onset of future Criminal behavior. This suggests that there is a self-determining effect of "juvenile depression" on future major crime that will be developed in the person. These Research findings, persist only for the students of three different schools in Udaipur district of Rajasthan. Depression levels are co-related to crime activities which is done by juvenile youth.

Some of the factors which are affecting the student's behavior are gaming, study pressure, family pressure etc. There is a precise variation in the depression level of various age groups but in students of age group fourteen we found that 14% males are suffering from severe depression compare to minor 4% in females. Similarly, in students of age group 16 we found that 9 % females are suffering from severe depression compare to only 0% in males. Depression level of these young students are increasing day by because they involved in violent games such as e.g. "blue whale" etc., have Family pressure, have Study Pressure, have rigorous competition among peers etc. Due to this increment they are being involved in certain criminal activities, and various misbehavior, thus we must create awareness among society to release the extra pressure from the juvenile population and provide them calm and peaceful environment.

REFERENCES

[1].   By 2020, the WHO predicts that depression will be the second leading contributor to the global burden of disease (WHO, 2001).
[2].   Pilgrim D. The biopsychosocial model in Anglo-American psychiatry: past, present and future? J Ment Health 2002;11:585–94.
[3].   Karen Freeman *et al*; "Understanding the relationship between crime victimisation and mental health: A longitudinal analysis of population data", CRIME AND JUSTICE Bulletin, Contemporary Issues in Crime and Justice Number 177, **May 2014.**
[4].   Rutter, M., &Sroufe, Developmental psychopathology; Concepts and challenges, *Development and psychopathology, 12,*2000,265-296.
[5].   Dishion, T. J., & McMahon, R. J. (1998),Parental monitoring and the prevention ofchild and adolescent problem behavior: Aconceptual and empirical formulation, *Clinicalchild and family psychology review, 1,*61-75.
[6].   Dishion, T. J., Patterson, G. R., Stoolmiller, M. &Skinner, M. L. (1991), Family, school andbehavioral antecedents to early adolescentinvolvement with delinquent peers,*Developmental psychology*, *27*, 172-180.
[7].   Farrington, D. P. (1995), The developmentofoffending and antisocial behaviourfromchildhood: Key findings from the CambridgeStudy in Delinquent Development, *Journal ofchild psychology and psychiatry*, *36*, 929-964.

[8]. Stouthamer-Loeber, M., Loeber, R., Farrington,D. P., Zhang, Q., VanKammen, W. B., &Maguin, E., (1993), The double edge of protective and risk factors for delinquency: Interrelations anddevelopmental patterns, *Development and psychopathology*, *5,* 683-701.

[9]. Reid, J. B. & Patterson, G. R. (1989) The development of antisocial behavior patterns inchildhood and adolescence, *European Journalof Personality, 3,* 107-119.

[10]. Gottfred son, M. R. &Hirschi, T. (1990), *Ageneral theory of crime*, Stanford, CA: Stanford University Press.

[11]. West, D. & Farrington, D. P. (1973), *Who becomes delinquent?* London: Heinemann.

[12]. Bartusch, D. R. J., Lynam, D. R., Moffitt, T. E. &Silva, P. A. (1997), Is age important? Testing a general versus developmental theory of antisocial behavior, *Criminology, 35,* 13-48.

[13]. Fergusson, D. M., Lynskey, M. T., &Horwood,L. J., (1996) Factors associated with continuityand change in disruptive behavior patternsbetween childhood and adolescence, *Journalof abnormal child psychology*, *24*, 533-553.

[14]. **https://patient.info/doctor/patient-health-questionnaire-phq-9, 10.04.2018.**

[15]. D. Mark Anderson *et al;* "Youth Depression and Future Criminal Behavior", IZA Discussion Paper No. 6577, May 2012.