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SOCIO-DEMOGRAPHIC AND PSYCHOLOGICAL PREDICTORS OF DELINQUENCY AMONG ADOLESCENTS: EVIDENCE FROM SELECTED DISTRICTS OF ODISHA

Priti Sriranjan
Assistant Professor & Head
Department of Psychology
Narasingh Choudhury Autonomous College, Jajpur, Odisha, India
Email: pritisriranjan@gmail.com

Abstract
This research examines the psycho-social factors that influence delinquent behaviour in junior high school students in a few areas of Odisha. The study used standardised tools to evaluate 500 children, ages 12 to 18, for impulsivity, empathy, and delinquent behaviour using a descriptive-correlational methodology. Multiple regression and Pearson's correlation were among the statistical studies that showed a significant relationship between increased delinquency and lower empathy and higher impulsivity. Other sociodemographic characteristics that were shown to be significant predictors were male gender, poor family income, and single-parent family structures. The combined impact of psychological and environmental factors was highlighted by the fact that regression models explained 58% of the variation in delinquent behaviour. While offering region-specific insights into adolescent behaviour, these findings also corroborate established theoretical theories, such as the Social Control Theory and the General Strain Theory. The study emphasises the necessity of early interventions that emphasise family support and emotional regulation, especially in low-income areas.

Keywords*: Delinquency, Adolescents, Impulsivity, Empathy, Socio-demographic Factors, Odisha*

I.INTRODUCTION

According to Steinberg (2005), adolescence is a crucial period of transition characterised by rapid biological, cognitive, and social growth, identity creation, increasing emotional sensitivity, and independence from parental control. Although these shifts are normative, they also make teenagers more susceptible to maladaptive behaviours, including delinquency, which includes stealing, truancy, aggressiveness, breaking the law, and vandalism. These behaviours have a negative impact on social connections and scholastic performance (Gautam & Sharma, 2025).

Adolescents in India's semi-urban and rural areas, like Odisha, deal with socioenvironmental stresses that include financial difficulties, a lack of educational resources, family turmoil, and damaging peer pressure. These outside influences combine with personal psychological weaknesses, especially a lack of empathy and poor impulse control, to increase the probability of delinquent behaviour (Mishra & Biswal, 2018). Prosocial vs antisocial outcomes are significantly predicted by impulse control, which is the capacity to suppress immediate desires in favour of socially acceptable behaviours, and empathy, which is the ability to comprehend and share the feelings of others (Moeller et al., 2001; Jolliffe & Farrington, 2006).

Delinquent tendencies are further shaped by sociodemographic characteristics. While older adolescents show persistent antisocial behaviours and younger adolescents exhibit experimental delinquency, male adolescents are more likely to engage in externalising activities (Heimer & De

Coster, 1999; Moffitt, 1993). Delinquent risk is increased in low-income or single-parent homes due to increased stress exposure, less supervision, and increased vulnerability to peer pressure (Sampson & Laub, 1993; Biswal & Mishra, 2020). Identifying adolescents who are at risk and creating focused treatments requires an understanding of how psychological characteristics and sociodemographic variables interact.

Theoretical Framework

This study draws on three complementary perspectives:

General Strain Theory (GST) – According to Agnew (1992), pressures like familial strife, scholastic failure, or financial difficulties might cause teenagers to develop deviant coping mechanisms.

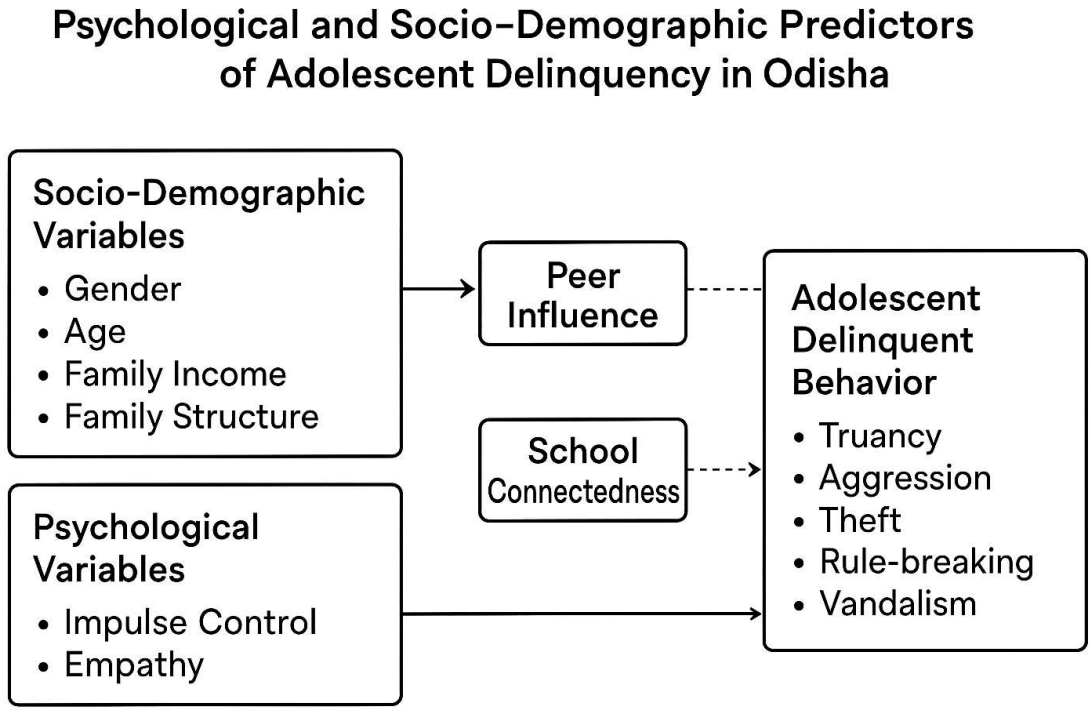
Social Control Theory (SCT) – Hirschi (1969) highlights that while weak ties make people more prone to antisocial behaviour, strong ties to family, school, and societal standards prevent delinquency.

Developmental Psychopathology Perspective – According to Cicchetti and Rogosch (1997), normal behaviours can progress into chronic delinquency when environmental risk factors and personal vulnerabilities—such as poor impulse control or empathy deficits—interact.

Conceptual Framework

In order to predict teenage delinquency, the conceptual framework incorporates psychological traits like empathy and impulse control as well as sociodemographic characteristics like gender, age, family income, and family structure. It suggests that individual characteristics and socioenvironmental factors work together to produce delinquent behaviour, which serves as the foundation for context-specific interventions in Odisha's educational system.

Figure 1. Psychological and Socio-Demographic Predictors of Adolescent Delinquency in Odisha



Significance of the Study

Due to the sociocultural and economic diversity in Odisha, adolescents have particular difficulties in their development. Structured psychological support is frequently lacking in schools, and teenagers deal with a variety of challenging peer, parental, and academic challenges. The purpose of this study is to identify important sociodemographic and psychological factors that predict delinquency in order to guide culturally appropriate, evidence-based treatments that improve community, family, and school participation.

Global Perspectives on Adolescent Delinquency

Research shows that excessive impulsivity, low empathy, and deficiencies in self-regulation all contribute to juvenile delinquency (Moeller et al., 2001; Jolliffe & Farrington, 2006). Deviant peer association, poor socioeconomic level, and familial hardship all enhance risk, and males report greater rates of delinquency worldwide, suggesting violent actions that are socially acceptable (Heimer & De Coster, 1999; Piquero, 2005).

Adolescent Delinquency in India

Research conducted in India indicates an increase in teenage drug use, theft, truancy, and aggressiveness (Kumar et al., 2023; Harikrishnan & Sailo, 2021). Students from semi-urban areas are especially susceptible to social pressure, family disturbance, and academic failure (Hoeve et al., 2009). Gender disparities reflect worldwide trends: women tend to internalise stress, whilst men tend to externalise it (Sekaran, 2024). According to Gupta et al. (2022), neighbourhood violence, socioeconomic hardship, and a lack of parental supervision continue to be important factors in delinquency.

Odisha-Specific Studies

Adolescents in rural and semi-urban areas of Odisha are more vulnerable to peer pressure, family instability, poverty, and limited educational opportunities (Biswal & Mishra, 2020). According to research, teenagers with lower incomes exhibit more antisocial and aggressive behaviours than their peers with greater incomes (Mahanty et al., 2015). According to trends from 2003 to 2021, family disturbance and socioeconomic hardship are major factors in the continuous rise in adolescent offences, especially stealing and property crimes (Panda, Sahoo, & Mohapatra, 2023).

Psychological Predictors: Impulse Control and Empathy

Impulse control deficiencies make people more prone to aggressive behaviour, risk-taking, and antisocial behaviour (Moeller et al., 2001; Loeber & Farrington, 1998). While social-emotional learning interventions have shown effectiveness in lowering delinquent tendencies by developing prosocial behaviour, low empathy is linked to bullying, manipulation, and rule breaches (Jolliffe & Farrington, 2006; Javakhishvili & Vazsonyi, 2022).

Socio-Demographic Predictors

While older adolescents show persistent antisocial behaviours and younger adolescents exhibit experimental delinquency, male adolescents are more likely to participate in externalising activities (Heimer & De Coster, 1999; Moffitt, 1993). Due to stress, a lack of supervision, and limited access to supportive surroundings, low-income families and single-parent homes are more vulnerable (Shader, 2004; Biswal & Mishra, 2020; Demuth & Brown, 2004).

School and Peer Influences

According to Hawkins et al. (1992), delinquency is prevented by school connection and excellent teacher-student interactions, while risk is increased by poor attachment and excessive peer dependency. Where deviant norms are prevalent, peer-centred socialisation increases risk-taking (Dishion & Tipsord, 2011; Prinstein & Dodge, 2008). Antisocial behaviour has been successfully decreased by interventions that focus on peer networks and school atmosphere (Ttofi & Farrington, 2011).

Implications for Intervention

Research backs multifaceted therapies that target sociodemographic, family, and psychological risk factors. According to Durlak et al. (2011) and Hahn et al. (2007), school-based initiatives that improve social-emotional skills, empathy, and impulse control dramatically lower delinquency. In order to create safe spaces, community and parent involvement are essential. Given Odisha's distinct socioeconomic and educational difficulties, culturally sensitive treatments are especially important (Pradhan & Das, 2025; Mohanty & Misra, 2000).

II. OBJECTIVES OF THE STUDY

The main objective of this study is to examine the psycho-social and socio-demographic factors that predict delinquent behaviour among adolescents in selected schools in Odisha. The specific objectives are:

1. To identify the demographic profile of adolescents in terms of age, gender, family income, and family structure.
2. To assess the levels of impulse control and empathy among the adolescents.
3. To determine the prevalence, frequency, and intensity of delinquent behaviours among adolescents.
4. To examine the relationship between psychological factors (impulse control, empathy) and delinquent behaviours.
5. To examine the relationship between socio-demographic factors (gender, age, family income, family structure) and delinquent behaviours.
6. To provide a basis for intervention programs aimed at reducing delinquent behaviours in adolescents.

III. HYPOTHESES

Based on the literature and conceptual framework, the study proposes the following hypotheses:

H1: Adolescents with lower impulse control are more likely to exhibit delinquent behaviours.

H2: Adolescents with lower empathy are more likely to engage in delinquent behaviours.

H3: Male adolescents demonstrate higher levels of delinquent behaviour compared to female adolescents.

H4: Adolescents from low-income families are more likely to engage in delinquent behaviours than those from higher-income families.

H5: Adolescents from single-parent or disrupted families show higher levels of delinquent behaviour compared to those from two-parent households.

H6: There is a significant relationship between socio-demographic and psychological factors jointly predicting delinquent behaviour among adolescents.

IV. METHODOLOGY

Research Design

Using a descriptive-correlational research approach, this study looks at the connections between psychological and sociodemographic characteristics and juvenile delinquent behaviour in a few Odisha schools. Because it enables the evaluation of the direction and degree of correlations between the dependent variable, delinquent behaviour, and several independent variables, including gender, age, empathy, impulse control, family income, and family structure, a correlational method is appropriate. An overview of the frequency and severity of delinquent behaviours within the sample population is given by the descriptive component.

Participants

Odisha's urban, semi-urban, and rural junior high school students between the ages of 12 and 18 were the study's target population. Stratified random sampling was used to choose 500 participants

in order to guarantee representation across family structure, gender, and socioeconomic background. School type (private, semi-private, or government) and location were taken into consideration via stratification. To ensure sample homogeneity, pupils with confirmed severe cognitive or psychiatric impairments were eliminated, while those who had been enrolled in the school for at least one academic year met the inclusion requirements.

Instruments

The study used both a questionnaire created especially to evaluate delinquent behaviours and standardised psychological tools to guarantee accurate and valid evaluation of the variables being examined.

1. Demographic Questionnaire

Participants' age, gender, family income, family structure, and birth order were all gathered using a standardised demographic questionnaire. These sociodemographic factors were thought to be crucial indicators of juvenile delinquency. To make sure the items were acceptable and clear, a pilot test of the questionnaire was conducted with a sample of fifty teenagers who were not involved in the main study.

2. Barratt Impulsiveness Scale (BIS-11)

An extensively established tool for evaluating impulsivity in adults and adolescents is the BIS-11. Its thirty items are broken down into three subscales: non-planning impulsiveness (e.g., lack of forethought), motor impulsiveness (e.g., acting without thinking), and attentional impulsiveness (e.g., difficulties focusing attention). A 4-point Likert scale, with 1 denoting "rarely/never" and 4 denoting "almost always/always," is used to record responses; higher scores indicate greater impulsivity. Because impulsivity has been repeatedly associated with antisocial and delinquent behaviours, such as substance abuse, rule-breaking, and aggressiveness, this measure was chosen. Previous research on adolescents has shown good internal consistency, with Cronbach's alpha ranging from 0.79 to 0.83 (Patton et al., 1995; Stanford et al., 2009).

3. Empathy Quotient (EQ)

Both affective empathy (responding emotionally to others' feelings) and cognitive empathy (understanding others' mental states) are measured by the EQ, which was created by Baron-Cohen et al. (Lawrence et al., 2004). It has 60 items with a 4-point rating system, 40 of which are empathy items and 20 of which are filler items. Higher scores indicate greater empathy; scores can range from 0 to 80. Since higher antisocial behaviour has been associated with lower empathy scores, EQ is extremely important to this study. According to earlier studies, teenage samples have Cronbach's alpha values between 0.85 and 0.88, which indicates high reliability (Allison et al., 2011).

4. Delinquent Behaviour Checklist (DBC)

The frequency, severity, and length of delinquent acts were assessed using a self-made questionnaire. Behaviours including verbal abuse, theft, property destruction, disobedience of authority, and truancy were among the items. A 5-point Likert scale was included in the checklist, with 1 denoting "Never" and 5 denoting "Very Frequently." A total of five specialists in school counselling and adolescent psychology examined the checklist to determine its content validity. The dependability of the main sample was established by a pilot study with 50 teenagers (Cronbach's alpha = 0.87). The DBC made it possible to evaluate delinquent behaviours unique to the Odisha school setting in a culturally sensitive manner that may not be completely captured by conventional questionnaires.

Procedure

Prior to data collection, informed consent was sought from parents or guardians, teenagers gave their approval, and authorisation was obtained from the relevant educational authorities. The goal of the study was explained to the participants, they received confidentiality guarantees, and they were made aware of their freedom to discontinue participation at any moment. Under the guidance of qualified research assistants, data collection took place in classrooms. To guarantee uniformity, participants filled out the demographic survey, the Barratt Impulsiveness Scale (BIS-11), the Empathy Quotient (EQ), and the Delinquent Behaviour Checklist (DBC) in a predetermined order. Without influencing replies, spoken instructions were delivered, and clarification was offered when needed. Questionnaires were promptly gathered and their completeness verified. Following data coding, IBM SPSS Statistics version 26 was used to analyse the data. Throughout the study, full adherence to ethical principles was maintained, including voluntary participation, anonymity, and secrecy.

Data Analysis

IBM SPSS Statistics, version 26, was used to evaluate the data. The sociodemographic traits, psychological measures, and delinquent behaviours of the participants were summarised using descriptive statistics, such as frequencies, percentages, means, and standard deviations. The association between delinquent behaviour, sociodemographic factors, empathy, and impulsivity was investigated using Pearson's Product-Moment Correlation Coefficient. To find out how well psychological and sociodemographic components together predict delinquency, multiple regression analysis was used. The study also included independent samples t-tests to evaluate variations in delinquent behaviour according to family structure, income, and gender. The suitability of parametric analyses was confirmed by confirming the assumptions of normality, linearity, and homoscedasticity.

V.RESULTS

Demographic Profile

The study sample consisted of 500 adolescents aged 12–18 years, with a nearly equal gender distribution (49.8% male, 50.2% female). Age groups were categorised as 12–14 years (35%), 15–16 years (40%), and 17–18 years (25%). Family income distribution showed 35% from low-income, 45% from middle-income, and 20% from high-income households. Family structure analysis indicated 60% living with both parents, 25% with a single parent, and 15% in other arrangements.

Table I summarises the demographic characteristics of participants.

Table 1 – Demographic Characteristics of Participants

Variable	Category	Frequency	Percentage
Gender	Male	249	49.8%
	Female	251	50.2%
Age Group	12-14	175	35%
	15-16	200	40%
	17-18	125	25%
Family Income	Low	175	35%
	Middle	225	45%
	High	100	20%
Family Structure	Both Parents	300	60%
	Single Parent	125	25%
	Others	75	15%

Impulse Control and Empathy

The mean Barratt Impulsiveness Scale (BIS-11) score was 68.4 (SD = 9.2), reflecting moderate impulsivity. The mean Empathy Quotient (EQ) score was 32.5 (SD = 6.8), indicating moderate to low empathy among participants.

Table 2 – Descriptive Statistics for Psychological Measures

Variable	Mean	Standard Deviation	Interpretation
BIS-11(Impulsivity)	68.4	9.2	Moderate
EQ(Empathy)	32.5	6.8	Moderate to Low

Figure 2 illustrates the distribution of impulsivity and empathy scores among participants.

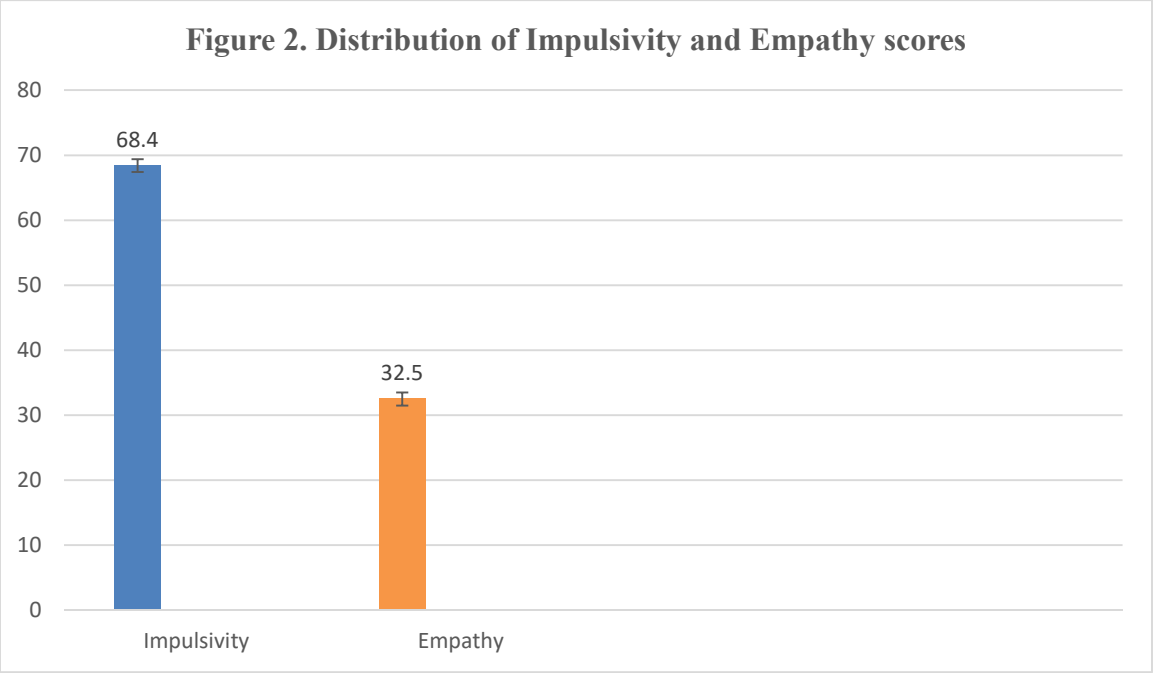


Figure 2 – Distribution of Impulsivity and Empathy Scores
(Bar graph showing mean BIS-11 and EQ scores.)

Delinquent Behaviours

Analysis of the Delinquent Behaviour Checklist (DBC) revealed that 45% of adolescents had engaged in at least one delinquent act within the past six months. The most common behaviours included truancy (30%), verbal aggression (25%), and minor theft (20%).

Table 3 – Frequency of Delinquent Behaviours

Behaviour Type	Frequency (%)
Truancy	30%
Verbal Aggression	25%
Minor Theft	20%
Property Damage	15%
Defiance of Authority	10%

Correlational Analysis

Pearson's correlation analysis revealed significant positive associations between impulsivity and delinquent behaviour ($r = .62$, $p < .01$), and a significant negative association between empathy and delinquency ($r = -.58$, $p < .01$). Socio-demographic variables such as low family income ($r = .41$, $p < .05$) and single-parent family structure ($r = .38$, $p < .05$) were also significantly correlated with higher delinquency scores.

Table 4- Correlations Between Psychological, Socio-Demographic Variables, and Delinquent Behaviour

Predictor Variable	Correlation Coefficient (r)	p-value
Impulsivity (BIS-11)	.62	<.01
Empathy (EQ)	-.58	<.01
Low Family Income	.41	<.05
Single-Parent Family Structure	.38	<.05

Note: All correlations are significant at the indicated levels.

Gender Differences in Delinquency Scores

Independent samples t-tests indicated that male adolescents reported significantly higher delinquency scores than females ($t = 3.45$, $p < .01$). This aligns with prior research suggesting that males typically engage in more risk-taking and aggressive behaviours during adolescence.

Table 5-Independent Samples t-test: Gender Differences in Delinquency Scores

Variable	Group	N	Mean (M)	SD	*t-value*	df	*p-value*
Delinquency Score	Male	250	18.65	4.12	3.45	498	<.01
	Female	250	15.40	3.87			

Note: Male adolescents scored significantly higher than female adolescents on delinquency.

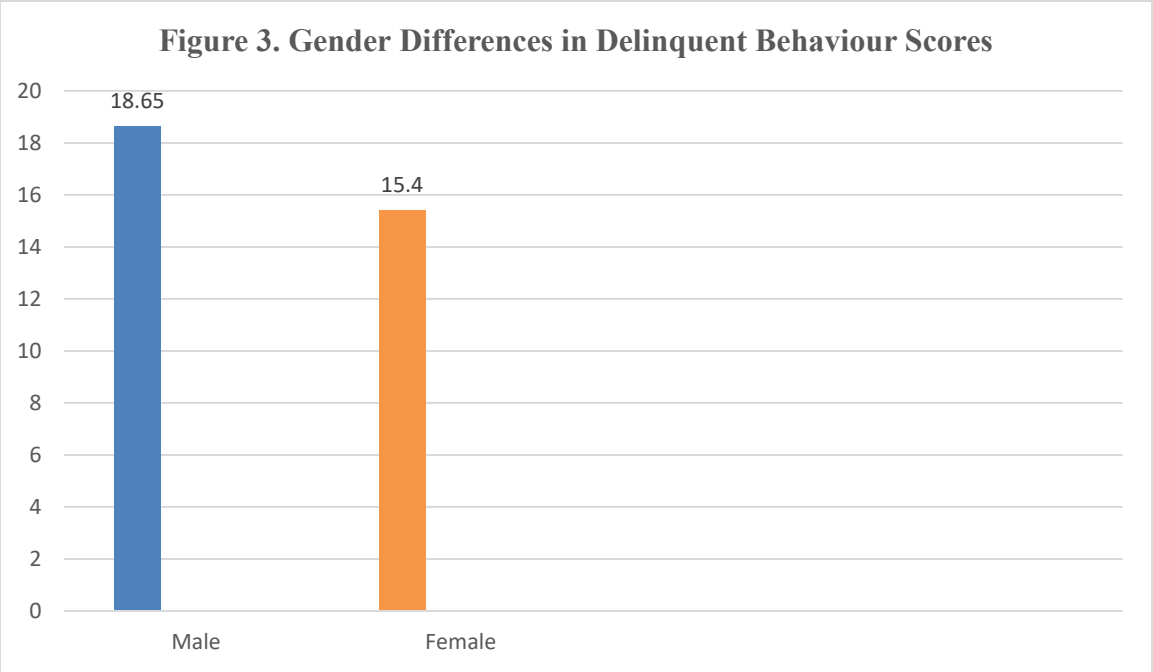


Figure 3 – Gender Differences in Delinquent Behaviour Scores

(Bar graph comparing mean delinquency scores for males and females.)

Regression Analysis

Multiple regression analysis showed that impulsivity and empathy together accounted for 42% of the variance in delinquent behaviour ($R^2 = 0.42$, F (2,497) =179.97, $p < .01$). When socio-demographic variables (gender, family income, family structure) were added, the model explained 58% of the variance ($R^2 = 0.58$, F (5, 494) =136.47, $p < .01$), demonstrating that both psychological and environmental factors significantly contribute to delinquency.

Table 6 – Summary of Multiple Regression Analysis Predicting Delinquent Behaviour (N=500)

Predictor Variable	β	*t*	*p*
Impulsivity (BIS-11)	.45	8.21	<.01
Empathy (EQ)	-.37	-6.73	<.01
Gender (Male=1)	.21	4.12	<.01
Low Family Income (Yes=1)	.19	3.55	<.01
Single-Parent Family (Yes=1)	.17	3.21	<.05

Model Summary:

$R^2 = .42, F (2, 497) = 179.97, p < .01$

$R^2 = .58, \Delta R^2 = .16, F (5, 494) = 136.47, p < .01$

VI. DISCUSSION

The results of this study complement a variety of theoretical stances, such as the General Strain Theory, Social Control Theory, and Ecological Systems Theory, by confirming the multifaceted character of delinquent behaviour among teenagers. The participants' high levels of impulsivity are in line with other studies that found that teenagers who struggle with impulse control are more likely to act in ways that are risky or antisocial (Moeller et al., 2001; White et al., 2005; Steinberg, 2008). According to the Barratt Impulsiveness Scale mean score of 68.4, many students act without enough planning, which raises their risk of engaging in aggressive behaviour, absenteeism, and property-related offences.

In a similar vein, the Empathy Quotient scores, which indicate low empathy, corroborate previous research showing that adolescents who lack emotional awareness or social understanding are more likely to cause harm to others without feeling guilty (Ashraf et al., 2014; Robinson et al., 2007; Durán Palacio et al., 2025). Echoing the findings of Baron-Cohen & Wheelwright (2004), the negative correlation between empathy and delinquency ($r = –.58$, $p < .01$) supports the claim that emotional deficiencies are important causes of deviant behaviour.

In particular, the higher rates of delinquency among male students, students from low-income households, and students from single-parent households are in line with the findings of previous empirical studies conducted in both Indian and international contexts, as well as the predictions of Social Disorganisation Theory (Sampson et al., 1997; Demuth & Brown, 2004; Moitra et al., 2017). Stable social networks, regular discipline, and financial stability are all protective factors against delinquency that these teenagers frequently lack. This implies that adolescent misbehaviour has a definite socioeconomic component that calls for institutional and governmental solutions.

Furthermore, impulsivity, empathy, gender, and socioeconomic background all contributed to 58% of the variation in delinquent behaviour, according to the regression analysis. The necessity of an integrated treatment plan that considers both environmental factors and psychological characteristics is highlighted by this strong predictive value. The information is consistent with Bronfenbrenner's Ecological Model, which highlights how environmental and individual influences interact to shape teenage development (Bronfenbrenner, 1994; Sheerin et al., 2023).

Crucially, by placing the findings within the unique cultural and educational context of Odisha, the study broadens the body of literature and offers local validity to a collection of worldwide findings. These findings provide a current representation of the psychosocial pressures

encountered by teenagers in semi-urban and rural India, given the region's fast societal changes, growing academic pressure, and lack of school mental health facilities.

VII. CONCLUSION

This study investigated the psycho-social factors of delinquent behaviour in junior high school students in a few Odisha districts. The results of the investigation showed that the frequency and severity of delinquent behaviour are greatly influenced by psychological traits like impulsivity and empathy, as well as sociodemographic characteristics like gender, family income, and family structure.

Results showed that teenagers who scored lower on empathy and higher on impulsivity were more likely to engage in delinquent behaviour. Additionally, it was shown that male pupils from single-parent households and those from lower-income families were especially at risk. These trends support the necessity of systemic, school-based, and community-level interventions and are consistent with several important theoretical stances.

The study adds region-specific information that is pertinent to Odisha's educators, psychologists, and policymakers, in addition to validating findings from the larger body of literature. According to the regression model's comparatively strong explanatory power ($R^2 = .58$), treatments that focus on individual traits and environmental risk factors may be rather efficient.

Multi-layered treatments that address the psychological and sociodemographic aspects that contribute to teenage delinquency are urgently needed, according to the study's findings. Structured social-emotional learning (SEL) programs should be used in schools to improve emotional regulation, empathy, and impulse control. Effective identification and management of at-risk kids can be facilitated by regular psychiatric screening, qualified school counsellors, and teacher development initiatives. To reduce behavioural problems, it is also crucial to build inclusive educational environments and improve the connections between teachers and students. Behaviour consistency between the home and the school may be strengthened by working together with parents, particularly in single-parent families, through frequent interaction and family counselling.

It is crucial to implement community-based youth development initiatives in high-risk regions and increase access to mental health resources in schools at the policy level. Programs like conditional support plans, peer mentorship, and after-school groups can discourage criminality and truancy while encouraging prosocial behaviour. Future studies should use longitudinal designs and consider emerging variables, including peer pressure online, cyber-behaviour, and digital exposure. Our knowledge of teenage behaviour may be further enhanced, and evidence-based treatments can be supported by a multi-informant approach that incorporates perspectives from educators and caretakers.

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