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Wired for Conflict: Neuroticism, Control, and Peer Violence in Indian Teens

[1]**Shreeya Sharan**, *Bachelor of Arts, Applied Psychology (Hons. with Research), Amity Institute of Psychology and Allied Sciences Amity University, Noida, India*

shreeyaamity@gmail.com

[2]**Dr. Pankaj Singh**, *Assistant Professor, Amity Institute of Psychology and Allied Sciences Amity University, Noida, India* psingh32@amity.edu

Abstract: This study examines the interaction among neuroticism, locus of control (LOC), and attitudes towards interpersonal peer violence (IPV) in middle and high school students in India, as a critical lacuna in the knowledge of psychological predictors of adolescent aggression. A comparative cross-sectional design was used, and data were collected from 189 participants. The results showed a strong positive correlation between LOC and neuroticism, but no significant correlations between neuroticism or LOC and IPV attitudes. Additionally, the proposed mediating role of LOC was not supported. These findings reflect the complex nature of the determinants of attitudes towards IPV, suggesting that other psychosocial variables are at play. The study challenges future research to examine additional mediators and cultural variables to inform effective interventions to stop adolescent aggression, suggesting the necessity for a holistic knowledge of behavioural outcomes in various settings.

Keyword: *Neuroticism, Attitude towards Interpersonal Peer Violence, Rotter's Locus of Control, Middle School, High School*

1. Introduction

"The tenacity with which the neurotic adheres to any attitude is a sure indication that the attitude fulfils functions which seem indispensable in the framework of his neurosis."

-Karen Horney, Neurosis and Human Growth: The Struggle Towards Self-Realization

Horney believed that neurotic behaviours and attitudes are not random or meaningless; rather, they serve critical psychological functions for the individual. A neurotic person clings stubbornly to certain attitudes, beliefs, or behaviours because these have become essential coping mechanisms for managing

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deepseated anxiety or insecurity. The "tenacity" or stubbornness is a signal that these attitudes are not just habits, but are felt to be necessary for the person's psychological survival (Nickerson, 2024).

Eysenck, in his PEN model of personality postulates neuroticism to be proportional to the activation of the sympathetic nervous system in response to stressors. While behavioural components encompass impulsivity and listlessness, cognitive components subsume jealousy, worry, feeling tense or vulnerable, being self- conscious, etc (McCrae, 2004; McCrae, 1987). In a study conducted on children aged 8 to 13, it was observed that bullies scored highest on the neuroticism scale as compared to other groups (Mynard, 1997). Individuals high on neuroticism have been studied to conduct social distance as well as show higher degree of racism, nonetheless it does not imply conflict with outgroups (Jonas et al., 2021).

The innocence and purity of a child, pageanted cosmically, is exhibited by their immediate conversion of thought to action. If this thought in prospect may attach to experience it shall embed in the conscious as an emotional evaluation leading to attitude formation. Attitudes regulate behaviour, strengthened by emotions. Attitudes, consequently shall be regulated in order to ensure deterrence of maladaptively. In 2008, South Delhi adolescents reported a rate of 13.5% engagement of either threatening or injuring someone with a weapon, while physical fights among towered at 49.1% within a duration of 12 months (Sharma, 2008). Attitude towards Interpersonal Peer Violence (IPV) is indicative of cognition that condones IPV, this study begets a conjecture that the affect component of positive IPV attitude can be accounted for by neuroticism traits in an individual. Another premise of this investigation is that the cognitive component of IPV attitude holds in its summative value either a direct or indirect influence of Locus of Control (LOC). In a study conducted on Japanese and American students, it was inferred that the Japanese students had significantly more of a favourable attitude towards bullying that is rationalized by their strong external orientation of LOC (Kobayashi & Farrington, 2020).

Rotter proposed Locus of Control; "delineating beliefs conjoined to control of life events" (Rotter, 1990). External LOC is analogous to out of control or attributing outcomes of events to "external or uncontrollable" factors, on the contrary, an internal LOC corresponds to notion that an individual has control over outcomes of occurrences.

At present, a paucity of quantitative analysis studying the direct, indirect nor the totality of such effects has been observed. This investigation seeks to plough, statistically, whether such a tripartite exists. This shall advantage institutions imparting education as well as those engaged in counselling to ascertain motives, cognitions and deduce logic behind the still impressionable minds of children and adolescents alike. In the course of structuring environments of schools that have become increasingly meritocratic creating an unhealthy biome where a highly nurturing, inclusive and empowering environment should foster, educators and counsellors can benefit from a conclusive relationship as such. Controlling social hierarchies among students within educational institutions is an extensive task, nonetheless, mental health practitioners, both

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involved in school counselling and clinical practice, can tailor preventative strategies or early intervention strategies whence a relationship is established.

Conceptual Framework

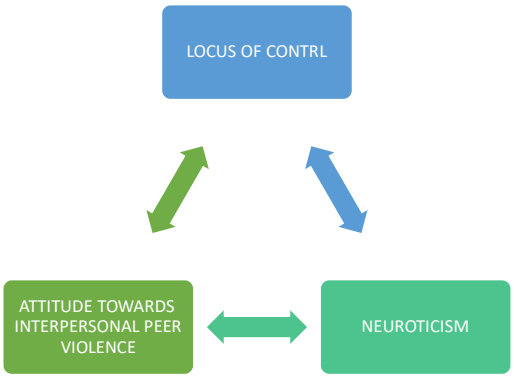

Figure 1*: Conceptual framework of the relationship between Attitude towards Interpersonal Peer Violence, Neuroticism and Locus of Control.*

(Source: Author)

2. Methodology

2.1 Problem

To study the inter – relationship among Attitude towards Interpersonal Peer Violence, Neuroticism and Locus of Control among middle school and high school students.

2.2 Research Objectives

- **a.** To study the association of Attitude towards Interpersonal Peer Violence and Neuroticism.
- **b.** To study the association of Attitude towards Interpersonal Peer Violence and Locus of Control.
- **c.** To study the association of Neuroticism and Locus of Control.
- **d.** To study the mediating role of Attitude towards Interpersonal Peer Violence, Neuroticism and Locus of Control.
- **e.** To study the difference in the levels of Neuroticism among Middle school and High School students.
- **f.** To study the difference in the Locus of Control among Middle school and High School students.
- **g.** To study the difference in the Attitude towards Interpersonal Peer Violence among Middle school and High School students.

2.3 Hypothesis

- **a.** There is a significant relationship between Attitude towards Interpersonal Peer Violence and Neuroticism among students.
- **b.** There is a significant relationship between Attitude towards Interpersonal Peer Violence and Locus of Control among students.

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c. There is a significant relationship between Neuroticism and Locus of Control among students.

d. Neuroticism significantly mediates the relationship between Locus of Control and Attitude towards Interpersonal Peer Violence.

e. There is a statistically significant difference in the levels of Neuroticism between Middle school and High school students.

f. There is a statistically significant difference in the Locus of Control between Middle school and High school students.

g. There is a statistically significant difference Attitude towards Interpersonal Peer Violence between Middle school and High school students.

2.4 Research Design

Comparative Cross - Sectional Design was employed to study the relationship between Attitude towards Interpersonal Peer Violence, Neuroticism and Locus of Control among Middle School and High School Students. Data collected through self-report measures for each variable. Comparative analysis between variables for each school- level shall bring insights into how these factors interact at each level. Correlation and mediation analysis will provide insight into the relationship between the variables.

2. 5 Sample

In totality, 189 students were divided into 2 groups equally, based on school- levels, namely Middle Scholl and High School (n=99, for each schooling level). Both, Snowball Sampling and Purposive Sampling methods were adopted to perform data collection. This strategy ensures representation from all grade levels and all sexes of students currently enrolled in schools.

2.6 Variables

Independent Variable: Neuroticism

Dependent Variable: Attitude towards Interpersonal Peer Violence

Mediating Variable: Locus of Control

2.7 Tools

2.7.1 Neuroticism: Eysenck's Personality Questionnaire (EPQ - R): This questionnaire was developed by H. J. Eysenck that measures personality using his PEN Model of Personality. These dimensions are namely: extraversion-introversion, neuroticism stability, and psychoticism. This comprehensive assessment tool consists of 90 items. Each item is a forced-choice question, prompting them to select the statement that best reflects their personality traits. The stability of the questionnaire over time has been confirmed by test-retest reliability coefficients that have been reported to surpass 0.80 throughout time intervals ranging from a few weeks to several months.

2.7.2 Attitude towards Interpersonal Peer Violence: Attitude towards Interpersonal Peer Violence, itself is scale that measures the psychological attribute consists with the tool's name. It was developed by

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Slaby. There are fourteen items on the Likert scale, which runs from 1 to 4. These items evaluate knowledge and proficiency in nonviolent conflict resolution as well as a passive or violent attitude orientation. Students are invited to express their thoughts or sentiments regarding fighting, which is defined as physical altercations that involve pushing and hitting rather than merely disagreements.

2.7.3 Rotter's Locus of Control (LCS): A popular tool for assessing how in control a person feels over their life events is the Locus of Control Scale (LOC), which consists of 29 items. It assesses how much people credit outside factors or their own activities for certain results. Because the LOC uses a forced-choice style, participants must choose the statement for each item that most closely matches their beliefs. Respondents are required to select one of two options presented for each item. There are 29 items in the questionnaire, including six filler questions meant to obscure the test's objective. The reliability comes out typically ranging between 0.70 and 0.90 for internal consistency, and over 0.80 in test retest.

2.8 Statistical Analysis

Means, standard deviations, minimum and maximum values were calculated as descriptive statistics to provide a summary of specific variables and demographic data. Both parametric and non-parametric statistical techniques were used to analyze the data. First, the Shapiro-Wilk test was used to determine whether the data distribution was normal. To measure variance for each variable in both group, Mann - Whitney U Test has been used. To measure Correlation among all three variables, Spearman's Rho Correlation and Mediation Analysis.

3. Result

Table 1: *Mean, Standard Deviation, Minimum and Maximum value of Attitude towards Interpersonal Peer Violence, Neuroticism and Locus of Control.*

Descriptive statistics

	High/Middle School	Rotter LOC	Attitude	Neuroticism
N	High School	99	99	99
	Middle School	99	99	99
Mean	High School	12.9	41.7	13.7
	Middle School	12.3	38.7	11.9
Standard Deviation	High School	3.43	5.46	4.81
	Middle School	2.63	5.87	5.20
Minimum	High School	2	24	2
	Middle School	6	28	2
Maximum	High School	21	53	22

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	Middle School	17	49	22

Descriptive statistics for high school and middle school students on Rotter's Locus of Control, Attitude toward Interpersonal Peer Violence, and Neuroticism are presented in Table 1. Each group consisted of 99 participants. High school students reported slightly higher mean scores for Rotter LOC (M = 12.9, SD = 3.43), Attitude (M = 41.7, SD = 5.46), and Neuroticism (M = 13.7, SD = 4.81) compared to middle school students (M = 12.3, SD = 2.63; M = 38.7, SD = 5.87; M = 11.9, SD = 5.20, respectively). Minimum and maximum values were generally comparable across groups, though high school students displayed a wider range in Rotter scores (2–21) than middle school students (6–17). These results suggest slight developmental differences across age groups in locus of control, attitudes toward peer violence, and emotional stability.

Table 2: *Normality Test (Shapiro – Wilk)*

	W	**P**
Rotter LOC	0.989	0.123
Attitude	0.976	0.002
Neuroticism	0.975	0.001

Note. A low p-value suggests a violation of the assumption of normality

The table reports the results of a Shapiro-Wilk test, used to assess the normality of three variables: ROTTER LOC, ATTITUDE, and NEUROTICISM. The ROTTER LOC variable has a Shapiro-Wilk *W* value of 0.989 and a *p* value of .123, which exceeds the .05 threshold, suggesting that the distribution of this variable does not significantly deviate from normality. Therefore, the normality assumption is met for ROTTER LOC. However, both ATTITUDE ($W = 0.976$, $p = .002$) and NEUROTICISM ($W = 0.975$, $p = .001$) have p-values well below .05, indicating that these variables significantly violate the assumption of normality. This implies that researchers should use caution when applying parametric tests involving ATTITUDE and NEUROTICISM, as such tests generally assume normally distributed data. Alternatives like data transformation or non-parametric statistical methods may be more appropriate.

Table 3: *Independent Samples T-Test*

		Statistic	**p**
Rotter LOC	Mann – Whitney U	4369	0.185
Attitude	Mann – Whitney U	3539	<.001
Neuroticism	Mann – Whitney U	3722	0.003

Note. H_a μHighSchool ≠ μMiddleSchool	

The table presents results from independent samples comparisons using the Mann-Whitney U test, an appropriate non-parametric alternative to the independent samples t-test when the assumption of normality is violated. The null hypothesis tested is that the distributions of scores are equal between high school and middle school groups. For the ROTTER LOC variable, the result was not statistically significant ($U = 4369$, $p = .185$), indicating no significant difference between the two educational groups. However, significant differences were found for both ATTITUDE ($U = 3539$, $p < .001$) and NEUROTICISM ($U = 3722$, $p = .003$), suggesting that students from high school and middle school differed significantly on these two variables.

Table 4: *Correlation Matrix*

		Rotter LOC	Attitude	Neuroticism
Rotter LOC	**Spearman's rho df p-value N**	— — — —		
Attitude	**Spearman's rho**	-0.090	—	
	df	196	—	
	p-value	0.206	—	
	N	198	—	
Neuroticism	**Spearman's rho**	0.350***	0.058	—
	df	196	196	—
	p-value	<.001	0.414	—
	N	**198**	**198**	—

Note. * p < .05, ** p < .01, *** p < .001

The correlation matrix displays Spearman's rho correlations among ROTTER LOC, ATTITUDE, and NEUROTICISM variables, appropriate for non-normally distributed data. The only statistically significant correlation was found between ROTTER LOC and NEUROTICISM, with a moderate positive correlation ($\rho = .350$, $p < .001$), indicating that higher external locus of control (ROTTER) is associated with higher levels of neuroticism. No significant correlation was observed between ROTTER LOC and ATTITUDE ($\rho = –.090$, $p = .206$), nor between ATTITUDE and NEUROTICISM ($\rho = .058$, $p = .414$), suggesting minimal or no

association between these variable pairs. All correlations were based on a sample size of 198 participants and 196 degrees of freedom. These results suggest that while neuroticism is linked to locus of control, it may not be meaningfully associated with attitude scores in this dataset.

Table 5:*Mediation Estimates*

Effect	Estimates	SE	Z	p
Indirect	-0.0338	0. 0299	-1.280	0.201
Direct	0. 1149	0. 0863	1.331	0.183
Total	0. 0766	0. 0817	0.938	0.348

The mediation analysis results indicate that the indirect effect of the mediator on the outcome was not statistically significant (Estimate = –0.0383, SE = 0.0299, Z = –1.280, p = .201), suggesting no significant mediating effect. Similarly, the direct effect of the independent variable on the dependent variable was also not significant (Estimate = 0.1149, SE = 0.0863, Z = 1.331, p = .183). The total effect, which combines both direct and indirect effects, was likewise not statistically significant (Estimate = 0.0766, SE = 0.0817, Z = 0.938, p = .348). These findings indicate that there is no evidence of either a direct or indirect (mediated) relationship between the predictor and outcome variable through the mediator.

Table 6:*Path Estimates*

			Estimate	SE	Z	p
Neuroticism	→	Rotter LOC	0.202	0.0403	5.00	<.001
Rotter LOC	→	Attitude	-0.190	0.1434	-1.32	0.186
Neuroticism	→	Attitude	0.115	0.0863	1.33	0.183

The path analysis results show that NEUROTICISM significantly predicted ROTTER scores (Estimate = 0.202, SE = 0.0403, Z = 5.00, p < .001), suggesting a strong and statistically significant positive relationship between these two variables. However, the path from ROTTER to ATTITUDE was not significant (Estimate = –0.190, SE = 0.1434, Z = –1.32, p = .186), indicating no meaningful predictive effect of ROTTER on ATTITUDE. Similarly, the direct path from NEUROTICISM to ATTITUDE was also nonsignificant (Estimate = 0.115, SE = 0.0863, Z = 1.33, p = .183), suggesting that NEUROTICISM did not directly influence ATTITUDE in a statistically significant way. These results imply that while NEUROTICISM has a significant effect on ROTTER, it neither directly nor indirectly predicts ATTITUDE through ROTTER.

3.1 Discussion

This primary research has aimed to verify and establish a relationship between Neuroticism as a personality trait, Rotter's Locus of Control (LOC) and Attitude towards Interpersonal Peer Violence (IPV) among two groups, students currently enrolled in Middle School and High School. While this investigation

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has tried to study the difference between the aforementioned groups in each variable, Neuroticism, Rotter's LOC and Attitude towards IPV, such splitting of groups has not been performed during conducting Correlation analysis and Mediation Analysis. This was undertaken for multiple reasons, firstly in order to enhance Statistical Power. By dividing the samples, the statistical integrity of the mediation analysis depreciates and the possibility of Type – II errors increases, as can be noted through research. (Schuler, 2024) Secondly, monopolizing the full sample shall improve Estimate Stability, improve the probability of generalization. This logic has been backed by researchers like VanderWeele and Vansteelandt that outline recommendations for mediation analysis and elucidate the importance of adequate sample sizes while executing mediation analysis. (Qin, 2024)

This study shall help further literature that following the Interpretivist paradigm, resonates with the ideation that Cultural Diversity in research shall enable scholars to comprehend human behaviour from the eyes of the beholder. (Nickerson, Interpretivism Paradigm & Research Philosophy, 2024) This ensures that theory building in a field as global yet subjective as psychology takes into account the social and cultural construct in which the individual not only has developed their beliefs, values, and morals but is also the reality they currently inhabit and interact in. It shall set up norms for behaviour and lifestyle the individual is required to adapt to. The establishment or renunciation of such a relationship shall encourage further studies to validate this relationship and explore other affiliation of variables, not explored in this study, that lead to such cognition, behaviour, personality traits and attitude formation.

The Shapiro – Wilk test has a W value of 0.989 and a p value of .123 for Rotter LOC, implying that the variable does not negate the assumptions of normality. However, with the p- values of both, Neuroticism and Attitude towards IPV, being lower than 0.05 (thus becoming non – parametrically distributed variables), the Mann Whitney U test was adopted to study the distribution of the variables. Results for the Mann Whitney tests revealed significant differences for Neuroticism and Attitude towards IPV, (U = 3722, p = .003) and (U = 3539, p < .001), respectively. This indicates that as a higher level of neuroticism is present as post the transition to High School, also instilling a relatively positive attitude towards IPV. However, it seems a differentiation of schooling – level does not direct a distinction in the internalization nor externalization of control. This is seen as the test provides results (U = 4369, p = .185), for Rotter LOC, which implies a lack of statistically significant difference. Developmental differences are highlighted by the notable disparities in neuroticism and attitudes regarding IPV between middle school and high school pupils. Higher degrees of neuroticism and more tolerant views of IPV were demonstrated by high school students, indicating that adolescents may become more emotionally unstable and exposed to aggressive behaviours as they become older. This is consistent with research performed on Indian adolescents that displayed higher levels of aggression (Sharma, 2014).

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Following on the non - parametric nature of the data set, Spearman's Rho Test for Correlation was employed to test the relationship between Neuroticism, Rotter's LOC and Attitude towards IPV. There posits no statistically significant correlation between ROTTER LOC and Attitude towards IPV as well as Neuroticism and Attitude towards IPV, where both correlations stand at (ρ = –.090, p = .206) and (ρ = .058, p = .414). Nonetheless, a statistically significant moderately positive correlation was observed between Neuroticism and Rotter's LOC at (ρ = .350, p < .001). This is consistent with earlier studies that found people with high neuroticism frequently believe that outside forces are in charge of their lives, which makes them feel powerless and less capable. (Furnham, 2016) This result is indicative of the fact that although neuroticism and LOC are connected, their impact on attitudes toward IPV may be more nuanced and perhaps influenced by additional variables not included in this study. The lack of a significant relationship in this study may be due to cultural variations, assessment methods, or sample characteristics, but other research has shown that external LOC is linked to higher levels of violence among teenagers. (Begum, 2022)

Finally, the mediation analysis illustrated the absence of any direct nor indirect influence of both Neuroticism and Rotter's LOC on Attitude towards IPV place at (Estimate = 0.1149, SE = 0.0863, Z = 1.331, p = .183) and (Estimate = –0.0383, SE = 0.0299, Z = –1.280, p = .201). In defence of the study findings, one has to consider the contextual and cultural determinants of the Indian adolescent population. The absence of a significant mediating effect of LOC between neuroticism and IPV attitudes does not invalidate the applicability of these variables but rather points to the need for more complex research involving other psychosocial determinants. For instance, family dynamics, peer influence, and socio-economic status can play crucial roles in determining adolescents' attitudes towards violence.

In conclusion, this study contributes to the understanding of the psychological precursors of adolescent aggression in India by indicating the high relationship between neuroticism and LOC. Although the hypothesized mediating model was not confirmed, the findings highlight the multifaceted nature of factors underlying IPV attitudes and the necessity for culturally sensitive interventions. Future studies will have to look at other mediating and moderating variables in order to develop comprehensive prevention strategies for adolescent aggression.

4. Conclusion

This study emphasizes the complex psychological determinants of attitudes towards interpersonal peer violence (IPV) in Indian adolescents, yielding a high correlation between neuroticism and locus of control (LOC). Although the hypothesized mediation model failed to find empirical support, the results provide insight into potential avenues for future research. Of particular note, the absence of significant correlations between neuroticism or LOC and IPV attitudes suggests the potential influence of other untested psychosocial variables, including family environments, peer relationships, and cultural values. The study is limited by its

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cross-sectional design, precluding causal inferences, as well as its use of self-report data, potentially introducing biases. The sample also only represented urban schools, limiting generalizability of the results across diverse socio-economic and rural contexts. Future studies would be well-advised to use longitudinal designs, sample a more representative demographic, and investigate additional mediating or moderating influences, including emotional regulation, parental attachment, and exposure to violence. Through these changes, the explanatory value of models predicting adolescent aggression will be increased, and culturally sensitive, developmentally responsive interventions will be more easily facilitated. By addressing these limitations, future research is able to move towards a more integrated and contextually responsive understanding of adolescent behavioural outcomes in India.

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