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A STUDY ON LOCUS OF CONTROL AND SUICIDAL IDEATION AMONG MEDICAL AND NON-MEDICAL STUDENTS

Sangita Nath * **Dr.Rita Rani Talukdar** * *

INTRODUCTION:

Locus of control (LOC), as conceptualized by Rotter (1966), refers to individuals' beliefs about whether their life outcomes are determined internally, through personal actions, or externally, by forces like fate or luck. An internal LOC is linked with greater self-esteem, responsibility, and resilience, while an external LOC often correlates with feelings of helplessness, heightened anxiety, and vulnerability to suicidal ideation (Alloy et al., 2006). Locus of control interacts with psychological factors like thoughts, affecting mental health outcomes, particularly in high-pressure settings such as medical education. In these environments, stress is both intense and widespread, which can aggravate the relationship between psychological traits of individuals and overall well-being.

Medical students face unique stressors, including demanding academic curricula, clinical training, and societal expectations. Those with internal LOC are better equipped to manage these challenges, demonstrating higher resilience, better coping mechanisms, and improved mental health. In contrast, students with an external LOC may feel powerless, experience heightened anxiety, and be at greater risk for depression and suicidal ideation. Understanding LOC in medical students can help identify those at risk, enabling targeted interventions to improve mental well-being, thereby enhancing their educational achievement and general wellbeing.

The rising incidence of mental health challenges including suicide among medical students has prompted the National Medical Commission (NMC) to establish a task force addressing these issues. The task force emphasizes evidence-based strategies to mitigate factors contributing to depression and suicidal ideation. Against this backdrop, the present study intends to examine the role of locus of control as a predictor of suicidal ideation among medical and non-medical students, considering socio-demographic variables such as gender, family type, and parenting status.

The study aims to assess Locus of control (LOC) as a predictor of Suicidal Ideation (SI) among Medical and Non medical students.It further seeks to investigate differences in

* PhD Research Scholar, Department of Psychology, Gauhati University, Guwahati, Assam, India
* * Professor & Head, Department of Psychology, Gauhati University, Guwahati, Assam, India

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LOC across socio-demographic variables and determine the association between LOC and SI. The research questions such as whether there is a relationship between LOC and SI, and whether LOC can serve as a crucial indicator of SI among students.

By examining these aspects, the research contributes to understanding how perceptions of control impact students' mental health. The findings aim to inform targeted interventions to support the psychological well-being of both medical and non-medical students, ultimately addressing broader concerns around student mental health in high-pressure academic settings.

REVIEW OF LITERATURE

The study by Pishiniyan et al. (2016) found a significant positive correlation between an external locus of control (LOC) and suicidal ideation, indicating that students who perceive life events as governed by external forces are more prone to suicidal thoughts. Conversely, no significant relationship was observed between internal LOC and suicidal ideation. This suggests that a belief in external factors controlling outcomes may increase vulnerability to suicidal thoughts. Birdie (2013) studied the relationship between personality type, locus of control, and suicide attempts in individuals aged 20-30, revealing that Type A personality traits and internal locus of control were more prevalent among suicide attempters in this age group. Guo et al. (2016) conducted a study in Tianjin, China, which found that college students with higher internal locus of control scores exhibited protective effects against suicidal ideation and plans. Ravikumar and Gopalakrishna (2017) investigated the connection between locus of control and suicidal ideation among high school students, highlighting that females and urban students often exhibited a more external locus of control, which may contribute to higher suicidal ideation. Aal et al (2018) found a strong relationship between locus of control and suicidal attitudes among adolescents who attempted suicide, with those having an external locus of control showing greater suicidal intent.

METHODOLOGY

The study adopted a correlation research design to explore the relationship between LOC and SI among students in Guwahati, Assam. The study sampled 200 among medical and non-medical students aged 19 to 26 years by using purposive non-probability sampling technique. Inclusion criteria required participants to be within this age range, unmarried, nonworking, and enrolled in MBBS course and MA/ M Sc. courses. Participants of both male and female and who gave consent were included. Students with major psychiatric or chronic physical illnesses were excluded from the study.

Data collection involved three tools. A self-structured socio-demographic sheet captured participants' background information, including age, gender, education, family type, parenting status, and place of residence. Rotter's Locus of Control Scale assessed beliefs regarding

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internal versus external control, with a scoring range from 0 to 23, where higher scores indicated a stronger external locus of control. The Beck Suicidal Ideation Scale (BSS) measured the intensity of suicidal ideation, with higher scores reflecting greater risk. Both tools were selected for their robust reliability and validity, ensuring the accuracy of measurements.

The procedure began with obtaining ethical approval from the Institutional Ethics Committee of Gauhati Medical College & Hospital (vide letter no. 190/2007/pt. II/August 2023/22 dated 31.08.2023). Permissions were taken from relevant authorities of the chosen institutions, and participants were briefed about the study objectives and methods. After obtaining informed consent, the data collection was conducted in a structured manner, either individually or in groups, ensuring participant's comfort and privacy.

The collected data were analyzed using Microsoft Excel 2021 and IBM SPSS Statistics 26.0. Independent t-tests were used to compare differences across groups, Pearson correlation to identify relationships between variables, and linear regression to determine whether LOC was a positive factor of SI.

The study adhered strictly to ethical guidelines, prioritizing participants' privacy, confidentiality, and rights throughout the process. By combining robust tools, a well-defined sampling approach, and rigorous statistical analysis, the study provided valuable insights into the psychological factors influencing students' mental health.

RESULTS

Table 1: Socio-demographic profile of participants

Socio-demographic data		Medical	Non-medical
		Percentage	Percentage
Age (Years)	19-22	65%	38%
	23-26	35%	62%
Gender	Male	60%	37%
	Female	40%	63%
Family type	Nuclear family	74%	71%
	Joint family	26%	29%
Parenting status	Single parent	7%	17%
	Both parents	93%	83%
Place of stay	Hostellers	65%	60%
	Non hostellers	35%	40%

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Table 1 states that in the medical field, there are 65 respondents in the age group of 19-22 and 35 respondents in the age group of 23-26. In the non-medical field, for the age group 19-22, there are 38 respondents and 62 respondents for the age group 23-26. Among medical respondents, 60% are male and 40% are female. Among non-medical respondents, 37% are male and 63% are female. 74 belong to nuclear families and 26 belong to joint families among medical students. In non-medical field, 71 belong to nuclear families and 29 belong to joint families. In the medical group of students, there are 7 students belonging to single parent households and 93 belonging to households with both parents. In the non-medical group of students, there are 17 students belonging to single-parent households and 83 belonging to households with both parents. Among hostellers, 65% are from medical background, while 60% are from non-medical background and among non-hostellers, 35% are in medical fields and 40% are in non-medical fields.

Table 2: Mean, SD and t value on Locus of control among Medical and Non-medical students

Variable	Category	Mean&SD	t-value	df	P
Locus of control	Non-medical (N=100)	M=11.72 SD=2.94	-1.69	198	.093
	Medical (N=100)	M=12.50 SD=3.56			

Table 2 presents the comparison of Locus of control (LOC) scores between two groups of students- non-medical and medical. The mean LOC score for non-medical respondents was calculated to be 11.72 and 12.50 for medical respondents. It can be seen that the mean LOC score was slightly higher for medical respondents compared to non-medical group. From the t test analysis (t=-1.69), it can be said that the difference in LOC scores between the two groups was not statistically significant (p=.093) at 0.05 level.

Table 3: Mean, SD and t value on SI between Medical and Non-medical students

Variable	Category	Mean& SD	t value	df	P
Suicidal ideation	Non-medical N=100	M=1.91 SD= 4.31	-1.24	198	.22
	Medical N=100	M=2.90 SD=6.76			

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Table 3 shows the comparison of Suicidal ideation (SI) scores between non-medical and medical students. The mean SI score was identified to be 1.91 for non-medical group which was lower compared to mean SI score (2.90) of medical students. From t test analysis (t=-1.24), this mean difference between these two groups was lacking statistically significance at 0.05level as p value was found to be 0.22.

Table 4: Mean, SD and t value on Locus of control among students (based on gender)

Variable	Category	Mean &SD	t-value	df	P value
Locus of control	Male N=97	M=11.68 SD= 3.37	-1.81	198	.072
	Female N=103	M=12.51 SD=3.15			

Table 4 shows the gender difference in Locus of control (LOC) scores. Mean LOC score for male was 11.68 and 12.51 for female. The mean LOC was slightly higher for female respondents compared to male respondents. But the difference on LOC scores between male and female was marginally not meeting statistically significance at 0.05 level. However, larger sample size may be warranted to determine if there is indeed a significant difference.

Table 5: Mean, SD and t value on Locus of control among students (based on family type)

Variable	Category	Mean& SD	t-value	df	P
Locus ofControl	Students of Nuclear family N=145	M=12.14 SD=3.23	.243	198	.808
	Students of Joint family N=55	M=12.02 SD=3.44			

From the table 5, it can be stated that students from nuclear families have mean LOC score of 12.14, while students from joint families have mean score of 12.02. This suggested that students from nuclear families tend to have slightly higher LOC score compared to students from joint families. From the t test (t=.243), it can be said that that this difference on scores was not statistically significant at the 0.05 level.

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Table 6: Mean, SD and t value on Locus of control among students (based on parenting status)

Variable	Category	Mean &SD	t-value	df	P value
Locus of control	Students with single parent, N=24	M=11.54 SD=3.68	-.905	198	.367
	Students with both parents, N=176	M=12.19 SD=3.22			

Table 6 shows mean LOC score for students with single parents of 11.54 and 12.19 for students with both parents. The mean LOC score was slightly lower for students with single parents compared to students with both parents. It can be stated that that this difference on LOC scores was not statistically significant as t value was -.905 with p of .367.

Table 7: Coefficient of correlation between Locus of control and Suicidal Ideation

Variable	Correlation N= 200	P value	Interpretation
LOC	.22**	.002	Significant at 0.01level
SI			

Table 7 states the coefficient of correlation between Locus of Control (LOC) and Suicidal Ideation (SI), which was 0.22 with p of 0.002, indicating a statistically significant positive correlation. It means that if there is increase in LOC score, there might be increase in SI among students.

Table 8: Mean, SD and t value on Suicidal ideation among students based on dimensions of Locus of control

Variable	Category	Mean &SD	t-value	df	P value
SI	Students with Internal LOC N=134	M=1.82 SD=4.89	-2.09	198	.038
	Students with External LOC N=66	M=3.59 SD=6.91			

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Table 8 compares the mean scores of SI between students with internal and external locus of control (LOC). Out of 200 students including both medical and nonmedical fields, 134 students are found to be internal LOC and the remaining 66 students are found to be external LOC. The mean score of SI of students with internal LOC was 1.82 and 3.59 for students with external LOC. Students with external LOC reported significantly higher levels of SI evaluated against those with internal LOC indicating substantial variation between the two groups as t-value was found to be significant at 0.05 level. From the results, it can be said that students having external locus of control are showing more suicidal ideation.

Table 9: Regression analysis between Locus of control and Suicidal ideation

Predictor	Criterion Variable: Suicidal Ideation				
	R	R Square	F	Std Beta	P value
Locus of control	.215	.046	9.561	.215	.002

Table 9 examines regression analysis of Locus of Control (LOC) as a predictor of Suicidal Ideation (SI). A significant regression equation was found (F=9.561) indicating LOC as statistically significant predictor of SI among students at 0.01level.

DISCUSSION

In this study, no substantial difference in locus of control was found between medical and non-medical students. This aligns with findings from other studies, such as Pearce and Martin (1993), who examined the association between locus of control and suicidal behaviors among high school students and found a profound link between an external locus of control and suicidal behaviors but did not differentiate significantly between different fields of study. Similarly, Choi, Lee, and Lee (2003) determined locus of control among Western medical students, Oriental medical students, and non-medical students, concluding that general locus of control did not significantly differ between Western medical and non-medical students. These findings support the notion that locus of control is a consistent construct across different groups, including medical and non-medical students, thus corroborating our study's results.

Regarding suicidal ideation, the present study found that medical students exhibited a higher mean SI score than non-medical students, although this difference was not statistically significant. This finding aligns with the research of Deepmala and Sharma (2021), who also reported lack of meaningful variation in suicidal ideation between these groups. However, Abbas et al. (2024) reported significant differences in SI between medical

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and non-medical students, with non-medical students exhibiting significantly higher levels of SI. This substantial difference indicates a higher prevalence of suicidal thoughts among non-medical students, directly contradicting our findings. Earlier studies reveal varying outcomes on gender differences in SI.

When examining gender differences in locus of control, this study found absence of notable variation between male and female students. This finding is consistent with previous research by Ravikumar and Gopalakrishna (2017), who also reported no significant gender differences in locus of control. However, other studies, like that of Twenge et al. (2004), have suggested that women may exhibit a more external locus of control compared to men, indicating that this area may warrant further investigation with larger sample sizes.

This study did not find significant differences in locus of control between students from nuclear and joint families. This aligns with the findings of Lefcourt (1982), who suggested that family type does not significantly impact an individual's locus of control. This finding is in line with Kaura and Sharma (2015), who reported that adolescents in nuclear families experienced higher levels of external locus of control. However, previous studies by Coleman and DeLeire (2000), have indicated that family environment can influence locus of control, suggesting that further research in this area is necessary. Chukwuorji, Ituma, and Ugwu (2018) also found no variation in the mediating roles of cognitive capacity and locus of control between students from single-parent and two-parent families.

There was lack of considerable disparity in locus of control between students with single parents and those with both parents in our study. This result is consistent with research by Amato (2005), which suggested that parenting status does not have a significant impact on locus of control. Daklallah (2007) also found that attachment style and self-esteem were more affected than locus of control in children of divorced parents. These findings collectively support our result that family structure does not significantly impact locus of control.

The present study found a positive association between locus of control and suicidal ideation, indicating that higher levels of external locus of control are linked with higher levels of suicidal ideation. This finding aligns with previous research by Lester (2013), who also reported a direct relationship between external locus of control and suicidal ideation. Ravikumar and Gopalakrishna (2017) reported a similar association between locus of control orientation and suicidal ideation among adolescents. Aal, Hassan, and Elewa (2018) also found a strong linkage between locus of control and suicidal behavior, supporting our findings that locus of control is an important factor in understanding suicidal ideation. This suggests that interventions aimed at shifting students' locus of control from external to internal may help reduce suicidal ideation.

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This research work also found that locus of control was a favourable predictor of suicidal ideation among students in both medical and non-medical groups which aligns with Pishiniyan et al. (2016) who also found a strong positive correlation between an external locus of control (LOC) and suicidal ideation. On the other hand, Aviad-Wilchek (2021) did not find locus of control to be a significant predictor of suicidal ideation.

CONCLUSION

The present study highlighted the importance of understanding locus of control and its impact on suicidal ideation among medical and non-medical students. Although no significant variances were found between these groups in terms of locus of control and suicidal ideation, the positive correlation between external locus of control and suicidal ideation underscores the need for targeted interventions to improve student's mental health. Future research should explore this relationship further with larger sample sizes and consider other factors that may influence locus of control and suicidal ideation.The study has several limitations, including its reliance solely on quantitative methods, which overlooks the insights that qualitative data could offer. Additionally, the correlation design only identifies associations between variables, without proving causation. The use of self-report measures may also introduce biases, such as social desirability bias. Lastly, the limited sample size restricts the applicability of the findings.

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