The Study on the Relationship Between Intrinsic Motivation and Academic Performance Among High School Students in Urban India

1Sabu K J, 2Rachna Vyas, 3Dr.Bobinder Singh

1,2Scholar, 3Supervisor and Guide
Department of Psychology
OPJS University, Churu, Rajasthan, India

Abstract- This study explored the relationship between intrinsic motivation and academic performance among a sample of high school students from urban public schools in Navi Mumbai, India. Students completed surveys measuring their intrinsic motivation towards academics as well as their individual academic records for core courses. Correlational analyses found significant positive relationships between intrinsic motivation and various measures of academic performance, including overall GPA, marks on yearly exams, and pass rates in key subjects. The findings provide evidence that enhancing intrinsic motivation could promote better academic outcomes for urban Indian high school students.

Key Words: Intrinsic, Motivation, Academic, Performance, High Schools, Students.

I. INTRODUCTION
Academic success is crucial for enabling India's youth to access higher education and employment opportunities needed for socioeconomic advancement. However, high school students in India face systemic challenges, including high-stakes testing pressures, fears of failure, and limited autonomy, that can undermine motivation and learning (Banerjee, 2016). Research indicates that fostering intrinsic motivation, defined as internalized enjoyment of and interest in academic activities, is positively associated with improved study strategies, class engagement, and achievement outcomes among adolescents globally (Taylor et al., 2014). Yet intrinsic motivation remains understudied within the Indian secondary school context despite evidence that self-determined learning promotes positive educational outcomes across cultures (Deci et al., 1999). This study aims to address this gap by investigating the relationship between intrinsic motivation and various indices of academic achievement in a sample of urban public high school students in Navi Mumbai, India. Grounded in self-determination theory, we hypothesize students reporting higher intrinsic motivation will achieve greater academic success measured through grade performance, exam scores, and teacher evaluations (Ryan & Deci, 2020). Analyzing these associations can delineate whether Indian high schools' dominant focus on rote learning and extrinsic incentives undercuts intrinsic motivation, contributing to suboptimal academic outcomes (Banerjee, 2016). Findings can inform educational policies aimed at cultivating self-determined engagement among Indian youth as a pathway to unlocking their academic potential. This study also intends to further empirical understanding of how intrinsic motivational processes may operate similarly or differently across cultures (Deci et al., 1999). Overall, examining links between intrinsic motivation and academic achievement in this understudied population will generate insights to guide reforms for enhanced student motivation and success.

II. METHOD
Participants
The sample for this study consisted of 248 students recruited from grades 9-12 of public coeducational high schools located in urban Navi Mumbai, India. The student body across these schools is predominantly comprised of youth from middle and low-income families. Of the 248 participants, 55% (n = 136) were female and 45% (n = 112) were male. The age of participants ranged from 14 to 17 years, with a mean age of 15.3 years (SD = 1.2 years). The participating schools have comparable academic calendars, grading systems, testing policies, and demographic profiles. Students from science and commerce tracks were well represented, enabling comparison across these high school focuses. The sample size of 248 was determined via an a priori power analysis to detect medium effects sizes with .80 power for the planned hierarchical multiple regression analyses. This adolescent sample allows examining the research questions within a population navigating critical high stakes academic challenges in the Indian education system.
Measures
Intrinsic Motivation
Intrinsic motivation for schoolwork was measured using the 28-item Academic Motivation Scale (AMS-C 28) developed by Vallerand et al. (1992). This scale assesses intrinsic motivation among other components of motivation through items such as “I study because I enjoy learning new things” using a 7-point Likert scale ranging from 1 (does not correspond at all) to 7 (corresponds exactly). The AMS-C 28 has demonstrated excellent psychometric properties with Cronbach’s alpha reliability estimates ranging from .83 to .86 and construct validity via correlations with positive educational outcomes (Vallerand et al., 1992). Scores of the 12-item intrinsic motivation subscale was calculated, with higher scores indicating higher levels of intrinsic motivation.

Academic Performance
Students’ academic performance was operationalized using the following measures:
- Overall grade point average (GPA) for the current school year
- Percentage scores obtained on final examinations for math, science, and languages.
- Pass rates indicating the percentage of exams passed in key subjects of math, science, and languages.

These performance metrics were obtained through official school records, providing objective indicators of achievement. Using diverse indicators captures different facets of academic success on nationally standardized tests and curricula.

III. PROCEDURE AND ANALYSIS
The study procedures were approved by the institutional ethics review board prior to data collection. Permission to conduct the study was obtained from the principals of the participating public high schools. Parental consent forms outlining the study aims and procedures were sent home with students one week prior to survey administration. The paper-and-pencil survey measuring intrinsic motivation was administered to students during their regular 45-minute classroom periods with teachers present. Students endorsing parental consent completed the survey voluntarily. The survey took approximately 15 minutes to complete. Participants’ academic records including GPA, exam scores, and pass rates were collected with parental permission. Identifying information was removed and each participant was assigned a unique ID code to maintain confidentiality.

The collected data were analyzed using SPSS Statistics software. Descriptive analyses were performed to examine variable distributions. Correlational analyses including Pearson’s r were conducted to assess the relationship between intrinsic motivation scores and the academic performance variables. Hierarchical regression models were also run to test for intrinsic motivation as a predictor of achievement when controlling for covariates. All analyses employed an alpha level of .05 for statistical significance.

This procedure enabled standardized collection of self-report intrinsic motivation data and objective academic performance indicators within a classroom setting. Analyses were structured to rigorously assess the relationship between these key variables for the sample.

IV. RESULTS
Preliminary analyses assessed the internal consistency reliability of the 28-item Academic Motivation Scale (AMS-C 28) measure of intrinsic motivation using Cronbach’s alpha. Results indicated strong internal reliability (α = .89) suggesting the scale had high psychometric quality within this Indian urban high school samples.

Descriptive statistics were examined for the study variables. Students reported moderate levels of intrinsic academic motivation (M = 4.61, SD = 1.22) based on the 7-point Likert scale. The mean GPA for the sample was 7.85 (SD = 1.10) indicating most students had GPAs within the B to B+ grade range. Average percentage scores on final exams were in the 50s across subjects, with some variation: Math (M = 54.6%, SD = 14.2), Science (M = 58.1%, SD = 12.5), Languages (M = 51.3%, SD = 10.6). On average students passed 60-70% of exams in the key subjects.

Bivariate correlational analyses were conducted to assess relationships between intrinsic motivation and the academic performance indicators. Results showed significant positive correlations between intrinsic motivation and overall GPA (r = .51, p < .001), exam percentage scores (r = .47, p < .001), and subject pass rates (r’s ranged .35 to .41, p’s < .05). These medium effect size correlations provide initial support that higher intrinsic motivation was associated with better academic achievement on diverse indicators in this sample.

Follow-up hierarchical linear regression analyses were performed to assess intrinsic motivation as a predictor of achievement when controlling for covariates. The models indicated intrinsic motivation explained significant additional variance in academic performance over and above demographic factors.
V. DISCUSSION

The findings of this study confirm a significant positive relationship between intrinsic motivation for academics and various indices of school performance among adolescents in urban Indian public high schools. Students reporting higher intrinsic motivation showed greater overall grade point averages, exam scores, and passing rates across key subjects of mathematics, science, and languages. The magnitude of these associations was notable, with intrinsic motivation explaining over 25% of the variance in some achievement indicators.

These results align with decades of prior research grounded in self-determination theory demonstrating robust links between intrinsic motivation and educational achievement among youth in Western contexts (Ryan & Deci, 2000). The present findings provide unique evidence that intrinsic motivation is similarly associated with higher academic performance within the Indian secondary school context, adding cross-cultural support to established motivation theories. Given the instrumental value of academic credentials for gaining entry to higher education and professional opportunities in India, interventions aimed at enhancing intrinsic motivation through supportive school cultures, autonomy-oriented teaching practices, and increasing curriculum relevance to students’ lives could have meaningful impacts on learning and success outcomes. Schunk et al. (2014) provide examples of evidence-based approaches for motivating students by supporting the basic psychological needs that nurture intrinsic engagement.

Limitations of the present study include the specific geographic context of urban public schools in Navi Mumbai. The self-report survey methodology is also limited in capturing dynamic motivational processes over time. Further research should replicate this investigation across more diverse educational settings in India and consider supplementing self-reports with teacher ratings or behavioral measures. Longitudinal and experimental methods could help address questions of directionality and causation between intrinsic motivation and achievement.

REFERENCES: