The Role of Learning Style on Academic Motivation among College Students

Dissertation submitted in partial fulfilment of the requirements for the award of

Bachelor of Science in Psychology

By

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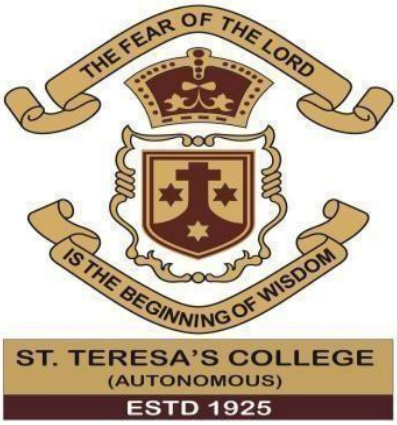

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CERTIFICATE

This is to certify that the dissertation entitled, "The Role of Learning Style on Academic Motivation Among College Students", is a bonafide record submitted by Anjala Mary, Reg.no. SB22PSY006, of St. Teresa's College, Ernakulam under the supervision and guidance of Ms. Aleesha Moideen, and that it has not been submitted to any other university or institution for the award of any degree or diploma, fellowship, title or recognition before.

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DECLARATION

I, Anjala Mary**,** hereby declare that the study presented in the dissertation, which is submitted to the Department of Psychology, St. Teresa's College, Ernakulum is a Bonafide record of the research work carried out by me, under the supervision and guidance of Ms. Aleesha Moideen, Assistant Professor of the Department of Psychology, St. Teresa's College, Ernakulum, in partial fulfilment of the requirements for the degree of Bachelor of Science in Psychology and has not previously formed the basis for the award of any degree, diploma, fellowship, title or recognition before.

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ABSTRACT

This study aimed to explore the impact of learning styles on academic motivation among college students. To assess these variables, two standardized scales were made use. A total of 200 college students, aged 18 to 25, participated by completing an online questionnaire, which included the VARK Learning Style Questionnaire by Neil Fleming (16 items) and the Academic Motivation Scale by Robert J. Vallerand and colleagues (28 items). The primary focus of this research was to examine how academic motivation varies across different learning styles. The results indicate that students with a kinesthetic learning style demonstrate the highest levels of intrinsic motivation, whereas those who prefer a reading/writing learning style exhibited the lowest. These findings highlight that hands-on learning experiences may be more engaging and intrinsically motivating compared to more passive learning approaches.

keywords: learning styles, academic motivation, college students.

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Chapter I

Introduction

Background of the study

Education plays a vital role in shaping an individual's cognitive, social, and professional growth. Gaining insight into how students learn and what drives them to achieve academic success is essential for enhancing educational outcomes. A key component of this process is the interaction between learning styles and academic motivation. Learning styles refer to student's preferred methods of acquiring, processing, and retaining information (Fleming & Mills, 1992), which can significantly influence their engagement and performance in academic settings. Academic motivation, on the other hand, includes both intrinsic and extrinsic factors that encourage students to excel (Deci & Ryan, 1985). Examining the connection between learning styles and academic motivation is crucial for understanding how students can be better supported in their learning experiences. Research in educational psychology has consistently explored the most effective ways students learn. The VARK model, introduced by Fleming and Mills (1992), identifies four main learning styles: visual, auditory, reading/writing, and kinesthetic. Since each student processes information differently, aligning instructional methods with these preferences can enhance engagement and academic performance (Pashler et al., 2008). While some researchers argue against adapting teaching solely based on learning styles, acknowledging and integrating student's preferences can contribute to a more dynamic and effective learning environment (Hawk & Shah, 2007). Motivation is another critical factor influencing academic achievement. According to Deci and Ryan's (1985) Self-Determination Theory (SDT), motivation can be classified into three categories: intrinsic, extrinsic, and amotivation. Intrinsic motivation arises from a natural curiosity and enthusiasm for learning, whereas extrinsic motivation is by the external rewards such as grades or recognition. On the other hand, amotivation reflects a lack of motivation and is often associated with disengagement and poor academic

performance (Vallerand et al., 1992). Recognizing the factors that drive student's motivation is essential for developing teaching strategies that promote perseverance, effort, and meaningful learning experiences. Higher education brings together a diverse group of students, each facing unique academic challenges. To succeed, college students must develop independent learning strategies that help them complete complex and demanding coursework. Research highlights the crucial role of motivation in academic success, with students who feel motivated demonstrating greater persistence and achievement (Schunk & Zimmerman, 2012). When instructional methods align with student's learning preferences, their engagement and motivation tend to improve, enhancing their overall academic performance (Dunn et al., 2009). Motivation levels in college often depend on student's sense of competence, autonomy, and connection with others is the key elements of Self-Determination Theory (Deci & Ryan, 2000). Studies suggest that students with high intrinsic motivation develop stronger critical thinking skills and exhibit greater perseverance in their studies (Pintrich, 2003). In contrast, those who rely mainly on extrinsic motivation may struggle with long-term academic commitment, especially when external rewards fade (Vansteenkiste et al., 2006). Exploring the link between learning styles and motivation can help educators create tailored teaching approaches, ensuring a more engaging and supportive learning environment for students. While learning styles and motivation have been extensively studied as separate concepts, fewer studies have explored how they interact. Some researchers suggest that student's preferred learning styles influence their motivation by shaping how they engage with academic material (Cassidy, 2004). For instance, visual learners may struggle to stay motivated in traditional lecture-based settings but thrive with multimedia instruction. Similarly, kinesthetic learners often need hands on experiences to stay engaged, and a lack of such opportunities may reduce their motivation (Hawk & Shah, 2007). Recognizing how different learning styles align with various types of motivation can also help improve

curriculum design. For example, students who prefer active learning may benefit from problem-based learning (PBL) approaches, which can boost both intrinsic and extrinsic motivation (Hmelo-Silver, 2004). On the other hand, students who favour reading and writing may feel more motivated in structured courses with clear objectives and well-defined materials. By understanding these connections, educators can develop more inclusive teaching strategies that cater to diverse learners and enhance overall academic engagement. With the growing emphasis on student-centered learning, understanding how learning styles shape motivation has important implications for both educational policies and teaching practices. Modern education prioritizes personalized learning, and insights from research on learning styles and motivation can play a key role in enhancing student engagement and academic success (Ambrose et al., 2010). By applying these findings, educational institutions can develop adaptive learning technologies, differentiated instruction methods, and targeted interventions that cater to diverse student needs. Beyond tailoring instruction, educators can also help students develop self-regulated learning strategies that boost motivation, regardless of their preferred learning style (Zimmerman, 2002). Teaching students to use metacognitive techniques—such as setting goals and monitoring their own progress—can help them stay motivated even when faced with academic challenges. Additionally, incorporating collaborative learning experiences can foster a sense of community, making students feel more connected and engaged in their learning journey (Johnson et al., 2014). Understanding learning styles and academic motivation is key to supporting students in their educational journeys. Exploring the connection between these two factors can help educators and policymakers design teaching strategies that address diverse learning needs. Since motivation plays a vital role in academic success, it is important to examine how learning preferences shape motivation and how instructional methods can be adapted to enhance student engagement. This research contributes to the broader field of educational psychology by

offering insights into how personalized learning approaches can boost motivation, improve performance, and enrich the overall learning experience.

Theoretical framework

The VARK Learning Styles Model (Fleming & Mills, 1992)

It classifies learners into four categories based on how they best absorb and process information: visual, auditory, reading/writing, and kinesthetic. Each student has unique preferences—visual learners grasp concepts better through diagrams and charts, auditory learners learn best through discussions and lectures, reading/writing learners excel with text-based materials, and kinesthetic learners thrive in hands-on activities (Cassidy, 2004). Research suggests that when teaching methods align with these preferences, students tend to be more engaged and motivated (Hawk & Shah, 2007). However, some researchers caution against strictly tailoring instruction to learning styles, as evidence linking them directly to improved academic performance remains inconclusive (Pashler et al., 2008). Still, incorporating learning styles into instructional design can create more student-centered learning experiences, making education more engaging and accessible for diverse learners (Dunn et al., 2009).

The Self-Determination Theory (SDT)

SDT developed by Deci and Ryan (1985), offers valuable insights into what drives students to learn. According to SDT, academic motivation can be categorized into three types: intrinsic motivation (IM), extrinsic motivation (EM), and amotivation (AM). Intrinsic motivation stems from a genuine interest in learning, while extrinsic motivation is by external rewards like grades or recognition and amotivation reflects a lack of drive and disengagement from learning (Vallerand et al.,1992).

The three fundamental psychological needs of SDT are autonomy, competence, and relatedness, which significantly influence student's motivation and academic success (Deci & Ryan, 2000). Research shows that when students have the freedom to make learning choices, feel capable in their academic abilities, and build meaningful connections with peers and teachers, their motivation increases (Vansteenkiste et al., 2006). Teaching methods like Problem Based Learning (PBL) and cooperative learning have been found to enhance both intrinsic and extrinsic motivation by creating interactive and engaging learning experiences (Johnson et al., 2014). By understanding these motivational factors, educators can design more supportive learning environments that encourage student engagement and success.

Chapter II

Review of literature

This chapter outlines the previous studies on learning styles and academic motivation, and studies including both learning style and academic motivation.

Empirical evidence of learning style

Ahmad et al. (2024) conducted a comparative analysis of the meaning of life, academic motivation, learning styles, study habits, and academic achievement between university and college students in different educational institutions. Conducted on University and college students. University students exhibited significantly higher levels of meaning in life, academic motivation, and study habits compared to college students.

Sejdiu Shala et al. (2024) examined the relationships between academic motivation, learning styles, and academic achievement in higher education was conducted with a sample of 180 university students. The findings revealed a slight negative correlation between learning styles and academic achievement, suggesting that different learning styles may influence academic success to varying degrees. However, no significant correlation was observed between academic motivation and the other variables, highlighting the complexity of these relationships and the need for further research.

A study by Kuzmina, T. G., & Ivanova, E. V. (2021) explored the impact of learning styles and academic motivation on student's academic performance. By analysing student's learning styles and motivation through questionnaires and correlating the results with their academic records, the research found that students who employed multiple learning styles exhibited significantly higher academic motivation. These findings suggest that adaptability in learning approaches may enhance motivation, ultimately contributing to improved academic performance.

Kamaruddin, N. A., & Ibrahim, N. (2020) examined both the relationship and the effects of learning styles and student engagement on academic performance, with student motivation as

a moderating factor. The research indicated that student motivation significantly moderates the relationship between learning styles, engagement, and academic performance.

İlçin et al. (2018) studied to identify the learning styles of Turkish physiotherapy students and investigate the relationship between academic performance and learning style. The study involved 184 physiotherapy students from Dokuz Eylul University. Researchers used the Grasha-Riechmann Student Learning Style Scales (GRLSS) to determine student's preferred learning styles. While the collaborative learning style was most prevalent among Turkish physiotherapy students, those with the participant learning style scored higher academic performance. The study suggests that teaching strategies encouraging active participation and engagement may enhance academic outcomes in physiotherapy education.

Empirical evidence of academic motivation

Alesi et al. (2023) aimed to investigate how academic motivation mediates the relationship between self-efficacy and learning strategies in university students focusing 1,069 participants with a mean age of 21.72 years. Participants completed self- report questionnaires assessing self-efficacy, academic motivation, and learning strategies. Academic motivation was found to mediate the relationship between self-efficacy and learning strategies, indicating that higher self-efficacy enhances academic motivation, which in turn improves learning strategies. The study highlights the importance of fostering self-efficacy to boost academic motivation and effective learning strategies among university students.

Sivrikaya, A. H. (2019) investigated the relationship between academic motivation levels and academic achievement among physical education and sports students focusing on students enrolled in physical education and sports programs at Balikesir University. Survey-based study utilizing the Academic Motivation Scale (AMS) and a demographic

questionnaire; data analysed using non-parametric tests involving 120 students. The study revealed that student's academic motivation scores were above average. A positive correlation was found between academic achievement and extrinsic motivation, indicating that academic achievement increased when extrinsic motivation increased.

Aung et al. (2015) aimed to evaluate the impact of an intervention program on the academic motivation of preclinical medical students. The study involved 296 second-year medical students at Chulalongkorn University, Bangkok, Thailand, with a median age of 19 years. The intervention was conducted using a pretest and post-test design using self-reported academic motivation scales. The study revealed that the academic motivation of students significantly improved during the three-day program. This suggests that short-term academic interventions can positively influence student motivation.

Karatas a& Erden (2015) aimed to examine undergraduate student's academic motivation concerning gender, academic domains and grade level differences. The scope looks how academic motivation varies among undergraduates based on gender, field of study, and year of study involving 750 undergraduate students. The survey-based study used the Academic Motivation Scale to assess differences across gender, academic domains and grade levels. There were significant differences in academic motivation and were found based on gender, academic domain and grade level. These findings suggest that tailored educational strategies may be helpful in addressing the diverse motivational needs of students.

Isiksal (2010) compared the undergraduate student's academic motivation and self-concept focusing on examining the relationship between motivation and self-concept in different academic disciplines. The comparative study was done in the form of a survey using validated scales, involving 450 undergraduate students. In the findings, it was confirmed that academic motivation and self-concept were positively correlated, with significant differences

observed across disciplines. Students with higher self-concepts showed stronger motivation for academic achievement.

Lujan & DiCarlo (2006) studied medical students to explore the connection between learning styles and academic motivation. Their research found that students who identified and adapted their study techniques to their liked learning styles showed greater motivation, engagement, and academic success. Also, the study suggested that students utilizing multimodal learning strategies such as integrating visual, auditory, and kinesthetic learning techniques gained a deeper comprehension of their coursework. This finding highlights the significance of adding varied teaching methodologies in educational settings to enhance student motivation and academic performance.

Simons a& Rheenen (2000) investigated the achievement motivation of Division I university student-athletes and its connection to academic performance and identity. Their study focused on how motivation in sports impacts academic motivation and success. Using a paper-and-pencil survey based on the self-worth theory, they assessed 361 student-athletes. The findings revealed that fear of failure plays an important role in shaping academic motivation among both revenue and non-revenue athletes. Also, revenue athletes such as football and men's basketball players, tend to have lower academic motivation than non-revenue and female athletes, which led to decreased academic performance and weaker identification with academics.

Fleming & Mills (1992) introduced the VARK learning style model in which they categorizes students into visual, auditory, reading/writing, or kinesthetic learners. Research based on the VARK model suggests that students who study in ways aligned with their preferred learning styles show greater engagement and motivation in academic settings. This

method enhances their ability to retain and apply knowledge in a better way, leading to increased academic performance.

Eccles et al. (1984) focused on the impact of student's self-perceptions of their abilities on academic motivation and achievement during early adolescence of students aged 11 to 14. Using a longitudinal approach, the researchers collected data from 1,000 students through surveys and interviews. The study revealed that students who viewed their abilities positively exhibited increased academic motivation and performed better academically. These findings show the crucial role of fostering positive self-perceptions to support academic success during early adolescence.

Rationale of the study

Understanding how individual learning preferences influence motivation can help educators tailor instructional methods to engage students better. Moreover, it leads to improved academic performance. This study aims to investigate the difference between different learning styles and levels of academic motivation among college students. The research focuses on college students, typically aged 18 to 25, looking into how their preferred learning styles relate to their academic motivation. A quantitative approach was employed, utilizing standardized questionnaires to assess student's learning styles and academic motivation. The study surveyed 200 college students from various academic disciplines.

Current study

The study focuses on how different learning styles contribute to intrinsic motivation, extrinsic motivation and amotivation. This study employs Anova to analyse how different learning styles contribute to academic motivation. A cross-sectional quantitative research design was adopted, making use of structured questionnaires to collect data from college students in Kerala. The target population consist of individuals aged 18 to 25 who are

currently enrolled in any college. A sample size of 200 participants is considered. Convenience sampling was used as the sampling technique. For data collection, the study used the VARK learning style questionnaire and the academic motivation scale as assessment tools. Anova and Kruskal-Wallis were done to examine the difference between learning styles and academic motivation. The findings of this study are expected to contribute to a deeper understanding of individuals learning styles and how it affects their academic motivation.

Chapter III

Methodology

Problem Statement

Does learning style influence academic motivation among college students?

Research Objectives

- To assess the type of academic motivation among college students with different learning styles.
- To study the difference between how academic motivation differ with learning styles.
- To find which learning style (Visual, Auditory, Reading/Writing, Kinesthetic) leads to increased intrinsic motivation, extrinsic motivation and amotivation.

Hypothesis

H1: There is a significant difference in intrinsic motivation among visual, auditory, read/write and kinesthetic learners.

H2: There is a significant difference in extrinsic motivation among visual, auditory, read/write and kinesthetic learners.

H3: There is a significant difference in amotivation among visual, auditory, read/write and kinesthetic learners.

Operational Definition

Learning style

Learning style is defined as the most occurred learning style in 16 items of VARK Learning Styles Questionnaire (Visual, Auditory, Read/Write, Kinesthetic) developed by Neil Fleming (2019).

Academic Motivation

Academic Motivation is defined as the sum of 28 items in Academic Motivation Scale (AMS) developed by Robert J. Vallerand and colleagues (1992) which assesses intrinsic motivation, extrinsic motivation, and amotivation.

Research Design

Cross-sectional quantitative research design is used to assess the objectives of the research.

Sampling

The population of consist of college students of age group 18-25. Data from the sample was collected using convenient sampling method. The sample consists of 200 college students which includes 129 females and 71 males.

Inclusion criteria

- College students from 18 - 25 years of age.
- Students who are currently enrolled in college.
- Both males and females are included.

Exclusion criteria

- Students who are not currently enrolled in college.
- Students who are above 25 and under 18 years of age.

Measures

Socio-demographic sheet

The researcher developed the Socio-Demographic data sheet to collect details such as age, gender, email ID, and field of study.

The VARK learning styles questionnaire (Fleming,2019)

The VARK Learning Styles Questionnaire developed by Neil Fleming is a 16-item tool used to identify an individual's preferred learning style. Each question has 4 options (V, A, R, K). The original VARK questionnaire was first developed in 1987, following major revisions in 1998, 2006, 2009, 2013, and the latest in 2019. It categorizes learners into four main styles: Visual learners (V) are those who prefer diagrams, charts, maps, and graphical representations. Auditory learners (A) are those who learns best through listening, discussions, and verbal explanations. Read/Write learners (R) prefers written text, reading, and writing notes. Kinesthetic learners (K) learns best through hands-on activities, movement, and practical experiences. Reliability: High (Cronbach's alpha = > .80)

The academic motivation scale (Vallerand et al.,1992)

The Academic Motivation Scale (AMS) developed by Robert J. Vallerand and colleagues in 1992 to measure student's motivation in academic settings. The scale is based on the Self-Determination Theory (SDT) and assesses different types of motivation. The AMS consist of 28 items which are divided into three main types of motivation, which are intrinsic motivation, extrinsic motivation and amotivation. Each item is rated on a 7-point Likert scale (1= Does not correspond at all to 7=Corresponds exactly). Reliability: Acceptable (Cronbach's alpha = .70 to .86) also showed high test-retest reliability.

Table 1

Reliability of the Scales

Variable	Cronbach's alpha
Learning Style	0.766
Academic Motivation Scale	0.932

To check the reliability of the scales, Cronbach's Alpha reliability test was conducted. The Cronbach's Alpha value of the Learning Style Questionnaire was found to be 0.766. It indicates moderate reliability. The Cronbach's Alpha value of the Academic Motivation Scale was found to be 0.932. It indicates high reliability.

Procedure

After finalizing the research topic, I presented an ethical overview to the psychology department, which approved it. Next, I began creating a Google Form for voluntary participants. I collected data using this form from young adults aged 19-25 in Kerala. We aimed to gather at least 200 responses, following specific criteria for who could participate. The sample was selected using the convenience sampling method, following specific inclusion and exclusion criteria. Before participating, individuals provided informed consent. A total of 200 participants completed the google form. The google form consisted of three parts, first was the socio-demographic data followed by the learning style questionnaire and the academic motivation scale. The data collected will be used strictly for research and publication purposes. To ensure confidentiality, it will be securely stored by the primary researcher and protected with a password.

Ethical Consideration

While conducting the research, ethical considerations were highly prioritized throughout the research to ensure the participant's well-being and protection. At the beginning of the research, informed consent was obtained from the participants before data collection. The participants were informed about the maintenance of confidentiality and anonymity of their collected data. Participants were also informed about their right to withdraw from the study at any time without any consequences for their actions and the provided data can be completely removed from the study. While conducting the study, psychological and physiological harm to participants was avoided at all costs. The collected data was secured with a password and restricted to authorized access only.

Data analysis

Data analysis was done with the help of Jamovi. Descriptive statistics was calculated for the data. The collected data were analyzed using one-way Anova and Kruskal-Wallis test in Jamovi, to examine differences in academic motivation across different learning styles.

Table 2

Results of normality tests

Variables	Shapiro-Wilk	Sig.
Intrinsic Motivation	0.992	0.389
Extrinsic Motivation	0.980	0.005
Amotivation	0.947	<.001

To check whether the data is normally distributed, Shapiro-Wilk's test was conducted. It provides the nature of the data. Upon assessing the data, it can be concluded whether parametric or non-parametric tests should be used for data analysis. The Shapiro-Wilk coefficient for intrinsic motivation is 0.389 suggesting that the data is normally distributed. However, extrinsic motivation and amotivation is 0.005 and <.001 respectively suggesting that the data is not normally distributed.

Chapter IV

Result & Discussion

The results section includes descriptive statistics, including the mean and standard deviation. One-way Anova was conducted for normally distributed data and Kruskal Wallis for not normally distributed data.

Descriptive Statistics

Table 3

Result of Mean and Standard Deviation of the subscales of Academic Motivation Scale.

	N	Mean	SD
Intrinsic Motivation	200	55.7	12.71
Extrinsic Motivation	200	59.6	13.36
Amotivation	200	22.2	3.49

Table 3 shows the descriptive statistics of the variable Academic Motivation Scale. The mean and standard deviation were calculated. The test findings revealed that the mean is 55.7 of intrinsic motivation, while extrinsic motivation is 59.6. The mean of amotivation is 22.2, while standard deviation are 12.71, 13.36 and 3.49 respectively.

Comparative Analysis

Table 4

Result of One-way Anova, parametric test of intrinsic motivation

	Mean	SD	F	df1	df2	p
IM	55.7	12.71	12.9	3	46.7	<.001

Table 4 indicates that the significant p-value (< .001) suggests a statistically significant difference in intrinsic motivation among the groups.

Table 5

Group descriptives table of intrinsic motivation across different Learning Styles

	LS	N	Mean	SD	SE
IM	A	51	50.1	11.95	1.67
	K	45	63.4	14.12	2.11
	R	12	44.8	9.40	2.71
	V	92	56.4	10.26	1.07

Table 5 indicates the group descriptive statistics of intrinsic motivation across different learning styles. The table shows that kinesthetic learners have the highest intrinsic motivation followed by visual, auditory and read/write learners.

Table 6

Result of one-way Anova, non-parametric test of extrinsic motivation and amotivation

	Mean	SD	χ^2	df	p
EM	59.6	13.36	36.3	3	<.001
AM	22.2	3.49	30.0	3	<.001

Table 6 indicates statistically significant differences in extrinsic motivation and amotivation. High χ^2 values suggest that learning styles have a notable impact on both extrinsic motivation and amotivation.

Table 7

Pairwise comparisons of extrinsic motivation

		W	p
A	K	*7.05*	*<.001*
A	R	*-1.81*	*0.576*
A	V	*4.06*	*0.021*
K	R	*-5.61*	*<.001*
K	V	*-5.22*	*0.001*
R	V	*4.01*	*0.024*

Table 7 indicates that kinesthetic learners consistently show the highest extrinsic motivation, significantly more than all other groups.

Table 8

Pairwise comparisons of amotivation

		W	p
A	K	6.685	<.001
A	R	2.067	0.461
A	V	0.492	0.986
K	R	-2.738	0.213
K	V	-6.957	<.001
R	V	-1.751	0.603

Table 8 indicates that group A learners consistently show the highest amotivation, significantly more than all other groups.

Discussion

The study aims to explore how different learning styles influence academic motivation among college students. The sample consists of 200 college students, including 71 males and 129 females, aged between 18 and 25 years. The objectives of this research are: (1) To identify the types of academic motivation among students with different learning styles, (2) To examine the relationship between learning styles and academic motivation, and (3) To determine which learning style visual, auditory, reading/writing, or kinesthetic leading to higher levels of intrinsic motivation, extrinsic motivation, and amotivation. Understanding student's preferred learning styles is crucial for their academic success, motivation, and engagement. When students are aware of their learning style, they can adopt study strategies that suit them best. Similarly, educators can tailor their teaching methods to accommodate diverse learning needs, improving comprehension and retention. One-way ANOVA was performed to assess differences in intrinsic motivation across learning styles. Out of 200 college students, 92 exhibited a visual learning style, 51 were auditory learners, 12 preferred a read/write approach, and 45 were kinesthetic learners. The alternative hypothesis (H_1) proposed a significant difference in intrinsic motivation among these groups. The results confirmed a statistically significant variation in intrinsic motivation scores, with kinesthetic learners exhibiting the highest intrinsic motivation, followed by visual, auditory, and reading/writing learners, who displayed the lowest IM. These findings indicate that hands-on, experiential learning may be more engaging and self-motivating than passive learning approaches. Additionally, a Kruskal-Wallis test was conducted to analyse differences in extrinsic motivation among the four learning styles. The results revealed a statistically significant difference in EM scores across the groups, suggesting that learning style influences extrinsic motivation levels. Post-hoc pairwise comparisons using the Dwass-Steel-Critchlow-Fligner test revealed significant differences. Kinesthetic learners exhibited the

highest levels of extrinsic motivation, followed by visual learners. Both kinesthetic and visual learners had significantly higher extrinsic motivation than auditory and reading/writing learners. The findings indicate a significant difference in extrinsic motivation across the four learning styles, with kinesthetic learners showing the highest extrinsic motivation. This suggests that students who prefer hands-on learning may be more driven by external rewards, structured tasks, or tangible reinforcement. Visual learners also exhibited higher extrinsic motivation than auditory and reading/writing learners, indicating that they may respond well to external motivators like visual aids, structured feedback, or multimedia content. On the other hand, auditory and reading/writing learners had the lowest extrinsic motivation, suggesting they might rely more on intrinsic motivation or require different motivational strategies, such as discussions or self-directed learning. Auditory learners often absorb information best through listening, discussions, and verbal explanations. They may find motivation in meaningful conversations, storytelling, or understanding concepts rather than relying on external rewards. Reading/Writing learners tend to be self-directed, processing information best through reading, note-taking, and written reflection. They might be more comfortable with independent learning rather than external incentives. The pairwise comparisons of amotivation revealed that kinesthetic learners had significantly lower amotivation than both auditory and visual learners, indicating that students who prefer hands-on, movement-based learning are more engaged and less likely to feel disconnected from academic tasks. This could be because kinesthetic learners thrive in active, experiential environments, where they can directly interact with the material leading to a stronger sense of purpose and involvement in learning. On the other hand, auditory and visual learners showed higher levels of amotivation, but the differences among auditory, read/write, and visual learners were not statistically significant. This suggests that these learners may not be as effectively engaged by traditional or passive learning environments unless the instruction is

specifically tailored to their preference. The significantly lower amotivation among kinesthetic learners may also reflect the importance of active participation, practical tasks, and physical engagement in sustaining motivation. In contrast, learners who are not able to study in ways that align with their preferred style may struggle to find meaning or motivation in academic work contributing to higher amotivation scores. John Mac Ghlionn (2024) discussed the potential benefits of integrating physical activity into educational settings to enhance student outcomes. He cited that incorporating movement-based learning such as combining sports or gestures with academic content not only improves academic performance, particularly in mathematics, but also leads to a notable increase in intrinsic motivation among students. For example, students who engaged in physically active learning tasks demonstrated significantly better recall and greater motivation than those in traditional settings. These findings closely mirror the results of the present study, which revealed that kinesthetic learners, who prefer hands-on and movement-oriented learning, exhibited the highest levels of intrinsic motivation among the four VARK learning styles. This suggests that physical engagement in the learning process can play a key role in fostering self-driven academic interest and motivation, supporting the idea that kinesthetic strategies can be especially beneficial in enhancing student's internal drive to learn. By exploring how student's learning preferences relate to their academic motivation, this study adds to existing research by showing how important it is for educators to adapt their teaching methods to match how students learn best. Doing so can help increase motivation and reduce feelings of disinterest or disengagement. The findings also support the real-world usefulness of the VARK model in making college learning more effective and student-centered.

Chapter V

Conclusion

Key findings

- Students with a kinesthetic learning style showed to have the highest intrinsic motivation.
- Reading/writing learners exhibited the lowest intrinsic motivation.
- Kinesthetic learners also had the highest extrinsic motivation.
- Visual learners had significantly higher extrinsic motivation than Auditory learners.
- Auditory and visual learners showed higher levels of amotivation.

Implications

When teachers understand how students learn and what motivates them, they can improve their teaching methods to make classes more interactive and effective. When teaching aligns with the way students process information and what keeps them interested, they are more likely to understand concepts better and store them for longer. Studies in this area can also help develop AI learning tools that personalize lessons to match each student's learning style, to them motivated. Additionally, these insights can contribute to creating flexible and inclusive syllabus, ensuring that different learning styles and needs are considered in the classroom.

Limitations

The study is focused solely on Kerala. The sample size doesn't cover the large population of college students in Kerala. The study conducted on a small population cannot be considered completely accurate as only 200 participants were involved in the research. It can lead to self-reporting bias as people might inflate their responses due to social desirability. Academic motivation and learning styles vary by subject, culture, and education system making it hard to apply findings universally and also student's preferences change with experience and environment making it hard to define fixed patterns.

Recommendation for future research

Explore how AI-powered adaptive learning platforms can support diverse learning styles and increase academic motivation also gender differences in learning styles can also be assessed in future research for deeper understanding into learning styles. Studies can be conducted on college students from all parts of India including diverse background & culture.

Conclusion

The study reveals the findings on the role of learning style on academic motivation among college students. The results indicate that students with a kinesthetic learning style tend to have the highest intrinsic motivation, while reading/writing learners exhibit the lowest intrinsic motivation. These findings suggest that hands-on learning experiences may be more engaging and self-motivating compared to passive learning methods. Kinesthetic learners also showed to have the highest extrinsic motivation, whereas Reading/Writing learners exhibit the lowest.

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Appendices

Appendix A: Consent Form

Greetings,

I am Anjala Mary, a final-year student pursuing Bachelor's in Psychology at St. Teresa's College, Ernakulam. As part of my research project, I am conducting a study on " The Role of Learning Style on Academic Motivation " If you are a College Student between the ages of 18 - 25, I kindly request you to spare a few minutes of your valuable time to fill out this questionnaire. Please note that all your responses will be kept strictly confidential and used solely for academic purposes. Your participation is entirely voluntarily and can withdraw at any point of the survey. Your kind cooperation in completing this questionnaire is much appreciated. Your privacy, anonymity and data confidentiality will be thoroughly ensured in all saved data. If you have any queries, please feel free to contact me at

email id: maryanjala73@gmail.com

Thank you!

Email:

By clicking the agree button below, you agree that you have read the information carefully and is giving your consent to participate in the study: I agree

Appendix B : Socio-Demographic Details

1. Name (in initials)
2. Gender
    - Male
    - Female
    - Prefer not to say
3. Age
4. Are you currently enrolled in any college?
    - Yes
    - No
5. Field of Study or Major

Appendix C: VARK Learning Style Questionnaire

1) I need to find a way to a shop that a friend has recommended. I would:
    a. find out where the shop is in relation to somewhere I know.
    b. ask my friend to tell me the directions.
    c. write down the street directions I need to remember.
    d. use a map.
2) A website has a video showing how to make a special graph or chart. There is a person speaking, some lists and words describing what to do and some diagrams. I would learn most from:
    a. seeing the diagrams.
    b. listening.
    c. reading the words.
    d. watching the actions.
3) I want to find out more about a tour that I am going on. I would:
    a. look at details about the highlights and activities on the tour.
    b. use a map and see where the places are.
    c. read about the tour on the itinerary.
    d. talk with the person who planned the tour or others who are going on the tour.
4) When choosing a career or area of study, these are important for me.
    a. Applying my knowledge in real situations.
    b. Communicating with others through discussion.
    c. Working with designs, maps or charts.
    d. Using words well in written communications.
5) When I am learning I:

a. like to talk things through.

b. patterns in things.

c. use examples and applications.

d. read books, articles and handouts.

6) I want to save more money and to decide between a range of options. I would:

a. consider examples of each option using my financial information.

b. read a print brochure that describes the options in detail.

c. use graphs showing different options for different time periods.

d. talk with an expert about the options.

7) I want to learn how to play a new boardgame or card game. I would:

a. watch others play the game before joining in.

b. listen to somebody explaining it and ask questions.

c. use the diagrams that explain the various stages, moves and strategies in the game.

d. read the instructions.

8) I have a problem with my heart. I would prefer that the doctor:

a. gave me something to read to explain what was wrong.

b. used a plastic model to show me what was wrong.

c. described what was wrong.

d. showed me a diagram of what was wrong.

9) I want to learn something new on a computer. I would:

a. read the written instructions that came with the program.

b. talk with people who know about the program.

c. start using it and learn by trial and error.

d. follow the diagrams in a book.

10) When learning from the internet I like:

a. videos showing how to do or make things.

b. interesting design and visual features.

c. interesting written descriptions, lists and explanations.

d. audio channels where I can listen to podcasts or interviews.

11) I want to learn about a new project. I would ask for:

a. diagrams to show the project stages with charts of benefits and costs.

b. a written report describing the main features of the project.

c. an opportunity to discuss the project.

d. examples where the project has been used successfully.

12) I want to learn how to take better photos. I would:

a. ask questions and talk about the camera and its features.

b. use the written instructions about what to do.

c. use diagrams showing the camera and what each part does.

d. use examples of good and poor photos showing how to improve them.

13) I prefer a presenter or a teacher who uses:

a. demonstrations, models or practical sessions.

b. question and answer, talk, group discussion, or guest speakers.

c. handouts, books, or readings.

d. diagrams, charts, maps or graphs.

14) I have finished a competition/test and I would like some feedback. I would like to have feedback:

a. using examples from what I have done.

b. using a written description of my results.

c. from somebody who talks it through with me.

d. using graphs showing what I achieved.

15) I want to find out about a house or an apartment. Before visiting it, I would want:

a. to view a video of the property.

b. a discussion with the owner.

c. a printed description of the rooms and features.

d. a plan showing the rooms and a map of the area.

16) I want to assemble a wooden table that came in parts. I would learn best from:

a. diagrams showing each stage of the assembly.

b. advice from someone who has done it before.

c. written instructions that came with the parts for the table.

d. watching a video of a person assembling a similar table.

Appendix D: Academic Motivation Scale

WHY DO YOU GO TO COLLEGE?

Using the scale below, indicate to what extent each of the following items presently corresponds to one of the reasons why you go to college.

Does not correspond at all = 1

Corresponds very little = 2

Corresponds a little = 3

Corresponds moderately = 4

Corresponds a lot = 5

Corresponds very much = 6

Corresponds exactly = 7

1) Because with only a high-school degree I would not find a high-paying job later on.
2) Because I experience pleasure and satisfaction while learning new things.
3) Because I think that a college education will help me better prepare for the career I have chosen.
4) For the intense feelings I experience when I am communicating my own ideas to others.
5) Honestly, I don't know, I really feel that I am wasting my time in school.
6) For the pleasure I experience while surpassing myself in my studies.
7) To prove to myself that I am capable of completing my college degree.
8) In order to obtain a more prestigious job later on.
9) For the pleasure I experience when I discover new things never seen before.

10) Because eventually it will enable me to enter the job market in a field that I like.
11) For the pleasure that I experience when I read interesting authors.
12) I once had good reasons for going to college; however, now I wonder whether I should continue.
13) For the pleasure that I experience while I am surpassing myself in one of my personal accomplishments.
14) Because of the fact that when I succeed in college. I feel important.
15) Because I want to have "the good life" later on.
16) For the pleasure that I experience in broadening my knowledge about subjects which appeal to me.
17) Because this will help me make a better choice regarding my career orientation.
18) For the pleasure that I experience when I feel completely absorbed by what certain authors have written.
19) I can't see why I go to college and frankly. I couldn't care less.
20) For the satisfaction I feel when I am in the process of accomplishing difficult academic activities.
21) To show myself that I am an intelligent person.
22) In order to have a better salary later on.
23) Because my studies allow me to continue to learn about many things that interest me.
24) Because I believe that a few additional years of education will improve my competence as a worker.
25) For the "high" feeling that I experience while reading about various interesting subjects.
26) I don't know; I can't understand what I am doing in school.

27) Because college allows me to experience a personal satisfaction in my quest for excellence in my studies.

28) Because I want to show myself that I can succeed in my studies.