CHATGPT USAGE AND ACADEMIC PROCRASTINATION IN UNIVERSITY STUDENTS: THE ROLE OF FAMILY SIZE AND SOCIO-ECONOMIC STATUS

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Abstract

The substantial utility of Artificial Intelligence (AI) in educational settings has brought about a modern exchange in studying and engagement with course content among students. ChatGPT, a maximum applied AI tool, gives gaining knowledge of experiences, access to sizeable data. Overdependence on artificial intelligence and its tools is a first-rate contributor to instructional procrastination. This is a correlational quantitative study that investigates the relation among the use of ChatGPT and academic procrastination amongst university students. Using tailored questionnaires, the information become collected via Google Forms and via questionnaires, with 260 BS-level contributors participating in this study and the respondents selected via use of purposive sampling method. The size version become subjected to validity and reliability. The scale gives internal consistency reliability with Cronbach's α of 0.91 and 0.73. Student's use of ChatGPT and Academic Procrastination done with the aid of students who use ChatGPT produce giant aspect loadings (p < .001). The research reveals the relation among ChatGPT usage and Academic Procrastination among University students. While ChatGPT improves productiveness through immediately information get entry to, generating thoughts, and getting to know help, it may increase procrastination behaviors primarily based on its use as a final inn. These results suggest that educators or policymakers have to increase techniques on mitigating capacity dependency at the same time as enhancing gaining knowledge of consequences.

Key words: ChatGPT Usage, Academic Procrastination

Introduction

Student learning and engagement with direction have been absolutely converted with the aid of the utility of artificial intelligence inside the educational system (Ahmad et al., 2023). ChatGPT

and different AI gear have turned into disruptive technologies that reshape the manner students observe, system and use statistics (Kasneci et al., 2023). The upward thrust of AI in schooling increases concerns approximately academic integrity, especially concerning plagiarism. (Reuters, 2023), with a latest observe revealing that AI significantly influences human laziness and the loss of human decision-making (Ahmad et al., 2023). Further studies finish that with reliance on AI, college students are prone to revel in memory loss and are as a result liable to problems in time control, ensuing in procrastination (Abbas et al., 2024).

Academic procrastination, the addiction of delaying work with academic-related duties to the quantity that delays become negative to performance, represents a considerable, personal, systemic, and societal trouble within society. Educational procrastination as it occurs in distinctive fields include disposing of obligations or failing to complete them (Diaz et al., 2020) or delaying educational research purposefully (Schraw et al., 2007; Zhang et al., 2022). A current study into the problem has investigated the traits on the topic and has found out that academic procrastination significantly threatens development and college students' resulting (Brignardello et al., 2023).

This research targets to explore the relation between educational procrastination and the use of AI chatbots along with ChatGPT. The academic area dramatically is based at the development of technology. These technology provide the potential to open doorways and construct bridges by using increasing get admission to exceptional schooling, facilitating verbal exchange between educators, students, and households, and alleviating friction throughout diverse instructional contexts from early childhood to adulthood (Escueta et al., 2020). The longtime connection among AI chatbot utilization and the schooling system, we may also anticipate a relationship exists among AI chatbot utilization and academic procrastination. Schools and universities would have to equip themselves with sufficient infrastructure, technical resources, training, and policy frameworks to implement AI (Chen, 2023).

ChatGPT

ChatGPT, evolved with the aid of OpenAI and released in November 2022, is an effective generative AI device based totally on massive language models, designed to produce human-like textual content responses. It is described as a massive language model skilled via OpenAI, an AI chatbot optimized for conversation, especially suitable at interacting in a human-like conversation (Angelis et al., 2023). The question of the successful implementation of AI in language education (Akram & Li, 2024), however, is contingent upon several factors, including the psychological readiness of a teacher (Noor et al., 2021; Javaid et al., 2024a). The students who relied on ChatGPT too significantly have been located to procrastinate more, overlook information and did now not do well (Van et al., 2024). The developing researches also reveals worries related to overreliance, reduced critical questioning, procrastination, academic dishonesty, and capacity declines in analytical skills.

As ChatGPT keeps to adapt with capabilities like customized memory and take a look at modes, educators and policymakers need to cautiously craft moral and pedagogical frameworks that leverage its advantages whilst curbing dependency, making sure educational integrity, and maintaining creativity and impartial learning. The rise and development of generation has also prompted those trend. Researchers conclude that with reliance on AI, students are vulnerable to revel in memory loss and are for that reason susceptible to issues in time management, ensuing in procrastination (Abbas et al., 2024).

Academic Procrastination

Procrastination is extensively described as the voluntary delay of a supposed motion, despite looking ahead to be worse off for the postponement, a self-regulatory failure that undermines goal attainment and regularly induces emotional pain inclusive of guilt or pressure (Steel, 2007). In educational contexts, educational procrastination in particular refers back to the ordinary postponement of instructional duties, like reading for assessments, finishing assignments, or making ready shows, even when college students recognize time limits and the significance of these duties (Castillo et al., 2023). Academic procrastination, the dependency of unduly delaying duties, is unfavorable to scholar outcomes worldwide. International studies continuously validate the negative correlation between procrastination and academic overall performance (Steel, 1997). Similarly, a large examine from Azerbaijan observed that educational procrastination in part mediated the connection among instructional self-efficacy and well-being, highlighting the central function of self-perception in stopping postpone (Rustamov et al., 2023).

Researchers have proposed multifactorial fashions incorporating psychological, physiological, social, instructional, entertainment/time control, environmental, and useful resource-related dimensions to capture its complexity in college students (Castillo, 2023). Workshops integrating behavioral and cognitive techniques, paradoxical interventions, and psycho-schooling have demonstrated effective and sustainable in reducing procrastination over a three-month comply with-up length as compared to manipulate businesses (Otermin, 2018).

Additional literature underlines the broader mental impact of instructional procrastination, inclusive of extended stress, tension, negative nicely being, and educational burnout, mainly all through high-pressure intervals like the COVID 19 pandemic and on-line mastering transitions (Cjuno et al., 2023). Meta-analyses also give a boost to that procrastination impairs time management, disrupts spaced studying, and heightens stress, compromising each productivity and intellectual health (Kooren et al., 2024). Therefore, this study changed into performed to perceive how procrastination and the use of Chat-GPT were associated.

Theoretical Model

Temporal Motivation Theory: Academic procrastination is frequently related to more than one poor impacts on college students, including diminished educational performance and destructive results on students' typical nicely-being (Brignardello et al., 2023). Hence, Temporal Motivation Theory a complex interplay of vital additives: price, expectancy, and impulsiveness (Steel et al., 2018). Additionally, whilst the perceived price of academic duties is low, students may additionally prioritize instant rewards, main to procrastination (Wang et al., 2021). The potential of ChatGPT to offer instantaneous rewards, which include instantaneous solutions, overshadows the anticipated long-time period value of developing academic skills whilst counting on one's abilities to finish responsibilities by myself. These elements together create a cycle wherein procrastination exacerbates pressure and hampers instructional fulfillment. The TMT concept is predominantly used to give an explanation for why students do no longer have interaction however put off their getting to know sports (Steel, 2007). Examples encompass the instant pleasure from a chatbot, which could inspire and strengthen procrastination behaviors. According to a study in 2023, dependency on generation decreases a scholar's perceived locus of manipulate and self-efficacy, which are critical elements of expectancy in keeping with the theory. Moreover, the greater students rely on chatbots and doubt their skills, the less they are able to expect their talents, main to increased impulsivity and further continuing the cycle of procrastination. Temporal Motivation Theory, consequently, underlines the double nature of AI

technology in schooling: where these technologies can provide potential guide, they will strengthen procrastination if not used with due care.

Rationale

University college students have, with the aid of now, end up snug with the usage of synthetic intelligence (AI) programs. Students can utilize their offerings to realize complex topics, write essays and get on the spot solutions to instructional questions. ChatGPT is certainly useful. But its effect on educational overall performance, educational motivation, and educational procrastination isn't always sincerely clean yet. Most students do suffer from educational procrastination which has been associated with reducing of grades and pressure (Geng et al., 2022). Some students will say ChatGPT is the purpose they are not putting in difficult work through themselves. Less encouraged college students procrastinate and use it on the whole for completing the mission. They do now not study something with the help of procrastination (Tzafilkou et al., 2023). The literature reveals numerous gaps that the present day examine was making an attempt to bridge. This study pursuits to research the connection among students' use of ChatGPT and academic procrastination. This take a look at will assist educators, college students, and groups understand a way to assist college students use AI tools effectively and correctly

Objectives

- To investigate the relation between ChatGPT use and academic procrastination of university students'.
- To investigate how ChatGPT use predicts academic procrastination in university students.
- To investigate how student demographics influence ChatGPT use and Academic Procrastination.

Conceptual Model (Figure 1)
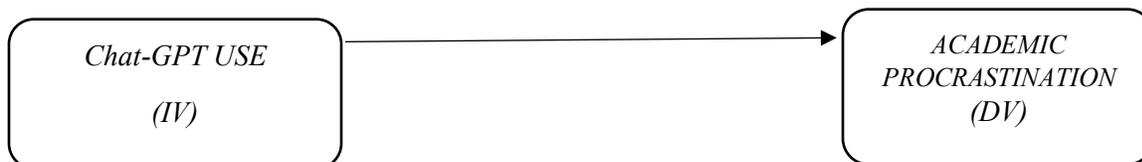
Literature Review and Hypothesis Development

The emergence of artificial intelligence tools which include ChatGPT has generated sizeable academic interest concerning their have an impact on students' studying behaviors, and procrastination. Early conceptual research highlighted each the guarantees and the dangers of such technologies. For instance, Kasneci and co-workers in 2023 emphasized that ChatGPT ought to guide individualized gaining knowledge of, writing improvement, and productiveness, but those blessings depend largely on students' intentions and engagement techniques. Similarly, Zhao in 2022 cautioned that overreliance on ChatGPT as a shortcut to complete instructional tasks may additionally undermine critical questioning and autonomy. Other research have tested the link among AI use and procrastination. Mukhtar and colleagues in 2025 reported that AI dependence positively correlates with procrastination among college college students in Multan, indicating that overreliance encourages instructional postpone (Mukhtar et al., 2025). The studies suggests that when college students use AI responsibly, with moral reflection, procrastination may be reduced. Thus, the manner of utilization, formed via man or woman regulation and ethics, appreciably alters outcomes. Dependence or unregulated use regularly correlates with procrastination, lack of autonomy, and weaker critical thinking. Importantly, maximum current studies were leaving gaps

regarding longitudinal changes, cultural variations, and deeper results including vital wondering, retention, and creativity. Overall, the developing frame of proof suggests that ChatGPT's impact on instructional behaviors was not uniform but conditional.

Chat-GPT Use and Academic Procrastination

Dependence on artificial intelligence (AI) tools which include ChatGPT has more and more been related to the behavioral tendency of procrastination (Qureshi et al., 2023). The rapid integration of AI into better schooling settings has raised crucial questions about its role as each a facilitator and barrier to mastering. On one hand, ChatGPT offers college students unheard of get admission to immediate causes, summaries, and help in synthesizing statistics. When used purposefully, it could promote comprehension, make clear complex standards, and help concept generation (Kasneci et al., 2023). On the alternative hand, the same accessibility might also inspire avoidance of effortful engagement. Students may additionally begin substituting deep cognitive work with passive intake, postponing active trouble-fixing or significant writing. This behavioral shift aligns carefully with styles of educational procrastination, wherein students postpone vital instructional activities no matter anticipating poor effects. For example, in "Students' Perceptions of ChatGPT in Higher Education: A Study changed into conducted by way of, Komal Uppal and Shiva Hajian in 2025 validated a sturdy tremendous correlation (r = 0.546, p < 0.001) between dependency on ChatGPT and procrastination, establishing that scholars who're greater reliant on ChatGPT are significantly much more likely to procrastinate (Uppal & Hajian, 2025). Another study performed in Pakistan, located that AI dependence was positively correlated (r = .24, p = .010) with educational procrastination (Maliha et al., 2025). Moreover, a separate research reported that beneath situations of heavy instructional workload and time pressure, college students the usage of ChatGPT often stated more procrastination, along-side memory loss and declines in GPA. These findings help the speculation that ChatGPT was undoubtedly related to educational procrastination. Also, this observe explains the variance shown in Academic Procrastination of students who use ChatGPT.

Hypothesis (H1): There is a significant association between ChatGPT Usage and Academic Procrastination and Academic Procrastination was influenced by the use of ChatGPT.

Socio-Economic Status and ChatGPT Usage

Socio-economic reputation impacts college students' get entry to digital resources, technological self-assurance, and gaining knowledge of environments. Students from better SES backgrounds typically have greater publicity to academic technology and are more likely to apply ChatGPT strategically for educational assist, which includes clarifying principles, organizing thoughts, or enhancing writing high-quality (Selwyn, 2016). In contrast, college students from lower SES backgrounds may rely upon ChatGPT extra regularly as a compensatory device to deal with restricted educational aid, which may also boom dependence and doubtlessly make contributions to procrastination (Deursen et al., 2014).

Hypothesis (H2): There is a significant association between socio-economic status of students and their use of ChatGPT.

Frequency of ChatGPT Usage and Procrastination

The frequency of ChatGPT usage is any other key factor related to procrastination. Moderate and useful use of ChatGPT can beautify academic efficiency and decrease task delays with the aid of helping with planning, summarization, and hassle-fixing. However, immoderate or recurring use specifically close to closing dates can also inspire project postponement and surface-degree gaining knowledge of, reinforcing procrastination inclinations (Steel, 2007).

Hypothesis (H3): There is a significant association between how often students use ChatGPT (daily, weekly, in a month) and their procrastination level.

Reason for ChatGPT Usage and Academic Procrastination

Students' number one reasons for the use of ChatGPT substantially form its impact. When college students especially use ChatGPT for idea era, information hard content material, or enhancing drafts, it features as a productivity tool. Conversely, while its miles used basically to finish assignments quickly or avoid effortful cognitive engagement, it is able to act as an avoidance method that exacerbates procrastination. Students with higher rates of ChatGPT utilization to generate ideas, comprehend intricate issues, or polish academic papers were less likely to have high procrastination rates. This confirms the self-regulated learning theory, which focuses on the idea that the use of the support tools, which is oriented to learning, increases the level of engagement and academic control (Zimmerman, 2002).

Hypothesis (H4): There is a significant association between the reason for student's use of ChatGPT (Assignment, exam preparation, research purpose) and their procrastination level.

Number of Siblings and Procrastination

Additionally, circle of relatives shape, especially the range of siblings also influence procrastination. Students from large households frequently face improved household duties, shared sources, and distractions, which can limit targeted examine time. As a result, they will flip to ChatGPT greater frequently as a time-saving useful resource that may both assist control workload efficaciously or inspire procrastination depending on usage patterns (Ferrari et al., 1995). Overall, those demographic and usage-associated variables have interaction to shape how college students adopt ChatGPT and whether its use mitigates or intensifies instructional procrastination. Collectively, demographic traits engage to form no longer best the adoption of ChatGPT however additionally its results on procrastination.

Hypothesis (H5): There is a significant association between students' number of siblings and their Procrastination level.

Method

Research Design

A cross-sectional correlational research became used within the present examine. The participants constructed from 260 samples determined using G*power aged among 18 to 26 years old. The participants who use Chat-GPT were recruited through purposive sampling method. All the contributors knowingly supplied their informed consent to be involved in examine. The center goal of this design become to research ChatGPT Usage act as considerable predictors of Academic Procrastination amongst university students.

Sampling and Data Collection

The population for this study turned into include university students enrolled in undergraduate or graduate programs throughout various disciplines. A purposive sampling technique was used to target students who're actively engaged in educational obligations and are familiar with or have used Chat-GPT. Sample size is calculated with the aid of the usage of G*Power version 3.1.9.4. A linear regression version turned into chosen to take a look at the primary effects and relation between two. The parameters were a medium effect size ($f^2 = 0.05$), $\alpha = 0.05$, energy $(1-\beta) = 0.8$ and a pair of predictors. The calculated minimal required pattern length became 260 contributors.

Inclusion criteria/Exclusion criteria

University students of age 19 or extra, have normal academic enrollment, starting from third semester and previous use of Chat-GPT at the least as soon as for instructional functions had been blanketed in this examine. Students who did not use Chat-GPT or aren't presently enrolled in any educational program had been excluded from this study.

Instruments

Chat-GPT Usage Scale

The Chat-GPT Usage Scale advanced via (Abbas et al., 2024) was designed to assess how often and for what academic purposes university college students utilize Chat-GPT. The scale evaluates students' behavior across three domain names: frequency of use, purpose of use, and perceived impact on academic mastering. The scale consists of a complete of 8 items, each item is rated on a 6-point likert scale from 1 = not at all to 5 = Always. In the preliminary validation of scale, the Chat-GPT Usage Scale tested robust inner consistency of $\alpha = .87$.

Procrastination Scale

The Lay Procrastination Scale (Lay, 1983) turned into used to measure contributors' fashionable tendency closer to procrastination. The scale was a self-record tool consisting of 20 items designed to evaluate ordinary delay in initiating and finishing obligations across ordinary conditions. The items examine behaviors associated with mission postponement, difficulty in starting paintings, delay in choice-making, and failure to complete obligations inside expected time frames. Responses were recorded on a 5-factor Likert-kind scale starting from strongly disagree to strongly agree. The scale incorporates each positively and negatively worded items, with numerous objects requiring reverse scoring to govern for reaction bias. Total rankings were acquired with the aid of summing the responses to all items, with higher ratings indicating greater stages of procrastination. The Lay Procrastination Scale has proven proper inner consistency, with a stated reliability coefficient of $\alpha = .73$, assisting its suitability for research use.

Procedure

A correlational studies have a look at 260 members who meet the inclusion criteria get recruited for this study via purposive sampling techniques, specializing in Chat-GPT users aged 18 to 26 or 26 above. Recruitment starts often evolved with initial touch through social media systems and scholar agencies to attain ability permission to conduct the study was acquired from the university ethical committee. Participants had been informed about the purpose of the study, the voluntary nature of participation, and the confidentiality of their responses.

The researcher explains the goals really and assures the participants that their data could be stored personal. Before starting the survey, individuals are requested to examine the knowledgeable consent form. No time restrictions were imposed for completing the survey to allow members to reply thoughtfully. Inclusion and exclusion standards have been implemented to make certain the sample changed into appropriate for the examine goals. Participants were reassured of whole confidentiality, and knowledgeable consent changed into obtained from every player earlier than facts collection begins.

Data Analysis

Data was analyzed using SPSS version 24. Frequency and percentage have been calculated for all demographic variables to explain the pattern traits. Pearson correlation and ANOVA were carried out to examine the relationships and institution variations in the variable.

Ethical Considerations

Formal popularity of research changed into obtained by the manager before accomplishing the research. The nature of the study, purpose, and expectancies of the modern study had been defined to participants. It was ensured that all the individuals involved in the research had agreed to the informed consent. Participants were given permission to invite questions regarding modern-day research. Limits of confidentiality have been maintained. The current studies had no deception. Every factor and reason changed into noted in reality for a higher expertise

Results

Following the descriptive evaluation, reliability analysis turned into carried out to assess the inner consistency of the measurement scales used. Cronbach's alpha values had been pronounced for every scale, ensuring they met the widespread threshold for reliability. Linear regression analysis changed into conducted to become aware of the Academic Procrastination of students who use Chat-GPT. The statistical findings were defined and offered with the assist of tables. And the formatting of the tabling is consistent with the American Psychological Association (APA).

Table No. 1

Frequency/Demographic Characteristics of Study Variables N=260

Variable	Frequency (Percentage)	M	SD
Age		1.7	.67
-18-20	103 (39.6%)		
-21-23	132 (50.8%)		
-24-26	21 (8.1 %)		
26 above	4 (1.5%)		
Gender		1.7	.45
-Male	73 (28.1%)		
-Female	187 (71.49%)		
Family System		1.6	.49
-Nuclear	157 (60.4%)		
-Joint	103 (39.6%)		
Living Area		1.3	.47
-Urban	171 (65.8%)		
-Rural	89 (34.2%)		
Socio-economic status		2.0	.26
Lower	3 (1.2%)		
Middle	242 (93.1%)		
Higher	15 (5.8%)		
Number of Siblings		3.6	.76
-0	10 (3.8%)		
-1	14 (5.4%)		
-2	42 (16.2%)		
-3+	194 (74.6%)		
Family Income		2.5	1.2
-PKR 25,000-50,000	68 (26.2%)		

		M	S.D
-PKR 50,000-75,000	68 (26.2%)		
-PKR 75,000-100,000	31 (11.9%)		
-Above PKR 100,000	93 (35.8%)		
Education Level		3.0	.95
-Year 1	14 (5.4%)		
-Year 2	73 (28.1%)		
-Year 3	68 (26.2%)		
-Year 4	105 (40.4%)		
Type of Institute		1.9	.28
-Private	23 (8.8%)		
-Government	237 (91.2%)		
Do you use Chat-GPT?		1.02	.15
-Yes	254 (97.7%)		
-No	6 (2.3%)		
How often do you use Chat-GPT?		1.8	.94
-Daily	114 (43.8%)		
-A few times a week	83 (31.9%)		
-A few times a month	44 (16.9%)		
Rarely	19 (7.3%)		
Why do you mainly use Chat-GPT for?		2.2	1.03
-Assignment help	85 (32.7%)		
-Exam preparation	62 (23.8%)		
-Research purpose	83 (31.9%)		
Other	30 (11.5%)		

Note: M= Mean, and S.D= Standard Deviation

Table 1 suggests that most respondents had been young adults aged 21–23 (58.8%), predominantly lady (71.4%), and largely from urban regions (65.8%). Family backgrounds have been divided among nuclear (60.4%) and joint (39.6%) systems, with the majority having three or extra siblings (74.6%). Education degree with most being undergraduates and from remaining semesters (44%), and most studied in authorities institutions (91.2%). The college students who use Chat-GPT were in huge wide variety with percentage of (97.7 %). Chat-GPT use was good sized, with 48.8% day by day customers and 31.9% use in some times a week, with 7.3% using not often. Many students use Chat-GPT for Assignment help (32.7%). For Exam Preparation simplest 23.8% college students had been the use of Chat-GPT. The mean age suggests that maximum members fell in the lower to center age categories. The gender distribution suggests a better share of ladies. Most participants belonged to both nuclear and joint own family systems and predominantly resided in city areas. The outcomes similarly suggest that participants usually stated having a slight range of siblings and usually represented a center socio-economic heritage. Most participants had been affiliated with public institutes. Regarding ChatGPT usage, the findings show that almost all of contributors said the use of ChatGPT, generally with low to slight frequency and in particular for academic functions.

Table No. 2
Descriptive statistics and reliability coefficient of scales (N=260)

	Min.	Max.	Mean	Std. deviation	Skewness		Kurtosis		Item	Chronbach
					Stat	SE	Stat	SE		
CGPT	8	48	32.28	8.50	.25	.15	-.590	.30	8	.92
APROC	31	94	62.52	9.63	.55	.15	1.26	.30	20	.73

Note: CGPT= Chat-GPT Use, APROC=Academic Procrastination, Min=Minimum, Max=Maximum, Stat=Statistics and SE=Standard Error

Table 2 offers the descriptive records of all look at variables. The mean values imply critical tendency across the observed constructs. The outcomes of the same old deviation display moderate deviation amongst all measured variables. In order to observe invariable normality, skewness and kurtosis were measured (Peat & Barton, 2005). All scales are located with exact reliability, with an alpha above 0.5. The Cronbach's Alpha for the Chat-GPT Use Scale for Students and the Procrastination Scale had been .92 and .73, respectively. No single score was deleted, and no extreme outlier become determined in the information.

Table No. 3
Correlation between scales

	CGPT	PROC
CGPT	1	.217**
PROC	-	1

Note**.*Correlation is significant at the 0.01 level (2-tailed),*
CGPT for Chat-GPT Use Scale, PROC for Procrastination Scale

Table 3 gives the correlations many of the examine variables. The results indicate that ChatGPT use indicates advantageous and statistically good sized relationships with Academic Procrastination.

Table No. 4
Predictors of Academic Procrastination among Chat-GPT Users (N=260)

Variables	B	SE	B	t	p
Constant	54.57	2.30		23.74	<.001
Chat-GPT Use	0.25	0.07	.22	3.57	<.001
R square	.05**				

*Note: **p<.01, **p<.001. B= Unstandardized Regression Coefficient, SE=Standard Error,*
B (Beta) =Standardized Regression Coefficient, t= t-statistic and p=significance level

Table 4 indicates a simple linear regression analysis become conducted to take a look at whether ChatGPT usage predicts academic procrastination among university college students. The regression version became statistically tremendous, F (1, 258) = 12.77, p < .001, indicating that ChatGPT utilization drastically predicts academic procrastination. The model explained 4.7% of the variance in academic procrastination (R² = .047). ChatGPT usage emerged as a significant

positive predictor (B = 0.25, β = .22, t = 3.57, p < .001), suggesting that improved use of ChatGPT was related to better stages of educational procrastination.

Table No. 5

Analysis of Variance for ChatGPT Use across how often students use Chat-GPT for? (N=260)

V's	Groups	SS	df	MS	F	p	Cohen's d
Chat-GPT Usage	Between Groups	3771.75	3	1257.25	21.53	.000	1.0
	Within Groups	14948.75	256	58.39			
	Total	18720.50	259				

The mean difference is significant at 0.01 and 0.05 level.
Note: SS = Sum of Squares, Df = Degrees of Freedom, MS = Mean Square, F = F-Statistic, p = significance value

Table 5 reports one-way ANOVA results examining variations in ChatGPT usage based totally on the frequency of ChatGPT use (N = 260). The evaluation for ChatGPT utilization discovered a fairly huge group effect, F (three, 256) = 21.53, p < .001. The extensive between-organizations variance (SS = 3771.75) relative to within-organizations variance (SS = 14948.75) suggests that scholars' tiers of ChatGPT utilization differ markedly depending on how regularly they use ChatGPT. This finding confirms that the grouping variable meaningfully distinguishes college students in terms of their ChatGPT usage behavior.

Table No. 6

Analysis of Variance for ChatGPT Use across why do students use Chat-GPT mainly for? (N=260)

V's	Groups	SS	df	MS	F	p	Cohen' d
Chat-GPT Usage	Between group	713.79	3	273.93	3.39	0.19	0.40
	Within group	18006.71	256	70.34			
	Total	18720.50	259				

The mean difference is significant at 0.01 and 0.05 level.
Note: SS = Sum of Squares, Df = Degrees of Freedom, MS = Mean Square, F = F-Statistic, p = significance value

Table 6 offers the outcomes of a one-way Analysis of Variance carried out to look at variations in ChatGPT usage throughout college students' number one motives for using ChatGPT, primarily based on a sample of 260 college students. The total variability in ChatGPT usage changed into partitioned into variability between businesses and variability within groups.

Table No. 7

Analysis of Variance for Academic Procrastination across No. of Siblings of students? (N=260)

V's	Groups	SS	df	MS	F	p	Cohen's d
Academic Procrastination	Between group	883.87	3	294.63	3.26	.022	0.40
	Within group	2315.03	256	90.48			
	Total	24048.90	259				

The mean difference is significant at 0.05 level.

Note: SS = Sum of Squares, Df = Degrees of Freedom, MS = Mean Square, F = F-Statistic, p = significance value

Table 7 reviews the effects of a one-way ANOVA examining variations in educational procrastination based on the wide variety of siblings amongst students (N = 260). The analysis revealed a statistically vast organization effect, F (3, 256) = three.26, p = .022. The among-agencies variance (SS = 883.87), relative to the inside-organizations variance (SS = 23,165.03), indicates that tiers of instructional procrastination fluctuate across sibling agencies. This indicates that the variety of siblings meaningfully distinguishes students with respect to their instructional procrastination conduct.

Table No. 8

Analysis of Variance for ChatGPT Use and Socio-economic status? (N=260)

V's	Groups	SS	df	MS	F	p	Cohen's d
Chat-GPT Usage	Between group	437.32	2	218.66	3.07	.048	0.30
	Within group	18283.18	257	71.14			
	Total	18720.50	259				

The mean difference is significant at 0.05 level.

Note: SS = Sum of Squares, Df = Degrees of Freedom, MS = Mean Square, F = F-Statistic, p = Significance value

Table 8 presents the results of a one-way ANOVA analyzing variations in ChatGPT utilization and socio-economic status of students (N = 260). The analysis discovered a statistically sizable organization impact, F (2, 257) = 3.07, p = .048.

Discussion

The outcomes of the study indicates that the Academic Procrastination of the students is laid low with the use Chat-GPT. The purpose of the study became to establish the correlation among Chat-GPT Usage and Academic Procrastination of the students. This study also examined the variance shown in Academic Procrastination of the scholars who use ChatGPT. The research entailed 260 participants of Chat-GPT Users who had been young adults via purposive sampling strategies. To check the hypothesized relationships, a correlational research design was adopted. To analyze the variables, the Chat-GPT Usage Scale for Students was used to evaluate the use of Chat-GPT among university students and the Procrastination Scale for Students was used to measure the Academic Procrastination.

The psychometric qualities of the scales were used in this observe, demonstrating that all instruments confirmed ideal to great reliability for the functions of this studies. The Chat-GPT Usage Scale for Students exhibited a Cronbach's alpha of .92, indicating very high inner consistency. Similarly, the Procrastination Scale confirmed sturdy reliability with Cronbach's alpha of .73. This study showed that most respondents had been young adults elderly predominantly woman and in large part from city areas. Family backgrounds have been divided between nuclear and joint family systems, with mostly having three or more siblings. Education stage with most being undergraduates and from last semesters. The college students who use Chat-GPT had been in big number. Chat-GPT use changed into large, in a day by day customers and few use in a few instances every week. Many college students use Chat-GPT for Assignment assist. For Exam Preparation only some of the students had been the usage of Chat-GPT. Then the descriptive facts of all examine variables. In order to take a look at univariable normality, skewness

and kurtosis have been measured (Peat & Barton, 2005). No single rating become deleted, and no intense outlier turned into determined in the statistics.

The demographic traits of the participants had been summarized. The mean age suggests that maximum members fell in the lower to middle age categories. The gender distribution suggests a higher proportion of women. Most members belonged to each nuclear and joint own family structures and predominantly resided in urban regions. The results similarly suggest that participants normally said having a moderate quantity of siblings and on the whole represented a middle socio-financial past. Most contributors were affiliated with public institutes. Regarding ChatGPT utilization, the findings show that the majority of members mentioned the usage of ChatGPT, usually with low to moderate frequency and particularly for instructional purposes.

This study affords the correlation among various observe variables. The results imply that ChatGPT use showed effective and statistically sizable relationships with Academic Procrastination. Then the linear regression analysis was performed to examine whether ChatGPT utilization predicts educational procrastination among students. The regression version was statistically great, indicating that ChatGPT utilization extensively predicts instructional procrastination. The version defined the variance in educational procrastination. ChatGPT usage emerged as a good sized positive predictor suggesting that extended use of ChatGPT became associated with higher tiers of instructional procrastination.

The analysis for ChatGPT utilization found out a fairly large institution effect. One-way Analysis of Variance carried out to observe differences in ChatGPT utilization throughout students' number one reasons for the usage of ChatGPT. The analysis yielded ranges of freedom. The between-agencies sum of squares and mean square suggest that a portion of the variance in ChatGPT usage is related to differences in university students' reasons for the use of ChatGPT. The within-companies sum of squares and mean rectangular represent variability in ChatGPT usage within each group. The larger imply rectangular between companies relative to the mean square within companies ended in a statistically significant F ratio. One-manner ANOVA inspecting variations in educational procrastination based totally at the variety of siblings. The evaluation found out a statistically tremendous institution impact. The among-businesses variance relative to the within-value variance, indicated that degrees of educational procrastination vary throughout sibling organizations. One-way ANOVA inspecting differences in ChatGPT utilization based on how often university students use ChatGPT. The evaluation discovered a statistically tremendous organization effect. The between-values variance, relative to the within variance indicates that scholars' tiers of ChatGPT usage differ depending at the frequency of their use. This finding suggests that the frequency with which students use ChatGPT meaningfully distinguishes their ChatGPT utilization conduct.

This study also discussed the demographics of students in which there was significant association between demographics of students and their use of ChatGPT and Academic Procrastination done by students. In hypothesis it was confirmed that there was a significant correlation between the socio-economic status of students and their usage of ChatGPT. Recent studies of secondary learners point to the high Socio-economis status related inequality of access to technology and digital learning opportunities, which indicates that low socio-economic students are at a disadvantage to obtain the full benefit of technology-enhanced learning (Mwangi & Taym, 2024). Similar studies carried out in larger educational contexts prove that the role of socioeconomic differences will never leave to create digital learning equity and inclusion (Tripathi, 2024).The given outcome aligns with the existing literature which says that students with more

privileged backgrounds tend to be more familiar with digital learning tools and more technologically confident to make informed choices about the application of AI tools to their academic experience, including clarifying concepts, organizing ideas, and writing better (Selwyn, 2016). Conversely, students with lower SES backgrounds can use ChatGPT as a compensatory academic tool because they may not have institutional or family-based academic support (Deursen et al., 2014).

The findings also showed that the frequency of using ChatGPT was significantly associated with the level of academic procrastination of students. Recent publications indicate that moderately using ChatGPT and making deliberate reports, students claim to have better organization of tasks and less procrastination, especially when outlining, time planning, or clarification of concepts are handled by AI (Kasneci et al., 2023). Yet, overuse and chronic use, in particular, when one is under the academic pressure, has been linked to heightened procrastination, learning superficially, and decreased self-control (Chen et al., 2024). This observation is consistent with the temporal motivation theory proposed by Steel (2007) which states that more people tend to procrastinate when they can obtain relief now or short term profits. ChatGPT can be used moderately and with a purpose to increase academic efficiency (planning, summarizing, problem-solving). Nonetheless, overexploitation or overuse especially around deadlines might encourage avoidance of tasks, shallow learning and more procrastination.

The academic procrastination was noted to be closely related to the purpose of using ChatGPT. Research indicates that ChatGPT is often used by students to solve complex problems, generate ideas, and clarify academic tasks, indicating that they tend to use it based on learning orientations instead of completing assignments (Mengual et al., 2025). As a cognitive support tool in improving the understanding and interest of the material, ChatGPT has a positive effect in academic self-regulation. On the other hand, empirical data indicated that the application of AI-enabled applications, such as generative chatbots, may affect the levels of student engagement and procrastination, especially when the use of these tools decreases the involvement in active learning (Ma & Chen, 2024).Students with higher rates of ChatGPT utilization to generate ideas, comprehend intricate issues, or polish academic papers were less likely to have high procrastination rates. This confirms the self-regulated learning theory, which focuses on the idea that the use of the support tools, which is oriented to learning, increases the level of engagement and academic control (Zimmerman, 2002). This result shows that the use of AI tools in academic settings is intentional and goal-oriented.

The research has also analyzed the correlation between the number of siblings and the level of procrastination among students. As with prior studies, the student in bigger families might have more household duties, shared resources and environmental distractions and as a result, may have less time to concentrate on studying and time management (Ferrari et al., 2009). Subsequently, these students might resort to ChatGPT as an academic time-saving tool. Researchers have shown that the bigger the family, the less parental attention and the more competition to study resources, which may contribute to the worsening of procrastination habits in students (Rosario et al. 2006). These results indicate that academic behaviors and the use of technologies may be indirectly affected by the family structure.

Conclusion

This study aims to explore how the use of ChatGPT associated with the Academic Procrastination of university students. Data were collected from 260 university students using reliable, standardized scales and analyzed with a cross-sectional correlational design. Purposive

sampling techniques were used. The results showed that there is a significant association between the student's use of ChatGPT and Academic Procrastination. Also, the results showed significance association between student's number of siblings and their Academic Procrastination, their socio-economic status and how it was significantly associated with their ChatGPT Usage. Also, this study proved the significant association between student's frequency and reason of ChatGPT Usage and their Academic Procrastination.

Limitations of the Study

1. The data collection was limited to specific institutes and group of participants which may not fully represent the usage of ChatGPT.
2. Purposive sampling techniques were used instead of random sampling, which may have introduced sampling bias.
3. The cross-sectional correlational design was employed, which limits causal interpretations. Longitudinal or experimental design could provide more robust conclusions about cause-and-effect relationships.

Practical Implications

1. The results can assist universities to know how the use of ChatGPT influences academic procrastination either by decreasing the delays by facilitating task initiation or increasing delays by over-relying on it. This understanding can be used to inform the placement of AI tools in the learning setting.
2. The findings can be used by academic advisors, learning support units, and counseling services to guide them to give personalized interventions to students who have a procrastination issue by understanding the role of AI tools in time management and motivation among students.
3. The research may be used to formulate institutional guidelines on ethical and productive uses of AI and promote structured and purposeful use of ChatGPT instead of last-minute reliance that can further support procrastination.

Recommendations

1. To help minimize academic procrastination, universities must offer instructions and practice on how to use ChatGPT as a learning tool (e.g., to brainstorm, outline, and plan) and not as the shortcut.
2. The AI literacy should be taught using academic skills courses and must involve time management, self-regulation, and proper planning of tasks using tools such as ChatGPT.

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