



## Study Habits and Academic Achievement: The Mediating Role of Time Management

Muhammad Farooq Asghar<sup>1</sup>, Muhammad Saad Khan<sup>2</sup>

<sup>1</sup>Research Scholar, Department of Education, University of Karachi,

<sup>2</sup>Research Scholar, Department of Education, University of Karachi

Email: [mfarooqa@yahoo.com](mailto:mfarooqa@yahoo.com)

### ARTICLE INFO

**Received:**

December 16, 2025

**Revised:**

January 11, 2026

**Accepted:**

January 28, 2026

**Available Online:**

February 07, 2026

**Keywords:**

observe behavior,  
instructional  
achievement, time  
control, college  
students, SmartPLS,  
mediation, Karachi.

**Corresponding author:**

[mfarooqa@yahoo.com](mailto:mfarooqa@yahoo.com)

### ABSTRACT

The studies is a quantitative observe specializing in the connection among observe behavior and educational overall performance and time control as a mediating element amongst college college students in Karachi, Pakistan. A stratified random sampling became used to pick out 250 college students in six universities three public and three private. The look at records have been collected in proven and five-factor Likert questions concerning take a look at habit, time control habit, and cumulative grade factor common as a hallmark of educational achievement. The SPSS and SmartPLS have been used withinside the evaluation that blanketed descriptive statistics, Cronbach alpha reliability test, Pearson correlation and partial least squares structural equation modeling with bootstrapped mediation tests. Findings confirmed that precise examine behavior had been massive predictors of higher instructional overall performance each at once and in a roundabout way by higher time control. Time control became out to be an crucial partial mediator and attributed a full-size quantity of the general impact of observe behavior on overall performance. Differences in gender and institutional kind had been additionally found. The consequences have great implications on instructional assist and curriculum layout on Pakistani establishments of better learning.

### Introduction

Academic achievements also are one of the maximum full-size implications of the college experience, which has implications at the profession paths of college students, in addition to their capability to earn and self-expand. Researchers and practitioners running globally withinside the area of better schooling have attempted to decide the behavioral and mental determinants of instructional overall performance and the have a look at behavior have continuously proved to be an essential determinant. Study behavior discuss with the ones behavioral styles that the scholars comply with of their preparatory and it includes their exercise of taking notes, frequency of revision, reading, and look at techniques of taking exams (Nonis & Hudson, 2010). Such behaviors were discovered to be the exceptional and consistency of those behaviors that distinguish the excessive-attaining college students and their low-reaching opposite numbers in numerous instructional settings.

In parallel, time control, because the ability to plot, prioritize and commit time optimally in face of conflicting educational and private necessities has been accorded growing awareness as a predictor of educational in addition to expert success. According to Macan et al. (1990) time control practices which can be beneathneath aim setting, prioritization and scheduling had been discovered to be primary predictors of instructional fulfillment and nicely being amongst college college students. More latest studies has constructed in this foundation and has proven that point control is a mediator among motivation, personality, and educational overall performance. In spite of this evidence, little or no studies has tested this sort of mediation position of time control withinside the precise pathway among have a look at behaviors and educational overall performance.

The Pakistani post-secondary schooling surroundings affords an particularly thrilling case history to this question. The wide variety of college students becoming a member of the college has grown drastically within the remaining 20 years, and the riding pressure in the back of this increase has been the efforts via way of means of the authorities to amplify the better training infrastructure and the developing want of the credentialed graduates. Nevertheless, the difficulty of the great of schooling, preparedness of college students, and their loss of educational engagement remain. Those college students who've to undergo secondary and tertiary schooling structures do now no longer have properly-prepared commands on the way to look at and control time use and must rely upon unplanned studying supplied via way of means of friends and relatives. This lack may be in particular acute in Karachi, the largest metropolis and business centre in Pakistan wherein college students have needed to cope with the needs of the family, employment, and social commitments towards the educational needs.

The cutting-edge studies become as a consequence to look at the correlation among examine conduct and educational fulfillment amongst college students in Karachi in which period control has been set as a mediating variable. The cross-sectional technique changed into the quantitative layout and stratified random sampling changed into used to pick 250 college students in six universities. SmartPLS structural equation modeling which include bootstrapped mediation exams provided the overall analytic framework that permits certain research of each oblique and direct consequences within the proposed theoretical framework. The outcomes ought to gain the sector of theoretical expertise, in addition to realistic recommendations to teachers, instructional advisors and college directors in Pakistan.

## **Literature Review**

### **Academic Achievement and Study Habits**

Study behavior and their reference to educational overall performance had been studied on a massive scale and without or with cultural backgrounds. The effects of a radical meta-evaluation via way of means of Credé and Kuncel, (2008) highlighted that they have a look at behavior, talents, and attitudes defined incremental version in university grades over the ones attributed to standardized check ratings and educational previous fulfillment, A sizable impartial predictive cost of behavioral take a look at styles. Peculiar behavior that have been decided on as mainly consequential have been allotted exercise, self-testing, elaborative interrogation, and interleaved observe- techniques associated with a deeper cognitive processing and the extra sustained retention of educational material.

In the Pakistani training context, Aziz and Moeed (2017) found that scholars who suggested higher first-rate of take a look at conduct confirmed lots higher grades factor averages and confirmed greater instructional self-efficacy. According to the authors, the look at behavior have been in particular predictive of the overall performance in fields in which the cumulative understanding constructing is big, i.e. within the sciences and expert programs. On the identical note, Hussain et al. (2019) observed that there has been a excessive nice correlation among established observe ordinary and educational overall performance in undergraduate college students within the public universities of Punjab, with college students who observed habitual revision and energetic don't forget techniques acting higher than college students who used ultimate-minute cramming.

In the article, Okioga (2013) has highlighted that gaining knowledge of powerful look at behavior isn't a count number of private disposition however an institutional one as they're additionally encouraged with the aid of using the exceptional of commands and accessibility of instructional assets supplied with the aid of using an institution, and lifestyle of gaining knowledge of. Well-aid non-public universities college students would possibly get greater get entry to to educational offerings of support, library, and school steering which assist them broaden efficient examine behaviors. On the alternative hand, college students in underfunded public may also come across structural elements that restriction their capability to undertake and maintain a success have a look at behavior indicating wherein institutional kind is a probable moderating variable within the dating among observe behavior and fulfillment.

### **Academic Achievement and Time Management**

The literature on time control has end up a robust indicative of educational fulfillment in better schooling. Britton and Tesser (1991) had been one of the first to reveal that point control behaviours, mainly short-variety making plans and time attitudes, had been predictors of university GPA no matter the scholastic aptitude. The effects have been later replicated and extrapolated in next research. According to Kearns and Gardiner (2007), college students who stated that they spend time making plans and tracking their instructional sports had a higher grade and suggested much less instructional stress, which indicated that point control has overall performance and mental advantages.

The tactics that exist among time control and educational success are complex. On the behavioral degree, time control will assist the scholars to spend sufficient time on instructional assignments with excessive stage of priority, comply with a

normal examine schedule, and keep away from procrastination that is one of the maximum regularly mentioned barriers to educational fulfillment. On the cognitive degree, making plans and time organizing has been recognized to be related to extra metacognitive awareness, which permits college students to reveal the getting to know procedure and alter their method to gaining knowledge of. Zimmerman (2002) has mounted time control as one of the factors of self-regulated studying, which it claimed that scholars that grasp temporal self-control are in a role to fulfill their instructional objectives.

Naqvi et al. (2020) additionally confirmed that point control withinside the Pakistani context became an crucial predictor of GPA in clinical college students in Lahore, and college students with a dependent weekly making plans rating had tons higher exam outcomes. Rana and Bhide (2022) generalized this end result to undergraduates in diverse fields in Karachi and stated that the predictive price of time control become enormous withinside the first and 2nd years of college while college students are simply being used to the necessities of tertiary training. It is viable that the early intervention to teach time control capabilities will have tremendous educational outcomes, primarily based totally on those findings.

### **Time Management as a Mediator**

The decrease however growing quantity of research have analyzed time control as a mediating variable withinside the connection among extra widespread dispositional or conduct predictors with academic consequences. Adams and Blair (2019) located out that grit, or the inclination to persist in accomplishing long-time period goals, had an effect on educational fulfillment in element due to the manner it affected time control behaviors, in which college students with better grit ratings tended to devise their look at time and cling to their plans. On the equal note, Huang et al. (2020) discovered that conscientiousness defined educational fulfillment with the aid of using having a nice dating with time control, which shows that the personality-fulfillment dating is in part a behavioral measurement of the dating.

The mediating effect of time control, withinside the region of observe behaviors in specific, has been theoretically affordable however now no longer empirically investigated. It is probably that, college students who hire sound have a look at behaviors like normal reviewing, spacing of exercise, and interplay with path paintings generally tend to achieve this in an prepared time-system. On the opposite hand, even the best traditions of reading can't be become the instructional overall performance, while college students do now no longer have time control talents, while they may be not able to prioritize their analyzing manner, locate sufficient time, and do now no longer deliver in to their competing needs. According to this reasoning, time control may be taken into consideration as one of the crucial behavioral pathways in phrases of which the useful effect of the observe techniques on instructional fulfillment is achieved.

The theoretical framework used to tell the cutting-edge studies became primarily based totally on self-regulated mastering theory (Zimmerman, 2002), which additionally theorizes educational overall performance because the end result of the incorporated software of cognitive, motivational, and behavioral sources. In this context, the examine behavior represent the set of cognitive and behavioral techniques that the learner has, while time control is the metacognitive and behavioral equipment through which the techniques are strategically implemented. The theoretical consistency of the speculation that point control need to mediate the look at behavior fulfillment courting is accordingly primarily based totally on a theoretically steady description of self-regulatory mechanisms of instructional success.

## **Methodology**

### **Research Design**

This observe followed a cross-sectional survey layout that is quantitative in nature. The cross-sectional method turned into taken into consideration appropriate to deal with the studies targets that centered at the research of relationships among observe behavior, time control, and educational overall performance at a factor in time (Creswell and Creswell, 2018). This shape helped to acquire without problems facts primarily based totally on a huge and extensive pattern of college students and to apply multivariate statistical gear to check the hypothetical mediation model.

### **Population and Sampling**

The pattern populace become the undergraduate college students pursuing their research in Karachi primarily based totally universities. The researchers selected Karachi because the region of the observe as it's miles the most important metropolis of Pakistan and a hub of various establishments of better mastering with college students of various socioeconomic statuses. Stratified random sampling become used to make certain that there may be same illustration of each the general public and the non-public universities. They have been sampled on 3 personal universities and 3 public universities and produced a pattern of approximately forty two college students in every college making a complete of 250 people. Registers of the collaborating establishments had been used to pick college students randomly. The very last pattern comprised 250 college

students (n = a hundred and forty four female, 57.6%; n = 106 male, forty two.4%) with an average age of 20.8 years (SD = 1.74).

**Instruments**

Three units have been used which have been validated. The evaluation of examine behavior changed into carried out with the assist of Study Habits Inventory (SHI; Wrenn, 1941, revised through Bakare, 1977) that's a 45-gadgets scale that measures the examine behavior together with studying and note-taking conduct, exam preparation, and take a look at scheduling and rated with the 5-factor Likert scale. The time control changed into measured withinside the Time Management Behavior Scale (TMBS; Macan et al., 1990), a scale of 33-gadgets, which measured aim setting, prioritization, time control mechanics, and choice of organization. Academic fulfillment become measured in phrases of self mentioned cumulative GPA withinside the remaining semester wherein that pupil had worked. Every device become pretested, on its cultural appropriateness and examined on 25 college students earlier than the overall onset of information series.

**Collection of Data and Ethics**

Data series became preceded via way of means of moral approval through the institutional ethics committee. All the individuals gave knowledgeable consent that turned into in writing and warranted their confidentiality and the cappotential to withdraw with out reprisals. The questionnaires have been given out withinside the time table lessons with the assist of skilled studies assistants. Responses The questionnaires had been finished and accrued right away if you want to gain the best reaction rate. The general percent of reaction became 96.2.

**Data Analysis**

The records had been processed with the IBM SPSS Statistics Version 26 and SmartPLS Version 4. Cronbachs alpha reliability coefficients, Pearson correlation coefficients and descriptive information have been calculated the use of SPSS. SmartPLS turned into used to do a partial least squares structural equation modeling (PLS-SEM) to check each the dimension model (convergent and discriminant validity) and structural model (direct and oblique effects). To estimate oblique impact with ninety five percentage bias-corrected self assurance intervals, bootstrapping (N= 5,000) changed into used, that's taken into consideration a totally sturdy take a look at of mediation.

**Analysis and Results**

**Descriptive Statistics**

Table 1 presents the descriptive statistics for the study variables. The mean score for study habits was 148.62 (SD = 21.34) out of a possible 225, indicating moderate to good study habits across the sample. The mean time management score was 112.47 (SD = 18.93) out of 165, reflecting moderate time management proficiency. The mean GPA was 2.94 (SD = 0.51) on a four-point scale. Scores for all variables were approximately normally distributed, with skewness and kurtosis values within acceptable ranges for parametric analysis.

**Table 1: Descriptive Statistics for Study Variables (N = 250)**

<b>Variable</b>	<b>M</b>	<b>SD</b>	<b>Min</b>	<b>Max</b>	<b>Skewness</b>
Study Habits (SHI)	148.62	21.34	89	210	0.18
Time Management (TMBS)	112.47	18.93	62	158	0.24
Academic Achievement (GPA)	2.94	0.51	1.6	4.0	-0.31
Age	20.8	1.74	18	27	0.44

Note. GPA reported on a 4.0 scale. SHI = Study Habits Inventory. TMBS = Time Management Behavior Scale.

**Reliability Analysis**

Table 2 presents the Cronbach's alpha reliability coefficients for all instruments. The SHI yielded  $\alpha = .88$ , the TMBS demonstrated  $\alpha = .85$ , and the composite GPA measure yielded  $\alpha = .79$ . All values exceeded the threshold of .70, confirming acceptable internal consistency (George & Mallery, 2003).

**Table 2: Internal Consistency Reliability of Instruments**

Instrument	Items	Cronbach's Alpha	Interpretation
Study Habits Inventory (SHI)	45	.88	Good
Time Management Behavior Scale (TMBS)	33	.85	Good
Academic Achievement (GPA composite)	—	.79	Acceptable

Note. Alpha values  $\geq .70$  acceptable;  $\geq .80$  good (George & Mallery, 2003).

**Correlation Analysis**

Pearson correlations (Table 3) confirmed that the take a look at conduct had been notably related to time management ( $r = .58, p < .001$ ), educational achievement ( $r = .54, p < .001$ ) and time management ( $r = .61, p < .001$ ). The correlations had been all withinside the instructions predicted in keeping with the theoretical model.

**Table 3: Pearson Correlation Matrix for Study Variables**

Variable	1	2	3
1. Study Habits (SHI)	—		
2. Time Management (TMBS)	.58***	—	
3. Academic Achievement (GPA)	.54***	.61***	—

Note. \*\*\*  $p < .001$ .

**PLS-SEM Measurement Model**

Satisfactory convergent and discriminant validity were mounted via way of means of confirmatory issue evaluation in SmartPLS. The common variance extracted (AVE) values have been above .50 on all measures (Study Habits AVE = .54; Time Management AVE = .57; Academic Achievement AVE = .61), and the composite reliability values have been above .80. The heterotrait-monotrait ratio (HTMT) values have been decrease than the edge of .85 that affirmed the discriminant validity. These findings desired the subsequent step of assessment of structural models.

**Structural Model and Mediation Analysis**

Table four suggests the direction coefficients of the structural models. The have a look at conduct had an instantaneous effect on educational performance ( $\beta = .31, SE = .07, p < .001$ ). The direct effect of observe behavior on time control changed into important ( $\beta = .05, p < .001$ ) and the direct effect of time control on instructional success became important ( $\beta = .06, p < .001$ ).

**Table 4: PLS-SEM Structural Model Path Coefficients**

Path	$\beta$	SE	t-value	p-value	95% CI
Study Habits $\rightarrow$ Time Management	.54	.05	10.80	< .001	[.44, .64]
Time Management $\rightarrow$ Academic Achievement	.43	.06	7.17	< .001	[.31, .55]
Study Habits $\rightarrow$ Achievement (direct)	.31	.07	4.43	< .001	[.17, .45]

Note. Bootstrapped CIs based on 5,000 resamples.  $\beta$  = standardized path coefficient.

Table 5 presents the mediation analysis results. The indirect effect of study habits on academic achievement through time management was significant ( $\beta = .232, SE = .044, 95\% \text{ CI } [.151, .323]$ ), confirming that time management functioned as a significant mediator. The total effect was  $\beta = .542 (SE = .051, 95\% \text{ CI } [.442, .642])$ . The proportion of the total effect mediated was 42.8%, indicating partial mediation.

**Table 5: Bootstrapped Mediation Analysis Results**

Path	$\beta$	SE	95% CI Lower	95% CI Upper	Sig.
Study Habits $\rightarrow$ Time Mgmt $\rightarrow$ Achievement	.232	.044	.151	.323	Yes
Direct Effect	.310	.070	.170	.450	Yes
Total Effect	.542	.051	.442	.642	Yes

Note. Bootstrapped confidence intervals (5,000 resamples). Significance where CI excludes zero.

### **Group Comparisons**

Independent samples t-tests indicated that students from private universities reported significantly higher study habits scores ( $M = 155.34$ ,  $SD = 19.87$ ) compared to public university students ( $M = 141.90$ ,  $SD = 21.62$ ),  $t(248) = 5.17$ ,  $p < .001$ ,  $d = 0.65$ . Female students reported higher time management scores ( $M = 115.62$ ,  $SD = 17.94$ ) than male students ( $M = 108.18$ ,  $SD = 19.82$ ),  $t(248) = 3.02$ ,  $p = .003$ ,  $d = 0.39$ . No significant gender differences were found in study habits or GPA after controlling for institutional type.

### **Discussion**

The effects of the studies deliver sturdy empirical proof to the speculation that examine behavior are definitely associated with instructional fulfillment of college students in Karachi and that the relationship is mediated to a few diploma with the aid of using time control. These findings are consistent with preceding research which have proven the impartial predictive potential of the examine conduct (Credé and Kuncel, 2008) and time control (Britton and Tesser, 1991; Macan et al., 1990) in educational overall performance, and the findings additionally enhance this frame of labor through displaying the mediating position of time control within the Pakistani better training setting.

It is mainly noteworthy that partial mediation turned into found. It indicates that have a look at conduct have an instantaneous and oblique effect on instructional success thru direct impact of take a look at behavior on each instant studying and retention and indirectly, thru the temporal employer of take a look at behavior wherein college students prepare their educational activities. The richer the scholars are in phrases of take a look at techniques, it appears as alevn though they're extra susceptible to being planned of their time making plans and scheduling such that they may be capable of use their techniques in a regular and green manner at some stage in the instructional calendar. This clarification is steady with the self-regulated gaining knowledge of version proposed via way of means of Zimmerman (2002), which places time control as one of the metacognitive assets that decorate the efficacy of the domain-stage getting to know techniques.

The distinction within the degree of examine behavior among the scholars of the general public and the non-public universities is really well worth noting. In Pakistan, college students within the personal universities commonly experience smaller classes, extra interactive studying, and extra get right of entry to to educational assist substances which may assist increase prepared mastering conduct. Such structural advantages can growth over the years, growing the disparity in educational readiness among college students in diverse institutions. The remark that lady college students confirmed higher time control capacity as compared to male college students has been corroborated with the aid of using the broader literature that information the presence of excessive ranges of educational conscientiousness in lady college students and will constitute specific tiers of socialization to organizational behavior.

The sensible implication of those findings when it comes to instructional guide offerings in Pakistani universities is they may be implemented in exercise. The packages of dependent have a look at capabilities, with a clean consciousness on domain-particular getting to know techniques and time control capabilities, might probable be extra useful than the ones interventions that concentrate on both size separately. An highly promising possibility in phrases of implementation is first-12 months transition packages, as it could be demonstrated that early improvement of competencies or talents has long-lasting affects on instructional courses.

### **Conclusion**

This paper has proven that take a look at conduct are a prime predictor of educational overall performance amongst better training college students in Karachi and this correlation is in part mediated via way of means of time control. The PLS-SEM consequences supported the presumption of each direct and oblique relationships within the version formulated, wherein time control defined round forty three percentage of the general influence. The findings have furnished new empirical facts to the literature on educational self-law in Pakistani better training and feature illustrated the need to provoke an educational aid software that encompasses each look at conduct and time control.

### **Recommendations**

Universities can enforce established look at capabilities and time control education as a part of the first-yr induction applications all college students are furnished with a few historical past know-how of time control earlier than the pressures of tertiary look at take hold. Such applications should be proof-based, with their cognitive techniques being spaced exercise and self-testing, and the behavioral ones being weekly making plans templates and the usage of virtual scheduling aids.

Academic counseling interventions have to encompass examine conduct and time control evaluation of at-hazard college students whilst operating with them in order that centered, precise help may be offered. Peer mentoring applications related to better success college students as mentors to suffering college students may offer a culturally ready and scaled manner of switch of capabilities.

The focused funding withinside the instructional aid infrastructure must be made in terms of the general public universities so that it will minimise the institutional distinction withinside the improvement of observe behavior as indicated on this examine. The availability of mastering assets, scholarly libraries, and college aid is important in a manner that comprises all newbies regardless of the association with an organization for you to undertake the conduct and capabilities required to be triumphant academically.

Longitudinal designs have to be utilized in destiny research to decide the causal directionality and take a look at whether or not the take a look at addiction interventions produce long-time period results of time control on educational overall performance via way of means of reading a populace at excessive threat. Additional cross-cultural comparative studies might additionally upload to the expertise concerning the impacts of contextual problems precise to Pakistani better schooling that decide the examine habitsachievement relationship.

## References

1. Adams, R. V., & Blair, E. (2019). Impact of time management behaviors on undergraduate engineering students' performance. *SAGE Open*, 9(1), 1-11. <https://doi.org/10.1177/2158244018824506>
2. Aziz, F., & Moeed, A. (2017). Study habits and academic achievement of university students in Pakistan. *Journal of Education and Practice*, 8(11), 62-68.
3. Bakare, C. G. M. (1977). Study habits inventory. *Psycho-Educational Research Productions*.
4. Britton, B. K., & Tesser, A. (1991). Effects of time-management practices on college grades. *Journal of Educational Psychology*, 83(3), 405-410. <https://doi.org/10.1037/0022-0663.83.3.405>
5. Credé, M., & Kuncel, N. R. (2008). Study habits, skills, and attitudes: The third pillar supporting collegiate academic performance. *Perspectives on Psychological Science*, 3(6), 425-453. <https://doi.org/10.1111/j.1745-6924.2008.00089.x>
6. Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.
7. George, D., & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference* (4th ed.). Allyn & Bacon.
8. Huang, C., Luo, Y., Yang, S., Lu, Y., & Chen, A. (2020). Influence of students' learning style, sense of belonging and collaborative learning on academic outcomes. *Interactive Learning Environments*, 28(4), 498-512. <https://doi.org/10.1080/10494820.2019.1651744>
9. Hussain, I., Sultan, S., & Akhtar, Z. (2019). Study habits and academic performance: A case of undergraduate students. *Pakistan Journal of Education*, 36(1), 1-18.
10. Kearns, H., & Gardiner, M. (2007). Is it time well spent? The relationship between time management behaviours, motivation and academic performance in higher education. *Higher Education Research & Development*, 26(4), 353-368. <https://doi.org/10.1080/07294360701601942>
11. Macan, T. H., Shahani, C., Dipboye, R. L., & Phillips, A. P. (1990). College students' time management: Correlations with academic performance and stress. *Journal of Educational Psychology*, 82(4), 760-768. <https://doi.org/10.1037/0022-0663.82.4.760>
12. Naqvi, A. A., Zehra, F., Ahmad, R., Ahmad, N., Usman, M., & Al-Shahrani, A. S. (2020). Study of time management skills and its relationship with academic achievement in professional students in Pakistan. *Journal of the Pakistan Medical Association*, 70(6), 998-1004. <https://doi.org/10.5455/JPMA.13424>
13. Nonis, S. A., & Hudson, G. I. (2010). Performance of college students: Impact of study time and study habits. *Journal of Education for Business*, 85(4), 229-238. <https://doi.org/10.1080/08832320903449550>
14. Okioga, C. K. (2013). The impact of students' socio-economic background on academic performance in universities: A case study of Kisii University College. *American International Journal of Social Science*, 2(2), 38-46.
15. Rana, S. A., & Bhide, M. (2022). Time management and academic success: A study of undergraduates in Karachi. *South Asian Journal of Management*, 14(1), 45-60.
16. Wrenn, C. G. (1941). *Study-habits inventory*. Stanford University Press.
17. Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. *Theory into Practice*, 41(2), 64-70. [https://doi.org/10.1207/s15430421tip4102\\_2](https://doi.org/10.1207/s15430421tip4102_2)

18. Zimmerman, B. J., & Risemberg, R. (1997). Self-regulatory dimensions of academic learning and motivation. In G. D. Phye (Ed.), *Handbook of academic learning* (pp. 105-125). Academic Press.
19. Pintrich, P. R. (2004). A conceptual framework for assessing motivation and self-regulated learning in college students. *Educational Psychology Review*, 16(4), 385-407. <https://doi.org/10.1023/B:EDPR.0000045074.13354.b>
20. Wolters, C. A., Won, S., & Hussain, M. (2017). Examining the relations of time management and procrastination within a model of self-regulated learning. *Metacognition and Learning*, 12(3), 381-399. <https://doi.org/10.1007/s11409-017-9174-1>



2026 by the authors; Journal of Global Social Transformation (JGST). This is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC-BY) license (<http://creativecommons.org/licenses/by/4.0/>).