Challenging Stereotypes: Exploring the Influence of Sociodemographic Factors and Study Habits on College Students’ Academic Achievement

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Abstract

Academic achievement relies on the quality of study routines, which, in turn, are influenced by various socio-demographic factors. Most studies on study behaviors concentrate on medical and nursing undergraduates, with minimal exploration of students from alternative professional domains. This study seeks to discern correlations and notable distinctions between study practices and socio-demographic indicators among college attendees. A comparative descriptive approach was adopted, encompassing 287 students aged 17 to 25 years. The Study Habits Perception Scale served as the assessment tool. Findings reveal that 36.6% exhibit subpar performance in learning orientation, 43.6% demonstrate inadequate organizational skills, and 49.5% struggle with time management for academic tasks. Relationships between study patterns and age, as well as the chosen field of study, are observed. Students aged 21 to 25 exhibit more refined study habits, whereas those enrolled in sociology and health sciences tend to display enhanced proficiency in study methods. It is acknowledged that contextualizing the outcomes within the study’s specific framework is imperative, considering socio-economic, motivational, and familial influences on study habits. Furthermore, the necessity to evaluate the educational milieu and its potential impact on students’ readiness and capacity to study effectively is underscored.

Keywords: Study habits; academic performance; learning planning; organization
1. Introduction

Learning is regarded as a socially embedded process that flourishes when students actively collaborate in constructing knowledge (Brouwer et al., 2022). A pivotal element crucial for meaningful learning is study routines, defined as the diverse methodologies students employ to enhance information assimilation and attain academic objectives (Beattie et al., 2019; Felicilda-Reynaldo et al., 2017). Consequently, study habits emerge as a pivotal facet influencing students' academic achievements (Hassanbeigi et al., 2011; Imran et al., 2019; Quiñez-Robres et al., 2021). While the advantages of study habits for academic performance have primarily been scrutinized by health science scholars (Alkhamees, 2021; Yeh et al., 2013), their exploration should extend to high school and university students across diverse disciplines. Such individuals often encounter challenges in cultivating effective study habits, thereby impeding their academic pursuits (Cortés, 2019).

In the United States, research reveals that over two-fifths of students who enrolled in college in 2007 failed to graduate by 2013, with more than a third of students at selective four-year institutions not completing their degrees within six years (Pugatch & Wilson, 2018). The onset of the pandemic in 2020 witnessed the closure of schools nationwide in 191 countries, affecting over 1.6 billion students worldwide (Sarfraz et al., 2022) and disrupting various developmental activities, particularly education. Government-imposed alterations have notably impacted study habits (Atlam et al., 2022).

In Peru, certain institutions in Lima report that 66.7% of students encounter challenges with their study routines, adversely affecting their academic engagements and exam preparations (Najaro, 2020). Such issues may be attributed to academic performance being intricately linked to cognitive abilities, attitudes, and familial circumstances (Tacilla et al., 2020; Barbachán et al., 2020).

Analysis of this data indicates that students have had negative repercussions in managing study strategies (Muttaqin & Chuang, 2022), as well as evidence that students improve the quality of their studies based on organizational strategies in their time and activities related to the academic area (Barrientos-Fernández et al., 2019; Rodríguez-Planas, 2022).

Previous studies indicate that study habits have been widely analyzed in educational contexts. Regarding studies related to gender, Santos-Rego et al. (2020) in Spain analyzed study habits with sex and ethnic-cultural origin in a sample of 269 students, finding that sex has a higher relationship than ethnic origin, with females scoring higher on the study habits scale, with no significant differences found by origin Capdevila & Bellmunt (2016) in Spain analyzed differences in study habits between men and women; significant differences were observed between men and women in study habits, with women scoring 6 points higher than men (sig. 0.009*).

As for studies on study habits and academic performance, there are more. Jafari et al. (2019) in Iran analyzed correlations between study habits and academic performance in 380 medical sciences students, finding that 81.3% of students have a moderate level, with a direct and significant relationship between study habits and academic performance. Andrade-Valles et al. (2018) in Mexico investigated the association between study habits and academic performance in 286 university students, finding that 66.4% have adequate study habits, with 25.2% showing positive attitudes toward studying; a significant relationship was observed between habits and attitudes towards studying (r=0.461, sig 0.001).

Nationally, Solano et al. (2022) in Lima analyzed study habits and academic stress in 316 students from a public university, finding that 13% have inadequate study habits and 77% have a moderate to deep level of academic stress, indicating that students feel their usual strategies and techniques for obtaining information and completing tasks do not allow them to achieve optimal results.

Inquiry into previous studies indicates that study habits are related to the particular strategies students use to build meaningful learning (Figueroa-Quiñones et al., 2019) and encompass components such as organization for study, strategies employed in task execution, preparation for exams, performance in class hours, and study dynamics at home (Vicuña, 2005; Reyes et al., 2022).

Research indicates that study habits encompass socioeconomic factors, school conditions, study
dedication hours, and perception of self-learning (Trung et al., 2020), as well as the association of study habits with academic stress, self-efficacy, and academic performance in medical students (Alkhamees, 2021; Andrade-Valles et al., 2018; Shetty et al., 2022; Solano et al., 2022; Svartdal et al., 2022). However, what is still not agreed upon is how study habits are associated with sociodemographic variables, especially age, field of study, and gender. Therefore, this research aimed to determine the relationship between study habits and sociodemographic variables and subsequently analyze the differences in study habits by gender, age, and university major.

2. Methodology

In this segment, the methodological procedures employed to acquire the outcomes are delineated. It encompasses the instruments utilized, the participants engaged, the procedural steps pursued, and the data analysis methodology.

2.1 Variable description

The study has considered study habits as a research variable and has been evaluated based on students’ perception of this construct. The aim has been to understand perception based on three specific dimensions: learning orientation, understood as the ability to establish specific activities to achieve adequate learning within the academic context; organization, defined as the capacity to organize activities related to the academic part; and time management, which refers to knowing how to distribute time in study hours and the execution of assigned tasks in their courses. On the other hand, sociodemographic variables such as gender, age, and university major were also considered to correlate with study habits and subsequently establish significant differences.

2.2 Instrument

In this study, the Study Habits Perception Scale, developed by Madrid et al. (2017) in Mexico, was utilized. Its purpose is to evaluate higher education students’ perceptions of study habits, with an approximate completion time of 10 minutes. The scale comprises three dimensions: learning orientation, organization, and time management, comprising 19 items with Likert-type response options ranging from 1 (never) to 5 (always). Regarding construct validity, the instrument achieved a Kaiser-Meyer-Olkin (KMO) measure of 0.924, and Bartlett’s sphericity test was significant ($x^2 = 3782.469; p \leq 0.01$). The three dimensions explained 52.74% of the total variance, with factor loadings ranging from 0.50 to 0.77. Reliability assessed using Cronbach’s alpha yielded values above 0.75 for the factors and an overall reliability of 0.90.

The psychometric properties of the instrument for Peruvian students were as follows: For content validity, three experts evaluated the wording and content of the items, ensuring that the language and style were suitable for the population. Scores ranged from 0.80 to 1.00, indicating that the items were clear, relevant, and coherent throughout. In terms of construct validity, items 1 and 19 exhibited factor loadings below 0.35, resulting in unacceptable model fit indices. Consequently, these items were eliminated. After this adjustment, a KMO of 0.92 was observed, with Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) values ranging from 0.90 to 0.92 and Root Mean Square Error of Approximation (RMSEA) and Standardized Root Mean Square Residual (SRMR) indices of 0.065 and 0.048, respectively. The proposed model retained the instrument’s original dimensions, with factor loadings averaging from 0.40 to 0.64 for each item. Reliability was assessed using the Omega coefficient, yielding a value of 0.89 overall and 0.68, 0.77, and 0.80 for the dimensions. Psychometric analyses indicated that the instrument demonstrates acceptable evidence of validity and reliability.
2.3 Participants

A total of 287 university students from Chiclayo, Peru, were involved in this study. They were chosen through intentional, non-probabilistic sampling. Inclusion criteria encompassed students from university institutions, while exclusion criteria comprised individuals who either failed to complete the questionnaire within the stipulated time frame or opted not to participate voluntarily. The participants comprised both male (129) and female (158) students, with ages ranging from 17 to 20 years (75), 21 to 25 years (162), and 26 years and above (50). They were enrolled in various universities, including Universidad Tecnológica del Perú, Universidad Nacional Pedro Ruiz Gallo, and others. Participants hailed from the first to the tenth academic cycle and represented diverse professional disciplines, such as systems engineering (56), sociology (78), communication sciences (18), health sciences (75), administration (21), environmental engineering (18), and others with fewer representatives (11).

2.4 Procedure

Prior permissions were secured from the coordinators of professional programs and instructors of each specialization to disseminate the questionnaire to the intended demographic via WhatsApp or email. Upon receiving approval and collaboration from the instructors, the questionnaires were dispatched to students for online engagement. The data collection phase spanned approximately 15 days. Following this, the data were organized using Excel software and then transferred to SPSS-26 for a range of descriptive and inferential statistical analyses.

2.5 Data analysis method

The central tendency parameters of the data were determined utilizing skewness and kurtosis, while the characteristics of study habits were scrutinized through frequency tables and percentages. Spearman’s coefficient was employed to assess correlations between variables, and comparisons were conducted using the Mann-Whitney U test and Kruskal-Wallis H test.

2.6 Ethical considerations

To uphold ethical standards in the research, adherence to the principles governing human research as outlined by the American Psychological Association (2017) was observed. Beneficence and non-maleficence were upheld by ensuring that the study results benefited the population without compromising their physical or psychological well-being, and voluntary participation was underscored. Responsibility was demonstrated by maintaining respect for human dignity throughout the data collection process. Integrity was preserved by transparently communicating the study’s objectives to participants, accurately processing results as collected, and refraining from any form of falsification or result manipulation. Intellectual property and human rights were honored through proper citation of authors in references, and participants provided informed consent as confirmation of their voluntary involvement in the research.

3. Results

Next, the results of the research are described per the proposed objective.
Table 1: Analysis of descriptive statistics.

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>SD</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study habits</td>
<td>287</td>
<td>25</td>
<td>95</td>
<td>76.75</td>
<td>8.904</td>
<td>-.648</td>
<td>3.405</td>
</tr>
<tr>
<td>F1: Learning orientation</td>
<td>287</td>
<td>12</td>
<td>50</td>
<td>41.91</td>
<td>4.589</td>
<td>-1.098</td>
<td>5.478</td>
</tr>
<tr>
<td>F2: Organization</td>
<td>287</td>
<td>6</td>
<td>25</td>
<td>19.56</td>
<td>3.020</td>
<td>-.700</td>
<td>2.608</td>
</tr>
<tr>
<td>F3: Time management</td>
<td>287</td>
<td>7</td>
<td>20</td>
<td>15.28</td>
<td>2.392</td>
<td>-.265</td>
<td>.536</td>
</tr>
</tbody>
</table>

As depicted in Table 1, the overall minimum score is 25, while the maximum is 95. Across dimensions, the minimum scores are 1, 6, and 7, with corresponding maximum scores of 50, 25, and 20. The overall mean score is 76.75, whereas within dimensions, it stands at 41.91, 19.56, and 15.28, respectively. Standard deviation values are 8.90 overall, with dimension-specific values of 4.5, 3, and 2.39. Notably, the data exhibit an asymmetrical distribution, as evidenced by values falling outside the range of -1.5 to 1.5. Consequently, non-parametric tests were utilized for statistical analysis.

Table 2: Description of the characteristics of study habits at the general level and by dimensions.

<table>
<thead>
<tr>
<th>Category</th>
<th>Study Habits</th>
<th>Orientation to learning</th>
<th>Organization</th>
<th>Time management</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
<td>%</td>
</tr>
<tr>
<td>Low</td>
<td>108</td>
<td>37.6</td>
<td>108</td>
<td>37.6</td>
</tr>
<tr>
<td>Regular</td>
<td>86</td>
<td>30.0</td>
<td>92</td>
<td>32.1</td>
</tr>
<tr>
<td>High</td>
<td>93</td>
<td>32.4</td>
<td>87</td>
<td>30.3</td>
</tr>
<tr>
<td>Total</td>
<td>287</td>
<td>100%</td>
<td>287</td>
<td>100%</td>
</tr>
</tbody>
</table>

As per Table 2, a significant portion of students (37.6%) exhibit a low perception of study habits. Specifically, 36.6% demonstrate subpar performance in learning orientation, 43.6% acknowledge a deficiency in organizational capacity, and 49.5% admit to inadequately managing their time for academic activities. While a smaller proportion falls within the category of having regular levels of study habits, the majority necessitate guidance in enhancing their learning orientation, organizational skills, and effective time management in executing their academic tasks.

Table 3: Relationship between study habits with sex, age and university career.

<table>
<thead>
<tr>
<th>Spearman's Rho</th>
<th>Study habits</th>
<th>Sex</th>
<th>Age</th>
<th>Career</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Correlation coefficient</td>
<td>-.013</td>
<td>.152**</td>
<td>.153**</td>
</tr>
<tr>
<td></td>
<td>Sig. (bilateral)</td>
<td>.829</td>
<td>.010</td>
<td>.009</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>287</td>
<td>287</td>
<td>287</td>
</tr>
</tbody>
</table>

The most notable findings regarding the relationship between study habits and sociodemographic variables such as gender, age, and field of study reveal significant associations for two of them (as indicated in Table 3). Specifically, age demonstrates a positive correlation with study habits (.152**). Similarly, the student’s field of study exhibits a correlation with the performance of study habits (.153**). However, no significant associations are observed with gender. These findings suggest that study habits are indeed correlated with age and the chosen field of study among the participants.

Table 4: Differences between study habits as a function of sex, age and career.

<table>
<thead>
<tr>
<th>Study habits</th>
<th>Sex</th>
<th>N</th>
<th>Mean rank</th>
<th>U de Mann-Whitney</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>129</td>
<td>145.17</td>
<td>10039.500</td>
<td>.828</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>158</td>
<td>143.04</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
It is apparent from the results (as presented in Table 4) that there exists a significant difference in study habits concerning age, underscoring the association between older or younger age groups and the ability to develop either adequate or inadequate study habits (Table 4). Additionally, a noteworthy finding suggests that the type of academic program pursued correlates with the development of study habits, with sociology and health science students demonstrating higher levels of study habits. Conversely, no discernible differences in study habits are reported based on gender, indicating that being male or female does not determine the development of study habits.

4. Discussion

Taking into account that sociodemographic factors are linked with study behaviors (Shetty et al., 2022; Solano Dávila et al., 2022), this study initially explored students’ perspectives on study behaviors. Findings revealed that 37.6% of students perceive their study behaviors negatively. In terms of specific aspects, it became evident that 36.6% lack a proper learning orientation, 43.6% struggle with organization, and 49.5% face challenges managing their time for academic tasks. Since study habits are closely tied to planning and organizational skills, which are essential for improving learning outcomes (Beattie et al., 2019; Felicilda-Reynaldo et al., 2017), it is worrisome that nearly a third of students have a negative perception of their study and activity organization. This is particularly concerning given that the participants are university students, among whom one would anticipate a good grasp of study habits. Although prior research has indicated that students in fields like medicine and nursing tend to display effective study habits (Alkhamees, 2021; Jameel et al., 2019), this study confirms a significant finding that students in health sciences, especially in medicine and nursing, tend to develop stronger study habits compared to their counterparts in other university programs.

The way students interact with educational materials significantly influences their habits by the time they reach university, which subsequently impacts their readiness for higher education. However, it’s essential to note that the educational system in Peru and numerous Latin American nations is characterized by low standards, where students often resort to shortcuts instead of cultivating proper study habits to navigate through courses. This reliance on alternative methods of learning and prioritizing means to bypass evaluations contributes to the distortion rather than the formation of study habits (Jafari et al., 2019; Solano-Dávila et al., 2022).

The examination of correlations between study habits and sex, age, and university major reveals a direct correlation in two out of three variables. Age exhibits a positive relationship with study habits (0.152, p < 0.010); similarly, the choice of field of study is linked with study habit performance (0.153, p < 0.009). No significant associations are reported with gender. This suggests that both older and
younger age groups contribute to the development of study habits, and the selection of a university major influences how study habits manifest within the student community. Previous research has indicated that study habits have been scrutinized among university students in medical and nursing faculties and are linked with high levels of academic achievement (Alkhamees, 2021). However, contrasting findings suggest that study habits are correlated with gender 0.64** (Capdevila Seder & Bellmunt Villalonga, 2016). Conversely, variables such as academic stress do not demonstrate significant relationships with study habits (Shetty et al., 2022).

These outcomes first underscore the significance of age in the cultivation of study habits. As individuals grow older, study habits tend to enhance and solidify, bolstering their capacity to organize and plan learning endeavors. Secondly, certain professional disciplines demand specific competencies from students. Fields where rigorous planning and organizational skills are essential tend to foster better study habits. Conversely, faculties with a more pragmatic focus may encounter challenges in cultivating strong study habits among their students.

Furthermore, following the identification of correlations between study habits and certain sociodemographic variables, notable differences in sociodemographic factors and study habits were explored. It was discovered that students aged 21 to 25 exhibit superior study habits (p < 0.005), indicating that these students, having transitioned from adolescence, operate with heightened responsibility. Many of them might be engaged in employment to fund their studies, consequently possessing clearer professional aspirations. A comparison between study habits and university majors reveals that sociology and health science students exhibit stronger study habits (p < 0.001). This could be attributed to the fact that these disciplines necessitate the development of competencies where abstract thinking is emphasized. No disparities in study habits were observed based on gender or university, suggesting that being male or female does not dictate the development of study habits.

Nevertheless, other studies have identified associations between study habits and gender. In Spain, Capdevila & Bellmunt (2016) found that women scored on average 6 points higher than men (p < 0.01). However, such findings may vary depending on different contexts, demographic characteristics, and educational settings (Santos-Rego et al., 2020; Sarfraz et al., 2022; Svartdal et al., 2022). This underscores the necessity for a reevaluation of the approach to studying habits, taking into account other influential factors besides academic variables, to attain a more comprehensive understanding of associated variables. Factors such as socioeconomic background, motivation, and familial support may play pivotal roles. Therefore, results obtained in a specific study should not be universally generalized but rather analyzed within the context in which they were conducted.

In conclusion, this study identified notable variances in study habits based on age and field of study, underscoring the importance of acknowledging the specificity of these findings within the study's sample and context. Further investigation is warranted to validate and extend these findings, including the exploration of additional factors such as gender and university affiliation that may influence study habits. A thorough and holistic research approach is essential for gaining deeper insights into students’ studying behaviors and for enhancing educational methodologies to optimize learning outcomes and academic performance. Despite acknowledged limitations, the practical implications in the educational and social realms are significant. Firstly, these findings aid in understanding disparities and can inform the development of more effective teaching strategies while promoting gender equality in educational opportunities and achievements. Moreover, by considering socioeconomic, motivational, and familial influences on outcomes, inclusive policies and practices can be established to ensure equitable opportunities for the academic and personal growth of all students, irrespective of gender.

5. Conclusions

The study offers valuable insights into study habits, highlighting significant variations based on age and chosen career path. Nevertheless, it’s crucial to recognize that these findings are context-specific and pertain specifically to the sample under examination.
These outcomes shed light on how students interact with educational material, process information, stay motivated, and tackle academic challenges. Understanding these aspects can facilitate the development of more effective educational strategies aimed at optimizing learning outcomes and academic success. Recognizing that each student possesses unique learning styles, strengths, and weaknesses enables the tailoring of educational approaches to cater to individual needs.

Despite these findings, further research is warranted to broaden the scope by including diverse age demographics, career fields, and educational environments. It would be valuable for subsequent studies to investigate whether the observed trend of medical and nursing students exhibiting better study habits holds true in various regions within Peru. Additionally, such research endeavors could delve into other potential factors influencing study habits, such as gender and university affiliation. This expanded research effort will not only validate and generalize the current findings but also contribute to a deeper understanding of the complexities surrounding study habits in diverse educational contexts.

6. Acknowledgements

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References


