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TIME MANAGEMENT COMPETENCY OF UNDERGRADUATE STUDENTS: INFLUENCE OF DEMOGRAPHIC VARIABLES

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Abstract:
The study aimed to examine the time management competency of undergraduate students based on their academic stream, gender, and place of residency. The study used a descriptive survey research method, and 160 undergraduate students were selected as samples using a stratified purposive sampling technique. Data were collected using the standardized time management competency scale. Descriptive statistics and Three-way ANOVA were used to analyse data. The study found that place of residency and gender significantly influence students' time management competency, showing notable differences between hosteller and day scholar residency backgrounds and between male and female students. However, no significant differences were found between arts and science stream students, and there were no significant interaction effects of academic stream, place of residency, and gender on time management competency of undergraduate students.

Keywords: time management competency, academic stream, residency

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1. Introduction

The academic success of students depends on multiple factors. Effective time management is one of the essential factors leading to students' academic improvement. Time management refers to the ability to plan study time and tasks (Effeney, Carroll, & Bahr, 2013). Lay & Schouwenburg (1993) defined time management as a cluster of behavioral skills that are important in the organization of study and course load. Researchers have extensively studied the effect of time management competency on the academic performance of students and their mental health. Regarding academic performance and anxiety of students, Adam and Blair (2019) found that effective time management is associated with greater academic performance and lower student anxiety levels. Similarly, Misra and McKean (2000) reported that good time management skills help reduce stress. Further, Kearns and Gardiner (2007) identified time management competency as a key indicator of higher performance and lower stress and anxiety in higher education settings. Furthermore, Britton and Tesser (1991) showed that individuals with high time management skills experience lower levels of stress, anxiety, and burnout. Effective time management allows students to plan their studies, balance work-life commitments, and ultimately reduce anxiety and stress associated with competing demands (Alyami *et al.*, 2021). Researchers found that effective time management positively contributes to the online academic success of the learner (ChanLin, 2012; Michinov *et al.*, 2011). Extensive research has emphasized the significant influence of effective time management on student academic development (Xu, 2020; Liu *et al.*, 2009; Hensley *et al.*, 2018). Learners who have mastered time management skills are better positioned to achieve superior academic performance, as they can allocate their time and resources more efficiently to meet the demands of their coursework (Xu, 2020). Britton and Tesser (1991) noted that students demonstrating high competency in time management tend to achieve better grades and overall academic performance. Additionally, Zimmerman (2000) found that effective time management is associated with increased student autonomy, self-regulation, and metacognition.

In conclusion, effective time management is an essential skill that enables individuals to excel academically. By mastering the strategies and techniques of time management, students can enhance their output, reduce stress, and ultimately achieve greater success in their respective fields. So, this study aims to analyze the time management competency of undergraduate students in relation to their academic stream, gender, and place of residence.

2. Theoretical Background of the Study

Time management is defined as a form of self-management with a clear emphasis on time in understanding what activities to do, how to do them more efficiently, when they should be done, and when is the correct time for the particular activities (Savino, 2016). Similarly, Lakein (1973) defined time-management competency as the ability to plan,

control, and direct the use of time to achieve specific goals and objectives, while also being able to adapt to changing circumstances and priorities (Lakein, 1973).

Several studies have reported the positive effect of effective time management competency of students on the academic success of the learners (McKenzie & Gow,2004; Trueman & Hartley, 1996). Time management skills have been shown to have a positive impact on student learning and student outcomes (Kearns and Gardiner, 2007; Kelly, 2002; McKenzie and Gow, 2004). Krause and Coates (2008) found that the capacity to successfully manage their time is the foundation of students developing good study habits and strategies for success. Noncognitive personal behaviors such as a student's time perspective are effective predictors of academic outcomes, as poor time management approaches mean that students find it hard to plan their work and may feel agitated toward the end of a course when they are likely to be assessed (Schere, Talley, and Fife 2017). Ling, Heffernan, and Muncer (2003) reported that there is a clear association between student performance and their ability to manage time effectively.

Researchers have conducted studies on time management competency among students, often focusing on gender differences. Sushila (2018) reported that female students exhibit more effective time management skills compared to their male counterparts. This finding is supported by Mishra and Mckean (2000) and Ai Khatib (2014), who also found that female students tend to manage their time better than males. However, some research contradicts these findings. Jamwal and Saryara (2022) found no significant difference in time management competency between male and female students in higher secondary schools.

Researchers also investigated the influence of academic streams on the time management competency of students. Rashid *et al.* (2020) observed that students from different streams exhibit varying levels of time management skills. Moshahid (2017) specifically found that science students demonstrated better time management skills compared to Arts students. Conversely, Habeeb (2017) found no significant difference in time management skills between students in the science and arts streams.

In the review of related literature, researchers found that the time management competency of students plays an imperative role in their academic success and helps reduce anxiety levels. Despite extensive research on time management and its effect on academic achievement, several gaps remain. Firstly, the research shows inconsistent findings on gender differences in time management competency, indicating a need for more comprehensive studies to resolve these inconsistencies. Secondly, there are mixed results concerning time management skills across different academic streams, suggesting a need for further investigation. Additionally, there have been no studies conducted on the residency status of undergraduate students, and no studies have been conducted in the context of Odisha.

3. Hypothesis of the Study

H0: There is no influence of gender, stream, and residency and their various interaction on the management competency of undergraduate students.

4. Materials and Methods

4.1 Method

A descriptive survey method was used to investigate time management competency among undergraduate students, focusing on differences based on academic stream, residency, and gender.

4.2 Participants

In this study, 160 undergraduate students were selected as a sample from the Bargarh district using a stratified purposive sampling technique. The sample was equally divided between two academic streams, Arts (80 students) and Science (80 students). Within each stream, students were further categorized based on residency type, with 40 hostellers and 40-day scholars. Each residency group included an equal number of boys (20) and girls (20), ensuring balanced representation across streams, residency types, and gender.

4.3 Instrumentation

Time management competency of undergraduate students was measured using the time management competency scale developed by D. N. Sansanwal and Meenakshi Parasha. The scale consists of 36 statements that help researchers to know the extent to which they can manage the available time efficiently, with each item rated on a five-point scale ranging from 5 (always) to 1(never). The test-retest reliability was 0.72, while the split-half reliability was 0.96, demonstrating strong consistency and reliability.

4.4 Statistical Analysis

Mean and standard deviation were used to describe the current status of the variable among the sample, and a Three-Way ANOVA was also conducted to examine the main effects of academic stream, place of residency, and gender on time management competency of undergraduate students using SPSS 23.

5. Results

5.1 Descriptive Analysis

Mean and standard deviation of the main variable, time management competency, in relation to demographic variables such as Academic Stream (arts and science), Place of Residency (hosteller and non-hosteller) and Gender (male and female) were presented in Table 1. The analysis of time management competency scores across different academic streams reveals interesting patterns. In the arts stream, both boys and girls demonstrate

comparable levels of competency, with mean scores hovering around 120.45. However, students in the science stream exhibit notably higher competency scores, with a mean of approximately 124.7 for both boys and girls. This suggests that the nature of the academic curriculum or the skills emphasized in science education may contribute to enhanced time management abilities among students in this stream. When considering residency status, a distinct trend emerges in the data. Hostellers consistently demonstrate higher mean competency scores compared to their day scholar counterparts across both arts and science streams. Among boys, hostellers exhibit a mean competency score of approximately 125.85, contrasting with a mean score of about 120.1 among day scholars. Similarly, among girls, hostellers have a mean score of around 130.45, while day scholars score approximately 125.05 on average. This suggests that factors related to living arrangements or the environment in which students reside may play a role in shaping their time management skills. An examination of gender differences in time management competency reveals nuanced findings. Overall, girls tend to display slightly higher mean competency scores compared to boys across both arts and science streams. In both streams, girls consistently outperform boys in terms of time management, regardless of residency status. This suggests that gender dynamics may influence how students prioritize and allocate their time, with girls potentially demonstrating stronger organizational skills or a greater capacity for time management. However, it's essential to explore further factors that might contribute to these gender disparities in time management competency.

Table 1: Descriptive statistics for time management competency in relation to academic stream, place of residency and gender

Academic Stream	Place of Residency	Gender	Mean	Std. Deviation	N
Arts	Day scholar	Boy	118.7000	17.14367	20
		Girls	122.2000	14.86996	20
		Total	**120.4500**	**15.93891**	**40**
	Hosteller	Boy	125.5000	13.13693	20
		Girls	132.3500	12.66689	20
		Total	**128.9250**	**13.20137**	**40**
	Total	Boy	122.1000	15.46344	40
		Girls	127.2750	14.57076	40
		Total	**124.6875**	**15.15372**	**80**
Science	Day scholar	Boy	121.5000	15.98190	20
		Girls	127.9000	13.56039	20
		Total	**124.7000**	**14.98409**	**40**
	Hosteller	Boy	126.2000	13.88145	20
		Girls	128.5500	16.12933	20
		Total	**127.3750**	**14.90085**	**40**
	Total	Boy	123.8500	14.96586	40
		Girls	128.2250	14.71174	40
		Total	**126.0375**	**14.90853**	**80**
Total	Day scholar	Boy	120.1000	16.42044	40
		Girls	125.0500	14.34010	40

		Total	**122.5750**	**15.51869**	**80**
	Hosteller	Boy	125.8500	13.34464	40
		Girls	130.4500	14.44344	40
		Total	**128.1500**	**14.00913**	**80**
	Total	Boy	122.9750	15.14568	80
		Girls	127.7500	14.55631	80
		Total	**125.3625**	**14.99958**	**160**

5.2 Three-way ANOVA Results

The main objective of the present study was to examine the main effect of academic stream, place of residency, gender, and their interaction effect on time management competency of undergraduate students. As per this objective, there were two levels of stream of education, namely arts and science, two levels of place of residency of education, hosteller and non-hosteller, and two levels of gender, namely boys and girls. To investigate this objective, a Three-Way ANOVA or 2*2*2 Factorial Design ANOVA was used by using SPSS-23. As the ANOVA is a Parametric statistical method, it requires assumption testing of normality of data and homogeneity of variance. The central limit theorem criteria were used to test the normality of the data. According to the central limit theorem, a sample size of 30 or more is often considered sufficient for the sampling distribution of the mean to approximate a normal distribution (Gravetter and Wallnau, 2017). The sample size of the present study was 160, so the data are considered normally distributed. Levene's Test was used to test the Homogeneity of Variance. Asper Levene's test if Levene's test is not significant (p>0.005), then the assumption of homogeneity of variance is met. The result of Leaven's test revealed P>0.05, so the assumption of homogeneity of variance was met, and it was assumed that the variance across the groups is equal (F=.561, and P=.786).

Table 2: Three-way ANOVA table of students' time management competency influenced by academic stream, place of residency, gender, and their interaction effect

Source	**DF**	**SS**	**MS**	**F**	**SIG**
Academic Stream	1	72.900	72.900	.355	.564
Place of Residency	1	1243.225	1243.225	5.715	.018
Gender	1	912.025	912.025	4.193	.042
Academic Stream × Place of Residency	1	336.400	336.400	1.546	.216
Academic Stream × Gender	1	6.400	6.400	.029	.846
Place of Residency × Gender	1	1.225	1.225	.940	.066
Academic Stream × Place of Residency × Gender	1	136.900	136.900	.629	.429
Error	152	33063.900	217.526		
Total	**160**	**2550294**			

Note: SS: Sum of squares, Df: Degrees of freedom, MS: Mean square. F: F-value, Sig.: p-value**.**

Table 2 presents the results of a three-way ANOVA examining the effects of academic stream, place of residency, and gender, along with their interaction effects, on undergraduate students' time management competency. The analysis revealed that there

was a significant main effect for place of residency ($F = 5.715$, $df=1$, $p <0.05$) on time management competency of undergraduate students. similarly, the main effect of gender is also a significant main effect ($F = 4.193$, $df=1$ $p < 0.05$), on the time management competency of undergraduate students. In contrast, the effect of academic stream was not significant ($F = 0.355$, $p >0.05$).

Additionally, the results of the two-way interaction effect analysis indicated that there were no significant interaction effects between academic stream and place of residency ($F = 1.546$, $p >0.05$), academic stream and gender ($F = 0.029$, $p> 0.05$), or place of residency and gender ($F = 0.066$, $p >0.05$).

The results of the three-way interaction effect analysis suggested that the interaction effect of academic stream, place of residency, and gender was also not significant ($F = 0.629$, $p >0.05$).

The above analysis suggests that both place of residency and academic stream significantly affect time management competency of undergraduate Students, but there was no two-way interaction effect and three-way interaction of all variables on time management competency of undergraduate students.

6. Discussion

This study aimed to investigate how academic stream, gender, and residency influence the time management skills of undergraduate students. Only two hypotheses are rejected; the other four hypotheses are accepted by the findings of the study. The study accepts hypothesis 1: that the academic stream did not influence students' time-management competency. However, both gender and place of residency have a significant effect on the time management competency of undergraduate students. The results indicate that there are no significant interactive effects between the variables of academic stream and place of residence, academic stream and gender, and residency and gender on the time management competencies of undergraduate students. Additionally, the study found no significant interaction between the combination of academic stream, residency, and gender with respect to students' time management abilities.

This study accepted H01: there is no influence of academic stream on the time management competencies of undergraduate students. This finding is consistent with previous literature, which suggests that there was no significant difference in time management skills between students of science and arts streams (Habeeb, 2017). However, some contradictory findings suggest that science students may have better time management skills compared to art students (Moshahid,2017). This discrepancy may arise from differences in study design, sample characteristics, or educational contexts.

In contrast, these findings rejected H02: there is no significant influence of gender on students' time management competency, and H03: there is no significant influence of residency on students' time management competency. These results align with existing research, which demonstrates that female students exhibit more effective time

management skills compared to their male counterparts (Mishra & McKean, 2000; Ai Khatib, 2014; Sushila, 2018). However, Jamwal and Saryara (2022) found contradicting findings that no significant difference in time management competency between male and female students in higher secondary schools. This variation could be due to differing contextual factors, sample sizes, or measurement tools used in each study. The study found a significant difference in time management competency between hostel residents and non-hostel residents, possibly due to the structured environment, peer influence, and access to resources in hostels.

The study revealed that there was no significant interactive influence of academic stream and residency, academic stream and gender, and residency and gender on the time management competencies of undergraduate students. This indicates that the individual effects of these variables work independently rather than together to impact students' time management skills. The lack of significant interaction effects between the combined variables of academic stream, residency, and gender further supports the idea that these factors affect time management competencies separately.

7. Educational Implications and Limitations

The study has several practical implications for policymakers, educators, parents, and undergraduate students. firstly, it helps policymakers and educators to design different time management strategies, add time management skill-oriented courses in the existing curriculum, and develop time management competency among undergraduate students. Secondly, it helps both parents and students to plan, manage and execute available time for study and better academic success. Additionally, the present study suggests the use of a digital planner or a time management app to balance complex daily routines with academic work.

The present study has several limitations, as well. Firstly, this study’s findings were based on a sample of 160 participants selected through purposive stratified sampling, which may limit generalizability due to potential selection bias and a lack of broader representativeness. Secondly, the use of descriptive survey methods gives the current status of phenomena but does not allow for causal inferences or in-depth exploration of underlying mechanisms. Additionally, self-reported data may be subject to response biases, affecting the accuracy of the findings. These limitations should be considered when interpreting the results and their applicability to other populations. Future research should explore additional variables that might influence time management competencies, such as socioeconomic status, extracurricular involvement, or specific academic pressures. Additionally, conducting longitudinal studies would be valuable to track changes in time management competency over time and assess how these competencies develop or vary with different life stages or educational experiences.

8. Conclusion

Time management is very essential for students, for their overall academic success. The present research study aimed to investigate time management competency among undergraduate students, focusing on variations in academic stream, gender, and place of residence. The results revealed significant differences in time management competency between male and female students and Hosteller and non-hosteller students. However, there were no significant differences in time management competency between students from the arts and science streams. Additionally, no interaction effects were found among academic stream, place of residency, and gender, indicating that these factors did not combine to influence time management competency in any specific way. Overall, these findings highlighted the importance of considering gender and residency when addressing time management competency. This study has several practical implications, especially for higher education students to use time management strategies for better utilisation of time, which helps in academic improvement. Secondly, for higher education institutions, design and implement time management support programs for students. Additionally, institutions should regularly evaluate time management strategies to ensure they address the evolving needs of the student. Future research could further explore other factors that might influence time management among students.

Conflict of Interest Statement

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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