Relationship between study habits and academic performance of university students

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This study investigates the relationship between study habits and academic performance among undergraduate students in public universities of Islamabad. The objective was to identify how different study habits relate to academic performance. Data was collected through a self-developed questionnaire designed with a Five-Point Likert scale. The questionnaire gathered information on students' various study habits and academic performance GPA. The data was collected from two departments of two universities by students' different study habits and academic performance using a simple random sampling technique, the study involved a diverse group of students. Chi-square analysis was applied to the collected data to determine the relationships between the variables. The results indicated no direct relationship between study habits and academic performance. However, researching deeper into specific sub-variables, study habits like study schedule and use of ICTs, and active participation had a positive association with academic performance whereas study environment, short breaks, and learning techniques had a non-significant relationship with academic performance. These findings suggest that while overall study habits may not directly influence academic performance, specific aspects of these variables can have a notable impact. This study highlights the complexity of factors affecting academic success and underscores the importance of considering sub-variables in educational research. This highlights the importance of addressing sleep-related challenges to enhance students' academic achievement.

Keywords: Study habits, academic performance, university students, undergraduates

INTRODUCTION

Study habits refer to how individuals approach their learning and academic tasks. These habits encompass a combination of learning activities, beliefs about learning, and motivations that learners employ during a specific period. Rather than focusing only on distant study techniques, study habits consider individuals' complete approach toward their educational activities.

These habits can include how students manage their study time, their preferred study environments, their strategies to understand and recall information, and their overall approach to learning. Understanding study habits allows educators and researchers to identify common trends, tailor instructional methods, and support students in improving their learning experiences.

Issa, Aliyu, Akangbe, and Adedeji (2012) recommended that daily reading activities influence students' study skills and academic performance. Generally, people recognize the connection between good reading habits and overall academic success.Singh et al. (2013) examined the academic performance and study habits of higher secondary students. It involved 100 randomly chosen students from higher secondary colleges. The findings show that there are significant differences in study habits and academic achievement between girls and boys.

Rabia, Mubarak, Tallat, and Nasir (2017) encouraged that students' daily reading habits significantly impact their study habits and overall academic performance. There is a broad understanding that developing effective reading habits is closely linked to students' academic success.

In a study referenced by Fouché (2017), it was outlined that effective study habits, such as completing homework, active class participation, time management, maintaining focus, and diligent effort, demonstrated a substantial positive correlation with academic performance. Furthermore, students are advised to cultivate these study habits, as they represent strategies essential for successful learning (Ebele & Olofu, 2017; Kaliyaperumal et al., 2017). Failing to establish these habits may hinder students from performing well and achieving academic improvement (Ebele & Olofu, 2017). However, mass media advancements have continued shaping people's interest in reading books, magazines, journals, and other materials.

Verma (2016) researched academic performance and study habits among students from scheduled and non-scheduled caste groups, finding that gender doesn't significantly affect these factors. Ogbodo (2010) noted that parents send their children to school to learn, where they gain different understandings that shape their behavior. Learning involves a behavior change, seen in mental reasoning, physical growth, practical skills, and the development of values and interests. Depending on the home and school environment, this change can be easy or difficult.

Reading for fun or relaxation is common among educated people. Students who read magazines regularly learn to relax, refresh their minds, and avoid mental fatigue, which helps them stay disciplined in school. This habit often helps them fall asleep and rest after intense study sessions in the classroom or library, promoting good health habits.

Musingafi and Zebron (2014) define reading as the ability to understand words in a document and use that knowledge for personal growth. This includes interpreting information, whether it's printed or digital. People read for various reasons, such as pleasure, relaxation, information, and knowledge. "Books are most beneficial when read at the right age for each masterpiece."

There is a lack of understanding about the daily reading habits of university students and how these habits affect their academic performance (Gallo, 2014). Guthrie et al. (2007) explained that reading involves understanding the meaning of printed or written words, which is essential for learning and is one of the most important skills in daily life.

Gahir, Sahu, and Sahoo (2022) conducted a study to identify factors influencing student performance and to explore prediction methods. They categorized students into three groups: 'low,' 'medium risk,' and 'high risk.' To predict the achievements of freshmen, they used Neural Network decision trees and discriminant analysis. Lucky and Saidu (2020) described reading as a process that involves thinking, evaluating, judging, imagining, reasoning, and problem-solving. Reading is crucial for knowledge transfer and developing reading strategies.

To understand the world and its environment, children use reading materials like books, newspapers, and magazines. Once children learn to read and develop a love for books, they can explore a wealth of human experiences and knowledge. However, children who miss early exposure to books often struggle to develop good reading habits later in life.

The college environment can be a key place to implement programs that promote student learning, healthy study habits, and well-being. The global pandemic has added extra challenges, making it even more important for universities to support students' study habits (Clarke, Mullin, McGrath, & Farrelly, 2021).

Sikhwari (2016) noted that psychological factors, like intellectual ability, are seen as predictors of academic success. Many researchers have also explored the impact of non-cognitive factors, such as academic knowledge, motivation, learning attitude, and perception of academic achievement. Research has shown that academic attitude has a positive effect on students' academic achievement.

Suraj and Singh (2011) conducted a study to evaluate the academic performance and study routines of higher secondary education students. The study included a randomly selected sample of one hundred students from various higher secondary schools. The results underscored significant

variations in study behaviors and academic achievements between male and female students.

In a separate investigation, Khan (2016) explored the correlation between academic achievement and study routines among students categorized into scheduled caste and non-scheduled caste groups. Their findings indicated that gender did not exert a significant influence on the academic performance and study practices of the students.

Atim, Maor, Atim, and Igyu (2022) investigated the rationale behind parents sending their children to school, emphasizing that it is primarily for learning. School environments expose children to a variety of experiences that shape their behavior. Consequently, learning is construed as a transformation in behavior, manifesting in cognitive development, physical maturation, refinement of practical skills, and the cultivation of values and interests. The degree of this transformation can be influenced by the quality of both home and school environments.

Engaging in recreational reading, a prevalent practice among the educated elite serves as a means of relaxation. Students who engage in periodic magazine perusal find it beneficial for unwinding, thereby preventing mental fatigue. This habit fosters discipline in their academic pursuits. Moreover, the calming effects of such reading material contribute to improved sleep and overall health, particularly after strenuous academic sessions in the classroom or library.

Tachie-Donkor and Dadzie (2017) defines reading as the capacity to comprehend the words present in a document and apply that knowledge for personal advancement and progress. This encompasses the act of deriving meaning from recorded information, whether it is in printed or non-printed form, within an individual's life. People engage in reading for a variety of motives and objectives, such as for enjoyment, recreation, unwinding, gathering information, and acquiring knowledge.

Tachie-Donkor (2017) emphasizes that books reveal their fullest potential when read at the age at which each specific masterpiece can be most effectively absorbed and understood. However, there is limited information available regarding the daily reading habits of university-level students and the impact of these habits on their academic performance.

Rabia et al. (2017) stated that “reading” involves extracting meaning from printed or written words, which is fundamental for learning and one of the most essential skills in daily life. Gahir et al. (2022) conducted research to identify factors influencing student performance and develop predictive methods. The study aimed to classify students into three groups: ‘low’ achievers, ‘medium risk’ achievers, and ‘high risk’ achievers. They used Neural Network, decision tree analysis, and discriminant analysis to predict the academic performance of first-year students.

Rabia et al. (2017) stated that reading involves a cognitive process involving thinking, evaluating, judging, visualizing, reasoning, and

problem-solving. It serves as a fundamental tool for the transmission of knowledge, and cultivating a habit of academic reading enhances proficiency in reading strategies. To gain insights about the world and its surroundings, children rely on reading books, newspapers, and other periodicals. Once children have been taught to read and develop an affinity for books, they can independently delve into the vast realm of human experiences and knowledge through reading. Children who miss the opportunity to engage with books in their formative years may encounter challenges in developing strong reading habits later on.

METHODOLOGY

The research methodology encompasses research design, target population, sample selection, data collection instruments, and procedural steps employed in gathering study data. Quantitative research methods were used in the study. Exam results are used to measure the quantitative aspect. The research was a survey study and descriptive. It was a correlational study exploring the relationship between sleep deprivation, and academic performance in the universities of Rawalpindi Islamabad. According to Creswell (2011) correlational research design can be used for relating variables or predicting outcomes. Remembering the finished objective to achieve the destination of the study, the poll review strategy was utilized. A self-structured questionnaire was used as a primary source of gathering information.

Population is an arranged group of people or events from which the specimen is picked and to which the study results will total up (Marion 2004). The population of the study consisted of undergraduate students from the public universities of Islamabad and Rawalpindi.

S #	Universities	Departments	population
1	NUML	BS Phycology	1100
		BS Computer Science	900
2	Comsats	BS Psychology	850
		BS Computer Science	2000
Total	**2**	**4**	**4850**

Table 1: Population table

This study mainly focused on undergraduate students from the universities of Islamabad including COMSATS University and NUML University. Two departments from two universities in Islamabad, the Department of Psychology and the Department of Computer Sciences.

The sample for this study was selected according to the table provided by L.R Gay, According to L.R Gay, when the population is large then 10% of the population is selected as a sample and when the population is small then 20% of the population is selected as a sample.

S #	Universities	Departments	population	Sample
1	NUML	BS Phycology	1100	110
		BS Computer Science	900	90
2	COMSATS	BS Psychology	850	85
		BS Computer Science	2000	200
Total	**2**	**4**	**4850**	**485**

Table 2: Sample of the study.

A stratified sampling technique was used for the sample selection. Stratified sampling is a sampling technique in which sample proportions are made as population proportions on the stratification variables (Johnson & Christensen, 2012). Stratified sampling is often used when the population is not equal and two or more of the strata in the population have low incidence relative to the other stratum (Gay, 2006).

The researcher adopted the following procedure for the selection of the sample:

a) All the students of undergraduate programs in public universities of Islamabad Rawalpindi.
b) Two departments were selected to gather data (BS Psychology and BS Computer Science).
c) Two universities based on the availability of these two programs in universities were selected as the sample.
d) The students were chosen using the Simple Random Sampling method.

After an extensive literature review regarding the relationship between study habits and academic performance, a self-structured instrument was designed to gather the data from students. The questionnaire consisted of a five-point Likert scale (Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree).

The researcher collected data by using a self-developed questionnaire. These questionnaires were designed by using the Five-Point Likert scale. The responses were collected from undergraduate students of public universities in Islamabad. After finishing the survey, the data was organized and analyzed using SPSS version 29.0.2.0. This software helped to deeply examine the entire situation using various techniques. According to Bilsborrow (2016), data collection involves systematically gathering, compiling, and arranging information from different sources.

RESULTS

In this section, an attempt has been made to determine the relationship between the dependent and independent variables using chi-square and contingency coefficient statical techniques. Opinions of the respondents on their academic performance were targeted as a dependent variable and sleeping schedule, sleeping difficulties, drowsiness, study schedule, study environment,

short breaks, ICTs, active performance, and learning techniques were sub-variables of sleep deprivation and study habits which are independent variables. The procedure adopted for computation is given below:

- **Dependent Variable**

Academic Performance

First of all, GPA scores in the previous semester were collected from 485 respondents in order to identify their academic performance. The maximum and minimum obtained scores were 4 and 1. Responses were then divided into three categories Low (0 – 3), Medium (2.1 – 3), and High (3.1 – 4) on the bases of GPA scored.

- **Independent Variable**

Study Habits

The opinions for study habits among respondents were collected and their maximum and minimum values were obtained which were 111 and 70. The values were then divided into three categories Bad (70 – 83), Good (84 – 97), and Excellent (98 – 111) based on the responses.

Study Schedule: The responses for the study schedule of respondents were collected, and then maximum and minimum scores were obtained which were 24 and 7. The responses were then divided into three categories Bad (7 – 12), Good (13 -18), and Excellent (19 – 24) based on their opinions.

Study Environment: The opinions for the study environment were collected from respondents and then the maximum and minimum scores were obtained. The maximum score was 21 and the minimum score was 7. The responses were then divided into three categories Bad (7 – 11), (12 – 16), and Excellent (17 – 21) based on their opinions.

Short Breaks: The opinions for short breaks during study sessions were collected from the respondents and then the maximum and minimum scores were obtained. The maximum score was 21 and the minimum score was 7. The responses were then divided into three categories based on opinions Bad (7 – 11), Good (12 – 16), and Excellent (17 – 21).

Use of ICTs: The opinions of respondents were collected to understand the extent of use of ICTs among respondents. The maximum and minimum scores were obtained, the maximum score was 21 and the minimum score was 7. The responses were then divided into three categories Bad (7 – 11), Good (12 – 16), and Excellent (17 – 21) based on the opinions.

Active Participation: The opinions of respondents were collected to examine the active participation among respondents, then the maximum and minimum scores were obtained which were 22 and 5. The scores were then divided into three categories Bad (5 – 10), Good (11 -16), and Excellent (17 – 22) based on their opinions.

Learning Techniques: The opinions for learning techniques of respondents were collected and their maximum and minimum values were obtained which were 25 and 8. The values were then divided into three categories Bad (8 – 13), Good (14 – 19), and Excellent (21 – 25) based on their responses.

Study Schedule and Academic Performance

Table 3 indicates that most of the respondents have good study schedules and are achieving higher grades while the respondents with excellent study schedules also get higher grades (9.07%). Furthermore, table 4.18 also shows that there is a significant relationship between study schedules and academic performance ($\chi^2_{cal.} = 9.74$).

Table 3: Relationship between study schedule and academic performance.

Study Schedule	Academic Performance		
	Low	Medium	High
	Percentages		
Bad	4.54	1.85	2.68
Good	20.82	21.65	26.59
Excellent	5.36	7.42	9.07
$\chi^{2\ cal.} = 9.74$	$\chi^{2\ tab} = 9.48$	df = 4	significant

Study Environment and Academic Performance

Table 4 shows that almost a quarter (23.50%) of the respondents are studying in a good environment and they are performing better in academics. There is also a small portion of respondents having a bad study environment but they perform better in academics (7.63%). Furthermore, table 4.19 also shows that there is a significant association ($\chi^{2\ cal.} = 9.510$) between study environment and academic performance.

Table 4: Relationship of study environment with academic performance.

Study Environment	Academic Performance		
	Low	Medium	High
	Percentages		
Bad	5.77	5.57	7.63
Good	21.44	19.59	23.50
Excellent	3.50	5.77	7.22
$\chi^{2\ cal.} = 9.510$	$\chi^{2\ tab} = 9.48$	df = 4	Significant

Short Breaks and Academic Performance

Table 5 shows that a quarter (26.18%) of the respondents sometimes take short breaks during their study sessions and get higher grades while there is a small portion of respondents (8.66%) who always take short breaks and perform better in academics. Furthermore, there exists a non-significant association ($\chi^{2\ cal.} = 6.172$) between short breaks and academic performance.

Table 5: Relationship of short breaks with academic performance

Short Breaks	Academic Performance		
	Low	Medium	High
	Percentages		
Never	4.33	2.06	3.50
Sometimes	19.17	20.0	26.18
Always	7.22	8.86	8.66
$\chi^{2\ cal.} = 6.172$	$\chi^{2\ tab} = 9.48$	df = 4	non-significant

Use of ICTs and Academic Performance

Table 6 shows that most of the respondents (24.33%) sometimes use ICTs to promote their academics and achieve higher grades in academics while some of the respondents (9.48%) always use ICTs and perform better in academics. Furthermore, table 4.21 also shows that there is a positive significant association ($\chi^{2\,cal.} = 10.802$) between the use of ICTs and academic performance.

Table 6: Relationship between Use of ICTs and Academic Performance.

ICTs	Academic Performance		
	Low	Medium	High
	Percentages		
Never	4.74	2.47	4.54
Sometimes	22.06	21.44	24.33
Always	3.92	7.01	9.48
$\chi^{2\,cal.} = 10.802$	$\chi^{2\,tab} = 9.48$	df = 4	significant

Active Participation and Academic Performance

Table 7 shows that almost a quarter (24.33%) of the respondents with good active performance tend to achieve higher grades in academics. Furthermore, there is a significant relationship ($\chi^{2\,cal.} = 9.804$) between active performance and academic performance.

Table 7: Relationship of active performance with academic performance.

Active Performance	Academic Performance		
	Low	Medium	High
	Percentages		
Bad	2.27	1.85	3.91
Good	21.85	20.62	24.33
Excellent	6.59	8.45	10.10
$\chi^{2\,cal.} = 9.804$	$\chi^{2\,tab} = 9.48$	df = 4	Significant

Learning Techniques and Active Performance

Table 8 shows that (19.79%) of the respondents have good learning techniques and they perform better in academic performance. Furthermore, table 4.23 also shows that there is a non-significant relationship ($\chi^{2\,cal.} = 7.390$) between learning techniques and academic performance.

Table 8: Relationship of learning techniques with academic performance.

Learning Techniques	Academic Performance		
	Low	Medium	High
	Percentages		
Bad	0	1.03	1.23
Good	14.23	16.29	19.79
Excellent	16.49	13.61	17.32
$\chi^{2\,cal.} = 7.390$	$\chi^{2\,tab} = 9.48$	df = 4	non-significant

Study Habits and Academic Performance

Table 9 shows that most of the respondents (22.68%) having good study habits achieve higher grades in academics. Furthermore, 4.25 also

shows that there exists a non-significant relationship between study habits and academic performance. Hence the null hypothesis is accepted and the alternate hypothesis is rejected.

Table 9: Relationship between study habits and academic performance.

Study Habits	Academic Performance		
	Low	Medium	High
	Percentages		
Bad	4.33	3.71	4.54
Good	19.79	17.53	22.68
Excellent	6.59	9.69	11.13
$\chi^{2\ cal.} = 4.117$	$\chi^{2\ tab} = 9.48$	df = 4	non-significant

FINDINGS

The objective of this study was to find out the relationship between study habits and the academic performance of university students. This objective was achieved by applying the chi-square test and the results conclude that:

- There is a non-significant relationship between study habits and academic performance as the calculated value ($\chi^{2\ cal.} = 4.117$) is greater than the tabulated value. whereas the sub-variables of study habits like study schedule and use of ICTs had a positive association with academic performance whereas study environment, short breaks, active performance, and learning techniques had a non-significant relationship with academic performance.

DISCUSSION

Study habits are important to a student's daily routine, playing a crucial role in the development of knowledge and perceptual abilities. They reflect a person's eagerness to learn, their aspirations, and their goals. Throughout life, one's study habits can significantly influence these aspects (Tus, 2020). In the current study, the findings indicate that a quarter of students agree on the importance of creating and following a study schedule, the neutral responses suggest a lack of consistent study habits. Previous research indicated that students who cultivate good study habits are more likely to achieve better academic performance and enhance their academic success (Tus, 2020). Study schedule plays a vital role in students' achievements, High-performing students often space their studying over multiple sessions rather than cramming, which is associated with better academic performance (McAndrew, Morrow, Atiyeh, & Pierre, 2016). The study environment also plays a crucial role in academic success. The findings indicate a preference for studying in quiet, well-lit environments, 127 (26.2%) agreed with a mean score of 3.17 that they prefer quiet environment for study, which is supported by literature emphasizing that the learning environment affects student motivation and student achievement

and similarly student motivation affects student performance (Havidz & Mujakiah, 2023). Literature states that the study environment is where students find a sufficient number of source materials and aids, and in which they are given a chance to construct an orientation basis of their own or with each other and determine their goals and the activities they will involve themselves in. These source materials and aids are located within two overlapping 'fields', the task environment and the knowledge environment (Kirschner, Van Vilsteren, Hummel, & Wigman, 1997). Short breaks that include physical activity or mindfulness can support attention and reading comprehension, which are crucial for academic success (Müller et al., 2021). In this study Most of the respondents 219 (45.2%) agree that they take short breaks while studying, this aligns with the previous study which stated that Standing or active breaks during study improve students' self-perceived physical, mental, and cognitive conditions, including increased concentration and reduced muscle tension (Paulus et al., 2021). Cognitive research that indicates breaks can enhance focus and information retention (Pope et al., 2011). The high agreement on the positive impact of breaks underscores their importance in effective study strategies.

The use of ICTs in education showed mixed results in the study, many students find ICTs helpful for understanding and maintaining interest in learning, this aligns with a previous study which stated that ICT has enabled students to move from being passive consumers of knowledge and educational resources to being active participants in the teaching and learning process (Ben Youssef, Dahmani, & Ragni, 2022). Also, a significant number reported distractions from ICTs, this aligns with previous study, There is an overwhelming response and acceptance of distraction caused by ICT Devices during lectures, practicals, tutorials, and especially when doing assignments at home (Goundar, Clear, & Lopez, 2012). This complement reflects the need for balanced ICT integration, emphasizing the importance of self-regulation and strategic use of technology in learning. Information Communication Technology (ICT) devices such as laptops, smartphones, and tablets, have become the standard stationery of today's tertiary students (Goundar et al., 2012). Active Participation in the classroom plays a vital role in the academic success of students, in this study Most of the respondents 122 (25.2%) agree that they participate in classroom discussions while 114 (23.5%) remain neutral and 91 (18.8%) disagree with a mean score of 3.31. According to a previous study Murray and Lang (1997), it is claimed that active student participation facilitates both the acquisition of knowledge and the development of problem-solving skills. Participation is considered a pivotal concept in understanding classroom learning and the development of critical thinking skills (Loftin, Davis, & Hartin, 2010). In this study, most of the respondents 137 (28.2%) agree that they feel too shy to ask questions during the lecture while 102 (21.0%), This aligns with a previous study that found fear and shyness to be common issues

among students, often due to a lack of knowledge and classroom insecurities (Precourt & Gainor, 2019).

These results have several implications. Universities should implement programs to encouraging students to develop and adhere to structured study schedules can improve time management and reduce procrastination, ultimately enhancing academic performance. Creating conducive study environments, both on-campus and at home, can help minimize distractions and improve focus and retention. While ICTs can enhance learning, it is crucial to teach students how to use these tools effectively without succumbing to distractions. This includes promoting digital literacy and self-regulation strategies. Lastly, incorporating active learning techniques in the curriculum can foster deeper understanding and engagement, thereby improving academic outcomes. In conclusion, this study highlights the intricate relationship between study habits and academic performance among university students. While no overarching significant relationships were found, the detailed insights into sub-variables provide valuable guidance for targeted interventions to support student success. Addressing study schedules, and optimizing learning environments are critical steps toward enhancing the academic performance and well-being of university students.

SUMMARY

This research aims to find out the relationship between study habits and academic performance among university students. The study focuses on undergraduate students from the universities of Islamabad and two departments of these universities, the departments include psychology and computer sciences. A self-structured questionnaire was used to collect data from respondents, focusing on their opinions on their routines and habits. The five Likert scale was used to determine their level of agreement or disagreement. The results indicated that there is no significant relationship between study habits and academic performance, with a calculated value of 2.418. Sub-variables like study schedule and study environment also showed no significant relationship, while sleep difficulties were significantly related to academic performance. Study habits, such as having a study schedule and using Information and Communication Technologies (ICTs), were positively associated with academic performance. However, factors like study environment, taking short breaks, active performance, and learning techniques did not show a significant relationship. Sleep deprivation and study habits directly have a non-significant impact on the academic performance of university students but when at the depth of them certain factors may affect the academic performance of students. However, there is a need for standardized methods for assessing sleep habits and identifying the relationship between these factors.

CONCLUSION

According to the findings of this study, we can conclude that sleep deprivation and study habits are somehow connected to academic performance among university students. While the overall relationship between sleep deprivation and academic performance is non-significant which means that sleep deprivation and study habits don't influence students' academic performance directly, but to develop an in-depth understanding it's essential to consider specific sub-variables. For instance, sleeping difficulties significantly impact academic performance, whereas other aspects of sleep, such as sleeping schedule and drowsiness, do not show a significant association. Similarly, study habits show a non-significant relationship with academic performance overall. However, some sub-variables, like study schedules and the use of information and communication technologies (ICTs), are positively correlated with academic performance. In contrast, factors such as study environments, short breaks, active performance, and learning techniques do not significantly impact academic outcomes. These factors emphasize the importance of addressing sleep-related challenges and optimizing study habits to enhance students' overall academic success.

RECOMMENDATION

- Develop effective time management skills to balance study, work, and personal life.
- Promote Healthy Study Habits to promote active learning strategies (e.g., summarizing, self-testing) over passive ones (e.g., re-reading).
- Try breaking study sessions into shorter, focused intervals with breaks in between.
- Discourage cramming and promote distributed practice.
- Monitor Sleep Difficulties:
- Encourage students to seek professional help if they experience persistent sleep difficulties (e.g., insomnia, sleep apnea).
- Provide resources for improving sleep hygiene (e.g., creating a conducive sleep environment).

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