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Research proposal
on

Exploring The Correlation Between Caffeine Consumption And Academic Performance In Private University Students

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Introduction: Caffeine, mainly found in coffee, tea, or energy drinks, is a widely consumed psychoactive drug. Oftentimes, university students have to rely on caffeine to stay alert and drive off sleep to keep up with their hectic schedules [1]. Hence, it may have a positive impact on academic performance. While it is proved that caffeine can enhance cognitive function, it also comes with side effects. Students can suffer from elevated heart rates, insomnia, and dependency, along with other factors. This, on the other hand, can impact the students negatively [2]. In spite of the popularity of caffeine among students, very little is known about the relationship between caffeine consumption patterns and academic performance among private university students. This correlation should be explored further.

Research Question: What is the correlation between caffeine consumption and academic performance among private university students?
Does caffeine have a long term negative impact on students overall academic performance?

Literature review: Stress is one of the most concerning factors among university students. Students may suffer from stress due to various reasons, such as personal challenges, environment, lifestyle, or even academics. This may cause depression, anxiety, fatigue, and lack of motivation to study, having a negative impact on academic performance [3]. Lifestyle choices can both worsen and reduce stress levels, making them a potential focus for interventions. Stress can also be caused by the overwhelming number of assignments, teacher evaluations, and personal life issues. Research has shown that academic stress can impair memory and attention, thus lowering academic performance [4]. Long-term studies also show that chronic stress contributes to poorer sleep quality, unhealthy behaviors, and declining GPA over time. Moreover, stress can both directly and indirectly result in academic burnout. Self-esteem, along with support from peers and teachers, can help counteract these effects [5]. They can do so by providing emotional support, verbal motivation, and providing positive feedback from time to time. According to Transforming Education [6], 60% of students reported feeling stressed every day, and 1 in 5 college students said they felt stressed all or most of the time. The study also stated that stressed students were more likely to suffer from poor academic performance, thus bad grades, and even drop out. Pandemic-era research revealed that online learning transitions introduced unique stressors—such as assignment overload and social isolation—that further harmed academic engagement. Sleep is another factor that can affect academic performance. Insufficient sleep and excessive daytime sleepiness are highly prevalent in student populations. Studies reported that many university students regularly get less sleep than recommended and experience daytime sleepiness that interferes with learning, often due to late bedtimes, early schedules, academic workload, and social activities [7]. This makes sleep an important factor in understanding academic outcomes. Experimental and neurobiological research have shown that sleep supports memory, attentional, and executive functions — all of which are essential for learning and academic success [8]. Sleep deprivation impairs memory, attention, and learning capacity. These findings suggested a plausible relation between insufficient sleep and poor academic performance. The strength of the sleep–performance relationship varies by factors such as age, mental health, and lifestyle habits [9]. Longitudinal studies suggested that poor sleep can lead to declining engagement and grades; moreover, stress and poor academic performance can also worsen sleep. Prior studies showed an interconnection between caffeine, stress, and sleep quality. Moderate caffeine can temporarily offset some cognitive deficits from sleep

deprivation, but it cannot replace the benefits of sufficient rest [10]. Adequate sleep remains a crucial factor for the best cognitive performance. Similarly, another research demonstrated that caffeine can enhance reading speed and comprehension skills right after intake, but long-term benefits are yet to be found [11]. The time of caffeine consumption is also crucial. Research showed that caffeine taken even six hours before bedtime significantly reduces sleep quality, leading to next-day fatigue and impaired learning. Late-night caffeine used to support "all-nighters" often backfires, compounding stress and fatigue [12]. While caffeine consumption among university students is a global trend, much of the existing research focuses on populations in North America and Europe. These studies often highlight both pros and cons of caffeine, but they are conducted in contexts that differ culturally, academically, and socially from the student experience in Bangladesh. Locally, there is a significant lack of data exploring how caffeine is used by students in Bangladeshi private universities, particularly how their consumption habits relate to academic performance, sleep quality, and stress levels. Most studies in Bangladesh focus on broader health behaviors or nutrition trends, without specifically linking caffeine use to academic outcomes. As a result, there is a critical research gap in understanding whether caffeine is actually helping students perform better or inadvertently undermining their efforts. This research aims to fill that gap by investigating the correlation between caffeine consumption and academic performance among private university students in Bangladesh.

Research Methodology: The study will employ a mixed-methods exploratory research design to investigate the effects of caffeine consumption and academic performance among private university students. Mixed-methods approach enables researchers to obtain a broader and more clear understanding of the research problem [13]. This research will primarily utilise surveys that included both close-ended and open-ended questions. The quantitative response will offer numerical insights, whereas the qualitative data provide a deeper understanding of perceptions, challenges, and suggestions regarding caffeine consumption. In particular, the open-ended answers prove valuable for uncovering attitudes, habits, and problems faced due to caffeine consumption.

Limitations: Like all studies, this research has limitations. Firstly, the participants may not represent all private university students in Bangladesh. Secondly, the number of participants may not be large enough, so the varied effect of caffeine may not have come to light. Thirdly, the survey captures a single moment in time; long-term observation and tracking caffeine consumption habits would have given a better picture. Finally, the data will be collected only from private university students, which may restrict the generalizability of the findings to students in public universities or other educational settings in Bangladesh.

Conclusion: Overall, this research aims to dive into how caffeine consumption might actually impact academic performance among private university students. By looking at real patterns and student experiences through surveys, we hope to better understand whether caffeine is helping, hurting, or having no real effect at all. We should find insights that can help students make healthier, more informed choices about how they manage their energy and focus during their academic journey.

Project Timeline: The research will take 4 months to complete and another month to write the final report.

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