



A Study on Relationship between Fatigue and Decision-Making among College Students

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Abstract

College is a pivotal phase for young adult students characterized by newfound independence, social interactions and academic goals. For successful outcomes, it is important for students to navigate their choices and utilize and hone their decision-making skills. Decision-making plays a crucial role in every aspect of a student's life from picking an academic major to daily routines. With that, it is important to understand factors that can impact students' decision-making. The research aims to explore the relationship between fatigue and decision-making among college students. Standardized scales were utilized and administered on 70 College students with 35 male and 35 female students completing the questionnaire. The students were assessed for decision fatigue and symptoms of mental and physical fatigue. The results indicated a positive correlation between fatigue and decision fatigue, that is, an increase in fatigue reduced the decision-making ability of students. No gender differences were observed among male and female college students. The findings imply a need for interventions for fatigue management strategies for college students to help them make

decisions efficiently. It is advisable to make lifestyle adjustments such as exercise, regular sleep and adequate diet.

Keywords: College Students, Fatigue, Decision-Making, gender differences

Introduction

College is a transformative phase in every young adult's life, students here are neither teenagers anymore nor completely adults ready to take on the responsibilities of a full grown adult. People believe that it is one of the most thriving point of life but also agree on the challenges of being a college student. While it is a prime time for personal and career growth, new and independent experiences; it is incomplete without its own set of challenges that also shape the young adult's life and how they deal with them. Some of the challenges faced by college students include having to move out of their home and away from their family that comes along with the work of settling in a new place, making new friends, balancing academics, work, relationships, mental health, pressure to decide what they want to work at for the next 30 years of their lives.

A skill that is majorly required in all these steps is decision-making. As a college student, decision making can be extremely crucial when deciding on a career path, which friends to associate with, to give in to the urge of purchasing expensive shoes or save it to pay off tuition debt. Decision-making not only involves high stakes decisions but also minor ones that have impact on an individual's life, such as deciding what to wear, having a certain lifestyle that aligns with the individual's health and wealth.

Decision making involves gathering possible valid options and evaluating the consequences in order to select actions to pursue to get a desired outcome. Since it is a step by step process, it

involves the utilization of cognitive process and factors such as individual mental models, heuristics, biases, goals, motivation and capacity.

In a study conducted by Mau and Jepson (1992), students who were educated on decision making strategies and students without the strategy taught on how to choose a major were compared. The findings suggests that decision-making strategies helped the students significantly in deciding their careers and reduced their choice anxiety and career indecision.

Although, constant use of cognitive effort for making decisions leads to fatigue that in fact have an impact on the individuals decision making ability, also, fatigue due to other factors also has an impact of decision making ability of that person. As young adults in college require to make multiple decisions throughout the day, with their developing capacity for decision making, impact of fatigue can cause them an inability to make optimal decisions and are prone to impulsivity and irrational choices.

According to Dorrian et al. (2000) a significant amount of cognitive resources is consumed due to efforts used on a cognitively challenging tasks that consumes more than just time but also the mental resources necessary for other tasks. This suggests that the time in which cognitive effort can be invested is reduced to cognitive overload (Lorist et al., 2000; Bourne & Yaroush, 2003; Tucker, 2003). Previous literature suggests that individuals do not require to be dependent on one strategy of decision-making, rather they seem to use a variety of styles while making important decisions (Delaney et al., 2015) .

An interesting question in decision making is the gender differences during this process. The present study attempts to understand whether there exists differing abilities in decision making among male and female college students and also the varying levels of fatigue in male students versus female students on the dimensions of mental and physical fatigue. According to a study on decision making across varying ages and gender. The findings suggested that female subjects are more inclined towards concerns with uncertainty and doubts and more concerned

about placing value on money and time. It was also shown that a much more emphasis is put on emotions while making decisions. On the contrary, men prefer analysing the material required to make an informed decision. However, another result of this study suggested that there are no sex differences in cognitive processing and self-regulation and both the genders carefully evaluate the information, consider and analyse the results logically. It was discussed that the sex differences are placed closer to styles of behaviour and the social demands on men and women as compared to their actual intellectual or cognitive capacities (Lizárraga et al., 2007).

Fatigue

Fatigue is defined as “a pervasive sense of tiredness or lack of energy that is not related exclusively to exertion” (Brown & Schutte, 2006). Fatigue is defined as an “unpleasant physical sensation, with cognitive and emotional components, described as tiredness that is not relieved with common strategies to restore energy. Its duration and intensity vary and it reduces, to different extents, the ability to perform usual activities” (Amaducci, 2010).

Fatigue is a “psychophysiological state of decreased ability and effectiveness” (Simonson & Weiser, 1976; Phillips, 2015) that typically occurs during highly demanding tasks requiring long periods of mental and physical input (van der Linden et al., 2003; Dolezal et al., 2017), and it may have a great impact on the individual’s performance and well-being, including sleep-disturbance (Rodrigue et al., 2010; Hockey, 2013; Weaver & Barger, 2019).

According to study by Smith (2018) on undergraduate students, 313 students completed an online survey administered to them by the researcher. The results found that an increasing level of mental fatigue had a significant impact on student’s declining well-being and affected their efficiency in academic performance.

A study on 864 college students was conducted to assess academic fatigue and sleep quality and studying the impact of exercise used as an intervention. The findings noted that roughly $\frac{2}{3}$ of the student respondents experienced study-related fatigue and the predictive factors that cause academic fatigue such as workload, stress levels, quality of sleep and adverse environments. The use of exercise as an intervention did show significant benefits on the sleep quality and fatigue on students (Chen et al., 2022).

Decision-Making

Decision Making is the “procedure of selecting a legitimate decision amongst the accessible alternatives”(Uzonwanne, 2015). Decision-making is a “mental process or activity that involves selecting from a range of alternatives or options available to achieve a particular goal or address a particular problem” (Wang & Ruhe, 2007). Decision making is referred to “as the interaction between a problem that needs to be solved and a person who wishes to solve it within a specific environment” (Narayan & Corcoran-Perry, 1997).

In a study by Niles et al. (1997) 199 female and 133 male students were selected to understand their decision making styles, their efficacy in career decisions and career development task accomplishment. The findings suggested that there is a positive association between a systematic decision making style and adaptive vocational behaviour.

A study conducted by Bajwa et al. (2016) on 402 university students (224 Female and 178 Male participants). The results found that among students rational decision making is led by conscientiousness where males have a lower capability for decision making as compared to female due to the considered demographic variables. Additionally, students residing in hostels were found to be more rational than students not living in hostels and students belonging from nuclear families were much better decision makers than students living in a joint family. The

study also suggested that urban residing students are more rational decision makers than students living in rural areas.

Purpose

The purpose is to study the relationship between fatigue and decision making among college students.

Hypothesis

- There will be a positive relationship between fatigue and reduced decision making ability among young college students.

Methods

Sample

A total sample of 70 college students (N=70, 35 female and 35 male students) belonging to age group of 18-25 years old was collected living in regions like Delhi & Mumbai.

Measures

- **Decision Fatigue Scale (DFS)** measures the capacity of an individual to make decisions and capture the dimensions of individual decision fatigue as developed by Hickman et al. (2018). The scale consists of 10 questions with Likert responses ranging from 1 - 5 or “strongly disagree to strongly agree”. The 7th question in the scale fulfils the criteria for reverse scoring for analysis.

- **Fatigue Assessment Scale (FAS)** is used to measure symptoms of fatigue as developed by Michielsen et al. (2003). The scale consists of 10 items and responses on Likert scale with points ranging from 1 - 5 or “never” to always.” The two dimensions here are Physical Fatigue (Questions - 11, 12, 14, 15, 20) and Mental Fatigue (Questions - 13, 16, 17, 18, 19). Questions 14 and 20 are supposed to be scored in reverse for analysis.

Analysis of Data

Results

Table 1

<i>Item Statistics for Decision Fatigue Scale (n=70)</i>			
	Mean	SD	
1. I can't make a decision because I am too tired and stressed.	2.60	1.03	
2. Making decision is difficult because I can't concentrate.	2.64	1.20	
3. It is hard for me to take information and use it to make decision	2.29	1.01	
4. I don't have enough confidence in myself to make a good decision	2.19	1.11	
5. It takes too much efforts to make decision.	2.64	1.20	
6. Someone else should make decision for me.	2.01	1.17	
7. I have made decision quickly in order to move on.	2.91	1.07	
8. I can't make up my mind about which option is best.	3.11	1.25	
9. I have made decision without carefully thinking about them.	2.77	1.25	
10. My mood has made it difficult for me to make decision	2.91	1.22	

Table 2*Item Statistics for Fatigue Assessment Scale (n=70)*

	Mean	SD	
11. I am bothered by fatigue	2.10	0.871	
12. I get tired very quickly	2.37	1.119	
13. I don't do much during the day	2.10	1.009	
14. I have enough energy for everyday life	2.83	1.116	
15. Physically, I feel exhausted	2.33	1.018	
16. I have problems starting things	2.39	1.081	
17. I have problems thinking clearly	2.26	1.112	
18. I feel no desire to do anything	2.36	1.143	
19. Mentally, I feel exhausted	2.70	1.244	
20. When I am doing something, I can concentrate quite well	2.81	1.133	

Table 3

<i>Dimensions mean and SD (n=70, M=35,F=35)</i>						
	Gender		Mean		SD	
Decision Fatigue		Male		26.1		7.20
		Female		26.0		6.41
Fatigue Assessment		Male		24.2		6.77
		Female		24.3		5.64
Physical Fatigue		Male		12.5		3.43
		Female		12.4		2.50
Mental Fatigue		Male		11.8		4.27
		Female		11.8		3.73
<i>Note. Male = M, Female = F</i>						

Table 4*Correlation between Fatigue and Decision Making*

	Decision Fatigue		Fatigue Assessment		Physical Fatigue		Mental Fatigue	
Decision Fatigue	—							
Fatigue Assessment	0.442	***	—					
Physical Fatigue	0.408	***	0.849	***	—			
Mental Fatigue	0.381	**	0.918	***	0.569	***	—	

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 5*Gender Differences between Fatigue and Decision Making*

		Statistic	df	p
Decision Fatigue	Student's t	0.0701	68.0	0.944
Fatigue Assessment	Student's t	-0.0192	68.0	0.985
Physical Fatigue	Student's t	0.0398	68.0	0.968
Mental Fatigue	Student's t	-0.0596	68.0	0.953

Discussion of Results

The results of the current study provide the supporting evidence that there is a significant positive relationship between Fatigue and Decision Fatigue. According to Table (4) of the results fatigue was positively correlated to decision fatigue ($r=0.442$, $p<0.001$). Further, the results found that there is a significant positive relationship between physical fatigue and decision Fatigue. Thus, an increase in physical fatigue causes an increase in decision Fatigue. ($r=0.408$, $p<0.001$). There is a significant positive relationship between Mental Fatigue and Decision Fatigue. Thus, an increase in Mental Fatigue causes an increase in Decision Fatigue ($r=0.381$, $p<0.01$).

A study by Jia et al. (2022) concluded that individuals with mental fatigue are prone to be risk-averse. The study also showed that fatigue negatively impacts the ability to make decisions in terms of risk-taking and feedback processing. According to a study conducted by Palmer et al. (2014), fatigue and stress play a role in significantly reducing students' cognitive performance and learning ability. It is observed that fatigue, both mental and physical, reduces the individual's cognitive capacity for attention, causing them an inability to consider and weigh their decisions, which can lead to either make decisions differently, comparatively to non-fatigue conditions and also lead them to rely on others to make decisions for them. According to Table (3) comparing the results among male and female college students, there were no sex differences found among both the groups ($t=0.994$). There have been several studies that have shown sex differences in decision making and concluded that women are more risk-averse than men (Van Den Bos et al., 2013). This could imply that the societal contexts play an important role in decision making among the gender, for example, male students choosing a male-dominated major, like engineering, or female students choosing female-dominated majors, like education. (Dawson-Threat & Huba, 1996). As observed in

Table (3), the mean score of both male and female are very close and the same in the mental fatigue dimension.

Conclusion

The current research aimed to understand how fatigue leads to an impaired ability to make decisions among college students and causes decision fatigue. On the dimensions of mental and physical fatigue, it was noticed that Fatigue does impact decision making ability among college students i.e. There is a significant positive correlation between fatigue and decision fatigue.

Standardized scale were used to measure the levels of Decision Fatigue and Mental and Physical Fatigue among 70 College students (n= 70, 35 Male & 35 Female) in the age range of 18-25. The results found that Decision Fatigue is positively correlated to Fatigue. There were no significant sex differences to be found among male and female participants. Thus, decision making due to Fatigue affects both the genders with no regards to affecting one gender more than the other (see Table 5).

The present study presents a few limitations that must be considered for further researches. The study could have been further improved if more participants were involved as well as their educational background could have been specified to measure the levels of Fatigue their educational program play a role in causing decision fatigue. Due to self-reporting nature of the data, the responses could be affected by individual biases and lack of self-awareness. Moreover, the fatigue levels were measured in terms of mental and physical fatigue affecting decision making; the research could be further refined into a specific factor affecting college student's fatigue levels so that it is simpler to understand the specific factors in hand and measures that can be improvised to decrease the level of Decision Fatigue among the sample.

Here are some general yet effective ways in which college students can address such issues. Exercise is shown to be helpful in decreasing study-related, overall fatigue and improved sleep quality as well (de Vries et al., 2016). While managing workload, it is essential for students to maintain a healthy lifestyle with adequate sleep and balanced diet. Colleges can work on reducing unnecessary workload and provide adequate breaks to students. Programs or workshops on stress management, individual decision-making strategy training, and developing resilience can be a great way to provide insights and assist students to deal with stress, indecision, fatigue, and develop strength through tough times.

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