Investigating The Effects of Binge Eating, Sleep Deprivation & Attention Level in College Students

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Abstract

Binge eating, sleep deprivation, and attention levels are critical concerns among college students, driven by academic pressures, social expectations, and lifestyle factors. These issues, often intertwined, can lead to significant mental and physical health challenges, affecting students overall well-being and academic performance. This is an observational study that aims to examine binge eating behaviors, sleep deprivation and attention levels among college students, with a particular focus on variations across different age groups and genders. The study adopts a questionnaire-based approach to collect comprehensive data on these behaviors. The research specifically aims to identify patterns and differences in how binge eating, sleep deprivation, and attention deficits manifest across demographic groups, providing a clearer understanding of how these issues are experienced by students of different ages and genders. The study findings reveal notable disparities, with younger students and female participants reporting higher instances of binge eating and sleep deprivation, while older students and male participants exhibit varying levels of attention deficits. The data suggests that these behaviors are not uniformly experienced, highlighting the need for age- and gender-specific interventions. Additionally, the research explains the significant role of emotional triggers and academic pressures in exacerbating these issues, particularly among younger students who may lack effective coping mechanisms.

Keywords: Binge Eating, Sleep Deprivation, Attention Levels, Observational Study, Questionnaire.

Introduction

Binge Eating

Binge eating among students has become a significant concern. Recent studies suggest that binge eating is prevalent among young individuals.[1]

Binge-eating disorder (BED) is recognized by both the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) since 2013 and the International Classification

of Diseases (ICD) since 2019. It is characterized by recurrent episodes of consuming large amounts of food, often rapidly and to the point of physical discomfort. For a diagnosis according to DSM-5 criteria, these episodes must occur at least once a week for a duration of three months and cause significant distress.[2]

Research indicates that Binge Eating Disorder (BED) is more common in females, often beginning in adolescence or early adulthood, with 10-15% of college students showing symptoms.[3]

Sleep Deprivation

Sleep deprivation refers to a condition where an individual does not get enough sleep, leading to impaired physical and mental functioning. It can result from consistently sleeping fewer hours than needed or experiencing poor-quality sleep. This lack of adequate rest can negatively impact various aspects of health, including cognitive abilities, emotional stability, and overall well-being. Chronic sleep deprivation, when experienced over an extended period, can have serious consequences for both mental and physical well-being. College students frequently face sleep problems due to high stress levels, with 60% reporting trouble sleeping.[4]

Factors contributing to sleep deprivation among students include academic pressures, extracurricular activities, part-time jobs, and social commitments. The pressures of academic life frequently push students to prioritize studying or finishing assignments oversleeping, resulting in a continuous pattern of chronic sleep deprivation.[5]

Irregular sleep schedules, caffeine consumption, and stress further exacerbate the problem, leading to decreased cognitive performance, impaired memory, and increased risk of mental health issues.[6]

Attention Level

Attention refers to focusing on a task without being distracted by other environmental factors. For college students, attention is critical for engaging with academic tasks, lectures, and study materials, significantly impacting learning quality and academic performance. Factors influencing attention levels include personal interests, motivation, environmental distractions, and mental well-being. Research indicates that sustaining strong attention is crucial for effective learning and retaining information. However, the increasing prevalence of digital devices and online distractions challenges many college student's ability to maintain optimal attention levels.[7]

One common attention deficit is ADHD, a neurodevelopmental disorder characterized by inattention, impulsivity, and hyperactivity. Individuals with ADHD frequently encounter challenges in maintaining attention, which significantly affects their academic, occupational, and social functioning.[8]

Methodology

Study Design

This study was a cross-sectional investigation carried out among undergraduate college students. The study was conducted from May to July 2024. Informed consent was obtained online, with a consent form prepared and completed by participants to ensure their confidentiality and understanding of the research's purpose. Data collection was conducted using self-reported questionnaires based on a 5-point Likert scale to evaluate various aspects of binge eating, sleep deprivation, and attention levels. These questionnaires were distributed electronically via Google Forms, providing comprehensive coverage and convenience for participants.[9]

Participants

222 individuals took part in this study. They were informed about their right to withdraw at any point and were assured of the confidentiality of their responses. The study's objectives were thoroughly explained to the participants, and they were given the opportunity to ask any questions. Participation was entirely voluntary, commencing only after obtaining informed consent.

Sampling

The study's target population consisted of undergraduate college students. This group was selected due to the high occurrence of binge eating behaviors, sleep deprivation, and varying attention levels typically seen in this age group. A snowball sampling method was used to ensure representation across different college departments. This approach was chosen to obtain a diverse and representative sample of the student population.[10]

Eligibility Criteria

Participants were required to be between 17 and 22 years old, aligning with the typical age range of 1st and 2nd-year college students. Additionally, fluency in the language used for data collection and assessment was necessary to ensure they could fully comprehend the study instructions and questionnaires. Lastly, participants needed to provide consent by signing the consent form before taking part in the study. The exclusion criteria for this study will include students who fall outside the specified age range, those with severe psychiatric conditions that could potentially interfere with the assessment, and students who are currently taking specific medications aimed at treating binge eating, sleep deprivation, or attention-related issues.

Research Procedure

By signing this consent form, you acknowledge that you have been fully informed about the study's purpose, procedures, and potential risks. Once consent was obtained, the questionnaires on binge eating, sleep deprivation, and attention levels were prepared and distributed to the participants. After providing consent, participants completed the questionnaires, which used a 5-point Likert scale. Responses were collected in an Excel spreadsheet, and data analysis was performed afterward.

Data Analysis

Data analysis was conducted using IBM SPSS Statistics version 29.0.2.0 (20). SPSS, a statistical software developed by IBM, an American technology company headquartered in Chicago, USA, was utilized for this purpose. An independent t-test was performed using SPSS to compare all sets of questions across different age and gender groups. The significance levels were set at $p^a < 0.05$ and $p^b < 0.001$.

Result

Descriptive Statistics

Demographic Characteristics

Fig 1 showed the demographic breakdown of the study participants. Out of the 222 individuals included in the study, there was a higher proportion of males (56.75%) compared to females (43.24%). Regarding age distribution, 45.49% of the participants were between 17 and 19 years old, while 54.50% fell within the 20 to 22 age range.
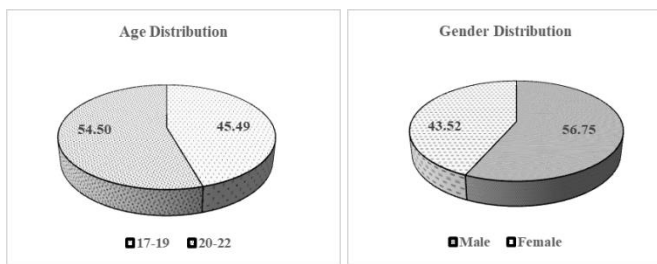
Figure 1: Distribution of Demographic Information of Age & Gender

Binge Eating Survey Responses Analysis Table 1 showed the analysis of various aspects of binge eating behavior such as frequency, trigger, and temporary relief on age and gender. Individuals aged 17-19 exhibit higher binge eating frequencies, more than once a week, with quicker consumption of large food quantities, but shorter episodes. In contrast, those aged 20-22 experience moderate binge eating frequencies with longer episode durations. Gender differences indicate females are more prone to frequent binge eating and rapid consumption, though episode durations over an hour are similar between genders. The younger participants (aged 17-19)

reported higher levels of binge eating to distract from negative thoughts, with significant differences observed when compared to their older counterparts (aged 20-22). Boredom and Emotional distress, such as feelings of sadness and anxiety, were another notable trigger, with younger individuals more likely to engage in binge eating due to boredom. Stressful situations were found to be a stronger trigger for binge eating in younger participants, highlighting their vulnerability to stress-related eating behaviors. Males reported higher instances of binge eating due to stress than females. Emotional distress and loneliness were known to cause binge eating in both sexes, but stress-induced binge eating was more prevalent in men. Other triggers, such as social events and gatherings, did not show significant differences between age groups or genders. Age significantly affects the perception of binge eating as temporary relief, with older individuals showing higher agreement, while gender does not influence this perception significantly.

Table 1: Assessment of Binge Eating Scale Responses by Gender & Age (N=222)

Questions	n	Category	Sub-Category	Frequency & (%)					Mean ± SD	Sig.
				SD	D	N	A	SA		
Q1.	215	Age	17-19 (98)	6 (6.1)	12 (12.2)	13 (13.2)	32 (32.6)	35 (35.7)	3.8 ±1.22	0.02ᵃ
			20-22 (117)	16(13.6)	14 (11.9)	16 (13.6)	32 (27.3)	39 (33.3)	3.5 ± 1.41	
		Gender	Male (123)	15 (12.2)	14 (11.3)	20 (13.2)	36 (29.2)	38 (30.8)	3.5 ± 1.35	0.30
			Female (92)	7 (7.6)	12 (13.4)	9 (9.7)	28 (30.4)	36 (39.1)	3.8 ± 1.29	
Q2.	190	Age	17-19 (84)	13 (15.4)	9 (10.7)	11 (13.1)	26 (30.9)	25 (29.7)	3.5 ± 1.41	0.003ᵃ
			20-22 (106)	8 (7.5)	9 (8.4)	11 (10.3)	48 (45.2)	30 (28.3)	3.8 ± 1.17	
		Gender	Male (84)	8 (9.5)	9 (10.7)	11 (13.1)	48 (57.1)	30 (35.7)	3.7 ± 1.20	0.62
			Female (106)	8 (7.5)	9 (8.4)	11 (10.3)	48 (45.2)	30 (28.3)	3.6 ± 1.40	
Q3.	187	Age	17-19 (85)	7 (8.2)	17 (20)	13 (15.2)	18 (21.1)	30 (35.2)	3.5 ± 1.36	0.03ᵃ
			20-22 (102)	24 (23.5)	10 (9.8)	6 (5.8)	30 (29.4)	32 (31.3)	3.3 ± 1.57	
		Gender	Male (107)	20 (18.6)	15 (14.2)	8 (7.4)	31 (28.9)	33 (30.8)	3.4 ± 1.50	0.56
			Female (80)	11 (13.7)	12 (15)	11 (13.7)	17 (21.5)	29 (36.2)	3.5 ± 1.45	
Q4.	205	Age	17-19 (95)	6 (6.3)	10 (10.5)	15 (15.7)	43 (45.2)	21 (22.1)	3.6 ± 1.09	0.03ᵃ

Question	n		Subgroup (n)	1	2	3	4	5	Mean ± SD	p
			20-22 (110)	16 (14.5)	20 (18.1)	19 (17.2)	30 (27.2)	25 (22.7)	3.2 ± 1.27	
		Gender	Male (116)	8 (6.9)	16 (13.7)	18 (15.5)	39 (33.6)	35 (30.1)	3.7 ± 1.23	0.59
			Female (89)	4 (4.4)	19 (21.3)	11 (12.3)	39 (43.8)	16 (17.9)	3.5 ± 1.14	
Q5.	205	Age	17-19 (92)	12 (13)	13 (14.1)	26 (28.2)	20 (21.7)	21 (22.8)	3.3 ± 1.31	0.03[a]
			20-22 (113)	17 (15)	21 (18.5)	12 (10.6)	29 (25.6)	34 (30)	3.4 ± 1.45	
		Gender	Male (120)	18 (15)	22 (18.3)	19 (15.8)	28 (23.3)	33 (27.5)	3.3 ± 1.43	0.28
			Female (85)	11 (12.9)	12 (14.1)	19 (22.3)	21 (24.7)	22 (25.8)	3.4 ± 1.35	
Q6.	207	Age	17-19 (95)	6 (6.3)	9 (9.4)	15 (15.7)	31 (32.6)	34 (35.7)	3.8 ± 1.42	0.05[a]
			20-22 (112)	21 (18.7)	19 (16.9)	8 (7.4)	28 (25)	36 (32.1)	3.3 ± 1.53	
		Gender	Male (120)	25 (20.8)	18 (15)	19 (15.8)	25 (20.8)	33 (27.5)	3.2 ± 1.50	0.62
			Female (87)	15 (17.2)	13 (14.9)	12 (13.7)	23 (26.4)	24 (27.5)	3.3 ± 1.45	
Q7	211	Age	17-19 (94)	12 (12.7)	11 (11.7)	11 (11.7)	31 (32.9)	29 (30.8)	3.6 ± 1.37	0.04[a]
			20-22 (117)	19 (16.2)	18 (15.3)	6 (5.1)	29 (24.7)	45 (38.4)	3.5 ± 1.52	
		Gender	Male (122)	20 (16.3)	16 (13.1)	6 (4.9)	38 (31.1)	42 (34.4)	3.5 ± 1.48	0.59
			Female (89)	11 (12.3)	13 (14.6)	11 (12.3)	22 (24.7)	32 (35.9)	3.6 ± 1.42	
Q8.	211	Age	17-19 (93)	5 (5.3)	11 (11.8)	12 (12.9)	29 (31.1)	36 (38.7)	3.8 ± 1.28	0.03[a]
			20-22 (118)	16 (13.5)	9 (7.6)	20 (16.9)	31 (26.2)	42 (35.5)	3.6 ± 1.15	
		Gender	Male (122)	6 (4.9)	9 (7.3)	23 (18.5)	37 (30.3)	47 (38.5)	3.9 ± 1.14	0.02[a]
			Female (89)	11 (12.3)	10 (11.2)	13 (14.6)	31 (34.8)	24 (26.9)	3.6 ±1.33	
Q9.	209	Age	17-19 (95)	9 (9.4)	8 (8.4)	18 (18.9)	28 (29.4)	32 (33.6)	3.7 ± 1.28	0.57
			20-22 (114)	11 (69.6)	11 (9.6)	18 (15.7)	46 (40.3)	28 (24.5)	3.6 ± 1.23	
		Gender	Male (121)	10 (8.2)	13 (10.7)	21 (17.3)	42 (34.7)	35 (28.9)	3.6 ± 1.23	0.84
			Female (88)	10 (11.3)	6 (6.8)	15 (17.5)	32 (36.6)	25 (28.4)	3.6 ± 1.27	
Q10.	206	Age	17-19 (94)	12 (12.7)	5 (5.3)	14 (14.8)	36 (38.3)	27 (27.7)	3.6 ± 1.30	0.14
			20-22 (112)	17 (15.1)	14 (12.5)	8 (7.4)	26 (23.2)	47 (41.9)	3.6 ± 1.50	
		Gender	Male (116)	17 (14.6)	13 (11.2)	13 (11.2)	30 (25.8)	43 (37)	3.6 ± 1.45	0.13
			Female (90)	12 (13.3)	6 (6.6)	9 (10)	32 (35.5)	31 (34.4)	3.7 ± 1.35	

5-point Likert-type scale of agreement, (1: Strongly Disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly Agree). Values were expressed in frequency Mean & SD. n is the number of respondents; Data were analyzed using t- test where $p^a<0.05$ and $p^b<0.001$ was considered significant.

Questions

Q1. I engage in binge-eating episodes more than once a week.

Q2. My binge-eating episodes last for more than an hour.

Q3. Do you often eat large amounts of food in a short period of time

Q4. I binge eat to distract myself from negative thoughts.

Q5. I binge eat because it makes me feel better temporarily.

Q6. I binge eat due to boredom

Q7. Emotional distress (sadness, anxiety) leads to binge eating episodes.

Q8. Stressful situations trigger my binge eating.

Q9. I binge eat when I feel lonely.

Q10. Social events and gatherings trigger my binge eating.

Sleep Deprivation Survey Responses Analysis

Fig 2 shows various sleep deprivation aspects such as sleep issues, impact, and its Reasons among participants. The data analysis on sleep issues related to sleep deprivation reveals significant differences across age groups but not between genders. In these older participants (20-22 years) report more trouble with falling asleep and overall sleep difficulties compared to younger ones (17-19 years). Specifically, older adults noted greater difficulty both in general sleep quality and in falling asleep within a reasonable time after getting into bed. However, there was no significant difference observed in the frequency of waking up during the night between the younger and older age groups. Impact of sleep deprivation in younger students (ages 17-19) report slightly less difficulty in concentration and attention compared to their older peers (ages 20-22), with the differences being statistically significant. Older students (ages 20-22) experience more sleep deprivation and trouble falling asleep than younger students (ages 17-19), with electronic device use exacerbating issues.
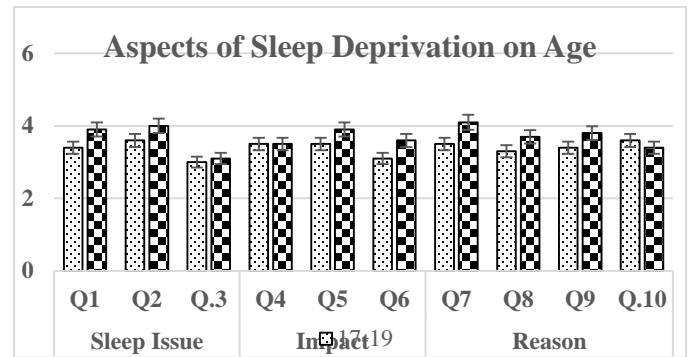

Figure 2: Aspects of Sleep Deprivation on Age (N=222)

Attention Level Survey Responses Analysis Table 2 showed various aspects of attention level such (focus & concentration) and the reason for attention difficulties. Males generally report more difficulty staying focused during class compared to females. Older students (20-22 years) are significantly more distracted by smartphones and struggle more with memorizing simple topics than younger students (17-19 years). Additionally, older students are more prone to fidgeting or tapping their feet during lectures. High stress or anxiety impacts attention more in older students, while gender differences are not significant. Sedentary lifestyles also affect attention more in older students. Emotional fluctuations interfere with concentration, with males reporting more issues than females. Poor diet or irregular eating habits show no significant differences across age or gender

Table 2: Assessment of Attention Level Scale Responses by Gender & Age (N=222)

Questions	n	Category	Sub-Category	Frequency					Mean ± SD	Sig.
				SD	D	N	A	SA		
Q1.	210	Age	17-19 (97)	17 (17.5)	12 (12.3)	18 (18.5)	21 (21.6)	29 (29.9)	3.3 ± 1.46	0.57
			20-22 (113)	15 (13.2)	20 (17.7)	14 (12.3)	20 (17.7)	44 (38.9)	3.5 ± 1.48	
		Gender	Male (117)	14 (11.9)	17 (14.5)	17 (14.5)	19 (16.2)	50 (42.7)	3.6 ± 1.45	0.02ᵃ
			Female (93)	18 (19.3)	15 (16.1)	15 (16.1)	22 (23.6)	23 (24.7)	3.1 ± 1.46	
Q2.	219	Age	17-19 (99)	13 (13.1)	9 (9.1)	33 (33.3)	27 (27.2)	17 (17.7)	3.2 ± 1.23	0.24

Q	n	Factor	Group	1	2	3	4	5	Mean ± SD	p
			20-22 (120)	19 (15.8)	18 (15)	16 (13.3)	40 (33.3)	27 (22.5)	3.3 ± 1.39	
		Gender	Male (125)	19 (15.2)	17 (13.6)	31 (24.8)	35 (28)	23 (18.4)	3.2 ± 1.31	0.27
			Female (94)	13 (13.8)	10 (10.6)	18 (19.1)	32 (34.04)	21 (22.3)	3.4 ± 1.32	
Q3.	192	Age	17-19 (82)	8 (9.7)	12 (14.6)	4 (4.8)	29 (35.3)	29 (35.3)	3.7 ± 1.34	0.05[a]
			20-22 (110)	5 (4.5)	12 (10.9)	5 (4.5)	34 (30.9)	54 (50)	4.1 ± 1.17	
		Gender	Male (111)	5 (4.5)	16 (14.4)	5 (4.5)	36 (32.4)	49 (44.1)	4.0 ± 1.21	0.60
			Female (81)	8 (9.8)	8 (9.8)	4 (4.9)	27 (33.3)	34 (41.9)	3.9 ± 1.32	
Q4.	208	Age	17-19 (91)	16 (17.5)	7 (7.6)	14 (15.3)	27 (29.6)	27 (29.6)	3.5 ± 1.44	0.001[b]
			20-22 (117)	8 (6.8)	9 (7.6)	12 (10.2)	48 (41)	40 (34.1)	3.9 ± 1.16	
		Gender	Male (120)	13 (10.8)	12 (10)	15 (12.5)	35 (29.1)	45 (37.5)	3.7 ± 1.34	0.72
			Female (88)	11 (12.5)	4 (4.5)	11 (12.5)	40 (45.5)	(22 (25)	3.6 ± 1.25	
Q5.	207	Age	17-19 (92)	10 (10.8)	12 (13.3)	16 (17.3)	30 (32.6)	24 (26)	3.5 ± 1.30	0.48
			20-22 (115)	12 (10.4)	11 (9.5)	12 (10.4)	44 (38.2)	36 (31.3)	3.7 ± 1.29	
		Gender	Male (119)	11 (9.2)	15 (12.6)	18 (15.3)	43 (36.1)	32 (26.8)	3.6 ± 1.26	0.74
			Female (88)	11 (12.5)	8 (9.1)	10 (11.3)	31 (35.2)	28 (31.8)	3.6 ± 1.34	
Q6.	214	Age	17-19 (95)	16 (16.8)	12 (12.6)	15 (15.7)	20 (21)	25 (26.3)	3.0 ± 1.32	0.008[a]
			20-22 (119)	19 (15.9)	12 (10)	9 (7.5)	36 (30.2)	43 (36.1)	3.6 ± 1.50	
		Gender	Male (124)	18 (14.5)	27 (21.7)	16 (12.9)	28 (22.5)	35 (28.2)	3.3 ± 1.44	0.68
			Female (90)	14 (15.5)	22 (24.4)	8 (8.9)	24 (26.6)	22 (24.4)	3.2 ± 1.44	
Q7.	210	Age	17-19 (96)	13 (13.5)	14 (14.5)	12 (12.5)	30 (31.2)	27 (28.1)	3.4 ± 1.14	0.002[a]
			20-22 (114)	15 (13.1)	12 (10.5)	4 (3.5)	36 (31.5)	47 (41.2)	3.8 ± 1.42	
		Gender	Male (117)	11 (9.4)	10 (8.5)	8 (6.8)	36 (30.7)	52 (44.4)	3.9 ± 1.30	0.48
			Female (93)	11 (11.8)	5 (5.3)	8 (8.6)	37 (39.7)	32 (34.4)	3.8 ± 1.30	
Q8.	222	Age	17-19 (101)	11 (10.8)	3 (2.9)	27 (26.7)	29 (28.7)	31 (30.6)	3.6 ± 1.25	0.04[a]
			20-22 (121)	6 (4.9)	9 (7.4)	20 (16.5)	49 (40.5)	37 (30.5)	3.8 ± 1.10	
		Gender	Male (126)	5 (3.9)	9 (7.1)	30 (23.8)	42 (33.3)	40 (31.7)	3.8 ± 1.08	0.37
			Female (96)	12 (12.5)	3 (3.1)	17 (17.7)	36 (37.5)	28 (29.1)	3.7 ± 1.27	
Q9.	221	Age	17-19 (101)	17 (16.8)	20 (19.8)	25 (24.7)	17 (16.8)	22 (21.7)	3.1 ± 1.38	0.04[a]
			20-22 (120)	26 (21.6)	15 (12.5)	15 (12.5)	31 (25.8)	33 (27.5)	3.2 ± 1.51	
		Gender	Male (125)	22 (17.6)	15 (12)	22 (17.6)	32 (25.6)	35 (28)	3.3 ± 1.44	0.04[a]
			Female (95)	21 (22.1)	20 (21)	18 (18.9)	16 (16.8)	20 (21)	2.9 ± 1.45	

5-point Likert-type scale of agreement, (1: Strongly Disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly Agree). Values were expressed in frequency Mean & SD. n is the number of respondents; Data were analyzed using t- test where $p^a < 0.05$ and $p^b < 0.001$ was considered significant.

Questions

Q1. During class, I find it challenging to stay focused.

Q2. I often find it challenging to sit still during class, frequently shifting positions.

Q3. To what extent does high stress or anxiety distract your attention and make it difficult to focus on tasks.

Q4. I get distracted due to smartphone or other electronic devices during study sessions.

Q5. To what extent do poor diet or irregular eating habits affect your brain function and attention span.

Q6. I tend to tap my feet or fidget with objects during lectures or discussions.

Q7. There is difficulty in memorizing simple topics in class.

Q8. Sedentary lifestyles contribute to reduced alertness and attention span.

Q9. Emotional fluctuations, such as mood swings or emotional distress, interfere with my concentration.

Discussion

Binge eating among students is increasingly problematic due to academic stress and social pressures. Binge Eating Disorder (BED), as defined by the DSM-5 and ICD, involves episodes of overeating at least once a week for three months, causing significant distress. This condition is more prevalent in females during adolescence and early adulthood, affecting 10-15% of college students.[1]

Sleep deprivation is widespread among students, driven by academic demands and late-night use of electronic devices. This leads to cognitive and memory issues, as well as mental health problems. Around 60% of students report sleep-related issues, with 70% getting less than the recommended 8 hours of sleep on weekdays.[2]

Attention, crucial for academic success, is increasingly compromised by digital distractions. ADHD, which is more common in males, affects about 2.5% of adults and is characterized by inattention, impulsivity, and hyperactivity, all of which hinder concentration.[3]

The study aimed to explore binge eating, sleep deprivation, and attention levels among college students. In binge eating behavior frequency, triggers, and the temporary relief was observed. Sleep deprivation was analyzed by observing sleep issues, their impact, and underlying reasons. Attention levels were assessed by focusing on the ability to concentrate and the factors contributing to any difficulties.

A cross-sectional study was conducted from May to July 2024, focusing on undergraduate college students. Data was collected via self-reported questionnaires distributed electronically, using a snowball sampling method. Eligibility criteria included students aged 17-22, fluent in the study language, and not on medications or experiencing severe psychiatric conditions. The 5-point Likert scale responses were frequently analyzed.

The Binge Eating Questionnaires examine the frequency of binge eating episodes, the factors that trigger them, and the sense of relief that follows. The Sleep Deprivation Questionnaires focus on the quality and quantity of sleep, along with any sleep-related issues. The Attention Level Questionnaires examine how well individuals stay focused during tasks, gathering detailed responses about their attention patterns. All questionnaires employed a 5-point Likert scale ranging from "strongly disagree" to "strongly agree." Data analysis was conducted using IBM SPSS Statistics version 29.0.2.0. To compare responses across different age and gender groups, an independent t-test was utilized. The significance levels were established at $p^a<0.05$ and $p^b<0.001$.

In demographic characteristics, 6.75% male and 43.24% female. Regarding age, 45.49% were between 17 and 19 years old, while 54.50% fell within the 20 to 22-year age range.

The analysis of binge eating behavior by age and gender shows notable differences Individuals aged 17-19 are more likely to binge eat frequently, consuming large

quantities of food rapidly over brief intervals. In contrast, those aged 20-22 binge eat less frequently but have longer episodes when they do. Younger individuals often binge eat to cope with negative thoughts, boredom, and emotional distress, with stress being a strong trigger. In terms of gender, Females tend to binge more often, while males are more likely to stress-induced binge eating. These findings suggest that age and gender-specific approaches focusing on stress management and emotional regulation are needed.[14]

The study showed that age has a big impact on sleep deprivation. Older participants (ages 20-22) have more trouble falling asleep and maintaining good sleep quality compared to younger ones (ages 17-19). This suggests that as students get older, their sleep patterns and problems change, possibly due to increased academic and social pressures. These pressures, along with more frequent use of electronic devices at night, may worsen sleep issues for older students. On the other hand, younger students seem to have slightly better concentration and attention, though this difference is small. Gender differences are present but less significant than age differences. Males find it harder to stay awake and focused during lectures, which could be due to different sleep habits and lifestyles between genders, but both males and females experience similar levels of sleep problems.[15]

The findings show that older students (ages 20-22) are more easily distracted by smartphones and have more difficulty with memorization and focus than younger students (ages 17-19). Older students also tend to fidget or tap their feet more during lectures, highlighting their struggle to maintain attention. Additionally, stress or anxiety affects attention more severely in the older age group, showing the strong influence of emotional and psychological factors. A sedentary lifestyle also has a more negative impact on attention in older students, while emotional ups and downs cause more concentration problems in males than females. However, dietary habits don't seem to significantly affect attention across different ages or genders. This analysis highlights the complex factors that influence attention levels in college students.[16]

Conclusion

Younger students (ages 17-19) binge eat more frequently due to emotional distress. Boredom, and emotional distress, with stress being a strong trigger. Older students experience more sleep difficulties, likely due to higher academic and social pressures, with males struggling more to stay awake and attentive in class. Digital distractions and stress greatly impact attention levels, especially in older students.

Appendix

Acknowledgment

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