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Emotional distress, Insomnia, and Night Eating Disorder among University Students in Oman, a Descriptive Correlation Study.

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Abstract

Background: Life at universities may cause more sleeping, emotional, and eating problems. This study aimed to explore the relationship between insomnia, psychological distress, and night eating syndrome among students at Omani universities.

Method: A descriptive correlational design was used to collect data from 339 eligible participants using The Bergen insomnia scale, Night eating syndrome questionnaire, and Kessler Psychological Distress Scale (K10). The questionnaires were distributed over a month in April 2021 by the research team at the Sultan Qaboos university colleges.

Result: The majority of the students were male, 74.6% (n=253), single 75.2% (n=255), lived out-campus 82.2% (n=272), and in their third academic year 35.7% (n=121). The majority of the participants' weight was less than 65kg 36.57(n=124). The mean score of night eating behaviors, emotional distress, and insomnia was 43.11, 30.17, and 33.34, respectively. These scores indicate a moderate to a high level of night-eating experiences, emotional distress, and insomnia.

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Discussion: There was a significant positive correlation between night eating and both emotional distress and insomnia among undergraduate students in Oman. Transition to college can cause significant changes in students' psychological well-being, dietary options, and sleeping patterns.
Conclusion: We found that insomnia and emotional distress were significantly higher in students who are experiencing a high level of night-eating behaviors. Healthcare professionals and university faculty members should work closely together to find specific ways to help students successfully proceed with their academic lives without being adversely health affected.
Keywords: night eating, emotional distress, insomnia, college students

Introduction

University students are exposed to independent lives and are likely to be insecure about their independence from parental and family restrictions to fulfill significant emotional, social, and moral obligations . This may lead them to face new challenges, physical, social, academic, and emotional, in which changes in their emotional detachment, well-being, and social role can cause further distress (Yikealo, Yemane, & Karvinen, 2018). The presence of psychological distress represents the invisible challenges facing a student, which prevent the student from succeeding. The more successful students strike a balance, the higher the success they achieve when trying to remain at a college (Suwinyattichaiporn & Johnson, 2020; Yikealo et al., 2018).

In the context of depression and anxiety, psychological distress is of growing significance. The emergence of such suffering often occurs in young adulthood, when many people pursue higher education and start their careers, The transition to the college environment creates new burdens and distress for the students' lives (Yikealo et al., 2018), sometimes because of peers or stylized body figures on social media platforms, leading them to experience a broad range of psychological health concerns (Yikealo et al., 2018), including eating disorders or/ and sleeping disorders (Hinojo-Lucena, Aznar-Díaz, Cáceres-Reche, Trujillo-Torres, & Romero-Rodríguez, 2019; Ntwengabarumije, Gingras, & Bélanger, 2017). The consequence is that many students adopt abnormal coping strategies (Zboun & Abu, 2017), or leave university without having their studies completed (Harikrishnan & Ali, 2018).

A sleep disorder by characterized as an irregular sleep pattern, either in quality or quantity, or sometimes both, resulting in a disturbance of daily functions and well-being. Sometimes, this condition is an early warning sign for psychological disorders that can harm a healthy life, such as insomnia, severe sleepiness, sleep-waking problems, and parasomnia (Mokarrar, Afsharmanesh, Afshari, & Mohammadi, 2017). It has been reported that about 60% of university students suffer from poor sleep quality, and about 27% of all university students are at risk of at least one sleep disorder during their academic life, it has been reported that 7.7% of students have insomnia and some form of morning tiredness (Angelika A Schlarb, Kulessa, & Gulewitsch, 2012).

Insomnia disorder has severe implications for cognitive ability and academic success. It is associated with a high risk of students reporting missed exams or assignments, compromised learning, experiencing disrupted progress in their studies, and impaired mood (Vedaa, Erevik, Hysing, Hayley, & Sivertsen, 2019). Students with insomnia usually suffer from chronic fatigue,

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depression, stress, less motivation, anxiety, and a lower quality of life (Angelika Anita Schlarb, Friedrich, & Claßen, 2017), as well as diet and meal pattern disturbances (Peuhkuri, Sihvola, & Korpela, 2012).

Night eating syndrome is an example of delayed circadian dietary intake, late-night hyperphagia, and nocturnal awakening with the ingestion of food that students may experience during their academic life(Abraham, Noriega, & Shin, 2018). It is defined by the consumption of at least 25% of one's daily food intake after the evening meal or two episodes of nocturnal eating per week (Kandeger, Egilmez, Sayin, & Selvi, 2018). The eligibility criteria for Night eating syndrome diagnosis include at least three-morning anorexia, a persistent desire to eat between dinner and sleeping time, insomnia, being unable to sleep unless the person eats, or worsening mood in the evening (McCuen-Wurst, Ruggieri, & Allison, 2018).

Indeed, it has been estimated that the Prevalence of night eating syndrome in the general population is about 1.5 % (Ahmed, Al Harbi, Al Saeed, & Ali, 2019). University students are on the frontline of having evening hyperphagia than others (Ahmed et al., 2019). It can be attributed to their body image issues, compulsive behavior, peer impact, role modeling, personality characteristics, and others (Alshawashereh, Fisal, Gazal, & Mouawiah, 2018).

As long as the students begin their academic life, their dietary options can significantly change in terms of quality and quantity forcing the students to face a new environment for meal preparation, planning, and consumption , resulting in poor morning appetite, fast food consumptions, skipping mean meals, and unhealthy food options.(Kabir, Miah, & Islam, 2018; Sofar & Hafeez, 2019).

Life at universities may cause psychological, academic, and social distress for students, as there are significant changes in this educational environment: students face new teaching methods, new types of student relationships, new academic expectations and faculties, and even new connections between students themselves, possibly leading to various kinds of stress that could affect their eating and sleeping patterns. It has conducted a few examples of analysis to address and examine this effect. However, none examined the relationship between insomnia, psychological distress, and night eating syndrome. This study refers to the lack of established information and will provide us with the requisite knowledge beyond this issue as academic workers. It aims to explore the relationship between insomnia, psychological distress, and night-eating syndrome among students at Omani universities.

Method

Approval to conduct the study was got from the Research Ethics Committee of the College of Nursing at Sultan Qaboos University. The researcher used a descriptive correlational study design to achieve the research purpose among Sultan Qaboos University undergraduate students.

A sample size of 339 students was used in this study. The researcher detected it by using power analysis with the following parameters: The level of confidence is 95%, and the margin of error is 5%. The sample comprises students who meet the eligibility criteria of being enrolled in the undergraduate program, completing their foundation programs, and being willing to take part in

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the study, with a population proportion of 50% and a population size of approximately 12000 students. The researcher excludes those students who are not willing to participate in the study, those who are enrolling in postgraduate studies, and those who have not completed their foundation courses.

The Information Center at Sultan Qaboos University provided the authors with a list of all students' e-mails. Then the participants were chosen randomly by the researcher for their participation. the researcher sent an E-mail to all prospective students asking them to take part in the study (Sultan Qaboos University E-mail addresses begin with the student number (e.g. s1250xx@squ.edu.om). In which they also got written informed consent, in which the study design, purpose, methods, and potential benefits were appropriately explained, assuring their voluntary and confidential participation.

Once the participants finished, they could return the questionnaire via e-mail or put it in a locked box in a specific place in the college of nursing. No students' identification information was collected. The questionnaires were distributed over a month in April 2021 at the Sultan Qaboos university colleges. Each student required approximately 20–25 minutes to complete the questionnaires.

Study Instruments

After obtaining approval from the tool's authors, To investigate the extents of the research phenomena, a self-reported instrument consisting of (1) a demographical data questionnaire, (2) the Bergen insomnia scale, (3) the Night Eating Syndrome questionnaire, and (4) the Kessler Psychological Distress Scale (K10) was used as a tool for measurement. The tool was used after obtaining approval from the original authors and was used in its original language since the study language at Sultan Qaboos University is English.

Night eating questionnaire

Allison and her team in 2008 developed a night eating questionnaire. The original survey consists of 14 items and has two stop criteria; that is, if item # 9 or # 12 is answered with a zero, the following questions are also scored with a zero. The English version has an acceptable internal consistency of $\alpha = .70$ (Allison et al., 2008). An example of a question is, "Do you urgently need to have patience when you wake up at night,"

Kessler Psychological Distress Scale (K10)

The Kessler Psychological Distress Scale (K10) is a simple measure of psychological distress. The K10 scale involves ten questions about emotional states, each with a five-level response scale. Each item is scored from one ('none of the time') to five ('all the time.') Scores for the ten items are then summed up, yielding a minimum score of 10 and a maximum score of 50. Low scores show low levels of psychological distress, and high scores indicate high levels of psychological distress. The scale demonstrates the strength of test-retest correlation coefficients, temporal stability, and internal consistency (Fassaert et al., 2009). The tool is available for free online.

The Bergen Insomnia Scale

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The Bergen Insomnia Scale is a simple measure of psychological distress (Zboun & Abu, 2017). The scale has six items, of which the first three pertain to sleep onset, maintenance, and early morning awakening insomnia, respectively. The last three things apply to feeling insufficiently rested, experiencing daytime weakness, and being unhappy with current sleep. Each item is scored from zero to seven; 0 means no days during a week, seven means every day. Scores of the six items are then summed, yielding a minimum score of 0 and a maximum score of 42. Low scores indicate low levels of insomnia. The test-retest reliability of the tool is .77 (Zboun & Abu, 2017).

Data analysis

The data were analyzed with the Statistical Package for the Social Sciences (SPSS) software at a significance level of 0.05.and standard deviations represented the students' age, the insomnia scale, the night eating questionnaire, and the psychological distress score. In contrast, percentages and frequencies were used to describe students' gender, marital status, living arrangement, daily sleeping hours, level of academic years, and others. Furthermore, multiple regression was used to see if psychological distress and Insomnia predict night-eating behaviors. All the statistical tests were used based on their assumptions, and they were checked for normality.

Four hundred emails were sent anonymously to the students. Only three hundred and eighty-five participants answered the questionnaire, giving a response rate of 85.56%. For all missing data, in-completed questionnaires, delayed submissions, and incorrect and non-eligible participation, the researcher sought to do data cleaning. After data cleaning, the researchers arrived at 339 samples. The researcher removed all students who are enrolled in postgraduate and those who did not complete the foundation program (English, computing skills, and mathematics), which are almost finished in the first academic year. The age of the respondents ranged from 21 to 23 years. The majority of the students (74.6% (n = 253) were male, 75.2% (n = 255) were single, 82.2% (n = 272) lived off-campus, and 35.7% (n = 121) were in their third academic year.The majority of the participants' weight was less than 65 kg, 36.57 (n = 124) in the table (1).

Table 1: Participants' Demographics

Variable	Frequency	Percentage	Variable	Frequency	Percentage
Age			**Living Arrangement**		
18-20	89	26.3	out-campus	272	80.2
21-23	197	58.1	in-campus	67	19.8
24-27	53	15.6			
Daily sleeping hours			**Gender**		
Less than 5	141	41.6	Male	253	74.6
5-7	89	26.25	Female	86	25.4
8-10	73	21.54			
Over 10	36	10.61	**Marital Status**		

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Bodyweight (Kg)			Single	255	75.2
Less than 65	124	36.57	Married	84	24.8
65-74	89	26.25			
75-84	51	15.05	**Chronic disease**		
85-94	53	15.63	Yes	289	85.25
Over 94	22	6.5	No	50	14.75

Overall, the results also highlight significant differences in night eating behaviors among the study participant's gender (*P*=.002), living arrangement (*P*=.001), and body weight (*P*=.001). It is also showed a significant difference in emotional distress among the participant's different bodyweight, see table (2).

Table 2: Distribution of night eating experiences, insomnia, and emotional distress based on students' demographical characteristics

Variable	**Night eating behaviors Significant at p < 0.050**	**Insomnia Significant at p < 0.050**	**Emotional Distress Significant at p < 0.050**
Age			
18-20	Not significant	Not significant	Not significant
21-23	F=0.053	F=0.023	F=0.155
24-27	*P*=0.949	*P*=0.997	*P*=0.857
Gender			
Male	Significant	Not significant	Not significant
Female	F=9.816	F=1.224	F=2.539
	P=0.002	*P*=0.269	*P*=0.112
Marital Status			
Single	Not significant	Not significant	Not significant
Married	F=0.007	F=0.001	F=0.372
	P=0.934	*P*=0.977	*P*=0.542
Living Arrangement			
out-campus	Significant	Not significant	Not significant
in-campus	F=10.913	F=2.385	F=0.222
	P=0.001	*P*=0.123	*P*=0.642
Daily sleeping hours			
Less than 5	Significant	Not significant	Not significant
5-7	F=4.844	F=2.284	F=1.802
8-10	*P*=0.001	*P*=0.060	*P*=0.128
Over 10			
Bodyweight			

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Less than 65	Significant	Not significant	Significant
65-74	F=11.713	F=2.385	F=9.674
75-84	*P*=0.001	*P*=0.123	*P*=0.021
85-94			
Over 94			
Chronic disease			
Yes	Not significant	Not significant	Not significant
No	F=0.007	F=0.001	F=.2121
	P=0.934	*P*=0.977	*P*=0.324

The reliability of the three tools was assessed in our sample and showed a high Cronbach's α value, as shown in table (3). A composite score for each tool was calculated by summarizing the students' responses to the questionnaire; the mean score for night eating behaviors, emotional distress, and insomnia was 43.11, 30.17, and 33.34, respectively. These scores show a moderate to a high level of night-eating experiences, emotional distress, and insomnia.

Table 3: Results of the reliability test for the three study tools

Study tool	Cronbach's α value	Number of items	N
Night eating	.935	15	339
Insomnia	.923	6	339
Emotional distress	.919	9	339

The research used multiple linear regression to assess the ability of emotional distress and insomnia to predict night eating behaviors among undergraduate students; table (4) summarizes the descriptive statistics and analysis findings. After adjusting for the effect of confounding variables, a higher degree of night eating was shown to be positively and significantly correlated with more insomnia (P =.000) and emotional distress (P =.000). The multiple regression model with the two predictors produced R2 =.782, F = 596.39, P 0.01, showing that those with higher scores on these variables have a higher score on night eating behaviors and emotional distress explained 78.2% of the variation in night eating experiences.

Table 4: Result of the multiple linear regression analysis.

Coefficients[a]

	Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
Model	B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
(Constant) [b]	4.083	1.005		4.061	0.000	2.105	6.060
Insomnia	0.681	0.063	0.519	10.891	0.000	0.558	0.805

Emotional distress	0.499	0.059	0.401	8.411	0.000	0.383	0.616

a. Dependent Variable: night eating

b. Predictors: (Constant), insomnia, emotional distress

Discussion

The study reported that the mean score of night eating behaviors, emotional distress, and insomnia was 43.11, 30.17, and 33.34, respectively, which indicated a moderate to a high level of the night eating experiences, emotional distress, and insomnia, similarly to other previous studies [25–27]. The study also indicated a significant difference in the night eating behaviors across the participant's gender (P=.002), living arrangements (P= 0.001), and body weight (P= 0.001). Male students (mean score = 40.50) scored a higher level of night-eating behaviors than females did (mean score = 35.81). This was consistent with several previous studies in which males were more vulnerable to night-eating behaviors than females (Ali & Abdullah, 2017), this may be because female student is more concerned about their ideal body image, body weight, and diets (Haidar, De Vries, Karavetian, & El-Rassi, 2018).

Our results also showed significant differences in the night eating behaviors among students' living arrangements *(P*=.001). Students who are living on campus have more late-night eating behaviors than others. This does not match with some other previous studies (Kandeger et al., 2018). The local food system plays an important part in the eating habits of university students. The presence of 24-hour restaurants or late-hour restaurants encourages students to dine peacefully at night to study, talk together, use social media networking applications, or watch sports games within groups while ordering food (Ali & Abdullah, 2017). More rationally, outside of the campus, parents may have a potential impact on their families' diets by encouraging their food consumption favorably through role modeling and the food environment they create at home (Haidar et al., 2018).

Supported by other previous studies (Haidar et al., 2018; Yoshida, Eguchi, Nagaoka, Ito, & Ogino, 2018), our results postulated that the scores of the night eating behaviors and emotional distress are significantly varied across the participant's body weight (*P*=.001 and *P* =.021, respectively). The more the participant's body weight, the higher the night eating behaviors and emotional distress they have. This may be attributed to the diversity and distinctiveness of their socio-demographic, socio-economic, urbanization, and industrialization among the Omani population, which can impact their eating behaviors , for those with an irregular eating frequency, it can lead to discrepancies in leptin and ghrelin secretion, reducing energy metabolism and increasing caloric intake, leading to obesity. (Xie et al., 2020).

The key findings of this study show that night-eating behavior, emotional distress, and insomnia were significantly associated with each other. There was a significant positive correlation between night eating and emotional distress and insomnia among undergraduate students in Oman. The results show that those with higher scores of insomnia and emotional distress had a higher score of night eating behaviors. These scores can be explained due to the reason that the

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transition to college can cause significant changes in students' psychological well-being, dietary options, and sleeping patterns due to the new environment and learning challenges, in which the students are forced to face a new meal preparation environment, planning, and consumption, leading them to skip their major healthy meals during the daytime (Suwinyattichaiporn & Johnson, 2020).

Breakfast is considered the most important meal of the day for a variety of reasons, including the fact that breakfast provides young people with enough opportunities to fulfill their cognitive functions and improve their academic skills. Without breakfast, the body's energy supplies will run out over the 12-hour gap between dinner and breakfast, resulting in a decrease in blood glucose levels. If this decline is serious, it may cause a rapid disruption of brain activity, resulting in more psychological distress and sleeping disturbances(Hamam et al., 2017). Thus, students may become more vulnerable to night eating behaviors as they may experience frequent sleep awakening at night for food intake due to low levels of melatonin (Gan, Chin, & Law, 2019), this will give additional opportunities to increase food intake for conventional meals (late night and early morning). Therefore, other eating events typically appear to be in the form of lower consumption of protein and carbohydrates and higher intake of fat (Sato-Mito et al., 2011), resulting also in more physical and psychological problems (Dashti, Scheer, Jacques, Lamon-Fava, & Ordovás, 2015).

There are some limitations to this study. Self-reported questionnaires are susceptible to biased recollection. The data collection came from a single national university, which could limit the generalization of our results, although participants from all over Oman were represented. Recruitment of a more heterogeneous and larger sample size from various private universities may expand generalizability and further validate our study findings.

Conclusion

The result showed a moderate-to-high level of night-eating experiences, emotional distress, and insomnia among undergraduate students. The researcher found that insomnia and emotional distress were significantly higher in students who were experiencing a high level of night-eating behaviors. The findings of the present study highlight the emerging phenomenon of the night eating experience in terms of emotional distress and insomnia. Thus, the study recommends frequent assessment of this matter for both academic and non-academic sectors on both a national and global basis. It is very important to incorporate health-based curriculum and university student wellness services and to educate students to evaluate their health information and health status properly, in addition to seeking professional medical health consultation if needed. Improvements in the skills of time management will assist them to solve missed meals and avoid eating overnight. Healthcare professionals and staff members should work closely to find certain ways to help students deal successfully with their academic life without enduring the detrimental effects.

Compliance with Ethical Standards

Ethical Compliance: Institutional Review Board approval was got.

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References

Abraham, S., Noriega, B., & Shin, J. (2018). College students eating habits and knowledge of nutritional requirements. *Journal of Nutrition and Human Health, 2* .(1)

Ahmed, S., Al Harbi, F. S., Al Saeed, O., & Ali, S. I. (2019). Prevalence of night eating syndrome amongst medical students in Saudi Arabia. *population, 21*(1), 22-25 .

Ali, N., & Abdullah, M. A. (2017). The food consumption and eating behaviour of Malaysian urbanites: Issues and concerns. *Geografia-Malaysian Journal of Society and Space, 8* .(6)

Allison, K. C., Lundgren, J. D., O'Reardon, J. P., Martino, N. S., Sarwer, D. B., Wadden, T. A., . . . Stunkard, A. J. (2008). The Night Eating Questionnaire (NEQ): psychometric properties of a measure of severity of the Night Eating Syndrome. *Eating behaviors, 9*(1), 62-72 .

Alshawashereh, O., Fisal, A., Gazal, A., & Mouawiah, P. (2018). AThe Relationship between Eating Disorder and General Life Stressors among College Students in Jordan. *J Depress Anxiety, 7*(305), 2167-1044.1000305 .

Dashti, H. S., Scheer, F. A., Jacques, P. F., Lamon-Fava, S., & Ordovás, J. M. (2015). Short sleep duration and dietary intake: epidemiologic evidence, mechanisms, and health implications. *Advances in nutrition, 6*(6), 648-659 .

Fassaert, T., De Wit, M., Tuinebreijer, W., Wouters, H., Verhoeff, A., Beekman, A., & Dekker, J. (2009). Psychometric properties of an interviewer-administered version of the Kessler Psychological Distress scale (K10) among Dutch, Moroccan and Turkish respondents. *International Journal of Methods in Psychiatric Research, 18*(3), 159-168 .

Gan, W. Y., Chin, P. Q., & Law, L. S. (2019). Determination of Risk Factors for Night Eating Syndrome among Public University Students in Malaysia. *Malaysian Journal of Medicine and Health Sciences, 15* .(201)

Haidar ,S. A., De Vries, N., Karavetian, M., & El-Rassi, R. (2018). Stress, anxiety, and weight gain among university and college students: a systematic review. *Journal of the Academy of Nutrition and Dietetics, 118*(2), 261-274 .

Hamam, F. A., Eldalo, A. S., Alnofeie, A. A., Alghamdi, W. Y., Almutairi, S. S., & Badyan, F. S. (2017). The association of eating habits and lifestyle with overweight and obesity among health sciences students in Taif University, KSA. *Journal of Taibah University medical sciences, 12* .260-249 ,(3)

Harikrishnan, U., & Ali, A. (2018). Resilience, Psychological Distress, and Self-Esteem among Undergraduate Students in Kollam District, Kerala. *Hindu, 194*, 66 .

ISSN- 2394-5125 VOL 9, ISSUE 05, 2022

Hinojo-Lucena, F.-J., Aznar-Díaz, I., Cáceres-Reche, M.-P., Trujillo-Torres, J-.M., & Romero-Rodríguez, J.-M. (2019). Problematic Internet Use as a Predictor of Eating Disorders in Students: A Systematic Review and Meta-Analysis Study. *Nutrients, 11*(9), 2151 .

Kabir, A., Miah, S., & Islam, A. (2018). Factors influencing eating behavior and dietary intake among resident students in a public university in Bangladesh: A qualitative study. *PloS one, 13*(6), e0198801 .

Kandeger, A., Egilmez, U., Sayin, A. A., & Selvi, Y. (2018). The relationship between night eating symptoms and disordered eating attitudes via insomnia and chronotype differences. *Psychiatry research, 268*, 354-357 .

McCuen-Wurst, C., Ruggieri, M., & Allison, K. C. (2018). Disordered eating and obesity: associations between binge-eating disorder, night-eating syndrome, and weight-related comorbidities. *Annals of the New York Academy of Sciences, 1411*(1), 96-105 .

Mokarrar, M. H., Afsharmanesh, A., Afshari, M., & Mohammadi, F. (2017). Prevalence of sleep disorder among medical students in an Eastern university in Iran. *Iranian Journal of Health Sciences, 5*(1), 49-54 .

Ntwengabarumije, F., Gingras, N., & Bélanger, R. (2017). Influence of the internet on eating disorders in teenagers. *Soins. Psychiatrie, 38*(311), 21-24 .

Peuhkuri, K., Sihvola, N., & Korpela, R. (2012). Diet promotes sleep duration and quality. *Nutrition research, 32*(5), 309-319 .

Sato-Mito, N., Sasaki, S., Murakami, K., Okubo, H., Takahashi, Y., Shibata, S., . . . group, F. i. D. C. S. I. (2011). The midpoint of sleep is associated with dietary intake and dietary behavior among young Japanese women. *Sleep medicine, 12*(3), 289-294 .

Schlarb, A. A., Friedrich, A., & Claßen, M. (2017). Sleep problems in university students–an intervention. *Neuropsychiatric disease and treatment, 13*, 1989 .

Schlarb, A. A., Kulessa ,D., & Gulewitsch, M. D. (2012). Sleep characteristics, sleep problems, and associations of self-efficacy among German university students. *Nature and science of sleep, 4*, 1 .

Sofar, S. M., & Hafeez, N. A. A. A. E. (2019). Relations between Skipping Breakfast, Academic Performance and Body Mass Index among Undergraduate University Nursing Students. *Journal of Nursing and Health Science, 8*(4), 32-42 .

Suwinyattichaiporn, T., & Johnson, Z. D. (2020). The impact of family and friends social support on Latino/a first-generation college students' perceived stress, depression, and social isolation. *Journal of Hispanic Higher Education*, 1538192720964922 .

Vedaa, Ø., Erevik, E. K., Hysing, M., Hayley, A. C., & Sivertsen, B. (2019). Insomnia, sleep duration and academic performance: a national survey of Norwegian college and university students. *Sleep Medicine: X, 1*, 100005 .

Xie, Q., Hao, M.-l., Meng, L.-b., Zuo, X.-q., Guo, P., Qiu, Y., . . . Lei, M. (2020). Effect of eating habits on obesity in adolescents: a study among Chinese college students. *Journal of International Medical Research, 48*(3), 0300060519889738 .

Yikealo, D., Yemane, B., & Karvinen, I. (2018). The level of academic and environmental stress among college students: a case in the college of education. *Open Journal of Social Sciences, 6*(11), 40 .

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Yoshida, J., Eguchi, E., Nagaoka, K., Ito, T., & Ogino, K. (2018). Association of night eating habits with metabolic syndrome and its components: a longitudinal study. *BMC Public Health, 18*(1), 1-12 .

Zboun, M., & Abu, A. (2017). The Effects of Stress on Eating Patterns and Food Preferences among Undergraduate Students in Jordan. *International Journal of Food and Nutritional Science, 4*(2), 89-92 .