RELATIONSHIP BETWEEN INTERNET ADDICTION, SLEEP DEPRIVATION, AND EMOTION DYSREGULATION AMONG UNIVERSITY STUDENTS

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Capital University of Science & Technology,

Islamabad

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DECLARATION

I (Amna Mahmood), certify that to the best of my knowledge the research work embodied in this thesis, titled *"Relationship between Internet Addiction, Sleep Deprivation, and Emotion Dysregulation among University Students"* was entirely carried out by me (Amna Mahmood, BSP193003) under direct supervision and guidance of (Ms. Uzma Mushtaq. This work has not been submitted in partial/complete fulfillment of the award of any other degree from any other institution.

Amna Mahmood

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July 2023

CERTIFICATE OF APPROVAL

It is certified that the Research Thesis titled "Relationship between Internet Addiction, Sleep Deprivation, and Emotion Dysregulation among university students" was carried out by Amna Mahmood, Reg. No. BSP193003, under the supervision of Ms. Uzma Mushtaq, Capital University of Science & Technology, Islamabad, is fully adequate, in scope and in quality, as a Research Thesis for the degree of BS Psychology.

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Internet addiction, Sleep deprivation, and Emotion dysregulation

Relationship Between Internet Addiction, Sleep Deprivation, and Emotion Dysregulation among University Students

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ABSTRACT

This study aims to highlight the relationship between Internet Addiction, Sleep Deprivation, and Emotion Dysregulation among University Students in the twin cities. The purpose of the study is to shed light on the dangers of internet addiction among young adults. The objective of this quantitative study is to examine the relationship between Internet Addiction, Sleep Deprivation, and Emotion Dysregulation among University Students. The population considered for this study includes university students in Islamabad and Rawalpindi. A sample of 300 participants, including both males and females aged 18 to 25, was selected. The study utilized a correlational research design to investigate the relationships between the variables of interest. To measure the variables, the scales used in the study were the Internet Addiction Test, the Difficulty in Emotion Dysregulation Scale, and the Pittsburgh Sleep Quality Index. Data analysis was conducted using IBM SPSS-26, employing quantitative data analysis techniques. The results of the study showed a significant positive relationship between variables.

The findings of this study can provide valuable insights for clinical settings and raise awareness about the dangers associated with internet addiction among young adults. Healthcare professionals can benefit from understanding the relationship between Internet Addiction, Sleep Deprivation, and Emotion Dysregulation to develop effective interventions and treatment strategies. Additionally, this study contributes to the existing knowledge regarding the negative consequences of excessive internet use, particularly among university students.

Keywords: Internet addiction, Sleep deprivation, Emotion dysregulation

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INTRODUCTION

Modern life became so much easier and the nations of the world have to thanks to the enormous contribution of internet technology to communication and information distribution. There is no uncertainty that the internet makes our life so much easier and more sophisticated, now people around the world can able to communicate easily, trade by using the internet, become acquainted, know various places and cultures, share information and study, etc. The use of the internet is becoming an increasingly important and nearly indispensable element of every person's life (Trumello et. al, 2001). It is commonly agreed that the Internet has provided enormous benefits to individuals, organizations, and society, such as increased information accessibility and increased communication and entertainment alternatives.

Internet Addiction

Even though the feasibility of the internet is apparent in several areas of life, particularly in the educational ground and for entertainment purposes, excessive use of the internet may have a harmful influence on everyday life performance (e.g., sleep deprivation, family relationships, emotional stability, decreased concentration and productivity, etc.). This phenomenon (extreme or unnecessary utilization of the internet) is termed problematic internet use or internet addiction etc. The definition of Internet addiction is a behavioral pattern indicated by disproportionate or obsessive online and offline computer use that leads to distress and impairments (DSM-V, American Psychological Association, 2008). According to statistics, In January 2022, Pakistan had 82.90 million internet users, and In January 2021, the internet users were 61.34 million.

Mostly young adults and adolescents are engaged in this technology because it provides them an easy pathway to gather information through different websites, interpersonal communication, find entertainment and develop social relationships (Kumar et. al, 2018).

The research found that young adults who tend to overuse the internet develops internet addiction and which cause psychological distress and unhealthy relationship with their families or parents. The study also explained that the increased risk of depression in young adults is directly associated with internet addiction. Young adults who are suffering from psychological distress spend more time on the Internet as a strategy to cope with psychological suffering (Marzilli et. al, 2020). Internet addiction became an area of interest in the research field.

Sleep Deprivation

Sleep is extremely significant for every age group as it is fundamental for store and recalls information, acquiring new knowledge, and psychological well-being (Gradisar et. al, 2008). Excessive internet use leads to sleep problems such as insomnia; research explained the positive association between internet addiction and insomnia among students (Rehman et. al, 2021). Internet addiction has been related to poor sleep quality (Cheung & Wong, 2011). Sleep deprivation is different from insomnia. Insomnia is basically when an individual is unable to sleep even if he tries but Sleep deprivation is when an individual doesn't give himself or herself enough time to sleep. Insomnia is a sleep disorder, according to DSM-5, Insomnia is a main complaint of not being satisfied with sleep quantity or quality, related with various symptoms indicated in DSM5. The symptoms of insomnia mentioned in DSM-5 are difficulty falling asleep at night, waking up during sleep at night, and waking up too early, irritability, feeling tired after sleep. The symptoms cause

clinically considerable distress and deterioration in social, educational, professional, and other areas of work. (Rahmani et. al, 2020) defined insomnia as the difficulty in initiation or maintenance of sleep, waking up too early, or not feeling of refresh after sleep.

According to research and statistics, up to 70 million people in the US and 45 million individuals in Europe have chronic sleep disorders that impact everyday functioning and well-being (Olesen et. al, 2012). Research conducted in 2020 in Pakistan showed that 79.28% of individuals from the educational community had sleep disorders including insomnia and sleep apnea, and 45.20% of people had insomnia, and% sleep apnea. Sometimes an individual sleep less time which can cause a disturbance in the usual sleep pattern. The study also concluded that overuse of smartphones disturbed the seep-wake cycle which can further lead to sleep disorders. (Umer et. al, 2020).

The term Sleep deprivation is a state in which a person doesn't get sufficient sleep indicated by symptoms of sleepiness throughout the daytime, decreased attentiveness, and decreased pleasure, productivity, and attention at work and study. American Psychological Association (APA) defines sleep deprivation as the condition of getting insufficient sleep. Proper sleep is very essential for daily functioning and mood regulation (Watson et. al, 2015). Not getting enough sleep can cause many behavioral and physical health problems. Those who spend more time on mobile phones or the internet have reported significantly poorer sleep and low mood (Xianchen, 2004).

Sleep is one of the most necessary mechanisms of a productive and healthy life, and is a complicated physiological process. Poor sleep is linked with unenthusiastic bodily and mental outcomes as well as mood (Wong et. al, 2013). The model developed by (Watling et. al, 2017) explained that insufficient sleep or disturbance in normal sleep

quality can influence the emotion and mood of the individual. This model further showed the unidirectional relationship between emotion and insufficient sleep and the bidirectional relationship between mood and insufficient sleep.

Emotion Dysregulation

Emotions are defined as a temporary change in an individual's subjective, physiology and behavior in response to external and internal stimuli which allows an individual to fulfill the demands of the environment. Emotion regulation is the term that involves actions according to what emotions an individual has, when they have them and when they experienced them. Gross further defined emotion regulation as the establishment of a purpose to influence the emotion path. Different individuals follow different ways to express their emotions. So, emotion regulation has a variety of forms including, texting a friend, punching a pillow, nail-biting, drinking, crying, breathing, or crying, etc. (Gross, 2015).

Problematic internet use can also lead to psychological problems like depression, anxiety, stress, insomnia, low mood, decreased concentration, and emotional instability (Zafar et. al, 2018). The definition of emotional dysregulation is a form of emotional practice or countenance that intervenes in goal-directed activity (Thompson, 2019). Difficulty in emotion regulation is often associated with psychopathology. Many individuals that are suffering from mental health disorders face difficulties in regulating their emotions (Gross & Jazaieri, 2014).

According to APA, emotion dysregulation is a tremendous or unsuitable emotional reaction to circumstances (e.g., tempers outbursts and deliberate self-harm). The components of emotion dysregulation are a predisposition of emotion to spiral out of

control, quickly change, get expressed and unchangeable types, and overwhelm both coping strategies and way of thinking (Cole et. al, 2006). A deficit in emotion regulation is related to many psychological disorders (Berking et. al, 2012).

Most young adults are more addicted to the internet and technology; excessive internet use can decrease sleep quality or cause sleep problems (Zang et. al, 2017). Research shows that poorer sleep may contribute to emotional functioning and well-being (Awasthi, A et al., 2020). Many studies have demonstrated the association among internet addiction and insomnia (Younes et. al, 2016), Internet addiction, and emotion regulation (Yildiz, 2017). But these studies demonstrated individually. In Pakistan, these three variables were not studied together. This current study will examine the relationship between internet addiction, sleep deprivation, and emotion dysregulation.

Literature review

The utilization of the Internet has been growing at an exponential rate as a result of technological advancement. Excessive internet use affects an individual's behavior and causes distress known as internet addiction. Several types of research conducted on internet addiction and its association with other variables like insomnia, physical health, mental health, psychological distress, emotion regulation, etc. (JY Lebni et. al, 2020).

Sleep is necessary for a person's quality of life and physical and psychological well-being. Poor sleep causes distress and other psychological and sleep problems. There are several kinds of literature found on internet addiction and insomnia. Rehman et. al, (2021) conducted research that found an association between insomnia with excessive internet use among students of physical therapy in Lahore. The goal of that study was to determine the

relationship of insomnia with excessive internet use. The findings of the study were that insomnia and excessive internet use are significantly associated and there was a positive correlation between variables.

Literature shows numerous studies on emotional dysregulation and its association with internet addiction. (Gioia et. al, 2021) study designed to evaluate the literature from the previous ten years and paying attention on the association among emotional dysregulation and problematic internet use. The findings demonstrated that more than a few examinations of studies institute a positive relationship among excessive internet use and emotion dysregulation. The study concluded that absence of social support and not having good parent-adolescent connection affects an emotion regulation ability which then increases the risk of internet addiction.

Evren et. al, (2019) research findings the high level of childhood trauma and internet addiction indications is associated, and the severity of detachment occurrence and emotion dysregulation mediates this relationship. This study aimed to assess the association among childhood trauma and internet addiction symptoms harshness and also the study focused on evaluating the go-between effect of dissociative experience and emotion dysregulation on this association. The study also reported that individual with an online community set of connections or internet addiction is more possible to account issues with emotion dysregulation.

There are few researches conducted on sleep deprivation and its association with other variables. (Lan et. al, 2022) study proposed to replicate the previous research finding on the relationship of mood dysregulation and non-suicidal self-injury and their relation with sleep deprivation and also the objective was to find out whether the relationship of

sleep deprivation and non-suicidal self-injury associated with mood dysregulation. Forty participants aged between 12 to 19 filled the online questionnaire. The findings suggested that there was a significant relationship between these variables.

Nahar & Kakute, (2022) did study on the correlation between Alexithymia, difficulties in regulating emotions, psychological well-being, and internet addiction in youthful adults. The major goal of the research was to determine the role of psychological variables in predicting excessive internet use. The findings of the study concluded that Alexithymia and difficulties in emotion regulation were positively correlated to internet addiction and mental health was negatively correlated and regression was significant.

Yang et. al, (2022) study designed to methodically identify, summarize and evaluate the researches on teenager emotion dysregulation and increase use of technology. 39 studies were included in this Meta analyses. Every one of these researches conducted on association between emotion dysregulation and problematic technology use with other variables. The conclusion of this study was they found the positive relationship between emotion dysregulation and problematic technology use. The findings also concluded that other variables like depression, anxiety, self-esteem, etc. also directly associated to emotion dysregulation and problematic technology use.

Akhtar, (2013) conducted study on internet addiction and academic performance between undergraduate university students. The objective of the study was to determine the relationship between variables and also, the study explains the gender differences among students on internet addiction. The sample of the study 359 university undergraduate's students. The findings were that internet addiction is negatively correlated

to academic performance and also explained that male students had more internet addicted than female.

Amendola et. al, (2018) study was conducted on Italian 280 students. Researcher collected the data via Internet addiction test, Video game dependency scale, Brief Multicultural version of the test of Mobile Phone dependence and the Difficulty in Emotion dysregulation Scale. The findings of the study suggested signification relationship between emotion dysregulation and Internet addiction, Videogame dependence and Mobile phone dependency. Amendola explained that excessive and problematic use of Internet, videogame and mobile phone can have a harmful impact on the physiological, psychological, and social relationship of the individual.

Lung-Chen et. al, (2015) research conducted to measure the longitudinal relationship among sleep and internet addiction. Study also investigated the risk factors and negative results of internet use and addiction among children and adolescent. The data was collected four times in 11 months' time periods. The study consisted of 1253 students and 1128 parents. The scales were used to measure sleep and internet addiction. The findings of this study indicated that early and middle insomnia predicts internet addiction which then predicts disturbed cardiac rhythm.

Malaeb et. al, (2020) study intended to explore the relationship between excessive social media use and depression, anxiety, stress and insomnia among Lebanese adults. The sample of the study was 600 adults and out of 600 adults 466 were completed the questionnaire. The results of study showed that problematic social media use significantly associated with depression, anxiety and insomnia.

Usubini et. al, (2022) conducted the cross-sectional study consisted of 664 Italian adults aged between 18 to 70 years old. The findings concluded the significant association between negative effect, difficulty in regulating emotion, more internet use and extreme daytime sleepiness. There was a positive correlation between these variables.

Jain et al, (2020) study designed to looked the occurrence of internet addiction and also its association with depression and insomnia. This was the cross-sectional study which included the 954 participants, 518 was male and 376 were female. The findings of the study showed that 15.5% were addicted to internet. Study also concluded that males are more addicted to internet than female.

Anand et. al, (2018) conducted the cross-sectional study to investigate the internet utilizes behavior, internet addiction and psychological distress among engineering students. The 1086 engineering students aged 18 to 21 years old. To measure psychological distress and internet addiction they used scales. The findings showed that internet addiction is higher in males' students. Internet addiction is positively correlated with other variables.

Zafar & Kausar, (2018) research conducted on Internet addiction, insomnia and psychological wellbeing issues in University students in Pakistan. The study was carried out in two phases. In phase one, 703 participants took part and the findings of phase one showed the significance prevalence of internet addiction. In phase two, 424 students included in the study and the findings indicated that hierarchical regression analysis proved that insomnia was the significant mediator in the relationship between internet addiction and mental health problems.

The research gap in this area is characterized by a scarcity of studies focusing on specific variables, with the majority of existing research concentrating on internet addiction and its association with insomnia and psychological well-being. Previous studies on internet addiction have explored broader variables and diverse populations. Consequently, this present study aims to address this gap in the literature by examining the relationship between internet addiction, sleep deprivation, and emotion dysregulation among university students. This research will contribute to filling the existing void and expanding our understanding of these interrelated factors.

Theoretical framework

Self-Regulation Theory as the most suitable theoretical framework. Self-regulation theory is a psychological framework that focuses on individuals' ability to control and manage their thoughts, behaviors, and emotions in order to achieve desired goals (Bandura, 1991). This theory focuses on individuals' ability to regulate their behavior, thoughts, and emotions, which align well with research on internet addiction, emotion dysregulation, and sleep deprivation.

It can help to understand how self-regulation difficulties may contribute to internet addiction, emotion dysregulation, and sleep deprivation among university students. By applying the Self-Regulation Theory, researcher can investigate the relationships between internet addiction, emotion dysregulation, and sleep deprivation within the context of self-regulatory processes. This framework allows researcher to examine how difficulties in self-regulation may influence these variables and how individuals' self-regulatory abilities impact their internet use, emotional regulation, and sleep patterns.

Moreover, the Self-Regulation Theory can provide insights into potential gender differences in self-regulation and its impact on internet addiction, emotion dysregulation, and sleep deprivation.
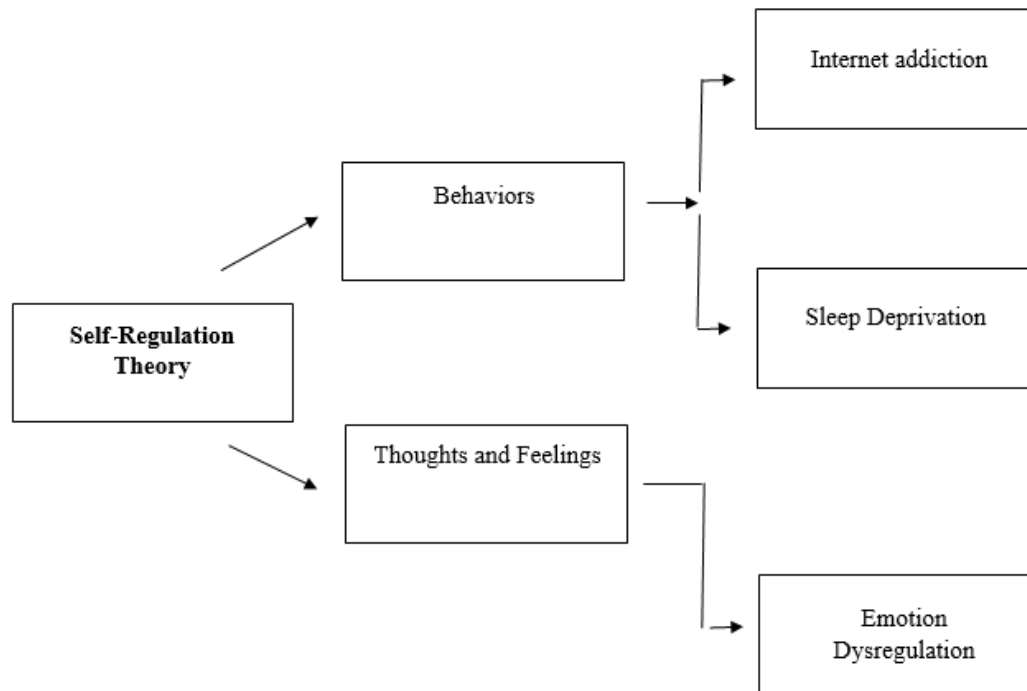
Rationale

Internet addiction has been studied in relation to various variables, such as insomnia, physical activity, quality of life, eating disorder etc. Alimoradi et. al, (2019), Zhang et. al, (2022), Ghareghol et. al, (2022). While some research has been conducted in Pakistan on internet addiction and sleep problems, there is limited exploration of the relationship between internet addiction, sleep deprivation and emotion dysregulation.

Previous studies have primarily focused on the association between internet addiction and mental health problems or a psychological distress, using broader terms Trumello et. al, (2021).

This current study aims to investigate the relationship between internet addiction, sleep deprivation and emotion dysregulation among university students, given the increasing prevalence of internet addiction among youth. Young adults heavily engage with technology for education and entertainment purposes, spending a significant amount of time on various social networking sites. Excessive internet use can potentially contribute to sleep deprivation, which is linked to other mental disorders and sleep problems such as insomnia Blackwelder et. al, (2021), Fransceschini et. al, (2020). While there have been studies conducted in Pakistan on internet addiction and sleep problems, there is a limited exploration of the relationship between internet addiction, sleep deprivation, and emotion dysregulation. Therefore, this study aims to bridge this research gap and contribute to the understanding of how these variables are interconnected among university students in Pakistan.

The purpose of this study is to investigate the risks associated with internet addiction among young adults, particularly focusing on university students. By examining the relationship between internet addiction and sleep deprivation, as well as the association between sleep deprivation and emotional dysregulation, this research aims to shed light on the potential dangers of excessive internet use. The findings of this study hold promise for clinical settings, as they can provide valuable insights into the harmful effects of internet addiction and raise awareness among young adults about the negative consequences. Ultimately, this research seeks to contribute to the understanding of internet addiction and

its impact on sleep patterns and emotional dysregulation, offering implications for prevention, intervention, and education in addressing this issue.

Objective

- To examine the relationship between internet addiction, sleep deprivation and emotion dysregulation.

- To find out the gender differences between internet addiction, sleep deprivation, and emotion dysregulation among university students.

Hypotheses

H1: There will be a positive relationship between internet addiction, sleep deprivation and emotion dysregulation.

H2: There would be gender differences in internet addiction, emotion dysregulation, and sleep deprivation.

METHODOLOGY

Research design

The correlation research design was used to find the relationship between internet addiction, sleep deprivation, and emotion dysregulation among university students. The research method of this study was quantitative.

Ethical consideration

Informed consent will be given to the participants. Confidentiality of the participants was ensured that their data will be kept confidential and will only use for research purposes. Permission to use the scales were taken through email from respective authors.

Population and Sample

For the data collection, the University of Islamabad and Rawalpindi were considered as the population and university students as sample and it consisted of 300 participants both males and females of the age range (18 to 25).

Inclusion criteria

Only Students from the university were included in the study. Students of BS and MS having the age range of 18 to 25. Both male and female students took part in the study.

Exclusion criteria

Students with aged less than 18 and greater than 25 were not part of the study. Students from other cities were not part of our study. Students of PhD was not the part of the study.

Sampling technique

A convenient sampling technique was used due to suitable accessibility.

Procedure

In this Correlational study, permission was taken from university authorities to reach participants who lived in Islamabad and Rawalpindi. Then collect data by briefly explaining the importance of the study and ensuring the subject that their data was only used for research purposes from university students with a sample of 300. Also, take the sign on informed consent which indicates that participants can withdraw from the study anytime if they want. Internet addiction test, Difficulty in emotion dysregulation scale, and Pittsburgh sleep quality index scale was used and data were analyzed by using IBM SPSS-26.

Instruments/Measures

Basic Demographic information of all participants was obtained by asking them to fill out a basic demographic sheet of gender, age, marital status, socioeconomic status, and occupation. The questionnaire was filled out by the participants. The questionnaires were: the Chen Internet addiction scale (CIAS), Difficulty in Emotion Regulation Scale (DERS), and Pittsburgh Sleep Quality Index (PSQI).

Chen Internet Addiction Scale (CIAS)

The CIAS was developed by Dr. Kuan-Yi Chen in 2003. The CIAS consists of 26 items that measure various aspects of internet addiction, including excessive use, withdrawal symptoms, tolerance, and negative consequences related to internet use. The scale assesses different domains of internet addiction, such as compulsive internet use, negative outcomes, functional impairment, and emotional/psychological problems.

Participants rate each item on a 4-point Likert scale, indicating the frequency or severity of their experiences related to internet use. Higher scores on the CIAS indicate a higher level of internet addiction.

The CIAS has been used in numerous research studies examining internet addiction across different populations, including university students. It has demonstrated good reliability and validity, making it a commonly used tool in the field. The internal reliability of the scale is ranging from 0.88 to 0.95,

Difficulty in Emotion Regulation Scale (DERS)

The Difficulty in emotion dysregulation scale is examined the emotion regulation difficulty in adolescents. The test consists of 36 items and has six specific dimensions. Mostly the scale used for students aged ranges 18 and older. Gratz and Roemer (2004), who developed the DERS, reported high internal consistency for the total scale and its subscales, with Cronbach's alpha coefficients ranging from 0.80 to 0.93. Subsequent studies have also reported good internal consistency for the DERS, supporting its reliability (e.g., Whiteside & Lynam, 2001; Fossati et al., 2009).

Pittsburgh Sleep Quality Index (PSQI)

The PSQI was established by Daniel J. Buysse and consists of 10 items. The Pittsburgh sleep quality index is a Likert scale and the scoring is based on 0-3. The PSQI has good validity and reliability. The internal consistency of PSQI is estimated by Cronbach's alpha which is 0.73. the test is applicable for individuals aged range 3 to 65 above**.**

Data Analysis

Data Analysis was done using IBM-SPSS version 26. It was used to find out the frequencies, descriptive statistics, histograms, and to find out the relationship between the variables. Bivariate Pearson Correlation and Independent sample t-test were used to identify the gender differences.

RESULTS

This chapter presents the results of the present study including descriptive statistics for the demographic variables, psychometric properties of the scales in terms of Cronbach alpha reliabilities, and inferential statistics in terms of Pearson Bivariate correlation and independent sample t-test.

Table 01 Descriptive statistics of demographic variable

Frequencies and percentages of the demographic characteristics of the sample (N=300)

Variables	Categories	F	%
Gender	Male	163	54.3
	Female	137	45.7
Age	18-20	145	48.3
	21-23	128	42.7
	24-26	27	9.0
Education	BS	280	93.3
	MS	20	6.7
Occupation	Yes	52	17.3
	No	248	82.7
Family system	Joint family	128	42.7
	Nuclear family	172	57.3
Spend time on the Internet	2 hours	47	15.7
	4 hours	89	29.7
	6 hours	66	22.0
	8 hours	98	32.7

Note. f= Frequencies, %= Percentages

Table 1. explain the demographic of the participants. The sample consisted of a total 300 undergraduate students. Based on the frequency and valid percentage table, the following interpretations can be made. In terms of gender, there were 137 female participants, accounting for 45.7% of the sample, and 163 male participants, accounting for 54.3% of the sample. This indicates that the study had a relatively balanced representation of both genders.

Regarding age, the majority of participants fell into the age range of 18-20, with 145 individuals, representing 48.3% of the sample. There were 128 participants in the age range of 21-23, accounting for 42.7% of the sample. A smaller proportion of the sample, consisting of 27 students (9.0%), fell into the age range of 24-26. This distribution suggests that the study included participants across a range of ages. In terms of education level, the majority of participants, accounting for 280 students (93.3%), were at the Bachelor's level, while a smaller proportion, consisting of 20 students (6.7%), were pursuing a Master's degree. This indicates that the sample predominantly consisted of undergraduate students. Regarding the family system, 128 students (42.7%) came from a joint family system, while 172 students (57.3%) came from a nuclear family system. This demonstrates that the study included participants from various family backgrounds. When considering occupation, 52 students (17.3%) were found to be simultaneously working and studying, while the majority, 248 students (82.7%), were not engaged in any job alongside their studies. This indicates that the majority of participants were solely focused on their education. In terms of internet usage, 47 students (15.7%) reported spending 2 hours on the internet, 89 students (29.7%) reported spending 4 hours, 66 students (22.0%) reported spending 6

hours, and 98 students (32.7%) reported spending 8 hours. This shows a range of internet usage habits among the participants.

Overall, the demographics of the sample indicate a diverse representation in terms of gender, age, education level, family system, occupation, and internet usage. These details provide a comprehensive understanding of the participants involved in the study and lay the foundation for further analysis of the relationship between internet addiction, sleep deprivation, and emotion dysregulation among university students.

Table 02 Reliability of Scale

Psychometric properties of IAS, DERS, and PSQI (N=300)

Scales	Items	*M*	*SD*	*a*	Range				Skewness	kurtosis	KS	p
					Potential		Actual					
IAS	26	64.2	13.9	.90	26	104	26	104	.01	.09	.03	.20
DERS	36	100.9	17.6	.84	36	180	45	180	-.18	1.65	.09	.00
PSQI	9	24.37	7.05	.83	0	21	13	44	.35	-.51	.07	.00

Note. IAS= Internet Addiction Scale, *DERS=* Difficulty in emotion regulation

Scale and *PSQI=* Pittsburg Sleep Quality Inex.

Table 02. explain the reliability of the scales and demographics. For the IAS scale, the Cronbach's alpha coefficient was found to be 0.90. This indicates a high level of internal consistency, suggesting that the items in the IAS scale reliably measure the construct of internet addiction among the participants. The mean score on the IAS scale was 64.2, with a standard deviation of 3.9. These statistics provide information about the central tendency and dispersion of scores on the IAS scale. Similarly, the DERS scale demonstrated good internal consistency with a Cronbach's alpha coefficient of 0.84. The mean score on the DERS scale was 100.9, with a standard deviation of 17.69. These findings suggest that the DERS scale items reliably measure the construct of emotion dysregulation among the participants.

The PSQI scale also showed satisfactory internal consistency, as indicated by a Cronbach's alpha coefficient of 0.83. The mean score on the PSQI scale was 24.37, with a standard deviation of 7.051. This suggests that the items in the PSQI scale provide consistent measurements of sleep quality and disturbances. Regarding the skewness and kurtosis values, they provide information about the shape and distribution of the scores on each scale. For the IAS scale, the skewness value of 0.01 suggests a slightly positive skew, indicating a slightly skewed distribution of scores. The kurtosis value of 0.092 indicates a

near-normal distribution, with minimal deviation from the expected kurtosis for a normal distribution.

On the DERS scale, the skewness value of -.18 indicating a slight negative skewness. This suggests that the distribution of DERS scores may be slightly left-skewed, meaning there might be a few lower scores that are more extreme than the higher scores. The kurtosis value of 1.658 suggests a moderately leptokurtic distribution, indicating that the scores on the DERS scale have a heavier tail and more extreme values compared to a normal distribution.

For the PSQI scale, the skewness value of -0.513 suggests a slightly negative skew, indicating a slightly skewed distribution of scores. The kurtosis value of 0.35 indicating a positive skewness. This suggests that the distribution of PSQI scores is slightly right-skewed, with a few higher scores being more extreme than the lower scores. The data are not perfectly symmetrical, with a moderate departure from normality. But the KS significance value is less than 0.05 which shows the non-normal distribution whether the histogram and skewness and kurtosis values shows the normal distribution of data.

Table 03 Correlation

Pearson Product Moment Correlation between IAS, DERS and PSQI (N=300)

Variables	N	1	2	3
IAS	300	-	.24**	.22**
DERS	300		-	.25**
PSQI	300			-

*Note. *p<0.05, **p<0.01;* IAS= Internet Addiction Scale, DERS= Difficulty in emotion regulation scale, PSQI= Pittsburg Sleep Quality Index

Table 3. explain the correlation matrix of scales of IAS, DERS, and PSQI. The table shows that the IAS has a significantly positive relationship with DERS with a correlation coefficient of .24**. This suggests that individuals with high internet addiction tend to also experience greater difficulties in emotion regulation. Additionally, IAS has a significantly positive correlation with PSQI with a correlation coefficient of .22** this indicates that individuals who have higher levels of internet addiction are also more likely to experience poorer sleep quality. Furthermore, the PSQI has a positively significant relationship with DERS showing a statistically significant correlation coefficient of .25**. This implies that individuals who have poorer sleep are also more likely to experience difficulty in regulating their emotions.

Overall, the correlation table indicates that there are significantly positive associations among the variables. A higher level of internet addiction is related to both greater difficulty in emotional regulation and sleep deprivation. Also, poorer sleep leads to greater difficulty in emotion regulation.

Table 04 Independent Sample t-test

Mean, Standard deviation and independent sample t-test values for gender differences (N= 300)

Measures	Male		Female				Cohen'sd
	M	*SD*	*M*	*SD*	*t*	*p*	
IAS	64.1	13.46	64.4	14.63	-0.15	0.9	0.02
DERS	100.5	17.03	101.4	18.49	-0.43	0.71	0.05
PSQI	22.66	7.12	26.40	7.12	-4.73	0.29	0.52

Note. M= Mean, *SD=* Standard deviation, *p* = significant value*, Cohen's d; IAS=* Internet Addiction Scale, *DERS=* Difficulty in emotion regulation scale*, PSQI=* Pittsburg Sleep Quality Index

Table 04. shows that an independent samples t-test was conducted to examine the differences between males and females on the Internet Addiction Scale (IAS), Difficulties in Emotion Regulation Scale (DERS), and Pittsburgh Sleep Quality Index (PSQI).

For the IAS scale, the mean score for males was 64.1, while the mean score for females was 64.4. The standard deviation for males was 13.46, and for females, it was 14.63. The t-value obtained was -0.15. The p-value associated with the t-test was 0.9, indicates that the difference in means between males and females on the IAS scale was not statistically significant. The effect size, as measured by Cohen's d, was 0.0213, suggesting a small effect. Similarly, on the DERS scale, the mean score for males was 100.5, whereas, for females, it was 101.4. The standard deviation for males was 17.03, and for females, it was 18.49. The t-value obtained was -0.43. The p-value associated with the t-test was 0.71, indicating that the difference in means between males and females on the DERS scale was not statistically significant. The effect size, as measured by Cohen's d, was 0.050, indicates a negligible effect. On the PSQI scale, the mean score for males was 22.66, while for females, it was 26.40. The standard deviation for males was 7.12, and for females, it was 7.2. The t-value obtained was -4.73. The p-value associated with the t-test was 0.29,

indicates that there is no statistically significant difference in means between males and females. The effect size, as measured by Cohen's d, was 0.522, indicating a moderate effect.

In short, the t-test results suggest that there was no significant difference between males and females on the IAS, PSQI, and DERS scales. It is important to note that the effect sizes for the IAS and DERS scales were small and negligible, respectively, while the effect size for the PSQI scale was moderate.
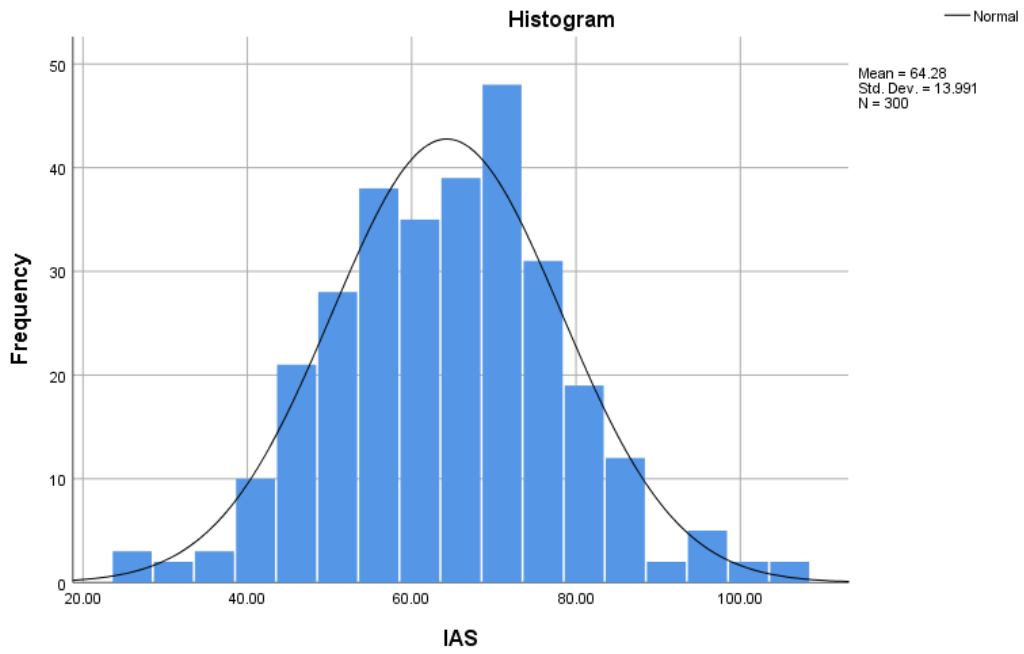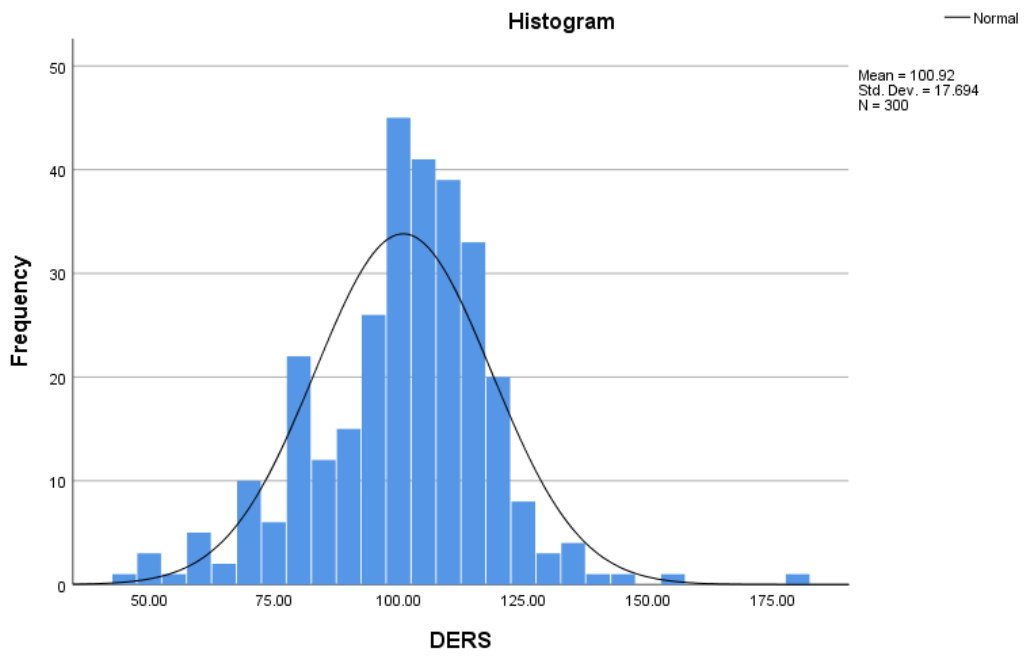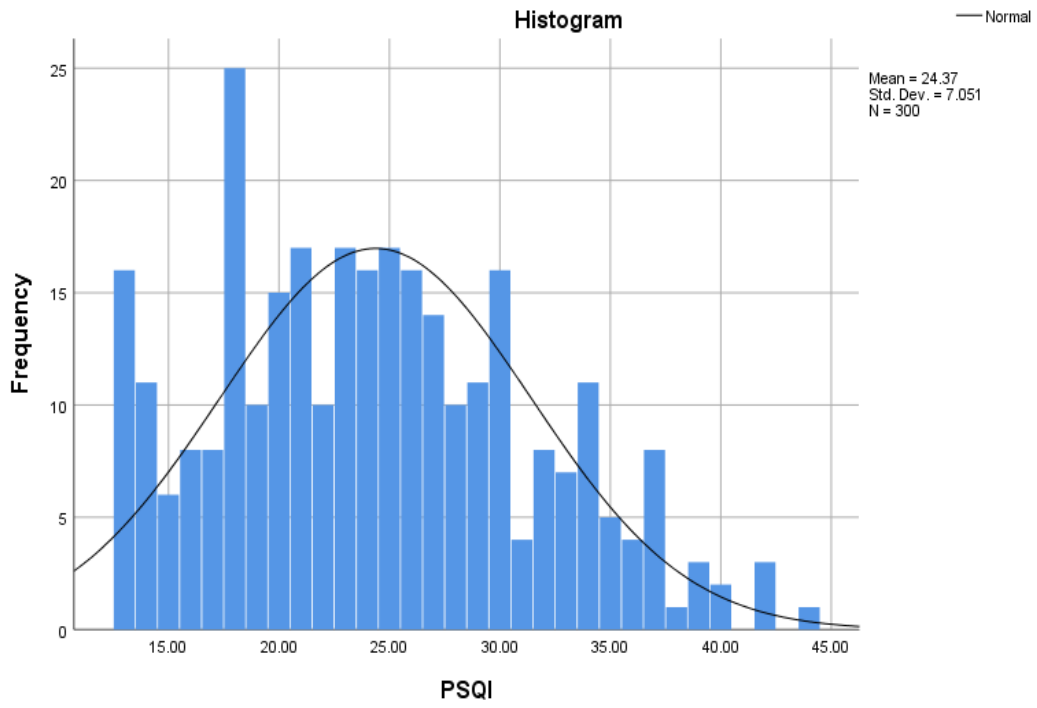
Figure 01

Figure 02

Figure 03

DISCUSSION

The present study aimed to investigate the relationship between internet addiction, sleep deprivation, and emotion dysregulation among university students. The findings revealed several important insights into these variables and their interconnections. This discussion will relate the results to the hypotheses and previous studies, provide explanations for the findings, and discuss the implications of the study.

The first hypotheses posited that there would be a positive relationship between internet addiction, sleep deprivation, and emotion dysregulation. The results supported this hypothesis, as significant positive correlations were found between internet addiction and both sleep deprivation and emotion dysregulation. These findings align with previous research that has demonstrated the detrimental effects of excessive internet use on sleep patterns and emotional well-being (Younes et al., 2016; Gioia et al., 2021). The positive relationship between internet addiction and sleep deprivation can be explained by the time spent on the internet, which can interfere with regular sleep patterns and lead to insomnia or poor sleep quality (Cheung & Wong, 2011; Rehman et al., 2021). This, in turn, can contribute to emotional dysregulation and difficulties in managing one's emotions effectively (Watling et al., 2017). The findings of this study provide further evidence for the negative impact of internet addiction on sleep and emotional dysregulation.

Moreover, the second hypothesis predicted that there would be gender differences in internet addiction, emotion dysregulation, and sleep deprivation. However, the results did not support this hypothesis, as no significant gender differences were found on the

scales measuring internet addiction, emotion dysregulation, and sleep quality. These findings are consistent with some previous studies that have reported no significant gender differences in internet addiction among university students (Akhtar, 2013; Anand et al., 2018). However, it is important to note that the effect sizes for the gender differences on the scales were small or negligible. This suggests that while there may not be significant differences between males and females in these variables, there may still be some nuanced variations that warrant further exploration.

The current findings are in line with previous research that has demonstrated a positive association between internet addiction and both sleep deprivation and emotion dysregulation (Younes et al., 2016; Gioia et al., 2021). The relationship between internet addiction and sleep deprivation can be explained by the disruptive effects of excessive internet use on sleep patterns, such as increased exposure to stimulating content, prolonged screen time, and the interference of internet-related activities with bedtime routines (Zang et al., 2017; Umer et al., 2020). This disruption can lead to difficulties in falling asleep, maintaining sleep, and experiencing restful sleep, ultimately resulting in sleep deprivation (Lan et al., 2022).

The positive association between internet addiction and emotion dysregulation can be attributed to several factors. Excessive internet use may serve as a maladaptive coping mechanism for individuals experiencing emotional distress or difficulties in regulating their emotions effectively (Zafar et al., 2018). The constant availability of online platforms and social media can provide a temporary escape from negative emotions or interpersonal problems, leading to a reliance on the internet for emotional regulation (Gross & Jazaieri, 2014). However, this reliance can further exacerbate emotional dysregulation by impeding

the development of healthy coping strategies and interpersonal skills (Berking et al., 2012). The findings of this study emphasize the need for interventions and strategies to promote healthier emotional regulation practices among individuals at risk for internet addiction.

The lack of significant gender differences in internet addiction, emotion dysregulation, and sleep deprivation is consistent with some previous research in this area (Akhtar, 2013; Anand et al., 2018). However, it is important to acknowledge that gender differences may exist in other aspects related to internet use and psychological well-being, such as the types of online activities engaged in or the specific emotional regulation strategies employed. Future studies could explore these potential gender differences to gain a more comprehensive understanding of the interplay between gender, internet addiction, sleep deprivation, and emotion dysregulation.

The findings of this study have important implications for both research and practice. They contribute to the growing body of literature on the negative consequences of internet addiction and highlight the need for interventions and strategies to promote healthier internet use, better sleep habits, and effective emotion regulation among university students. Education and awareness programs can be developed to educate individuals about the potential risks of excessive internet use, provide guidance on healthy online behaviors, and promote self-regulation skills for managing emotions and sleep. Additionally, healthcare professionals, educators, and parents can play a vital role in identifying and addressing internet addiction, sleep problems, and emotion dysregulation among young adults.

There are some limitations to consider in this study. Future research could employ longitudinal or experimental designs to better understand the temporal dynamics and causal

associations between internet addiction, sleep deprivation, and emotion dysregulation. Secondly, the study relied on self-report measures, which are subject to biases such as social desirability and memory recall. Objective measures, such as actigraphy or polysomnography, could provide more accurate assessments of sleep patterns. Additionally, the sample consisted of university students from a specific geographic region, which may limit the generalizability of the findings to other populations or cultural contexts. Future studies should consider a more diverse sample to enhance the external validity of the results.

Conclusion

In conclusion, this study contributes to the understanding of the relationship between internet addiction, sleep deprivation, and emotion dysregulation among university students. The findings support the hypothesis that internet addiction is positively associated with both sleep deprivation and emotion dysregulation. Additionally, no significant gender differences were found in these variables. These results highlight the need for interventions and strategies to promote healthier internet use, improve sleep quality, and enhance emotion regulation skills among young adults. Future research should continue to explore the complex interplay between internet addiction, sleep patterns, and emotional well-being to develop targeted interventions and preventive measures for this at-risk population.

Limitations and Suggestions

Despite the valuable insights provided by this study, several limitations should be acknowledged. Firstly, the study utilized a convenient sampling technique, which may limit the generalizability of the findings to the broader population. Future research should consider employing more diverse and representative samples to ensure greater external

validity. Secondly, the study relied on self-report measures, which are subject to response biases and may not capture the full complexity of internet addiction, sleep deprivation, and emotion dysregulation. Incorporating objective measures and employing longitudinal designs could enhance the validity and reliability of the findings. Additionally, the study focused solely on university students, and the results may not be applicable to other age groups or populations. Future studies should aim to include participants from different age groups and socioeconomic backgrounds to obtain a more comprehensive understanding of the relationships among these variables.

Implications

- The results of this study have several implications for clinical practice and raising awareness about the potential risks of internet addiction and sleep deprivation among young adults. The positive associations found between internet addiction, sleep deprivation, and emotion dysregulation underscore the need for interventions targeting these issues simultaneously. Mental health professionals and educators should incorporate psychoeducation about healthy internet use, sleep hygiene, and emotion regulation skills into their interventions and programs. Additionally, promoting a balanced lifestyle that encourages sufficient sleep, physical activity, and healthy coping strategies can help individuals mitigate the undesirable effects of extreme internet use on their well-being.

- Secondly, psychoeducation and awareness campaigns can utilize the study's findings to inform young adults, parents, educators, and healthcare providers about the risks and consequences of excessive internet use. By promoting a balanced approach to technology, providing strategies for improving sleep quality, and

enhancing emotional well-being, these programs can empower individuals to make informed choices regarding their internet usage.

- Thirdly, prevention programs implemented in educational settings can help mitigate the risks of internet addiction and related issues. By promoting healthy technology use habits, fostering a supportive environment, and providing coping strategies for stress and emotional regulation, these programs can support young adults during their transition to university or college.

- Fourthly, the study emphasizes the need for multi-dimensional assessments that consider the complexity of internet addiction, sleep quality, and emotional well-being. Validated measurement tools can help healthcare professionals and researchers gain a comprehensive understanding of individuals' experiences and identify intervention targets more effectively.

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Appendices

A: Support Letter

B: Consent Form

C: Demographics

D: Chen Internet Addiction Scale

E: Difficulty in emotion regulation scale

F: Pittsburg Sleep Quality Index

G: Permissions of Scales

Appendix A-Support Letter

Capital University of Science and Technology
Islamabad

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Telephone : +92-(51)-111-555-666
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Website: : www.cust.edu.pk

Ref. CUST/IBD/PSY/Thesis-367
February 17, 2023

TO WHOM IT MAY CONCERN

Capital University of Science and Technology (CUST) is a federally chartered university. The university is authorized by the Federal Government to award degrees at Bachelor's, Master's and Doctorate level for a wide variety of programs.

Ms. Amna Mehmood, registration number **BSP193003** is a bona fide student in BS Psychology program at this University from Fall 2019 till date. In partial fulfillment of the degree, she is conducting research on "Relationship between internet addiction, sleep deprivation, and emotion dysregulation among university students". In this continuation, the student is required to collect data from your institute.

Considering the forgoing, kindly allow the student to collect the requisite data from your institute. Your cooperation in this regard will be highly appreciated.

Please feel free to contact undersigned, if you have any query in this regard.

Best Wishes,

Dr. Sabahat Haqqani
Head, Department of Psychology
Ph No. 111-555-666 Ext: 178
sabahat.haqqani@cust.edu.pk

Appendix B- Consent Form

I, Amna Mahmood student of BS Psychology at Capital University of Science and Technology. I hereby invite you to take part in my research. The title of my research is **"Relationship between Internet Addiction, Sleep Deprivation, and Emotion Dysregulation among university students."**

To participate in this research; you will be given a questionnaire to which you have to respond. Your identity will be kept confidential and your participation in research is voluntary. If you want to terminate your participation in this study you can do so with no questions being asked. You have the right to withdraw from the research at any point you want to. Your data will be kept confidential and only used for research purposes.

Signature: _ _ _ _ _ _ _ _ _ _ _ _

Date: _ _ _ _ _ _ _ _ _ _ _ _

Appendix C-Demographic

Please answer each question as accurately as possible.

Gender:

1 Male

2 Female

Age:

1) 18-20

2) 21-23

3) 23-26

Education:

1) BS

2) MS

Family system:

1) Joint family system

2) Nuclear family system

Any job you do with studies?

Yes

No

For how many hours do you spend on internet?

1) 2 hours

2) 4 hours

3) 6 hours

4) 8 hours

Appendix D- Chen Internet Addition Scale (CIAS)

Part I:

Instruction: Please answer whether you have ever used Internet.

Have you ever used Internet during the past 3 months?

☐ YES (Please continue to complete the items on Part II)

☐NO (Please stop here)

Part II:

Instruction: Below is a list of Internet-related behaviors or responses people sometimes have after they have online experiences. Please read each one carefully, and check on the square (☑) that best describes how much the description fits you during the past 3 months. The number ranges from 1 to 4, the bigger the better fit. Please check only on one number for each item and do not skip any items.

1: strongly disagree

2: somewhat disagree

3: somewhat agree

4: strongly agree

	strongly disagree (1)	somewhat disagree (2)	somewhat agree (3)	strongly agree (4)
1. I was told more than once that I spent too much time online.	☐	☐	☐	☐
2. I feel uneasy once I stop going online for a while.	☐	☐	☐	☐
3. I find that I have been spending more and more time online.	☐	☐	☐	☐
4. I feel restless and irritable when the Internet is disconnected or unavailable.	☐	☐	☐	☐
5. I feel energized when I'm online, regardless of how tired I am.	☐	☐	☐	☐
6. I stay online longer than I intended, even when I planned to go online only briefly.	☐	☐	☐	☐
7. Although using the Internet has had negative effects on my interpersonal relationships, the amount of time I spend online remains the same.	☐	☐	☐	☐

8. More than once, I have slept for less than four hours due to being online. □ □ □ □

9. I have substantially increased the amount of time I spend online each week since last semester (or in the past 3 months). □ □ □ □

10. I feel distressed or down once I stop using the Internet for a <u>certain period of time</u>. □ □ □ □

11. I can't control the impulse to go online. □ □ □ □

12. I find myself compelled to use the Internet at the cost of hanging out with friends. □ □ □ □

13. After surfing the Web, I am achy and my back is sore, or I experience other physical discomforts. □ □ □ □

14. The idea of going online is the first thought I have when I wake up each morning. □ □ □ □

15. Going online has had negative effects on my schoolwork or job performance. □ □ □ □

16. I feel like I'm missing something when I don't go online for <u>a certain period of time</u>. □ □ □ □

17. My interaction with family members is decreased because of my Internet use. □ □ □ □

18. My recreational activities are reduced because of my Internet use. □ □ □ □

19. I fail to control the impulse of going online after logging off for other intended work. □ □ □ □

20. My life would have no joy without the Internet. □ □ □ □

21. Surfing the Internet has had negative effects on my physical health. □ □ □ □

22. I try to spend less time online, but I can't help it. □ □ □ □

23. I make it a habit to sleep less so that more time online. □ □ □ □

24. I need to spend more and more time on the Internet to achieve same satisfaction as before. □ □ □ □

25. I fail to eat meals at the usual time because I am using the Internet. □ □ □ □

26. I feel tired during the day due to late-night surfing. □ □ □ □

Appendix E- Difficulty in Emotion Regulation Scale (DERS)

Instructions:

Please read carefully and choose the response that is most true for you.

		Almost Never	Sometimes	About half the time	Most of the time	Almost always
1	I am clear about my feeling	5	4	3	2	1
2	I pay attention to how I feel	5	4	3	2	1
3	I experience my emotions as overwhelming and out of control	1	2	3	4	5
4	I have no idea how I am feeling	1	2	3	4	5
5	I have difficulty making sense out of my feelings	1	2	3	4	5
6	I am attentive to my feelings	5	4	3	2	1
7	I know exactly how I am feeling	5	4	3	2	1
8	I care about what I am feeling	5	4	3	2	1
9	I am confused about how I feel	1	2	3	4	5
10	When I'm upset, I acknowledge my emotions	5	4	3	2	1
11	When I'm upset, I become angry with myself for feeling that way	1	2	3	4	5
12	When I'm upset, I become embarrassed for feeling that way	1	2	3	4	5
13	When I'm upset, I have difficulty getting work done	1	2	3	4	5
14	When I'm upset, I become out of control	1	2	3	4	5
15	When I'm upset, I believe that I will remain that way for a long time	1	2	3	4	5
16	When I'm upset, I believe that I'll end up feeling very depressed	1	2	3	4	5

		Almost Never	Sometimes	About half the time	Most of the time	Almost always
17	When I'm upset, I believe that my feelings are valid and important	5	4	3	2	1
18	When I'm upset, I have difficulty focusing on other things	1	2	3	4	5
19	When I'm upset, I feel out of control	1	2	3	4	5
20	When I'm upset, I can still get things done	5	4	3	2	1
21	When I'm upset, I feel ashamed with myself for feeling that way	1	2	3	4	5
22	When I'm upset, I know that I can find a way to eventually feel better	5	4	3	2	1
23	When I'm upset, I feel like I am weak	1	2	3	4	5
24	When I'm upset, I feel like I can remain in control of my behaviours	5	4	3	2	1
25	When I'm upset, I feel guilty for feeling that way	1	2	3	4	5
26	When I'm upset, I have difficulty concentrating	1	2	3	4	5
27	When I'm upset, I have difficulty controlling my behaviours	1	2	3	4	5
28	When I'm upset, I believe that there is nothing I can do to make myself feel better	1	2	3	4	5
29	When I'm upset, I become irritated with myself for feeling that way	1	2	3	4	5
30	When I'm upset, I start to feel very bad about myself	1	2	3	4	5
31	When I'm upset, I believe that wallowing in it is all I can do	1	2	3	4	5
32	When I'm upset, I lose control over my behaviours	1	2	3	4	5
33	When I'm upset, I have difficulty thinking about anything else	1	2	3	4	5
34	When I'm upset I take time to figure out what I'm really feeling.	5	4	3	2	1
35	When I'm upset, it takes me a long time to feel better	1	2	3	4	5
36	When I'm upset, my emotions feel overwhelming	1	2	3	4	5

Appendix F- Pittsburg Sleep Quality Index

INSTRUCTIONS:
The following questions relate to your usual sleep habits during the past month only. Your answers should indicate the most accurate reply for the majority of days and nights in the past month. Please answer all questions.

1. During the past month, what time have you usually gone to bed at night?

   BEDTIME _____

2. During the past month, how long (in minutes) has it usually taken you to fall asleep each

   night? NUMBER OF MINUTES _____

3. During the past month, what time have you usually gotten up in the morning?

   GETTING UP TIME _____

4. During the past month, how many hours of actual sleep did you get at night? (This may be different than the number of hours you spent in bed.)

   HOURS OF SLEEP PER NIGHT _____

For each of the remaining questions, check the one best response. Please answer all questions.

5. During the past month, how often have you had trouble sleeping because you ...

a) Cannot get to sleep within 30 minutes

Not during the past month_____	Less than once a week_____	Once or twice a week_____	Three or more times a week_____

b) Wake up in the middle of the night or early morning

Not during the past month_____	Less than once a week_____	Once or twice a week_____	Three or more times a week_____

c) Have to get up to use the bathroom

Not during the past month_____	Less than once a week_____	Once or twice a week_____	Three or more times a week_____

d)   Cannot breathe comfortably

    Not during the   Less than   Once or twice   Three or more
    past month_____   once a week_____   a week_____   times a week_____

e)   Cough or snore loudly

    Not during the   Less than   Once or twice   Three or more
    past month_____   once a week_____   a week_____   times a week_____

f)   Feel too cold

    Not during the   Less than   Once or twice   Three or more
    past month_____   once a week_____   a week_____   times a week_____

g)   Feel too hot

    Not during the   Less than   Once or twice   Three or more
    past month_____   once a week_____   a week_____   times a week_____

h)   Had bad dreams

    Not during the   Less than   Once or twice   Three or more
    past month_____   once a week_____   a week_____   times a week_____

i)   Have pain

    Not during the   Less than   Once or twice   Three or more
    past month_____   once a week_____   a week_____   times a week_____

j)   Other reason(s), please describe_____

_____

How often during the past month have you had trouble sleeping because of this?

    Not during the   Less than   Once or twice   Three or more
    past month_____   once a week_____   a week_____   times a week_____

6.   During the past month, how would you rate your sleep quality overall?

    Very good_____

    Fairly good   _____

Fairly bad_____

Very bad_____

7. During the past month, how often have you taken medicine to help you sleep (prescribed or"over the counter")?

Not during the   Less than   Once or twice   Three or more
past month_____   once a week_____   a week_____   times a week_____

8. During the past month, how often have you had trouble staying awake while driving, eatingmeals, or engaging in social activity?

Not during the   Less than   Once or twice   Three or more
past month_____   once a week_____   a week_____   times a week_____

9. During the past month, how much of a problem has it been for you to keep up enoughenthusiasm to get things done?

No problem at all _____

Only a very slight problem _____

Somewhat of a problem_____

A very big problem _____

Appendix G- Permissions of Scale

Permission for the usage of Chen İnternet Addiction scale Inbox x ↕ 🖨 ↗

Amnaa Mahmood Wed, Dec 28, 2022, 7:49 AM ☆

Respected Dr. Chen, Sue Huei, I am an undergraduate of the psychology program at Capital University of Science and Technology in Islamabad, Pakistan....

陳淑惠 Sue-Huei CHEN <shchen@ntu.edu.tw> Wed, Dec 28, 2022, 12:52 PM ☆ ↩ ⋮

to 臺大心理系陳淑惠RA, me ▾

Thank you for your asking!

Yes, you have my permission to adapt the CIAS in your study.

I'll have my RA send you the scale soon.

Sincerely,

S H Chen

==============================

Sue-Huei Chen, Ph.D. (陳淑惠)

Professor, Department of Psychology

National Taiwan University

Taipei, 10617

TAIWAN

RE: Sleep Measures Request Form (PSQI) `Inbox ×`   ✕ 🖨 ⬈

Gasiorowski, Mary <GasiorowskiMJ@upmc.edu>   📎 Fri, Dec 2, 2022, 6:32 AM   ⭐ ↩ ⋮
to Amnaamahmood489@gmail.com ▾

Sent on behalf of Carolyn Weber

Research use of the PSQI:

Dear Amna Mahmood,

Thank you for your interest in our PSQI instrument. I can give you permission to use the PSQI **only** in non-commercially funded research or education or the product or service you are testing is not a commercial product or is in development by a commercial entity. It cannot be used for patient care either. If your use does **not** fall under those conditions, you can use the survey according to the following provisions:

This copyright in this form is owned by the University of Pittsburgh and may be reprinted without charge only for non-commercial research and educational purposes. You may not make changes or modifications of this form without prior written permission from the University of Pittsburgh. If you would like to use this instrument for commercial purposes or for commercially sponsored research, please contact the Innovation Institute at the University of Pittsburgh at 412-383-7669 for

licensing information.

Our university has instituted a new policy for foreign licensing entities. There are additional clauses that are added to these agreements. Due to this added language, the agreement now needs routed through several departments at the university for review and approval first before final execution of the agreement. This will affect the time line for completion here.

The information is found on the Sleep Medicine Institute of the University of Pittsburgh as https://www.sleep.pitt.edu/instruments/.

All publications, presentations, reports, or developments resulting from or relative to the use of this material shall be referenced as follows: The Pittsburgh Sleep Quality Index: A New Instrument for Psychiatric Practice and Research (Authors Daniel J. Buysse, Charles F. Reynolds III, Timothy H. Monk, Susan R. Berman , and David J Kupfer, © University of Pittsburgh 1989)

Note that Question 10 is not used in scoring the PSQI. This question is for informational purposes only, and may be omitted during data collection per requirements of the particular study.

Permission for the usage of DERS Inbox ×

Amnaa Mahmood   Wed, Nov 30, 2022, 9:44 PM

Respected Dr. Lizabeth Roemer, I am an undergraduate of the psychology program at Capital University of Science and Technology in Islamabad, Pakista..

Lizabeth Roemer <Lizabeth.Roemer@umb.edu>   Wed, Nov 30, 2022, 11:50 PM

to me

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From: Amnaa Mahmood <amnaamahmood489@gmail.com>

Sent: Wednesday, November 30, 2022 11:44 AM

To: Lizabeth Roemer <Lizabeth.Roemer@umb.edu>

Subject: Permission for the usage of DERS

CAUTION: EXTERNAL SENDER

...

Irum Noureen/Psychology

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