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RESEARCH PAPER

Screen Time Addiction and its Relationship with Borderline Personality Disorder and Psychological Distress

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ABSTRACT

The present study was conducted to determine the relationship between screen time addiction (STA), borderline personality disorder (BPD) and psychological distress (PD) among adults. Participants (N = 150) were selected in the study. Their age range varies from 19 years onwards. Cross-sectional survey research design was used and data was collected through purposive sampling technique. Internet Addiction Test (IAT) (Young, 1998), Mclean Borderline Personality Disorder Instrument (MSI-BPD (Zanarini et al., 2003), and Kessler Psychological Distress Scale (K10) (Kessler & Mroczek, 1992) were used. Pearson correlation, independent sample t-test and linear regression were done for analysis. Results showed that STA had significant positive correlation with BPD and PD. Moreover STA predicted BPD and PD. The results also showed that both the dependent variables (BPD and PD) were also significantly and positively related with each other. Moreover, there was a significant gender difference among male and female population on STA, as the results showed that men are more addicted to screen time than women. The study showed that there is significant and positive relationship of screen time addiction with borderline personality disorder and psychological distress. The results also showed that there is a significant, moderate and positive relationship between borderline personality disorder and psychological distress. The present study showed that screen time addiction significantly predicted borderline personality disorder and psychological distress. The study also revealed the gender differences between men and women on internet addiction; as men were found to be more addicted towards screen time than women.

Keywords: Borderline Personality Disorder, Psychological Distress, Screen Time Addiction

Introduction

The Screen time is the term used for the amount of time an individual spends in front of various screens like computer, smartphone, television, game console and other digital devices. Different terms like screen use, digital engagement time, screen time and digital technology use have been used interchangeably in the studies related to the screen time through years (Pandya & Lodha, 2021).

Addiction can be defined as an impulse which is dependent on habit of doing a certain activity or using a specific substance that leads to negative impacts on an individual's physical, social, emotional and mental health (Young et al., 2011). Addiction is a chronic disorder that includes biological, social, psychological and environmental factors that influence the development and maintenance of an addiction. Screen time addiction is a form of behavioral addiction.

Behavioral addictions, also known as non-substance addictions are the set of behaviors that makes a person dependent upon doing the same behavior again and again. Behavioral addiction makes a person to crave for doing the same behavior over and over. Many behaviors like watching pornography, excessive usage of internet and digital devices, gaming and shopping have been identified by people as addictive but still need empirical

evidences to recognize such behaviors as addiction. Therefore, gambling addiction is the only non-substance use addiction that has been added in the fifth addition of diagnostic and statistical manual of mental disorders (Smith., 2021).

The widespread usage of social networking sites and digital devices raises concerns about their potentially harmful effects on adult's mental health. According to the findings of some of the recent studies, excessive usage of social media sites by students is linked to increased psychological symptoms, such as stress and anxiety. Adults may be unaware of how much time they spend i front of various screens and how this affects their academic performance, employment, engagement in real-life social communities, and relationship issues. As a result, it's critical to research the notion of adults' technological dependency pattern of internet usage and its relevance to their mental health (Meena et al., 2015).

The present study aims to find the relationship of screen time addiction with other mental health problems. For this purpose, two of the major issues will be studied in relation with screen time addiction. The previous researches in this domain have highlighted the close relationship between screen time addiction and symptoms of stress, anxiety and depression. Moreover, excessive internet usage and continuously using different digital screens have found to have an impact on individuals self-image, interpersonal relationships, sudden mood shifts and impulsive behavior (Wong et al., 2020).

As the above mentioned symptoms closely match the symptoms of borderline personality disorder in addition with psychological distress, hence in the present study, their relationship with screen time addiction will be studied in detail in order to bridge the gap between the existent research evidences in this domain.

Screen Time Addiction

Screen addiction includes a group of activities that have extremely bad outcomes that can occur when the use of technology exceeds a normal time of technology use during our day. Utilizing digital devices for extended periods of time, such as watching television, playing video games, and browsing social media, is similar to consuming a digital drug (Lorenz, 2018).

Mental health professionals began to consider improper usage of digital gadgets as a psychological condition in the first decade of the 21st century. A smartphone is capable of much more than just making and receiving phone calls and text messages. Shopping or viewing a movie on a phone might have seemed inconceivable back when you could only access the internet at home by kicking someone off a landline phone. However, by 2018, smartphone ownership had raised to 78 percent, with 95 percent of 16-24 year-olds reporting that they would be lost without them (Bisen & Deshpande, 2018).

Screen Time Addiction and Gender Differences

Gender inequalities exist in the majority of addictive behaviours. Studies on substance use disorders reveal gender disparities in the epidemiology, social determinants and characteristics, biological responses, progressions to dependence, health effects, co-occurring psychiatric disorders, and barriers to treatment enrollment, retention, and completion (Tuchman, 2010).

Internet addiction (IA) is a significant clinical phenomenon that may impact both men and women (Anderson, Steen, & Stavropoulos, 2017; Liang, Zhou, Yuan, Shao, & Bian, 2016). According to the Meta analysis that included 31 countries from multiple global regions, the estimated global prevalence of internet addiction is 6% around the world (Cheng et al., 2014).

A recent analysis of seven researches from various cultural backgrounds found that, on average, males were found to be more prone towards developing IA, and that this disparity in gender related estimates of IA grew with time (Anderson et al., 2017). This pattern of internet usage reflects that males are more inclined towards using digital devices and applications with high internet addiction risk like online games and cyber sexual activities (Lin, Ko, & Wu, 2011).

Furthermore, males perform lower than females on screen time addiction related protective factors (such as effortful control) and greater on potential risk factors (such as maladaptive cognitions) (Li, Zhang, Li, Zhen, & Wang, 2010). In addition, females frequently experience greater parental monitoring than males, which may aid in preventing them from engaging in excessive online activity (Yu et al., 2013).

Types and Factors of Screen Time

Kesici and colleagues (2018) explained that as adults, we are aware that screen time' can include a variety of activities; for example, many of us use computers at work or at school, we watch television, and we use cellphones or other touch devices. In the same way that different types of screen time have varying effects on children and adults. Following are the broad categories under the umbrella term screen time.

- Watching television, reading different things from the screen and listening to the music are included in the passive consumption of screen time.
- The interactive consumption of screen time includes playing games on laptops, computers, game consoles and surfing through the internet.
- Use of different platforms of social media and video conferences are the other ways communicating through screens.
- The category of content creation includes the use of digital devices to create different forms of art and music.

Borderline Personality Disorder

Borderline personality disorder (one of the disorder from cluster B personality disorders) is a mental health condition that is characterized by frequent mood shifts and difficulty controlling emotions, impulsive behavior, poor interpersonal relationships and an insecure and unstable self-image (Decapua, 2020). Typically, this disorder's symptoms start to show up in late adolescence or early adulthood (Sadock et al., 2015). BPD is one of the ten disorders listed in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, under the heading of personality disorders.

Diagnosis of Borderline Personality Disorder

Although borderline personality disorder (BPD) is most commonly diagnosed and treated in adults, it is frequently misdiagnosed and mistreated. Borderline personality disorder (BPD) is a diagnosis that is both valid and reliable, as well as has successful treatment choices. Over the last three decades, we've learned a lot more about how personality disorders develop, how to diagnose them, and how to treat them. Previously thought to indicate 'difficult' or 'bad' behavior, core traits are now being recognized as underlying challenges in self- and interpersonal functioning (Baltzersen, 2021).

Causing Factors and Symptoms

Studies also support that BPD is a complex interplay between environmental factors and genes of an individual (Goodman et al., 2013). Individuals with borderline personality disorder are believed to have a view of the world in terms of all good or all bad perspective.

This leads to the rapid shifts between idealizing and devaluing towards a person or an object (Millon et al., 2004). This distorted view of the world and dichotomous thinking pattern leads to having instable interpersonal relationships.

When faced with having to part ways with someone they care about, people with BPD struggle to prevent feeling abandoned and exhibit extreme, uncalled-for stress and fury. BPD patients experience severe mood swings that appear as dysphoria, anger, panic, and anxiety (DSM 5th Ed., 2013).

Psychological Distress

Psychological distress refers to the discomfort related to the symptoms of stress, anxiety and depression. High levels of psychological distress indicate disturbed mental health and the presence or prevalence of common mental disorders like depression, anxiety and stress related disorders. The previous studies in this domain suggest that women are more prone towards developing psychological distress as compared with men. The factors that can contribute towards developing psychological distress include a wide range like, social and environmental factors, biological as well as psychological factors (Viertio et al., 2021).

Use of digital technologies to carry out a wide variety of tasks and activities of the daily life has made the people to become dependent over the internet services accessed through various digital devices (Lin et al., 2019). One of the important factors that indicate behavioral addiction and excessive dependence over an activity or substance is the discomfort that is created as a result of lack of access to an object or situation (Lin, Kononova & Chiang, 2019). The common disorders that co-occur with borderline personality disorder are depression, and bipolar disorder, eating and anxiety disorders and substance abuse disorders (Smith & Segal, 2021).

It has been found that the individuals with borderline personality disorder are more prone towards developing substance abuse disorders than other people, as the prevalence is up to 78% (Tomko et al., 2014). Lack of impulse control; which is the main trait in people with borderline personality disorder, makes them to want an immediate solution and reward instead of waiting for a delayed one. This trait makes them more prone towards substance use problems (Coffey et al., 2011).

Pathological gambling has been added in the fifth edition of Diagnostic and Statistical Manual of Mental Disorders (DSM-5), in the category of substance related disorders (American Psychiatric Association, 2013). Many researches have highlighted that the people with behavioral addiction and substance abuse disorders share similar neurological impairment and symptoms (Robbins & Clark, 2015).

The Section III of DSM-5 includes internet addiction; as it has been envisioned as a potential behavioral addiction (APA, 2013). After this addition, a growing interest has been seen in studying the relationship between internet addiction and BPD. A study has found that the people who have mild to severe internet addiction also have more signs and symptoms of borderline personality traits, as compared to those who are not addicted to internet (Dalbudak et al., 2014).

There exists a strong relationship between the digital technology use and increase in mental health disorders. Multiple studies have found the link that exists between excessive social media use and various mental health conditions like depression, stress, low mood and low self-esteem and psychological well-being as well as anxiety issues. Many of the studies have focused on the impact of using excessive digital media impacts over mental health conditions in children and adolescents, but adults are also prone towards developing various mental health conditions as a result of social media use (Koehler and Parrell., 2020).

A study conducted on 290 German treatment seekers in order to characterize them and to obtain the evidences of internet addiction in them found that 71% male treatment seeks met the criteria for internet and computer games addiction. The findings revealed that the people with internet addiction had higher level of psychopathology; mainly depressive and dissociative symptoms. Amongst them, half of the patients also met the criteria of one further psychological disorder (Müller et al., 2014). A study conducted in Iran on 447 students revealed that internet addiction has a positive correlation with mental health problems like depression and anxiety. The study findings concluded that excessive use of internet on different digital devices leads to adverse impacts on mental health (Lebni et al., 2020).

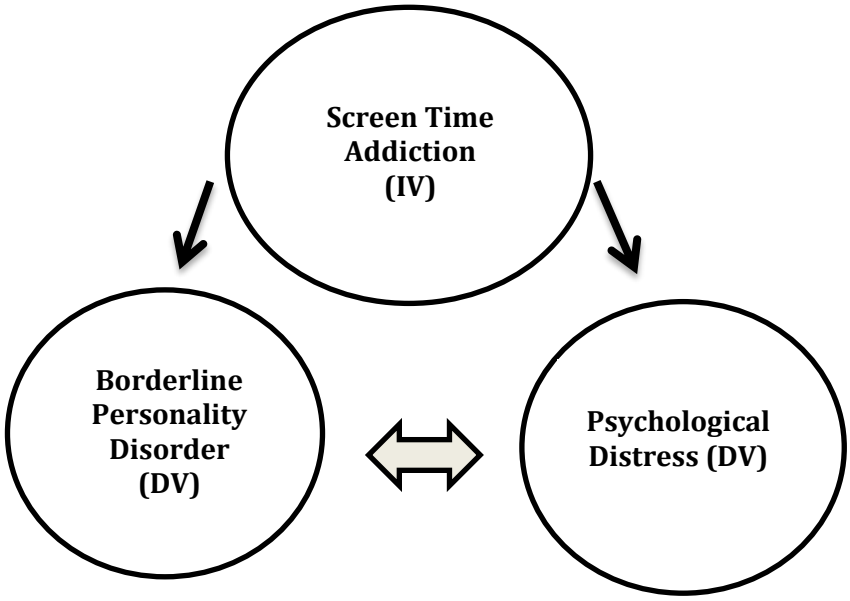

Figure 1. Model

Material and Method

Research design

Cross-sectional survey method design was used to measure, understand and access the statistical relationship between screen time addiction, borderline personality disorder and psychological distress in adults.

Transparency and Openness

We describe our sampling plan and all data exclusions, all manipulations and measures in the study, and we adhered to the Journal of Applied Psychology methodological checklist. Data in the research was analyzed through SPSS-21. This study's design and analysis were not preregistered.

Population

Data was collected from adults (older than 19 years of age) of Rawalpindi and Islamabad. The sample consisted of 150 adults.

Sample

The sample consisted of $N = 150$ adults from different areas of Rawalpindi and Islamabad. The sample's age range was from 19 years to onwards; according to the age range

of adults given by World Health Organization (WHO), as WHO define adults as a person who is older than 19 years of age (World Health Organization, 2022). Data was collected through purposive sampling technique. A quantitative study (survey) was done on the sample.

Inclusion Criteria

1. The age range of adults was from 19 years to onwards.
2. Data was collected from different areas of Islamabad and Rawalpindi.

Exclusion Criteria

1. Adolescents and children were not included included in the study.

Instruments

Demographic Sheet

Demographic sheet included age, gender, marital status and family system, education and a question about the daily ours of screen time.

Young Internet Addiction Scale (IAT)

Dr. Kimberly Young developed internet addiction test in 1998 in order to assess the symptoms of compulsivity and addiction with regard to internet and digital technology use (Dennis et al., 2022). IAT consists of 20 items self-report questionnaire with response category from 1 to 5. The potential range of the test is from 0 to 100, where a higher score indicates greater tendency of addiction and dependency on internet and digital media (Young, 2015). Chronbach Alfa coefficient of reliability of the scale was found to be greater than .90 (Yoo et al., 2004).

The McLean Screening Instrument (MSI-BPD)

The McLean Screening Instrument for Borderline Personality Disorder (MSI-BPD) is a commonly used 12-item self-report measure the presence of borderline personality disorder. The MSI-BPD was developed by Dr. Mary Zanarini and her colleagues at McLean Hospital in 2003. Each item in the scale is rated as a "1" if it is present and a "0" if it is absent except the last two items for which “No” is scored 1. The potential range for the scale is from 0 to 12. A score of 7 is considered to be the cut off score for the presence of BPD. It has adequate internal consistency and good test and retest reliability of .74 (Preyde et al., 2022).

Kessler Psychological Distress Scale (K10)

The Kessler psychological distress scale (K10) (Kessler, 2002) is a widely used and simple self-report measure of psychological distress. It is used to identify those in need of fthe symptoms of anxiety (items 2, 3, 5, 6) and depression (items 1, 4, 7, 8, 9, 10). The K10 consists of 10 items on 5 point likert from 1 being “none of the time” to 5 being “all of the time”. The potential range of the scale is from 10 to 50, where greater score indicate greater level of psychological distress.

Procedure

The current study consisted of *N = 150* adults *(Male = 66, Female = 84)* from different areas of Rawalpindi and Islamabad. The age range of the sample was from 19 years to onwards (according to the age range given by World Health Organization for adults). Data was collected through purposive sampling technique. Questionnaire included Internet

addiction Test (IAT), McLean Screening Instrument for Borderline Personality Disorder (MSI-BPD) and Kessler Psychological Distress Scale (K10). Questionnaires were distributed and were filled out by the participants. Before starting the research work, ethical approval was obtained from Riphah International University (Department of Social Sciences). All the ethical considerations were taken into account while approaching and collecting the data from volunteers.

Data Analysis

Pearson correlation, independent sample t-test and linear regression were used in the study.

Ethical Consideration

Participants were informed about the purpose of the study and informed consent was also mentioned on the survey form. Confidentiality was ensured and participants had the right to withdraw from participation any time without any cost if they do not feel comfortable.

Results and Discussion

Table 1
Data Distribution for demographic variable

Variables	*f (%)*
1 Gender	
Male	66 (44.0)
Female	84 (56.0)
2 Marital Status	
Single	133 (88.7)
Married	17 (11.3)
3 Family System	
Joint	62 (41.3)
Nuclear	88 (58.7)

Table 2
Reliability Estimates

					Range			
Variables	K	A	M	SD	Potential	Actual	Skew	Kurt
Internet Addiction	20	.90	38.07	17.052	0-100	6-95	.690	.505
Borderline Personality Disorder	12	.65	5.78	2.541	0-12	2-12	.200	-.842
Psychological Distress	10	.84	25.80	7.568	10-50	11-46	.135	-.557

Table 3
Pearson's Correlation Coefficient

	Variables	1	2	3
1	Internet Addiction	-	-	-
2	Borderline Personality Disorder	.335**	-	-
3	Psychological Distress	.335**	.507**	-

Table 4
Linear Regression Analysis

		Outcome Variable (Borderline Personality Disorder)				
Model	IV	*B*	*B*	SE	R^2	F
1	Constant		3.87	.48		
	IAT	.335	.05**	.012	.11	18.74**
		Outcome Variable (Psychological Distress)				
		B	B	SE	R^2	F
2	Constant		20.13	1.43		
	IAT	.335	.14**	.03	.11	18.71**

Table 5
Gender Differences

	Male	Female					
	(n=66)	*(n=84)*	*t(148)*	*P*	*95% CI*		
Variables	*M(SD)*	*M(SD)*			*LL*	*UL*	*Cohen's d*
IA	42.44(15.94)	34.63(17.20)	2.850	.005	2.39	13.22	0.47
BPD	5.91(2.57)	5.68(2.52)	.550	.583	-.59	1.05	0.09
PD	26.79(7.50)	25.02(7.57)	1.422	.157	-.68	4.21	0.23

Discussion

The present study was conducted with the aim to find the relationship between screen time addiction, borderline personality disorder and psychological distress. Results confirmed first hypothesis (see Table no 3). Results showed that screen time addiction is significantly related with borderline personality disorder and psychological distress. Multiple studies have found the positive correlation that exists between excessive social media use and various mental health conditions like depression, stress, low mood and low self-esteem, disturbed interpersonal relationships, anger episodes, poor impulse control and anxiety issues (Koehler & Parrell, 2020). High screen addiction prevalence rate is found to be associated with higher rate of psychological distress (Hasan & Abu Jaber, 2020).

According to the second hypothesis of the study, there is a relationship between borderline personality disorder and psychological distress. Results confirmed this hypothesis (see Table no 3). Results illustrated a significant, moderate (>.5) and positive relationship between borderline personality disorder and psychological distress. Ebner and colleagues (2018) found that the deregulated affect; depression and anxiety are more pertinent in people with borderline personality disorder. The findings reflect that borderline personality disorder is a being a severe mental health problem which is majorly characterized by large amount of distress and affective dysregulations.

The third hypothesis of the study is that, screen time addiction will significantly predict borderline personality disorder and psychological distress. Results confirmed this hypothesis (see Table no 4). Findings showed that internet addiction significantly and positively predicted borderline personality disorder and psychological distress. The results further indicated that 11% variance was contributed by internet addiction in predicting borderline personality disorder and psychological distress. Additionally the study also found significant difference across male and female sample on screen time addiction. As per results (see Table no 5), there was a statistically significant difference between men and women on Internet Addiction Test. It is evident from the findings that men scored significantly higher (**p < .01) on screen time addiction, as compared to women. According to research, the proportion of women who use the internet in developing nations is lower than the proportion of men in all age groups (Antonio et al., 2014). The average apparent risk for IA was higher in men than in women, according to a recent review of seven studies

from different cultural backgrounds. This difference in gender-related prevalence estimates of IA grew over time (Anderson et al., 2017).

Conclusion

The purpose of this study was to determine the relationship between screen time addiction, borderline personality disorder and psychological distress among adults. The study showed that there is significant and positive relationship of screen time addiction with borderline personality disorder and psychological distress; hence it appears that our hypothesis H1 is correct. The results also showed that there is a significant, moderate and positive relationship between borderline personality disorder and psychological distress that prove that hypothesis H2 is correct. The present study showed that screen time addiction significantly predicted borderline personality disorder and psychological distress, therefore hypothesis H3 is also correct. The present study found out the gender differences between men and women on internet addiction; results were consistent with the hypothesis which says that men are more addicted towards screen time than women. Here hypothesis H4 also appears to be correct. The present study will help to understand the impacts which screen addictive behaviors leave on mental health. It will also help to better understand the relationship of these addictive behaviors with other mental health problems

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