
**Interpersonal Support and Social Reflection are the Solution to Internet Addiction:
Empirical Evidence**Bushra Naz¹, Muhammad Kashif Fida², Muhammad Zohaib Khan^{3*}**Abstract**

The use of the internet has become one of the most leisurely activities among young adults all around the world. Growing worries over the extensive student internet usage have prompted heightened research into the determinants of internet addiction and its adverse outcomes. The existing research examined the relationships among interpersonal social support, self-reflection, social anxiety, and internet addiction in young adults. A correlation research design was used in this study. The Interpersonal Support Evaluation, Self-Reflection and Insight Scale, Social Interaction Phobia Scale, and Internet Addiction Test were used to collect data from 150 young adults having an age range 18 to 27 years. The study's results indicated a positive likelihood of a relationship between interpersonal social support and self-reflection. Conversely, an inverse correlation emerged in relation to social anxiety and internet addiction. Regression analysis unveiled interpersonal social support as an inverse predictor, while the duration of internet use in young adults positively predicted internet addiction. Moreover, no significant mean differences were found in interpersonal social support, self-reflection, social anxiety, and internet addiction between male and female young adults. The mediation models demonstrated noteworthy model fit indices and illustrated the mediation of the social anxiety-internet addiction relationship. Additionally, demographic variables (daily internet usage duration and purpose) exerted an influence on the association. The study would be helpful for the parents, institutional counselors, and teachers. If young adults are provided with interpersonal social support from their significant others, then they will not seek it in a virtual medium such as the internet.

Keywords: Internet Addiction, Interpersonal Social Support, Social Anxiety, Young Adults

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Introduction

In contemporary society, internet technology has become our new norm, and its inculcation

in our daily life has augmented at a record-breaking speed. This rapid integration of the internet has made it infeasible to separate the potential benefits from its detriments to society, categorically on the younger population of the society. Since the advent of the internet, the similarities between the excessive usage of the internet and more traditional addictions seem indisputable, and thus latest researchers are striving to categorize it as a diagnose-able disorder in the subsequent DSM (Musetti et al., 2016; Poli, 2017; Young, 2017).

The term 'addiction' has evolved from its original meaning of 'binding act of one person to another' to the negative connotation of "*dependence or loss of control even in the presence of evident*

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negative consequences”, and it has extended beyond mere substance abuse to include a range of behavioral addictions, such as compulsive gambling, internet addiction, etc. (Rosenthal & Faris, 2019). With the inclusion of the distinctive diagnosis of non-substance-related disorders i.e., gambling disorder in DSM-5, researchers have also started viewing internet addiction in the same light, and its criteria have been implemented into recent assessment scales (Van Ameringen et al., 2018). Conceptually, internet addiction resides between the areas of pleasure-seeking or impulsive behavior, and anxiety-reducing or compulsive/repetitive behavior comprises activities like online gambling, sexual content, dating apps, social media, messaging, entertainment, or information seeking (Shaw & Black, 2008). Perhaps it can be more clearly defined by following the somewhat similar diagnostic criteria of gambling disorder in DSM-5 which include tolerance, craving, fixation, withdrawal, adverse consequences, loss of control, and deterioration of relationships (APA, 2013). In terms of internet addiction, tolerance refers to increasing the amount of specific behavior to gain similar effects over time. Such as pursuing more likes on social media. Craving and withdrawal denote the restlessness or irritability the individual experiences when trying to reduce the behavior. Preoccupation indicates having frequent interrupting thoughts about the behavior. All of these behaviors further lead to having an impaired personal, professional, or psychological life. A feat that can be managed with some self-reflection.

Self-reflection is the proficiency to perform self-examination and the readiness to learn about one’s central nature and purpose (Seggelen-Damen & Dam, 2016). By gaining insight into one’s self, an individual becomes aware of their maladaptive behaviors and shortcomings, and works on overcoming them. Self-reflection is one of the fundamental facets essential for self-regulation. Through this people gauge their behaviors, mull over the reasoning behind

them, and assess where it can be improved. A process is vital for the learning and re-learning of new concepts (Schiemann et al., 2019; Wang et al., 2020). The absence of self-reflection is usually a major reason for individuals getting stuck in the cycle of addiction. Ordinarily, it goes that people learn from their past mistakes and vow to be better. However, in the case of addicts, they repetitively engage in their preceding missteps because they have no insight into how to change it or even if what they are doing is wrong or not (Copersino, 2017; Osatuyi & Turel, 2018). This making the individuals divulge more into their addiction to the internet, leading to the avoidance of social settings and interpersonal support.

Interpersonal support signifies the conviction that one is surrounded by individuals who care about them and are willing to provide assistance whenever necessary. This type of support takes various forms, such as tangible assistance like appraisal support or material aid, the ability to confide in others about personal matters, support for boosting self-esteem through the presence of a relatable individual, and a sense of belonging through identification with a particular group (Cohen & Hoberman, 1983). Having interpersonal support is the main contributor to an individual’s wellbeing thus affecting the management of their addiction. Support provided by the people around the addict allows the individual to experience a sense of belonging and provides them with a shared purpose i.e., the ultimate recovery and betterment of the addict. This support increases one’s feelings of self-confidence, self-belief, and self-esteem (Herrero et al., 2019; Wang et al., 2018). In addition to the factors of self-reflection and interpersonal support, social anxiety also plays a major role in exacerbating the internet addiction of an individual.

Social anxiety is the nervousness or overwhelming fear felt while socializing. It usually comes from the perceived negative evaluation of others in a social setting or self-doubt about one’s social performance. It

usually starts around adolescence with some people coming out of it with the passage while for others it can be a life-long condition (APA, 2013). This perceived inspection of others can cause significant distress in one's day-to-day life and makes it difficult to perform even the mere menial tasks leading the individuals to seek shelter in the online world (Darcin et al., 2016). People experiencing social anxiety tend to favor online communication over in-person interactions, as it enables them to evade the uneasy emotions tied to real-time engagement. Over time, this pattern evolves into a self-fulfilling prediction, drawing them further into the vortex of internet addiction (Baltaci, 2019; Yucens & Uzer, 2018).

Researchers have been interested in studying the negative effects of the internet since its conception. One study found an adequate positive relationship of internet addiction with social anxiety, indicating that individuals with higher scores in social anxiety will also score higher on internet addiction even if they don't necessarily use it for social purposes (Weinstein et al., 2015). Another research also concluded a higher usage rate among individuals with social anxiety. This activity enables them to avoid the face to face interactions resulting in lessened anxiety (Andreassen et al., 2016; Lee & Stapinski, 2012). A researcher developed a module to battle internet addiction through self-reflection (CBT). Individuals included in the intervention showed a marked deterioration in their internet usage following CBT treatment (Putri et al., 2018). Furthermore, a study indicated a negative correlation between social support and internet addiction, suggesting that individuals with lower perceived social support are at a higher likelihood of engaging in internet addiction (Wang et al., 2018). The same results were stressed by another research conducted among Romanian students (Tudorel & Vintilă, 2018), and the one conducted on Chinese adolescents (Tang et al., 2016). Gender differences when the addictive use of

the internet was studied by the researchers. One study with a large sample data of 23,500 participants found females to be more addictive than their counterparts (Andreassen et al., 2017).

In recent years, the internet has seen a rapid incline in its users due to everyday life being quite dependent on it. In Pakistan alone, 3G/4G subscribers have reached 85 million and broadband subscribers have reached 87 million, a drastic ascent since 2019 (Pakistan Telecommunication Authority, 2020). Social media usage has also seen an uptick by almost 7% and has reached an all-time high of 37 million (Kemp, 2020). With the comfort brought on by the internet in the form of connectivity and globalization, it also has its fair share of issues. One of the main issues that have been plaguing internet users is its unavoidability and mesmerization of its colorful immersive world. Parents and concerned individuals are rightfully worried about the compelling world of the internet that causes the youth to abandon their duties and relationships. The addiction to the internet is in many ways like any other substance addiction despite it not being a diagnosable disorder yet. Therefore, to overcome it first, we need to understand it and all the related facets that affect it or are affected by it. This research will be an instrumental addition to understanding the effects of internet addiction on individuals that will help researchers and clinicians alike to form ways to combat this effectively and efficiently.

Objectives

1. To investigate the relationships between interpersonal support, social anxiety, self-reflection, and internet addiction among young adults.
2. To find out the gender difference in terms of interpersonal support, self-reflection, social anxiety, and internet addiction.
3. To investigate the mediational role of interpersonal support and social reflection in the relationship between social anxiety and internet addiction.

The following research hypotheses were tested via statistical analyses:

- H₁:** There is likely to be a significant relationship between interpersonal support, social anxiety, self-reflection, and internet addiction among young adults.
- H₂:** Interpersonal support, social anxiety, self-reflection, and duration and purpose of internet use would be significant predictors of internet addiction in young adults.
- H₃:** Female young adults would be significantly higher in social anxiety and internet addiction as compared to male young adults.
- H₄:** Interpersonal support and self-reflection would significantly mediate the relationship between social anxiety and internet addiction.

Method

Research Design

The correlation research design was employed to investigate the association among young adults concerning interpersonal support, social anxiety, self-reflection, and internet addiction.

Sample

The data collection was done by using purposive sampling technique from the different universities of Lahore i.e., "Government College University Lahore"(GCU), "University of Engineering and Technology Lahore"(UET), "Punjab University"(PU), and "University of Education"(UE). A total sample of $N=150$ young adults including equal numbers of males ($n=75$) and females ($n=75$) was selected for this research. The selection of the sample size was determined using G-Power analysis, a statistical software. G-Power analysis suggested that a sample size of 150 is appropriate for this study (Hickey et al., 2018).

Inclusion and Exclusion Criteria

The students, aged between 18 and 27, were included in this research. Furthermore, only university students were involved because they represent a more diverse range of backgrounds. Moreover, young adults "who do not use the internet daily or were outside the given age range were not allowed to

participate in this study." An equal number of male and female students were recruited for data collection. Students with any psychological or physical disorders were excluded from the study.

Instruments

Interpersonal Support Evaluation (Cohen et al., 1985)

A 12-item measure of perception of social support. This measure is the short version of the interpersonal social evaluation list (ISEL) 40-item developed by Cohen and Hoberman (1983). The shorter version is comprised of three different dimensions to measure the perceived social support (i.e., appraisal support, belonging support, and tangible support), each dimension is measured by 4 items on a 4-point scale ranging from "1= Definitely True" and "4= Definitely False". The alpha coefficients estimate for this scale ranging from ($\alpha= 0.67$ to 0.83) indicated that this scale is a reliable and valid measure to use in this study.

Self-Reflection and Insight Scale (Grant et al., 2002)

It was developed by Grant et al. (2002). This scale is comprised of two subscales i.e., self-reflection and insight. The subscale of Self-Reflection determines the respondent's requirement for an assignment in self-reflection that is characterized by the item "I am very interested in examining what I think about" while the Insight subscale determines the inner self-awareness of an individual's emotional state, beliefs, and drives that is characterized by the item "I usually know why I feel the way I do". The scale comprised 20 items 5-point Likert-type scale ranging from 1 as "Strongly Disagree" to 5 as "Strongly Agree. Moreover, 12 items measure self-reflection and the remaining 8 items measure insight. Items 1, 2, 4, 8, 11, 13, and 14 of the scale were inversely scored. The alpha reliability for the Self-Reflection and Insight scale was respectively i.e., $\alpha= 0.87$, 0.70 . The overall reported Cronbach's alpha of the 20-item scale was $\alpha= 0.91$.

Social Interaction Phobia Scale (Carleton et al., 2009)

The SIPS is a 14-item self-report scale intended to measure the signs particularly related to SAD (e.g., “*When mixing socially I am uncomfortable*”). It is measured on a 5-point Likert-type rating scale, ranging from 0 (*not at all*) to 4 (*extremely*). The SIPS is aimed to assess three symptom dimensions of SAD: *social interaction anxiety*; *fear of overt evaluation*; and *fear of attracting attention*. This scale is a reviewed form of the social interaction anxiety scale (SIAS) and social phobia scale (SPS) that is founded by Mattick and Clarke (1998). The internal consistency of SIAS was high for both the undergraduate sample $\alpha = 0.93$ as well as for the clinical population $\alpha = 0.89$. In addition to that alpha reliability for the social phobia, the scale was high for both the undergraduate and the clinical sample ($\alpha = .93$).

Internet Addiction Test (Young, 1998)

Internet addiction test (IAT) is founded by Dr. Kimberly Young in 1998. It is comprised of 20 items that are intended to classify mild, moderate, and severe addiction to the Internet. Each item is measured on a 5-point Likert-type rating scale ranging from 0 to 5 (0=*Do not apply*, 1=*Rarely*, 2=*Occasionally*, 3=*Frequently*, 4=*Often*, 5=*Always*). The scale determined how far the use of the internet affects everyday life, output, duration of sleep, and emotional state.”The overall scores of 0 to 30 indicate a standard use of the internet; 20 to 39 reflect the mild use of the internet, whereas 40 to 69 indicate the existence of moderate use of the internet and 70 to 100 reflect a severe reliance

on the internet. The Internet addiction test exposed six factors i.e., salience, excessive usage, neglecting work, anticipation, lack of control, and neglecting social life. The coefficient alpha estimates for this scale are ranging from $\alpha = 0.79$ to 0.89. Further, the confirmatory factor analysis also provides evidence for the excellent psychometric properties of the scale (Wu et al., 2004).

Procedure

The research followed all the ethical considerations set forward by the APA. In the first step, formal permissions were obtained from the original authors of the scales. Similarly, ethical authorization was obtained for the current research study from the institution’s board of study. Afterward, a purposive sample of young adults was approached at their respective universities. They were elucidated about the aims and objectives of the study along with the assurance of responses confidentiality that data obtained from the research will only be used for research purposes. Subsequently, the informed consent was taken from the participants and the booklet of the questionnaire comprised of the demographic information sheet, interpersonal support, social anxiety, self-reflection, and internet addiction questionnaires were handed over. They were asked to give their honest responses after carefully reading each statement. Data collection was carried out in seven weeks. Subsequently, the responses were extracted, analyzed, and systemized for various analyses by using SPSS version-23. Furthermore, incomplete responses were excluded from the data before analyses.

Results**Table 1***Demographic Characteristics of the Sample (N= 150)*

Variables	M (SD)	f	%
Age	20.72 (2.83)		
Gender			
Male		75	50.0
Female		75	50.0
Marital Status			
Single		146	97.4
Married		04	02.6
Academic Qualification			
Graduation		66	44.0
Masters		41	27.4
Post-graduation		43	28.6
Duration of Internet Use			
Less than 1 hour		23	15.4
2-3 hours		39	26.0
4-5 hours		33	22.0
6-7 hours		40	26.6
More than 8 hours		15	10.0
Mostly Use Internet			
Day time		34	22.6
Night time		49	32.4
During both timing		67	44.6
Purpose of Internet			
Socialization		23	15.4
Entertainment		23	15.4
Study Related Activities		70	46.6
Study & entertainment		23	15.3
Time Pass		11	7.4

Table 2*Reliability Analysis of the Research Instruments (N= 150)*

Research Instruments	k	α
Interpersonal Support Evaluation	12	0.90
Self-Reflection and Insight Scale	20	0.80
Social Interaction Phobia Scale	14	0.75
Internet Addiction Test	20	0.70

 α = Cronbach's Alpha Reliability."

Table 2 indicated the results of the reliability analysis. It was found that all the research

instruments have excellent Cronbach's alpha coefficient estimates.

Table 3

Correlation among Interpersonal Social Support, Self-Reflection, Social Anxiety, and Internet Addiction in Young Adults (N=150)

Variables	1	2	3	4
1. Interpersonal Social Support	-	.189*	-.415**	-.469**
2. Self-Reflection		-	-.330**	.087
3. Social Anxiety			-	.229**
4. Internet Addiction				-
<i>M(SD)</i>	53.89(11.45)	65.28 (8.72)	42.55 (11.66)	55.48 (19.06)

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

To scrutinize the relationship among interpersonal social support, self-reflection, social anxiety, and internet addiction in young adults Pearson Product Moment correlation analysis was executed. Findings of the analysis depicted that interpersonal social support is positively associated with self-reflection ($r = .189, p < .05$) however, it was inversely correlated with social anxiety

($r = -.415, p < .05$) and internet addiction ($r = -.468, p < .05$). Furthermore, self-reflection in young adults was negative significantly associated with social anxiety ($r = -.330, p < .05$), the non-significant relationship was found between the self-reflection and internet addiction ($r = .089, p > .05$). In addition to that social anxiety was significantly associated with internet addiction ($r = .229, p < .05$).

Table 4

Multiple Linear Regression Analysis Showing the Predictors of Internet Addiction in Young Adults (N = 150)

Predictor	<i>B</i>	<i>SE</i>	β	<i>t</i>	95% <i>CI</i>		<i>p</i>
					<i>UL</i>	<i>LL</i>	
Constant	53.01	16.29		3.25	85.21	20.81	.01
Interpersonal Social Support	-.72	.13	-.43	-5.54	-.46	-.98	.01
Self-Reflection	.44	.16	.20	2.72	.77	.12	.07
Social Anxiety	.15	.13	.09	1.19	.41	-.10	.23
Duration of Internet Use	2.04	1.11	.13	1.83			.06
R^2	.27						.02
<i>F</i>	3.36						.06

"Note: ** $p < .01$, * $p < .05$; β = Coefficient of Regression, *LL* = Lower Limit, *UL* = Upper limit. 95 CI %"

Table 4 showed the results of multiple linear regression with the entered method. Results indicated that interpersonal social support was found to be an inverse significant predictor of internet addiction ($\beta = -.43, p < .01$) in young adults. Moreover, self-reflection ($\beta = .20, p > .01$), social anxiety

($\beta = .09, p > .01$), and duration of internet use ($\beta = .13, p < .01$) were found to be non-significant predictors of internet addiction. The value of R^2 (.27) for this model explains the 27% variance in internet addiction accounted for by these variables.

Table 5

Mean Differences between Male and Female Young Adults in Terms of Interpersonal Social Support, Self-Reflection, Social Anxiety, and Internet Addiction (N = 150)

Variable	Male Young Adults (n = 75)		Female Young Adults (n = 75)		t(148)	sig	95 % CI		Cohen's d
	M	SD	M	SD			LL	UL	
ISS	53.92	12.18	53.85	10.74	.13	0.88	-	3.02	.006
SR	65.38	8.43	65.18	9.04	-.39	0.69	-	3.01	.02
SA	42.18	13.15	42.93	10.04	.04	0.96	-	3.78	.06
IA	57.85	19.22	53.10	18.73	1.53	0.12	-	10.87	.25

Note: ** $p < .01$, * $p < .05$; ISS=Interpersonal Social Support, SR=Self-Reflection, SA=Social Anxiety, IA= Internet Addiction, CI = Confidence Interval. LL = Lower Limit. UL = Upper Limit.

Table 5 showed the results of independent sample *t*-test that indicated a non-significant mean difference between male and female young adults in terms of interpersonal social support ($t=.13, p>.05$), self-reflection ($t=-.39,$

$p >.05$), social anxiety ($t = .04, p >.05$), and internet addiction ($t=1.53, p>.05$). Furthermore, the values of Cohen's *d* also showed a non-significant difference impact.

Figure 1

Standardized Direct Effect of Social Anxiety on Internet Addiction (N=150)

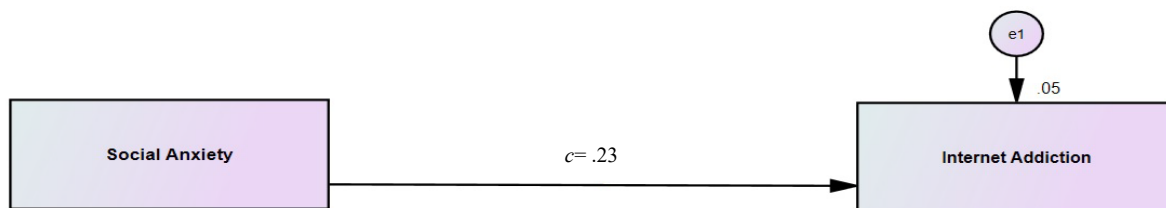
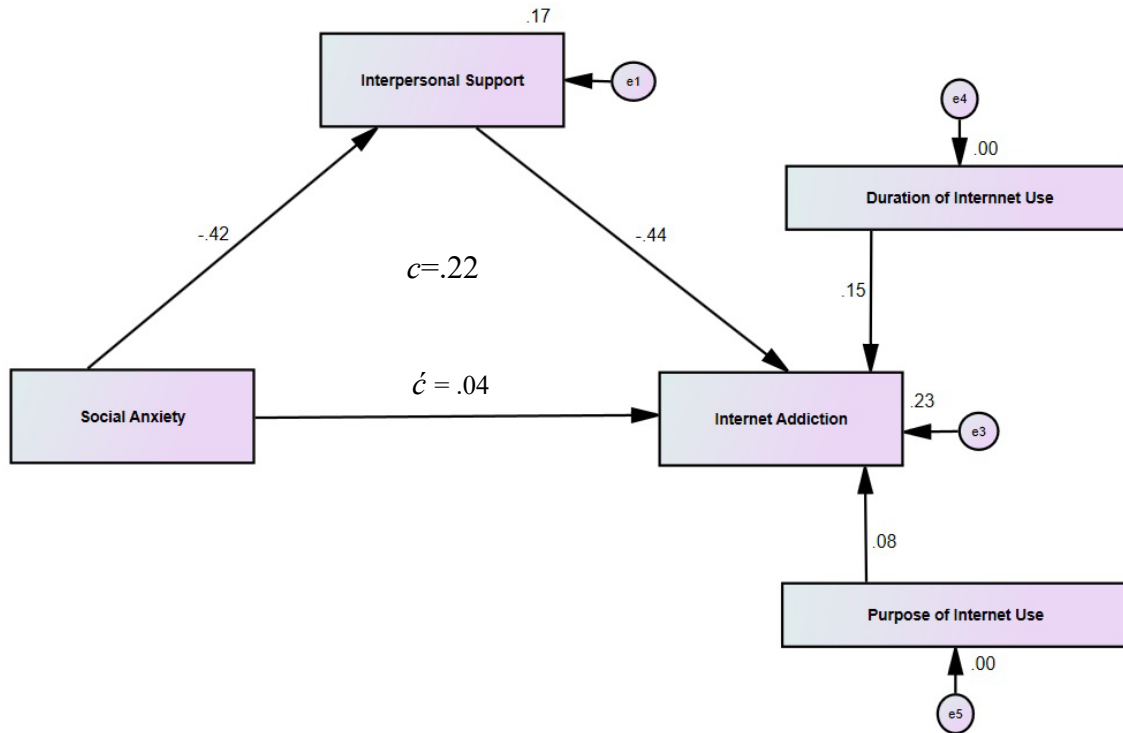


Figure 1 illustrated the standardized significant direct effect of social anxiety on

internet addiction ($\beta = .23, p < .01$) among young adults.

Figure 2

Path Analysis: Interpersonal Social Support Mediate the Relationship between Social Anxiety and Internet Addiction (N=150)



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

The standardized mediation model illustrates significant indirect path coefficient between social anxiety to interpersonal social support ($\beta = -.42, p < .01$), interpersonal social support to internet addiction ($\beta = -.44, p < .01$) and social anxiety to internet addiction ($\beta = .04, p < .01$). Furthermore, interpersonal social support significantly mediated the relationship between social anxiety and internet addiction ($p < .01$). Although, the young adults’ duration and purpose of

internet use work as a covariate have impact on the outcome variable ($\beta = .15, p < .01$), ($\beta = .08, p < .01$).” The mediation analysis has partitioned the total effect of social anxiety on internet addiction $c = .22$, into a direct effect $\hat{c} = .04$ and a mediated effect $(-.42 \times -.44) = .184$ (Arbuckle, 2008). It means one standard deviation increase in social anxiety, a decrease in internet addiction through the mediational variable interpersonal social support.

Table 6

Standardized Model Fit Indices for the Mediation of Interpersonal Social Support Between the Relationship of Social Anxiety and Internet Addiction (N = 150)

Model	χ^2	df	CMID	RMSEA	CFI	GFI	TLI
Model-Fit Indices	11.09	5	2.21	.09	.91	.97	.83

Note. * $p = RMSEA \leq .01$, * $p = CMID < 3.0$
 The standardized fit indices for the mediation model indicated satisfactory fitting, $\chi^2 = 11.09$ ($df = 5, N = 150$), $p < .05$, $RMSEA = .09$,

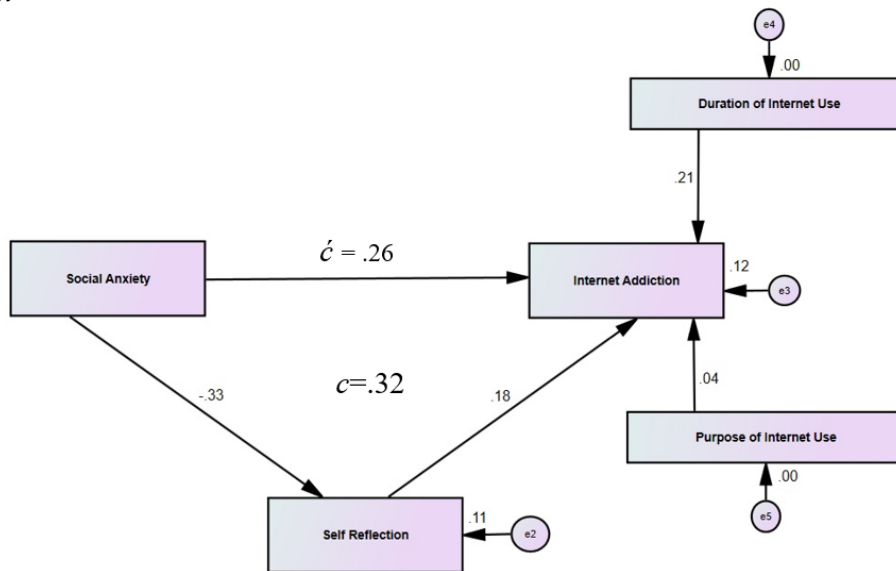
$CFI = .91$, $GFI = .97$, and $TLI = .83$. The significance of the chi-square value is attributed to the higher degree of freedom.

Consequently, by dividing the degree of freedom by the chi-square (χ^2/df), the derived value of 2.21 is deemed acceptable for model

fit (Amjad et al., 2023; Iftikhar & Malik, 2014; Hu et al., 1992; Naz, Batool, et al., 2022).

Figure 3

Path Analysis: Self-reflection Mediates the Relationship between Social Anxiety and Internet Addiction



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

The standardized mediation model highlights a noteworthy indirect path coefficient from social anxiety to self-reflection ($\beta = -.33$, $p < .01$), from self-reflection to internet addiction ($\beta = .18$, $p < .01$), and from self-reflection to internet addiction ($\beta = .26$, $p < .01$). Moreover, self-reflection serves as a significant mediator between the relationship of social anxiety and internet addiction ($p <$

$.01$). Nonetheless, the duration and purpose of young adults' internet use, acting as covariates, exhibit an impact on the outcome variable ($\beta = .21$, $p < .01$), ($\beta = .04$, $p < .01$). Through the mediation analysis, the total effect of social anxiety on internet addiction ($c = .32$) is divided into a direct effect ($\hat{c} = .26$) and a mediated effect ($-.33 \times .18 = .059$) (Arbuckle, 2008).

Table 7

Standardized Model Fit Indices for the Mediation of Self-reflection Between the Relationship of Social Anxiety and Internet Addiction (N = 150)

Model	χ^2	df	CIMD	RMSEA	CFI	GFI	TLI
Model-Fit Indices	5.22	5	1.05	.01	.99	.98	.98

Note. * $p = RMSEA \leq .01$, * $p = CIMD < 3.0$

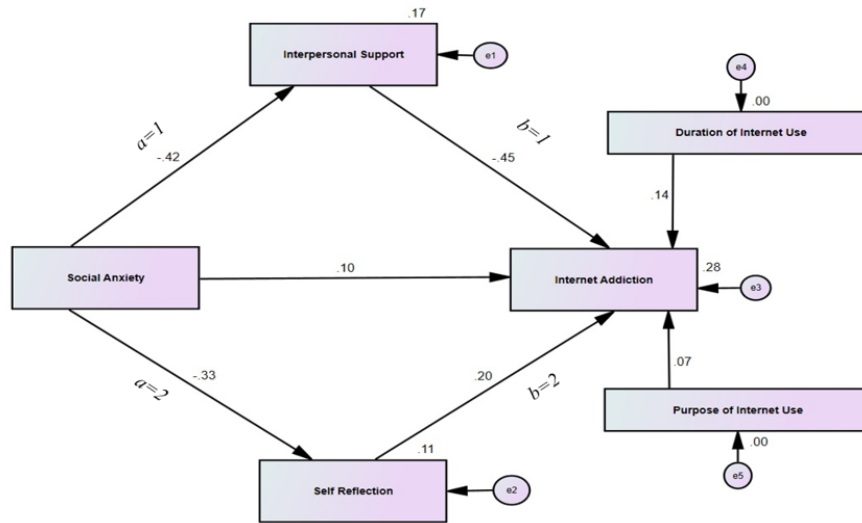
The standardized model fit indices indicated that the model is adequately fitted for the mediation model, $\chi^2 = 5.22$ ($df = 5$, $N = 150$), $p < .05$, $RMSEA = .01$, $CFI = .99$, $GFI = .98$ and $TLI = .98$. "The value of chi-square is significant because of a greater degree of

freedom, therefore by dividing the degree of freedom with chi-square (χ^2/df) the determined value is 1.05 which acceptable for model fit (Iftikhar & Malik, 2014; Hu et al., 1992; Naz, Fida, Khan, 2022).

Figure 4

Path Analysis: Interpersonal Social Support and Self reflection Mediate the Relationship between Social Anxiety and Internet Addiction

Figure Model 4. Path Analysis: Interpersonal Social Support and Self-reflection Mediate the Relationship between Social Anxiety and Internet Addiction



Note: * $p < .05$, ** $p < .01$, All two-tailed.

The standardized mediation model illustrates a significant indirect path coefficient between social anxiety to interpersonal social support ($\beta = -.42, p < .01$), and self-reflection ($\beta = -.33, p < .01$), from interpersonal social support ($\beta = -.45, p < .01$), and self-reflection ($\beta = .20, p < .01$) to internet addiction.” Furthermore, interpersonal social support and self-reflection partially mediated the relationship between social anxiety and internet addiction

($p < .01$). The mediation analysis has partitioned the total effect of social anxiety on internet addiction with the mediation of interpersonal social support and self-reflection is $c = .419$, into a direct effect $c' = .10$ and a mediated effect ($a1 \times b1$) ($-.42 \times -.45$) = $.189$, ($a2 \times b2$) ($-.33 \times .20$) = $.13$ (Arbuckle, 2008; Naz, Fida, Khan, Safdar, et al., 2022).

Table 8

Standardized Model Fit Indices for the Mediation of Interpersonal Social Support and Self-reflection Between the Relationship of Social Anxiety and Internet Addiction (N = 150)

Model	χ^2	df	CMID	RMSEA	CFI	GFI	TLI
Model-Fit Indices	11.92	8	1.49	.05	.96	.98	.92

Note. * $p = RMSEA \leq .01$, * $p = CMID < 3.0$

The standardized fit indices within model 4 demonstrate the adequacy of the fit for the mediation model, $\chi^2 = 11.92$ ($df = 8, N = 150$), $p < .05$, RMSEA = $.05$, CFI = $.96$, GFI = $.98$, and TLI = $.92$. The significance of the chi-square value is due to a higher degree of freedom. Consequently, by dividing the

degree of freedom by the chi-square (χ^2/df), the derived value of 1.42 is considered acceptable for model fit (Batool et al., 2023; Iftikhar & Malik, 2014; Hu et al., 1992; Naz et al., 2023).

Discussion

This research was conducted on young adults to study the prospective effects of interpersonal support, social anxiety, and self-reflection on internet addiction. The hypotheses stated a significant relationship as well as a predictive between all the variables. The result partially supported the hypotheses. Internet addiction showed a significant direct relationship with social anxiety and no predictive relationship. The positive correlation between internet addiction and social anxiety is also supported by several previous studies (Dong et al., 2019; Feng et al., 2019; Jaiswal et al., 2020; Weinstein et al., 2015; Yucens & Uzer, 2018). Individuals suffering from social anxiety have a hard time with live interactions either due to self-consciousness or the fear of being judged by others. This compels them to find alternative means of interactions and the internet provides them with such. Thus, allowing them to deal with their social obligation without the dreaded interaction part, and propelling them further into this rabbit hole of the internet.

Moreover, an inverse relationship between internet addiction, as well as a predictive one, was found with interpersonal support. The negative relationship of internet addiction with interpersonal support was sustained by other previous studies as well (Çevik & Yildiz, 2017; Lei et al., 2018; Lin et al., 2018; Tan, 2019; Zhang et al., 2018). Having interpersonal support is an essential element in an individual's life. Therefore, individuals with scarce interpersonal support in real-life search for its substitute in other mediums such as the internet. This allows them to reconfigure their reality to be their desired version with ideal circumstances, especially in interpersonal matters. They are often playing a character or a part in their online life that allows them to gain social support otherwise unavailable.

Additionally, internet addiction and self-reflection co-exist without sufficiently affecting each other. Mixed individual

responses were gathered when the relationship between internet addiction and self-reflection was studied. Some individuals were of the opinion that self-reflection has a relationship with internet addiction, while others showed no indication of any such relationship, hence the insignificant relationship. Self-reflection is the conscious examination of one's thoughts and feelings. With self-reflection, individuals implement introspection and learn about themselves and their essence and purpose (Knapp et al., 2017). Therefore, common sense dictates that self-reflection should have an effect on internet addiction, as it is nothing more than a sum of bad habits that can be modified through introspection and accountability.

No significant gender differences were found in social anxiety and internet addiction negating the proposed hypothesis in the process. The absence of gender difference in terms of social anxiety is backed up by assorted research as well (Baloglu et al., 2018; Bano et al, 2019; Christiansen, 2015). It can be postulated that in recent years, the gender roles in our society have become more identical, and better educational and professional opportunities have made woman more confident and self-reliant, thus diminishing their heightened social anxiety. The lack of gender differences in internet addiction is also acknowledged by a few past researches (Khan et al., 2017; Koyuncu et al., 2014; Milani et al., 2009). With the advent of technology, the internet has become easily accessible throughout society, thus diminishing the tilt of internet addiction in one direction.

The fourth hypothesis stated the presence of a mediational relationship between interpersonal support and self-reflection with social anxiety and internet addiction. A hypothesis was accepted after the analysis. Interpersonal support allows an individual to have a trusted opinion that pushes them to focus on their emotional regulation and encourages them to find ways to cope with it (Lee, 2017). Self-reflection allows the

anxious individual to take a step back and objectively assess their thoughts and feelings and then devise a plan to tackle these anxious thoughts. This process will compose the person and give rest to their running thoughts, influencing social anxiety, and internet addiction in turn (Ozawa & Hasegawa, 2017).

Limitations and Recommendations

This study had a small sample size, including only students from specific universities. It is recommended that future studies would include larger and more diverse samples from various universities in Pakistan. Additionally, it is advisable to explore a wider range of psychological factors, such as depression, anxiety, feelings of inferiority, and suicidal ideation, due to internet addiction in future studies. The present study focused on participants aged 18 to 27 years. Expanding the sample to include students ranging from 14 years in college to those as old as 40 or 45 years in university settings would provide a more comprehensive perspective and is encouraged for future research.

Conclusion and Implications

This study delved into the connections between internet addiction, interpersonal support, self-reflection, and social anxiety. The findings revealed a noteworthy positive correlation between internet addiction and social anxiety, while an opposing relationship was observed with interpersonal support. Additionally, no substantial relationship emerged between self-reflection and internet addiction, and there were no significant gender differences among the variables. The outcomes of this research can provide valuable insights for researchers, counselors, clinicians, educators, parents, and other stakeholders, aiding in their comprehension of the phenomenon of internet addiction. By elucidating its interplay with social support, self-reflection, and social anxiety, this study equips them with tools to address this issue effectively.

Contribution of Authors

Bushra Naz: Methodology, Writing - Reviewing & Editing, Supervision
 Muhammad Kashif Fida: Methodology, Writing - Reviewing & Editing
 Muhammad Zohaib Khan: Conceptualization, Investigation, Methodology, Data Curation, Formal Analysis, Writing – Original Draft

Conflict of Interest

There is no conflict of interest declared by the authors.

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Data Availability Statement

The datasets of the current study are not available publicly due to ethical reasons but are available from the corresponding author [M.Z.K.] upon the reasonable request.

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