

Association Between Instagram Addiction, Quality
Of Peer Relationship, And Social Anxiety Among
Youth During Research
Project



By

Syeda Memoona Zainab

Bsp201057

DEPARTMENT OF PSYCHOLOGY
Faculty of Management and Social Sciences
Capital University of Science & Technology,
Islamabad
January, 2024

BSP201057

DEPARTMENT OF PSYCHOLOGY

JANUARY, 2024

ASSOCIATION BETWEEN INSTAGRAM ADDICTION, QUALITY OF PEER RELATIONSHIP, AND SOCIAL ANXIETY AMONG YOUTH



By

Syeda Memoona Zainab

Reg. No. BSP201057

A Research Thesis submitted to the

DEPARTMENT OF PSYCHOLOGY

In partial fulfillment of the requirements for the degree of

BACHELOR OF SCIENCE IN PSYCHOLOGY

Faculty of Management and Social Sciences

Capital University of Science and Technology,

Islamabad

January, 2024

CERTIFICATE OF APPROVAL

It is certified that the Research Thesis titled "Association between instagram addiction, quality of peer relationship and social anxiety among youth " carried out by Syeda Memoona Zainab, Reg. No. BSP201057, under the supervision of Dr. Ishrat Yousaf, Capital University of Science & Technology, Islamabad, is fully adequate, in scope and in quality, as a Research Thesis for the degree of BS Psychology.

Supervisor:



Dr. Ishrat Yousaf
Assistant Professor
Department of Psychology
Faculty of Management and Social Sciences Capital
University of Science & Technology, Islamabad

Association Between Instagram Addiction, Quality of Peer Relationship and Social Anxiety
Among Youth.

By

Syeda Memoona Zainab

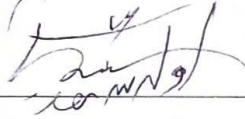
Registration # BSP201057

Approved By



Supervisor

Dr. Ishrat Yousaf



Internal Examiner-I

Ms. Tehmina Mazhar



Internal Examiner-II

Ms. Asima Munawar



Thesis Coordinator

Ms. Irum Noureen



Head of Department

Dr. Sabahat Haqqani

Copyright © 2024 by CUST Student

All rights reserved. Reproduction in whole or in part in any form requires the prior written permission of Syeda Memoona Zainab or designated representative.

DEDICATION

*To my family, your unconditional love , support and sacrifices helped to
make this dream possible.*

DECLARATION

It is declared that this is an original piece of my own work, except where otherwise acknowledged in text and references. This work has not been submitted in any form for another degree or diploma at any university or other institution for tertiary education and shall not be submitted by me in future for obtaining any degree from this or any other University or Institution.

Syeda Memoona Zainab

BSP201057

January 2024

ACKNOWLEDGEMENT

In the name of Allah S.W.T, the Most Gracious and Most Merciful. First and foremost, I thank to ALLAH ALMIGHTY for giving me the strength and courage to take on such a huge task. My humblest gratitude to the **Holy Prophet Muhammad (SAW)** whose way of life has been a continuous guidance for us. Secondly, I thank my family who fully supported me throughout this journey and literally made it possible. To my mother, **Syeda Shabab Ismat**, I am grateful for the values of dedication and commitment that you instilled in me in early age. To my father, **Syed Anwar-ul-Hasnain**, I get a lot of my energy and determination from you. To my brother, **Syed Muhammad Ali** for your support and motivation. Thankyou for all that you have done to ensure that I completed thesis.

I would like to thank all faculty members of Psychology Department. I am grateful for your willingness to push me to grow by support and encouragement not just in this endeavor, but throughout my university years. Thanks to my supervisors, Dr.Ishrat Yousaf and Ms. Parveen Akhtar for providing many practical suggestions that improved the structure of my thesis. I would also like to thank our thesis coordinator **Ms. Irum Noureen**, our Head of Department **Dr. Sabahat Haqqani** for their guidance and invaluable assistance.

Thanks to all friends who listened, empathized, encouraged and stepped in to help when I needed it. Lastly, I would like to thank the administration of Ibadat University, Arid University, NUML University, Indus College, KIPS for allowing me to conduct research with students in their programs, along with the students for agreeing to participate in this research study.

Abstract

Social media is widely used among youth and has become integral part of their lives. Addiction to instagram leads to a decrease in social interaction, further intensifying social anxiety. The present study was designed to investigate the association between instagram addiction, quality of peer relationships and social anxiety among youth. It also explored the demographic variables with relation to instagram addiction, quality of peer relationship and social anxiety. A sample of 400 youth (171 males and 229 females, ranging in age from 15 to 23 years) from colleges and universities of Rawalpindi and Islamabad participated in the study. The study included instagram addiction scale (IAS), friendship quality scale (FQS), and social anxiety questionnaire (SAS-MU). Results showed that there were no significant relation between instagram addiction ($r_s=.876$, $p<0.05$), quality of peer relationship ($r_s=0.077$, $p<0.05$) and social anxiety ($r_s=0.259$, $p<0.05$). In terms of demographic attributes, results showed no significant age and education differences in the instagram addiction, quality of peer relationship and social anxiety. The significant gender differences were found in instagram addiction, quality of peer relationship and social anxiety. As such these results confirms the importance of instagram addiction and social anxiety. Further interventional studies should be completed to address the problems related to instagram addiction.

Keywords: Instagram addiction, social media, social anxiety, peer relationship, internet addiction, social anxiety

Contents

CERTIFICATE OF APPROVAL	iii
DEDICATION.....	vi
DECLARATION.....	vii
ACKNOWLEDGEMENT.....	viii
Abstract.....	ix
Instagram addiction.....	3
Quality of peer relationship	7
Social anxiety	9
Literature review	13
Theoretical Framework.....	18
Rationale	21
Objectives	23
Hypotheses.....	23
Chapter 2	24
Methodology	24
Research design.....	24
Ethical considerations.....	25
Population and sample	25
Locale	26
Sampling procedure and technique.....	26
Measures and instruments	27
Procedures	28
Data Analysis.....	29
Chapter 3	30
Results	30

Chapter 4 Discussion	46
Conclusion	55
Limitations.....	56
Implications	56
References.....	58
Appendix A.....	77
Appendix B.....	79
Appendix C.....	80
Appendix D.....	81
Appendix E.....	83
Appendix F.....	84
Appendix G.....	86
Appendix H.....	87

List of Tables

Table 1	30
Table 2	32
Table 3	33
Table 4	36
Table 5	37
Table 6	38
Table 7	39
Table 8	40
Table 9.....	42
Table 10	44

List of Figures

Figure 1	20
Figure 2	34
Figure 3	34
Figure 4	35

List of Abbreviations

IAS	Instagram Addiction Scale
FQS	Friendship Quality Scale
SAS_MU	Social Anxiety for Social Media Users
SPSS	Statistical Package for Social Sciences
SDT	Self-Determination Theory
NUML	National University of Modern Languages

List of Appendices

Appendix A	Information sheet
Appendix B	Consent form
Appendix C	Demographic sheet
Appendix D	Instagram Addiction Scale
Appendix E	Friendship Quality Scale
Appendix F	Social Anxiety for Social Media Users Scale
Appendix G	Permission from University
Appendix H	Author's Permission

Chapter 1

Introduction

Social media has become an important aspect that creates huge impact in everyone lives. There are approximately 4.89 billion people who use social media around the world (Statista,2023). There are numerous social media platforms available in today's time. These platforms (mostly include facebook, instagram and twitter) are used by 90% of young adults, who are also the most active users (Penni,2017; Alzougool, 2018; Cohen et.al.,2018). Due to social media popularity, everyone is becoming dependent on the virtual structure of social media platforms that causes individuals being isolated from real life and having damaged relationships (Eliphinston & Noller,2011). Excessive use of social media is linked to decline in personal relationships, particularly with their mothers and peers (Sanders et al., 2000). It can be problematic when social media starts effecting one's social life, relationships, studies, job and health (Sun & Zhang, 2021). As humans have an innate need for social belonging and interpersonal connection (Baumeister&Leary,2017), those who feel anxious in social situations believe that they lack social skills may turn to social media to fulfil their need of social interaction. It can leads to social media addiction as a substitute for real life social connections (Kim, LaRose & Peng,2009).

Social media addiction means when someone is being overly concerned about social media influencers, being strongly motivated, and spends a lot of time and efforts in using (Andreassen & Pallesen ,2014). It is a psychological disorder in which user add the amount of usage of social media in order to generate excitement that leads to anxiety and mood changes, difficulty in adjusting and disruptive social connectedness (Nurmandia, 2013). Furthermore, 90% of young adults have social media profiles and the average use

of social media was amounted to 144 minutes per day (Paw Research Center,2019). Adults are considered the most vulnerable group in terms of social media addiction (Odabasıoglu et al.,2006). Spending more than two hours a day on social media is associated with mental health problems, such as distress, life dissatisfaction, depression and poor connectedness (Jelenchick et.al,2013; Hugues & Lewis,2015).

Adults who used 7-11 different social media platforms were more likely to have higher level of depression and anxiety symptoms as compared to those who only used 0-2 social media platforms (Primack et.al,2017). There are various social media platforms (including Facebook and Instagram), offer distinct social environments (Waterloo et al.,2017). Among these platforms, instagram is one of the most popular and influential platform, boasting over and having billions of active users worldwide. After Facebook, instagram has the highest level of interaction among social media, by 60% of all users log in per day (Dixon,2022; Fondevila, 2022; Smith, 2019). While Instagram offers numerous benefits including fostering social connections and self-expression, there is also growing concern about the addictive nature of this platform that causes strain relationships with friends and family, negative mental health outcomes such as anxiety, depression, low self-esteem. In Pakistan (2023), there were 53.20 million social media adult users , which was equivalent to 39.1 percent of the total population of adult age (Liaqat et.al,2022).

Instagram addiction refers to an excessive and compulsive usage of this platform, resulting in negative consequences in an individual's personal, social, or professional life. Those individuals who use this social media platform, frequently started to live in the world they've created online, have fewer relationships with family and peers (Young&Case,

2004). Youth's personal and social relationships are damaged due to more involvement in the online world (Hyung & Hur,2006).

Social anxiety is the state of avoiding social interactions and appearing inhibited in such interactions with other people (Schlenker & Leary,1982). Scholars indicated that social anxiety could arise from managing a large network of social media friends, feeling jealous of their lives, and the “fear of missing out” on activities in online interactions (Hampton et al.,2015).

Instagram addiction

Instagram application was launched in 2010. It is “a mobile device application designed for the sharing of lifetime moments through photos in real time” (Kim et al.,2017). It's a social media app for sharing photos, and more than one billion people use it actively (Statista,2019). Every day, 500 million users enjoy using this platform (Omnicores,2019). Approximately, 80 million Instagram users shared photos having 3.5 billion likes daily (Instagram,2016). Among young adults, Instagram is the most popular social media app as compared to other platforms including Facebook, twitter and snapchat (Kircaburun et al.,2018). Around 59% youth use instagram (Alhabash & Ma,2017). Instagram users are more likely to become addicted or use the platform in inappropriate ways because of its popularity (Kuss et.al,2017). The reason for its popularity is due to its enhanced photo editing features that allows its users to take, edit and upload pictures with high quality (Lee, Moon, & Sung,2015).

The attractive features of Instagram make it perfect medium for entertainment in daily life. In Pakistan, there are 14 million Instagram users, that constitutes 6.7% (males 63.6%, females 36.4%) of total population (Napoleon,2022). Kircaburun et al. (2019)

found the various benefits of instagram use including passing time, entertainment, expressing oneself. But, for some there is a risk of developing addiction symptoms (Kuss & Griffiths,2017). Around 35% of instagram users exhibited symptoms of addictive behavior (Griffiths,2018). University and college students are more vulnerable to developing severe instagram addiction because of their free time, unlimited internet access, and flexible schedules (Turel et.al.,2016). For instance, personality traits such as neuroticism and impulsivity were positively associated with instagram addiction (Alhabash et al.,2018). As compared to other social media platforms, instagram is the worst social media platform for teens and young adults that leads to various psychological health factors that includes depression and anxiety (MacMillin,2017; Royal Society of Public Health, 2018).

Various factors have been identified as potential predictors of Instagram addiction among adults. Additionally, peer influence, social comparison, fear of missing out (FoMO), and the need for validation have been identified as significant factors contributing to the development of instagram addiction (Andreassen et al.,2017; Kircaburun & Griffiths, 2018). Peer influence is described as social media platforms like instagram provide a platform for individuals to connect and interact with their peers. Peer influence plays a crucial role in shaping one's behavior, and this influence extends to social media platforms. Individuals often feel pressure to conform to social norms and behaviors displayed by their peers on instagram. Individuals are more likely to use instagram when they perceive their peers to be active and their posts to be popular or highly regarded on this platform (Chou & Edge,2012).

Social anxiety with Instagram addiction is described in terms that users often compare their own lives and achievements with perfect lives of others. It results in feelings of inadequacy, lower self-esteem, and the desire to improve their own social media presence (Perloff,2014). This continuous social comparison can contribute to addictive behaviors and increased Instagram use. Instagram's real-time nature, constant updates, and stories feature contribute to the fear of missing out (FoMo). Users fear that if they don't check their Instagram feed regularly, they may miss out on something important or exciting happening in their social circle. This fear drives them to constantly check and engage with the platform, leading to addictive behaviors (Elhai et.al,2016). Instagram has become an integral part of the daily lives of millions of Pakistanis. However, alongside its benefits, concerns regarding Instagram addiction have emerged, prompting the need for comprehensive research on this phenomenon within the context of Pakistan.

Chan et al., (2012) found four major motivations for using Instagram, which they believed it could contribute to the development of addictive behaviors. These motivations include recognition, information, social, and entertainment needs. Recognition needs is a motivation refers to the desire for attention, validation, and recognition from others. Instagram offers their users a platform for self-expression and the opportunity to receive validation and approval from others through likes, comments, and followers. The desire for social validation and positive feedback can become addictive, as individuals seek external validation to bolster their self-esteem and self-worth. The anticipation of receiving positive social feedback on social media platforms like Instagram activates the brain's reward system, leading to increased use and addictive behaviors (Sherman et al.,2016). Users may seek likes, comments, and followers on Instagram where people engage in

behaviors that enhance their online interaction (Katz & Crocker,2015). The need for recognition can become addictive when individuals constantly seek validation through the platform, leading to a compulsive need for more engagement and attention. This need for recognition can be driven by a desire for social status, self-esteem enhancement, and the need to be noticed and appreciated by others (Sheldon & Bryant,2016).

Information needs provides users with a platform to gather and share information. This motivation is driven by the desire to stay updated on various topics, such as current events, trends, or specific interests. Users may also seek informational content from influencers or brands they trust, turning to the platform for product recommendations, reviews, or educational content (Wang et.al, 2020). However, excessive engagement with Instagram for information needs can lead to addiction when individuals become consumed with constantly seeking and consuming information, neglecting other important aspects of life. Social needs offer a social media platform where users can connect and interact with others. This motivation encompasses the desire for socialization, making friends, and maintaining relationships. Individuals may become addicted to instagram when they excessively engage with the platform to fulfill their social needs, relying heavily on virtual interactions rather than in-person connections (Dwyer,2016). The social aspect of instagram fulfills the basic human needs for social belonging, support, and connection (Dhir et.al, 2018). Instagram provides various forms of entertainment, such as browsing through visual content, watching stories, or exploring creative posts. This motivation is driven by the desire for enjoyment, amusement, and leisure. Instagram can be a source of relaxation, distraction, and enjoyment, providing a break from daily routines and a way to pass time (Kircaburun et.al, 2018).

Quality of peer relationship

Peer relationship is a broad set of direct and indirect experiences of individual with their age mates (Lerner et.al,2015). Among adults, peer relationship is important source of social support (Giordano, 2003). Peer relationships are more important during adolescent years, when people first start to think about identity and intimacy (Erikson,1968). It serves as a crucial source of support, validation, and social comparison for adolescents and young adults. In youth, Feeling successful in relationships can come from having a close and good friendship with someone your age, or just feeling accepted by a group of friends. Regardless of how such feelings of success are achieved, the development of successful interpersonal relationships plays an instrumental role in a person's long-term positive social and emotional functioning (Siedlecki et.al,2014). On the other hand, people who don't have these kinds of relationships or have had bad experiences with friends might avoid social situations and feel anxious about being in them later on. (Whisman & Beach, 2010; Davila & Beck,2002).

According to Davis (2001), excessive addiction to online communication is caused by lack of social support or social isolation. Social media addicts have poor relationship and less interaction with peers (Harman, Cochran & Lindsey,2005). Individuals addicted to instagram prioritize virtual connections over real-life relationships, leading to a decline in the quality and depth of their peer interactions. Friendships are the most typical type of peer relationships, and they can possess various positive characteristics (Pradhan et al., 2018). Multiple studies have shown that a lower rate of acceptance among peers has predicted a higher level of anxiety in both males and females (Erath et.al, 2007; Teachman & Allen, 2007; Tillfors et. al,2012).

Positive peer relationships have been found to have numerous benefits for adolescents social, emotional, and academic well-being, while negative peer relationships can have detrimental effects including isolation, anxiety and risky behaviors. Lack of quality of peer relationship or lacking social support leads to addiction of communicating online presenting high risk of social media addiction (Kim et.al, 2015; Juvonen et.al, 2016). Individuals addicted to instagram may spend more time scrolling through their feeds or posting pictures, resulting in less time available for direct interpersonal connections. Excessive use of instagram can lead to a decrease in face-to-face social interactions with peers. This can lead to feelings of social isolation and detachment from friends, ultimately straining peer relationships (Andreassen et.al,2017).

Instagram addiction may lead individuals to prioritize virtual interactions over real-life social activities with peers. Excessive time spent on instagram can results in missed opportunities to engage in shared experiences, outings or gatherings. This can lead to feelings of exclusion and alienation from social circles, impacting the quality of peer relationships (Kuss et.al,2011). According to Tsai and Lin (2003), online communication is easy to approve and accept than physical or offline communication. As a result, forming and maintaining online peer relationships is becoming increasingly common among youth. This finding suggests that online peer relationships may lead to internet addiction.

According to Kim et.al, (2016), high level of peers support can weaken the association between adolescent's loneliness and social media addiction. Social media platforms provide individuals with opportunities to connect and interact with their peers both maintaining existing relationships and forming new ones. The availability of constant social interaction, validation and feedback on social media platforms can be enticing and

potentially addictive. Lin and Sidani (2018) found that individuals who reported higher levels of Instagram addiction also reported feeling of less connected to their peers and less supported by them. Individuals with poor-quality peer relationships, characterized by social exclusion or rejection, are more likely to experience loneliness and turn to Instagram as a means of escape or social connection (Kircaburun, Griffiths, & Billieux,2019).

Social anxiety

Negative schemas, dysfunctional beliefs about social interaction, and lack of confidence in one's own self-presentation are all characteristics of social anxiety (Hong et al.,2019). Social anxiety refers to feeling of extreme fear of being judged negatively by other in social situations (Lin et.al,2019). It is the uncomfortable experience of being anxious or fearful of negative evaluations during current or anticipated social interactions (Alkis et al.,2017; Leary & Richards,1983). It impacts the functional, occupational and social life resulting in poor quality of life (Dryman et al.,2016). Increased anxiety during adolescence is linked to increased problematic social media use (Yavuz,2019; Zorbaz & Dost,2014).

Problematic social media use may serve to worsen to social fears and avoidance to face the social interactions (Lee & Stapinski,2012). They showed the reduced functional connectivity in social environment. Individuals with social anxiety disorder (SAD) frequently experience fear of humiliation or judgement whereas individuals without SAD diagnosis who are less socially anxious do not experience this fear (Heimberg et al.,1995).

According to Schlenker & Leary (1982), Social anxiety is when a person avoids social situations and seems shy or restrained when they do interact with others. This means they might stay away from social events and act hesitant or reserved when talking to

people. This state can result from an individual's evaluation of real and imagined social interactions with others. Individuals reported the feeling of loneliness when they do not spend time using social media (Dossey, 2014). In the world of social media, managing a large network of contacts and comparing oneself to others can lead to social anxiety. This includes feelings of jealousy towards others' lives and a fear of missing out on experiences shown on these platforms. (Hampton et al., 2015; Jiang & Ngien, 2020). For instance, higher use of Instagram is linked to social anxiety, mainly through the influence of comparing oneself to others (Stapleton, Luiz & Chatwin, 2017).

Excessive use of social media over time can have negative effects such as fatigue, distress, depression, isolation, and a decline in overall well-being (Claudia et al., 2020). Instagram provides a platform for users to compare their lives, appearance, and achievements with others (Kuss & Griffiths, 2011). Individuals with social anxiety may be particularly vulnerable to negative social comparisons, perceiving themselves as inadequate or inferior to others (D'Souza & Hemamalini, 2018). Constant exposure to idealized images on Instagram may reinforce these feelings, exacerbating social anxiety symptoms (Clark & Wells, 1995).

A major component of social anxiety is fear of negative evaluations by others, suggesting that individuals who compare themselves to Instagram might have a higher chance of developing symptoms of social anxiety and feeling of loneliness. Excessive use of social networking sites, such as Instagram, was associated with higher levels of social anxiety (Frost et al., 2018). The constant exposure to social interactions and the pressure to present oneself in a favorable light can contribute to feelings of social comparison and self-doubt which are common features of social anxiety (Frost & Rickwood, 2017).

Adolescents' social and developmental growth are negatively impacted by problematic internet use. Instagram, with its emphasis on self-presentation and social comparison, can contribute to social anxiety symptoms. Several studies have found a positive association between Instagram use and social anxiety. For instance, a study by Fardouly et.al, (2018) demonstrated that excessive instagram usage was related to higher levels of social anxiety symptoms among young women. The constant exposure to carefully curated images and the pressure to conform to unrealistic standards on instagram can trigger feelings of inadequacy and social evaluation, exacerbating social anxiety.

Social anxiety can impact the quality of peer relationships, and poor-quality relationships can exacerbate social anxiety symptoms. Instagram addiction can lead to decreased face-to-face interaction and shallow interactions, resulting in a decline in the quality of peer relationships (Andreassen et.al,2017; Elhai et.al,2016). Poor-quality peer relationships often result in limited social support for individuals with social anxiety. Supportive peer relationships, characterized by acceptance, understanding, and encouragement, can help reduce anxiety and provide a sense of belonging. In contrast, a lack of supportive relationships can reinforce feelings of isolation and heighten social anxiety symptoms (Alfano, Beidel, & Turner,2006).

Excessive internet use can harms the socialization process and causes individual's isolation. (Yücel & Gürsoy,2013). Nesi et al., (2019) revealed that greater perceived social support from peers was associated with lower levels of instagram addiction and social anxiety symptoms among youth. Positive peer support can foster a sense of belonging, reduce social anxiety, and provide alternative sources of validation and connection, decreasing the reliance on Instagram for social interaction.

Individuals addicted to Instagram may prioritize virtual interactions over real-life social activities, leading to feelings of exclusion and detachment from friends (Kuss & Griffiths, 2011). Adolescents' peer relationships and future social anxiety may be linked to the developmental characteristics of early and late adolescence (Brinthaup & Lipka, 2002; Erikson, 1968). Specifically, peer acceptance is the important consequence of developing social anxiety. Those who have low peer quality can be a relevant and important outcome of developing social anxiety. For instance, it is possible that adolescents who believe that they are less liked by their peers start to experience social anxiety and avoid being social. Biggs (2011) suggests that social withdrawal acts as a mediator in the relationship between social anxiety and peer quality, where social anxiety predicts peer quality.

The youth in Pakistan is considerably facing depression and anxiety issues, according to findings from numerous NGOs and studies. According to studies, 39% of the youngsters suffer from low mood and 36% are suffering with depression and anxiety (DunyaNews, 2018). These circumstances are the result of tense relationships between family members and friends, a sense of social exclusion due to many internal and external factors (Hamdani et al., 2021). Instagram plays a significant role in shaping social interactions and relationships, both online and offline. The platform facilitates connections among users based on shared interests, hobbies, and lifestyles, fostering communities and networks that transcend geographical boundaries. Understanding how Instagram influences social dynamics and interpersonal relationships can provide valuable insights into the evolving nature of human communication and socialization in the digital age.

Therefore, by studying Instagram addiction among youth is important because we are growing up in the world where technology especially social media platforms including

instagram plays a central role in youth's lives. The stage of youth is the critical developmental stage in which they are forming their identities and building new relationships. excessive use of instagram and its addiction during developmental stage of adolescents can influence self-perception, social interactions and well-being. It can lead to negative mental health outcomes including social anxiety, depression and loneliness.

Literature review

A study was conducted in Italy to investigate whether psychopathological risk mediates the relationship between an adolescent's attachment to their parents and peers and their Instagram addiction. Sample consists of 372 adolescents' including 42.2% boys and 57.8% girls. The results showed that adolescents who have a worse attachment to their parents and peers are more likely to develop psychopathological risk factors for Instagram addiction (Ballaroto et.al,2021).

A study was conducted on 364 undergraduates with an active instagram account in Malaysia. The authors investigate the association between Instagram addiction, academic performance, depression, social anxiety and life satisfaction. They found addiction to Instagram was caused by recognizing one's, social and entertainment needs. Findings also showed that instagram has positive impact on social anxiety and depression (Foroughi et.al, 2021).

Similarly, a study was conducted in Turkey (2010) to investigate the relationship between internet addiction, peer pressure and social support among adolescent's. sample consists of 558 adolescents (290 females and 268 males). The results showed that lower peer pressure leads to decreases in internet addiction. It also showed that more support from parent's and teacher's results in decreases in internet addiction scores. Internet

addiction scores are lower in girls than boys. No relationship was observed between internet addiction and peer support (Esen et.al,2010).

A descriptive study was conducted in Turkey to investigate the problematic internet use in terms of gender, social anxiety and peer relationships. There were 682 high school students in the sample, with 326 males (47.8%) and 556 females (52.2%). The study found that male high school students are more likely to engage in problematic internet usage as compared to female high school students. It is also demonstrated that a significant (22%) impact on internet use was caused by social avoidance, nervousness and fear of negative evaluation (a subscale of social anxiety). According to Osman et al. (2014), a sub-dimension of the peer relation variable called openness to oneself and loyalty were also to contribute (6%) to problematic internet use (zorbaz et.al,2014).

Chou and Edge (2012) found that excessive social media use, including Instagram, was associated with poor peer relationships among adolescents. Results showed that adolescents who spent more time on social media reported feeling more socially isolated, which in turn was associated with poorer quality peer relationships.

A study was conducted to investigate the relationship between Instagram addiction and anxiety among pharmacy students. Sample consists of 136 students including 63 males and 73 females aged between 18-28 years. Students completed the test for Instagram addiction (TIA) and anxiety was measured through DASS (Lovibond,1995). Results showed that Instagram addiction leads to increased anxiety of the students. Components of Instagram addictions (Obsession and excessive use) were the major predictors of anxiety among students.

A study was conducted to find the relationship between social anxiety, sense of self-worth tied to Instagram use with 247 participants aged between 18-58 years. Results showed that individuals who have higher level of social anxiety results to have higher instagram contingent. It suggests that those individuals who are more socially anxious interact with instagram differently by their experiences on this platform (Lopez & Isabel Polletta,2021).

A quantitative study was conducted to investigate how internet addiction in adolescence is related to the relationships between adolescents and their parents and peers. Sample consists of 592 high school students. Findings showed that there was no significant difference in peer relationship scores for gender. Also there was low level of positive relationship between internet addiction and peer relationships. Another finding showed that as mother and father relationship with adolescence increased, internet addiction will decrease (Moral & Kumcagiz et.al,2019).

Rogowska et.al, (2022) conducted a study to understand how loneliness plays a role in the relationship between Instagram addiction and life satisfaction. The researchers conducted an online survey during the second wave of the COVID-19 pandemic, involving 954 university students from Poland. Most of the participants were women (86.48%), and their ages ranged from 19 to 42. The findings revealed that 17.19% of the participants experienced severe Instagram addiction. The study found that Instagram addiction was positively associated with feelings of loneliness and negatively related to life satisfaction among university students during the pandemic.

Lu Huang et.al, (2021) conducted a study to understand how peer relationships can affect the connection between negative emotions and the risk of social media addiction.

They asked 1258 participants to complete an online survey with various scales. The findings showed that peer relationships played a positive role in moderating the impact of negative emotions on the risk of social media addiction. In other words, having positive peer relationships can help reduce the risk of social media addiction when experiencing negative emotions. Overall, the study suggests that peer relationships act as a positive moderator in influencing the relationship between negative emotions and the risk of social media addiction.

Another study was conducted in Turkey to understand how social anxiety, happiness, and loneliness levels among university students are related to their levels of social media addiction. The research followed a correlational survey approach and included a total of 312 university students, with 165 females (53%) and 147 males (47%). The results revealed that there was a positive connection between student's levels of social media addiction and their levels of social anxiety and loneliness. Conversely, there was a negative association between student's levels of social media addiction and their levels of happiness. Based on these findings, social anxiety and happiness were significant predictors of social media addiction, while loneliness did not have a significant predictive effect (Anonymous, 2019).

In the United States, a study investigated how various adolescent peer relationships, like close friendships and social acceptance, can predict the emergence of social anxiety later in life. The research considered different stages of adolescence, interpersonal competence, self-worth, and gender as influencing factors. Early adolescents (age 14) and late adolescents (age 17) and their best friends participated, reporting on friendship quality and social acceptance. At age 19, the participants' interpersonal skills, self-worth, and

social anxiety were assessed. The study involved 184 participants, 86 males, and 98 females, part of a broader investigation into adolescent and young adult emotional development. Results revealed that lower social acceptance at age 14 correlated with higher social anxiety at age 19. Intriguingly, girls with high-quality friendships showed increased social anxiety, while boys with low-quality friendships displayed elevated social anxiety (Emily et.al,2022).

Another study in Mash'had city (Iran) was conducted to explore the basic psychological demands and psychological well-being, as well as the role of Instagram addiction as a mediator. The sample included 660 participants who completed a variety of psychometric tests. The findings revealed that basic psychological needs have a direct negative and significant impact on Instagram addiction, as well as a positive and significant direct impact on psychological well-being. Instagram addiction had a large indirect influence on well-being by addressing basic needs (autonomy, competence, and relatedness). Failure to meet basic psychological needs appears to play a key part in the addictive use of Instagram, leading to a reduction in psychological well-being (SA, Sharifi et.al,2023).

In Pakistan, a study investigated the connections between Instagram usage, social comparison, self-esteem, and social anxiety, while considering demographic factors (age, gender, education, income). The survey involved 384 university students aged 16 to 25. Findings indicated that social comparison on Instagram was associated with increased social anxiety, considering user-media interaction. Gender and age were not significant factors in the relationship between Instagram use and social anxiety among young adults. The study highlighted that Instagram's direct influence on social anxiety was limited.

Instead, the impact was moderated by social comparison and self-esteem (Zeib & Shahzad, 2023).

Theoretical Framework

The theoretical framework used in this quantitative correlational study is Self-Determination theory by Ryan and Deci in 2000.

Self-determination Theory

Excessive Instagram use can impact the quality of peer interactions, contributing to feelings of social isolation and ultimately leading to increased levels of social anxiety. This may stem from the fact that Instagram, while facilitating online connections, can also foster superficial interactions that lack the depth and emotional resonance of peer relationships. Self-determination theory was proposed by Ryan and Deci, (2000). Self-determination theory states that human's motivation mainly arises from the satisfaction of several psychosocial needs they have. These psychosocial needs are relatedness, autonomy, and competence.

Self-Determination theory (SDT) shows motivation behind problematic internet usage is due to individuals who are psychologically disturbed because their basic psychological needs (competence, autonomy and relatedness) are not met properly and it leads them to more vulnerable to internet by having satisfaction from online activities.

Autonomy and Instagram Addiction

A need for independence refers to the desire to make choices, initiate and regulate behaviour (Deci & Ryan,2000; Luyckx et al,2009), to feel as if one can keep one's behaviour and choose one's values and goals at will. It contains the sense that humans are

doing something voluntarily rather than being forced to do something. Thus, it is reinforced by having personal choice in decision-making processes. When individuals feel a lack of autonomy and perceive external pressures or control in their lives, they may be more susceptible to addictive behaviors, such as excessive use of social media platforms like Instagram. Individuals with low autonomy tend to exhibit higher levels of social media addiction (Kuss & Griffiths,2011). They may rely on Instagram as a means of escaping from real-life stressors or as a way to seek validation and social approval, leading to addictive patterns of use. The lack of autonomy contributes to anxiety.

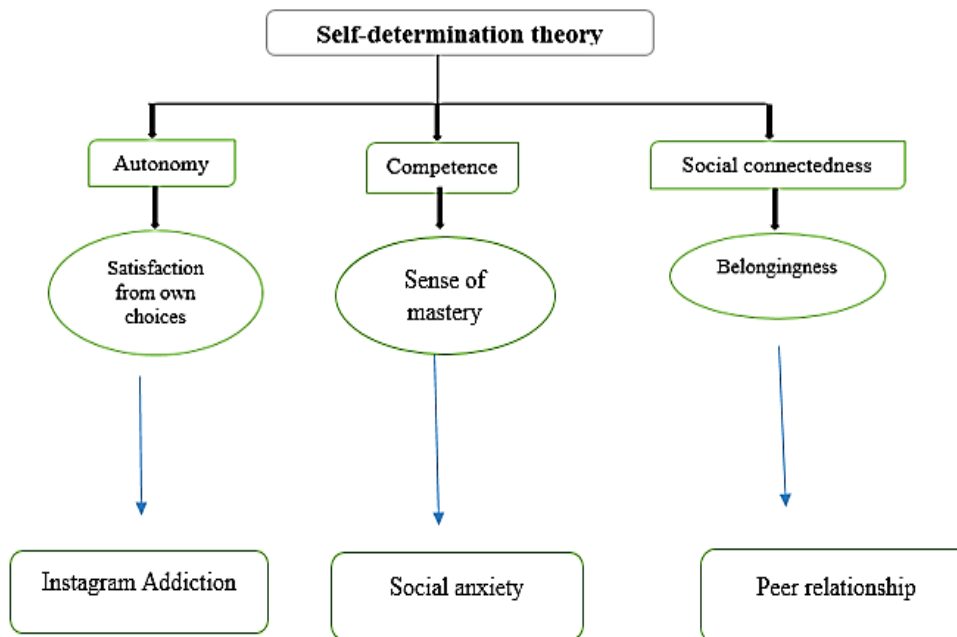
Competence and Social Anxiety

Competence reflects an individual's desire to control their actions, environment, and sense of accomplishment (Deci & Ryan,2000; Martela et.al, 2017). There is scientific evidence that when experiencing competence during media use, people enjoy using these media more (Ryan et.al,2006). In the context of social anxiety, individuals may struggle with a perceived lack of social competence, leading to excessive fear and avoidance of social situations. SDT posits that when individuals have opportunities to develop and demonstrate their abilities, they are more likely to experience a sense of competence. Conversely, a lack of perceived competence can contribute to social anxiety symptoms. Individuals with social anxiety tend to have lower levels of self-perceived social competence (Rapee & Lim,1992). Enhancing one's social competence through skills training and positive social experiences can help reduce social anxiety symptoms. Individuals who suffers from anxiety often have a trouble in communicating and interacting with others in healthy, positive and meaningful way. Individuals may prefer

online social interaction due to the beliefs that one may be safer, more confident, and more comfortable online than in face-to face interactions (Caplan, 2003, 2007).

Relatedness and Quality of Peer Relationships

The need for relatedness also means that individuals have mutual respect and a sense of belonging to others (Luyckx et.al,2009). Positive peer relationships have been linked to various positive outcomes such as higher levels of well-being and lower levels of psychopathology. Individuals who have satisfying and supportive peer relationships tend to have better mental health outcomes, including reduced levels of social anxiety (La Greca & Harrison,2005). Conversely, poor quality or strained peer relationships can contribute to social anxiety, as individuals may experience a lack of social support or fear negative evaluation from peers. A study conducted by Whiting and Williams (2013) identified ten motivations for social media usage, and of these ten motivations, social interaction was endorsed by 88% of the sample.

Figure:1

SDT explains the relationships between motivation and affective outcomes and perceived peer acceptance and friendship quality. Positive affective experiences and self-determined motivation should be fostered in peer relationships. Ryan et al. conducted four studies (2006) and demonstrate that social media use can satisfy intrinsic needs. It was argued that media can give users specific pleasures, which may make up for less satisfaction with needs. A study by Özteke Kozan et.al, (2019) demonstrated that problematic internet and social network usage is significantly correlated with basic psychological needs. Additionally, research indicates that general use of internet serves as setting in which individuals can satisfy their psychological needs (Lin et.al,2014; Greitemeyer et.al,2014; Neufeld & Malin,2019; Karimi et.al, 2021).

Rationale

Instagram Addiction has been recognized as an increasingly important psychological construct. Previous studies have revealed that instagram addiction is linked

with a number of negative outcomes. As young population is growing in Pakistan, the role of social media in their lives is increasing. Sheldon and Bryant (2016) described Instagram the world's fastest-growing social network, can be seen as a typical representative of social media in the modern society. Instagram plays a significant role in shaping social interactions and relationships, both online and offline. Excessive Instagram use can have negative effects on youth's mental health. It can contribute to feelings of anxiety, depression, loneliness, and low self-esteem (Forest & Wood, 2012). They may become more focused on maintaining their online presence and seeking validation through likes and comments, which can result in reduced quality and quantity of real-life social connections. People who use more social networking sites go through significant changes in the way they communicate and interact. In Pakistan, there are numerous studies conducted on social media addiction (Kanwal et al., 2019, Mehmood et al., 2020, Tariq et al., 2012) but there is no much evidence on relationship of Instagram addiction with peer relationship. So with special reference to Pakistan, this study aims to explore the association between Instagram addiction, quality of peer relationship and social anxiety. This research can help in identifying the specific factors that contribute to Instagram addiction and its impact on individuals' social and emotional well-being. Instagram addiction is becoming a pressing concern globally, including in Pakistan, where the platform's usage among youth is on the rise. With the increasing penetration of smartphones and internet connectivity, Instagram has gained significant popularity among Pakistani youth. By fostering digital literacy, promoting healthy media habits, and raising awareness about the potential risks of excessive Instagram use, this study can empower

adolescents to develop a balanced relationship with social media and ensure their overall well-being.

Objectives

1. To study the association between instagram addiction, quality of peer relationship and social anxiety among youth.
2. To study the role of demographic variables in instagram addiction, quality of peer relationships and social anxiety among youth.

Hypotheses

To achieve the objectives of present research a number of hypotheses were formulated, as listed below;

H1: There will be positive association between instagram addiction, peer quality and social anxiety among youth.

H2: There will be significant negative association between instagram addiction and positive quality of peer relationship among youth.

H3: There will be significant gender differences between instagram addiction, quality of peer relationship and social anxiety among youth.

H4: Instagram addiction will be differently related to age

H5: There will be significant education differences between instagram addiction, quality of peer relationship and social anxiety among youth.

H6: There will be significant social media apps (number of apps) differences between instagram addiction, quality of peer relationship and social anxiety among youth.

Chapter 2

Methodology

Research design

The research design of current study was quantitative, cross-sectional design.

Operational definitions of variables:

Instagram addiction:

Instagram, currently the most popular social networking site among young generation, is “a mobile device application designed for the sharing of lifetime moments through photos in real time” (Kim et al. 2017, p. 540). It contains features such as photo and video sharing, commenting on or linking others’ photos, videos, and posts as well as the opportunity to create and share live stories. The unique interface of Instagram makes it a social networking site with possible intensive use and psychological consequences (Mackson et al. 2019).

Quality of peer relationship:

Peer relationship refers to “the broad set of direct and indirect experiences that individuals of all ages have with their non-familial age-mates” (Lerner et.al,2021). Usually, the peer relationships were not directly measured but investigated within the framework of social network analysis, using the index of structure, quality, and function of friendship, considering that peer relationship and friendship are often used interchangeably.

Social anxiety:

Hartman (1986) defined social anxiety as the “enduring experience of discomfort, negative ideation, and incompetent performance in the anticipation and conduct of

interpersonal transaction”(p. 266). Social anxiety is a type of anxiety-related problem resulting from when people are fearful or anxious when interacting with or being negatively evaluated and scrutinized by other people during social interactions in a social setting (Richards, n.d.).

Ethical considerations

As far ethics are concern, this study worked according to ethics provided by American Psychological Association (APA). The ethical approval for current study was taken from Capital University of Science and Technology, Islamabad. Informed consent was signed from all participants. Confidentiality of participants was maintained and responses have kept anonymous.

Population and sample

A total of 400 college and universities students (Rawalpindi and Islamabad) were included in present research recruited through convenient sampling. Population consisted of youth from twin cities aged between 15-23 years. Both genders were included in this study. WHO defines youth as the 15-24 age group.

Inclusion criteria:

- Participants having aged range between 15-23 years
- Participants having active Instagram accounts

Exclusion Criteria:

- Bloggers and content creators
- Those who have business Instagram account

Locale

The study was conducted in colleges and universities of Rawalpindi and Islamabad namely Ibadat international university, National university of modern languages NUML, Arid agricultural university and Indus college. The data was collected during the normal university days. Different departments were visited and questionnaires were distributed in classroom and common sitting areas.

Sampling procedure and technique

Convenient sampling technique was used in this study. The participants were recruited from differential educational institutions of Rawalpindi and Islamabad. The questionnaire was given to students and responses were collected.

Measures and instruments

Demographic questionnaire

Participants filled a short demographic questionnaire that asked for information about age, gender, social media apps and education level. The demographic form was created on the basis of aspects that emerged in literature related to Instagram addiction, quality of peer relationship and social anxiety.

Instagram Addiction Scale (IAS)

The IAS was developed using a modified version of Internet Addiction Test (Young, 1998). The modification was made (Kircaburun & Griffiths, 2018) by simply changing the word “Internet” with “Instagram”. It consists of 2 factors social effect and compulsion factor. The Cronbach α coefficient for the total scale and subfactors were .90, .86, and .85, respectively. The scale comprises of 6-point Likert scale from “ever” to “always” and scores can range between 15 and 90. As a result, cut-off points were determined as follows: non-addiction (15–37), mild addiction (38–58), moderate addiction (59–73), and severe addiction (over 73).

Friendship quality scale (FQS)

For measuring the quality of peer relationship, friendship quality scale was used. This scale was developed by Lei Mee Thien, Hazri Jamil and Nordin Abd Razak in 2012. Scale consists of 21 items (four points likert scale) ranging from 1= strongly disagree to 4=high strongly agree. It focused on both negative and positive features of friendship (see Asher and Parker, 1993; Bendt and Perry, 1986). It consists of four subscales: closeness (six items), help (three items), acceptance (four items), and safety (eight items). Yield total

scores from 21 to 126 where higher scores indicate more friendship quality level. The internal consistency reliability coefficients of the scale is 0.9.

Social Anxiety Questionnaire (SAS-MU)

For measuring social anxiety, the “Social Anxiety for Social Media Users Scale” (SAS-MU) was used. This scale was developed (Kadirhan & Sat) in 2017. It contains 21 items that are divided into 4 dimensions including shared content anxiety SCA (including 7 items), privacy concern anxiety PCA (including 5 items), interaction anxiety IA (including 6 items), and self-evaluation anxiety SEA (including 3 items). This scale is 5-points Likert scale ranging from 1 (never) to 5 (always). It scores ranges between 21 to 105, with higher points indicating a higher level of anxiety. As concern with this study, the specific social media platform Instagram was focused. The Cronbach's Alpha coefficients for the dimensions ranged from 0.80 to 0.92.

Procedures

Firstly, the ethical approval from Capital University of Science and Technology was taken. Inform consent from participants was signed prior to data collection. The sample consist of 400 students from various educational institutions of Rawalpindi and Islamabad were visited for data collection. The informed consent was signed from college authority and university participants before data collection. Clear instructions were given to the participants and they were guaranteed of their secrecy. Questionnaires was distributed in participants to self-report data on association between social anxiety, Instagram addiction and peer relationships.

Data Analysis

Data analysis was carried out using IBM SPSS 21 version. Descriptive analysis was done for demographic variables. Frequencies and percentages were calculated for categorical variables and mean, median, mode, standard deviation, skewness, kurtosis, and Kolmogorov Smirnov test (K-S) were used for continuous variables. Histograms are presented for pictorial representation of distribution of data. Spearman correlation analysis was conducted to measure the association between the variables: instagram addiction, quality of peer relationship and social anxiety among youth. Pearson correlation was conducted to measure the relation between 2 variables: instagram addiction and social anxiety. Reliability analysis by using Cronbach's alpha. Maan whitney for the difference of demographic variables.

Chapter 3

Results

The purpose of present study was to examine the association between instagram addiction, quality of peer relationship and social anxiety among youth. To explore gender differences in the levels of instagram addiction, quality of peer relationships and social anxiety among youth and to explore specific demographic characteristics such as age, education and social media app usage. In this chapter the results of study are presented. Demographic information regarding the sample is provided, followed by reliabilities for all instruments and descriptive statistics. The analyses used to test the research hypotheses are then presented.

Demographic Characteristics

Table 1

Descriptive statistics of demographic variables of the study participants (N=400)

Variable	Categories	<i>f</i>	%
Age	15-17	40	10
	18-20	177	44.3
	21-23	182	45.5
Gender	Male	171	42.8
	Female	229	57.3
Social media app usage	One app	187	46.8
	Two apps	59	14.8
	Three apps	60	15.0

	Four apps	53	13.3
	Five apps	41	10.3
Education	Intermediate	44	11.0
	Undergraduate	328	82.0
	Graduate	27	6.8

Note. *f*= Frequency, %= Percentage

Table 1 shows the demographic information of the sample variables. There were 171 males (42.8%) and 229 females (57.3%) participants ranging in age between 15-23 years old. Mean age for both males and females was 2.35 ($SD = .65$). Most of the participants were in the category of 21-23 years (45.5%). The distribution of age in the sample is non-normal, as the value of the Kolmogorov-Smirnov (K-S) test is significant ($p < 0.05$). The highest frequency of social media app usage was one app having frequency 187 (46.8%) and lowest was five apps having frequency 41 (10.3%). The majority of participants 328 (82.0%) were undergraduates, while 44 participants (11.0%) were of intermediate and 27 participants (6.8%) were graduates.

Reliability Analyses for Instruments

To find out reliability of scales used in current study, alpha reliability was calculated. The results of the reliability analyses are presented in table 2.

Table 2

Cronbach's Alpha Reliability Coefficients with Means and Standard Deviations of Instagram addiction scale, Friendship quality scale and Social Anxiety for Social Media Users Scale (N=400)

Variables	Items	M	SD	α	Range	
					Potential	Actual
IAS	15	42.93	14.83	.880	15-90	14-84
FQS	21	58.89	10.68	.857	21-84	25-91
SAS_MU	21	59.67	15.44	.892	21-105	20-99

Note. M= Mean score, SD= Standard Deviation, α = Cronbach's alpha reliability, IAS= Instagram Addiction scale, FQS= Friendship quality scale, SAS_MU= Social Anxiety for Social Media Users Scale.

Table 2 indicates the reliability coefficients for Instagram Addiction Scale (IAS, α = .880), Friendship Quality Scale (FQS, α = .857) and Social Anxiety for Social Media Users Scale (SAS_MU, α = .892) which shows that the instruments had a good reliability in this study. Therefore, it is concluded that all the instruments were internally consistent and were reliable measures of the constructs.

Descriptive Statistics for Instruments Used in Study

The descriptive statistics for Instagram Addiction Scale, Friendship Quality Scale and Social Anxiety for Social Media Users Scale are presented in the following table 3.

Table 3

Descriptive Statistics for Instagram Addiction Scale, Friendship Quality Scale and Social Anxiety for Social Media Users Scale (N=400)

Variables	M	Me	Md	SD	SK	K	K-S	p
IAS	42.93	43.26	14.07	14.83	.147	-.323	.044	.200
FQS	58.89	60.14	60.14	10.68	-.476	.320	.082	.000
SAS_MU	59.67	58.14	52.14	15.44	.087	-.277	.058	.010

Note. M=Mean Score, Me= Median, Md= Mode, SD= Standard Deviation & K-S= Kolmogorov-Smirnov test, p=significance, IAS= Instagram Addiction scale, FQS= Friendship quality scale, SAS_MU= Social Anxiety for Social Media Users Scale.

Table 3 shows the mean, median, mode and standard deviations of all variables. The value of K-S test, skewness and kurtosis in above table gives details of the non-normal distribution of the data for all study variables.

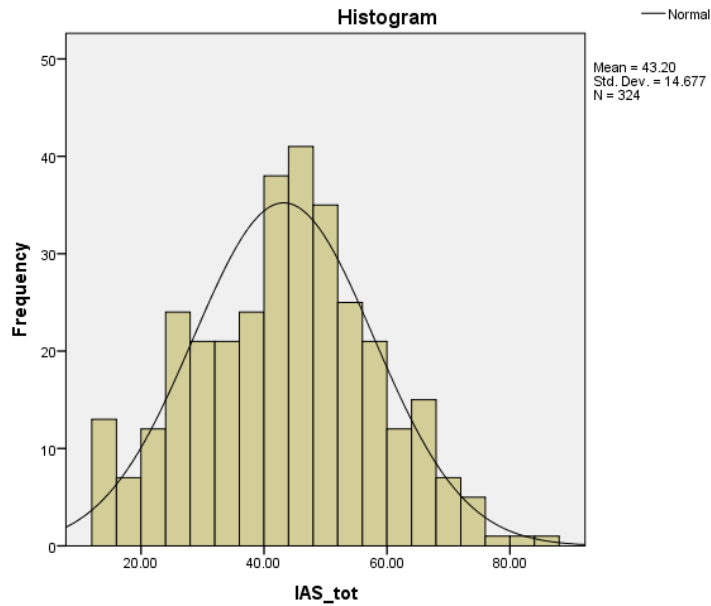
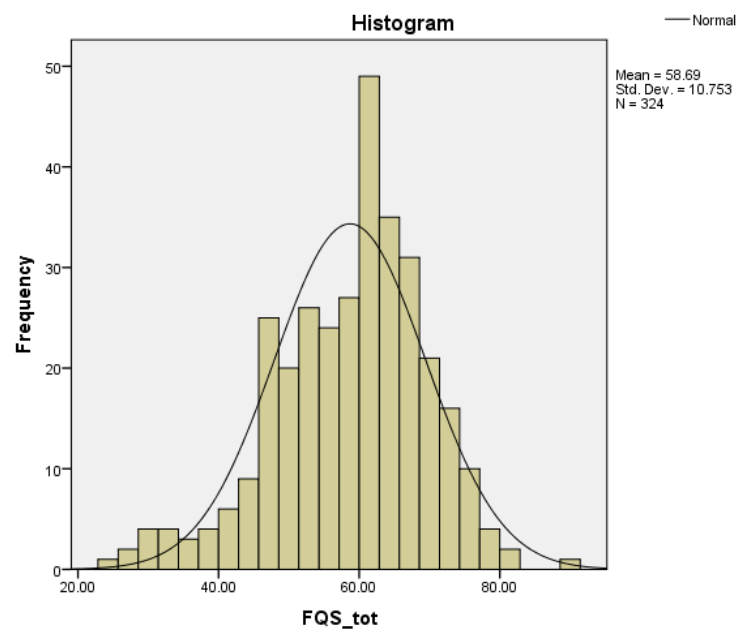
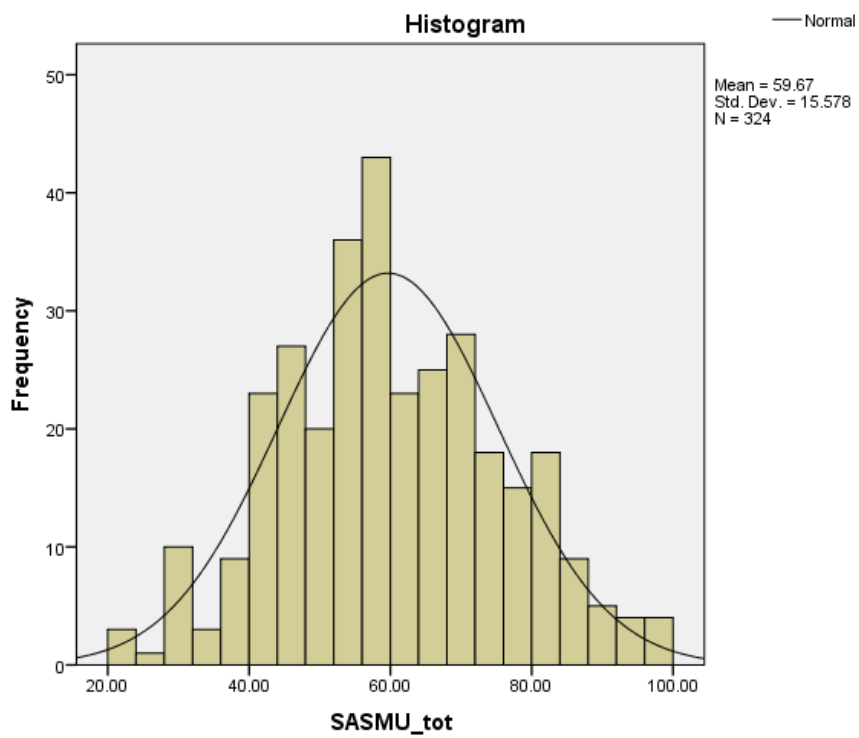
Figure 2**Instagram Addiction Scale****Figure 3****Friendship Quality Scale**

Figure 4**Social Anxiety for Social Media Users**

Positive association between Instagram Addiction, Quality of Peer Relationship and Social anxiety

A correlation analysis was conducted to investigate the positive association between Instagram addiction, quality of peer relationship and social anxiety. Spearman rho correlation test was used for the variables due to non-normal distribution (see table 3 for values of normality test). Results are shown in table 4.

Table 4

Spearman rho Correlations between Measures of Instagram Addiction, Friendship Quality and Social Anxiety for Social Media Users (N=400)

Variable	n	1	2	3
IAS	370	-	-.095	-.008
FQS	344	-.095	-	.062
SAS_MU	344	-.008	.062	-

Note: IAS= Instagram Addiction scale, FQS= Friendship quality scale, SAS_MU= Social Anxiety for Social Media Users Scale, 1= Instagram Addiction scale, 2= Friendship quality scale, 3= Social Anxiety for Social Media Users Scale.

Table 4 indicates the correlation among all the variables. Instagram addiction scale has weak negative correlation with friendship quality scale ($r_s = -.095$, $N=400$). However, the correlation is not statistically significant ($p = 0.077 > 0.05$). The correlation coefficient between Instagram addiction scale and Social Anxiety for Social Media Users Scale ($r_s = -0.008$, $N=400$) indicating a very weak negative correlation. This correlation is not statistically significant ($p = 0.876 > 0.05$). The correlation coefficient between Friendship

quality scale and Social anxiety for social media users(($r_s = 0.062$, $N=400$) indicating a weak positive correlation between friendship quality and social anxiety for social media users. However, this correlation is not statistically significant ($p = 0.259 > 0.05$). Based on the provided Spearman's rank correlation coefficients and p-values, there is little evidence to suggest significant correlations between the variables IAS, FQS, and SASMU in the analyzed sample. The correlations that do exist are weak and not statistically significant at the conventional significance level of 0.05.

Negative Association Between Instagram Addiction and Positive Quality of Peer Relationship

A correlation analysis was conducted to investigate the positive association between instagram addiction and negative and positive quality of peer relationship. Spearman rho correlation test was used for the variables due to non-normal distribution (see table 3 for values of normality test). Results are shown in table 5.

Table 5

Spearman rho Correlations between Measures of Instagram Addiction, Friendship Quality (N=400)

Variable	n	1	2
IAS	370	-	-.095*
FQS	344	-.095*	-

Note: IAS= Instagram Addiction scale, FQS= Friendship quality scale, 1= Instagram Addiction scale, 2= Friendship quality scale.

In this table, The correlation coefficient between IAS and FQS is 0.039. For IAS_tot and FQS_tot, the correlation coefficient is -0.095. The negative sign indicates an inverse relationship as instagram addiction scores increase, friendship quality tends to decrease. The p-value associated with this correlation is 0.039, which is less than the conventional threshold of 0.05. Therefore, the correlation between IAS_tot and FQS_tot is statistically significant at the 0.05 level (1-tailed).

Significant gender differences between Instagram Addiction, Quality of Peer Relationship and Social Anxiety

To study the gender wise difference among study variables (instagram addiction, quality of peer relationship and social anxiety). Man Whitney U-test was used for the scales due to non-normal distribution (see table 3 for values of normality test). Results are shown in table 6.

Table 6

Man Whitney-U test showing between gender differences among Instagram Addiction, Friendship Quality and Social Anxiety for Social Media Users (N=400)

Variables	Male		Female		U	Z	P
	N	Mean Rank	N	Mean Rank			
IAS	155	221.8	215	159.3	11028.5	-5.55	.000
FQS	156	162.7	207	196.5	13134.5	-3.043	.002
SAS_MU	151	179.9	210	181.7	15694.0	-.165	.869

Note: N= number of participants, IAS= Instagram Addiction scale, FQS= Friendship quality scale, SAS_MU= Social Anxiety for Social Media Users Scale, U= Man Whitney test value,

The table 6 shows the results of Mann-Whitney U tests comparing two groups (male and female) for three different variables; IAS, FQS, and SAS_MU. The mean rank for males (M = 221.8) is significantly higher than for females (M = 159.3) on the IAS. The U statistic is 11028.5, and the Z score is -5.55. The p-value is highly significant ($p < .001$), indicating a statistically significant difference in Instagram addiction between males and females. The mean rank for males (M = 162.7) is significantly lower than for females (M = 196.5) on

the FQS. The p-value is significant ($p = .002$), suggesting a statistically significant difference in friendship quality between males and females. There is no significant difference in mean ranks between males ($M = 179.9$) and females ($M = 181.7$) on the SAS_MU. The p-value is not significant ($p = .869$), indicating that there is no statistically significant difference in social anxiety related to social media use between males and females. Overall results shows that Males show a significantly higher rank in Instagram addiction compared to females. Females exhibit a significantly higher rank in friendship quality compared to males. There is no significant difference in social anxiety related to social media use between males and females.

Significant education differences between Instagram Addiction, Quality of Peer Relationship and Social Anxiety

To investigate the significant educational differences between instagram addiction, quality of peer relationship and social anxiety, a series of Kruskal Wallis H test were computed with education due to non-normal distribution (see table 3 for values of normality test). Results are shown in table 7.

Table 7

Kruskal Wallis H test showing between gender differences among Instagram Addiction, Friendship Quality and Social Anxiety for Social Media Users (N=400)

Variables	Education (mean rank)			X ²	P
	Intermediate (n=44)	Undergraduate (n=328)	Graduate (n=27)		
IAS	203.34	181.70	202.48	2.1555	.340
FQS	167.04	183.27	190.24	1.024	.599
SAS_MU	216.71	173.44	213.02	8.637	.013

Note: N= number of participants, IAS= Instagram Addiction scale, FQS= Friendship quality scale, SAS_MU= Social Anxiety for Social Media Users Scale, p=Significance value

Table 7 shows the educational differences among instagram addiction, quality of peer relationship and social anxiety. Results interpret that there is no strong evidence to suggest that education levels are associated with significant differences in Instagram addiction scores (as p=0.340). The highest mean rank is in intermediate group (M=203.34) and

lowest in undergraduate group ($M=181.70$). Also, in FQS, it shows no statistically significant differences ($p = 0.599$). Thus, there is insufficient evidence to conclude that education levels have a significant impact on Friendship Quality Scale scores. But there is statistically significant difference ($p = 0.013$) among education and social anxiety, suggesting that social anxiety for social media users differs significantly among Intermediate, Undergraduate, and Graduate education levels.

Age is differently relate to instagram addiction

To investigate the relationship between age and instagram addiction, Spearman's correlations was computed due to non-normal distribution of scale (see table 3 for values of normality). Results are shown in table 8.

Table 8

*Spearman's correlation showing relation between age and Instagram Addiction,
(N=400)*

Variables	Age of sample	p
IAS	0.056	0.285

Note: IAS= Instagram Addiction scale, p=Significance value

Table 8 showed that there is no strong evidence to suggest relationship between age and Instagram addiction ($p=0.285 > 0.05$) in the given sample. It entails that instagram addiction do not differ in the context of age among youth.

Significant Social Media Apps Differences Between Instagram Addiction, Quality of Peer Relationship and Social Anxiety

To investigate the significant social media app differences between instagram addiction, quality of peer relationship and social anxiety, a series of Kruskal Wallis H test were computed with age due to non-normal distribution (see table 3 for values of normality test). Results are shown in table 9.

Table 9

Kruskal Wallis H test showing between social media apps differences among Instagram Addiction, Friendship Quality and Social Anxiety for Social Media Users (N=400)

Variables	Social media apps (mean rank)					X ²	P
	One app N=187	Two apps N=59	Three apps N=60	Four apps N=53	Five apps N=41		
IAS	186.00	187.70	156.68	174.56	234.19	11.962	.018
FQS	180.92	202.94	203.18	155.79	155.50	9.457	.051
SAS_MU	170.19	213.41	174.67	179.89	192.38	7.850	.097

Note: N= number of participants, IAS= Instagram Addiction scale, FQS= Friendship quality scale,

SAS_MU= Social Anxiety for Social Media Users Scale, p=Significance value

Table 9 showed the differences of social media app usage on IAS, FQS and SAS_MU. In IAS, The p-value (is .018) being less than 0.05 suggests that there is a statistically significant difference in Instagram addiction scores among the groups based

on the number of social media apps used. For FQS, the p-value (0.051) is slightly above the conventional significance level of 0.05, suggesting a borderline significant difference in friendship quality scores among the groups. For SAS_MU, the p-value (.097) is greater than 0.05, suggesting that the differences in social anxiety scores among the groups are not statistically significant.

Chapter 4 Discussion

The purpose of the present study was to investigate the association between Instagram Addiction, Quality of Peer Relationships and Social Anxiety among youth. Another objective of the study is to find the gender differences among Instagram Addiction, Quality of Peer Relationship and Social Anxiety among youth. This study utilizes the cross-sectional design with the sample of 400 consists of youth. Convenient sampling was used to select the sample of the study. The results of the study and its implications are discussed in this chapter.

The reliability of the scales was checked by calculating the cronbach's alpha reliability (see Table 2). The Instagram addiction scale has coefficient of .880, Friendship Quality Scale has coefficient of .857 and alpha coefficient for Social Anxiety for Social Media Users has .892. The standard is that a scale with alpha coefficient of 0.70 and above is considered to have high reliability whereas a coefficient of 0.60 shows that a scale has average reliability (Nunally, 1967; Hair et.al,2006). Instagram Addiction scale has been employed in Irani sample, the alpha reliability for the English version in few studies ranges 0.87 (Sayed Ali et.al, 2023). Friendship quality scale also had alpha reliability as reported in previous studies that is 0.82 (Thein & Abd Razak, 2012). Alpha reliability of social anxiety for social media user scale ranging between 0.80 and 0.92 (Aktas et.al, 2023). So, it can be concluded that all the scales used in current study were internally consistent.

Descriptive analysis of the demographics revealed that participants of this study were ranged ages of 15 to 23 years among which most of them were of 19 years. The education level reported by most of the students were undergraduates, which revealed that

most of the students in the current study were of university students. Most of the participants use only one app.

Descriptive analyses of the instruments used in this study revealed several important findings. Firstly, the mean score of instagram addiction scale was 42.93. Previous study showed mean of 34.07 (kircaburun&griffiths,2018) among university students, which is less than present study. Another study showed mean score on instagram addiction scale was 27.68 among greek youth (Zarenti et al,2021), which is also less than mean score of present study. The mean score of 42.93 on the Instagram Addiction Scale (IAS) among youth suggests a moderate level of Instagram addiction within the studied population.

The mean score on friendship quality scale is (58.89, see Table 3). Previous studies showed mean of 42.91 (Hira et.al,2021) and for males (86.99) and for female (89.62) which shows greater mean with respect to gender (Divita Sharma&Musaddiq Jahan,2022). It means that friendship quality scale is reliable measure of peer quality. It suggests that on average, the youth reported a moderately positive perception of the quality of their friendships.

The means on the Social anxiety for social media user (M=59.67, see Table 3) indicates higher frequency. The mean score was higher than some of mean scores reported in previous studies such as 54.55 among the sample of medical students. A moderate level positive correlation was determined on SAS-SMU points. As social media addiction increased, there was determined to be a statistically significant increase in social anxiety (Merve Aktas et.al, 2023). The score (21-105) described by Kadirhan (2017) signifies the presence of social anxiety. Influencers on social media often contribute to negative social

comparisons, which are a common cause of social anxiety among users (Jiang & Ngien,2020). Many socially anxious individuals hold unrealistic beliefs primarily negative about how they are perceived by others (Hackmann et al., 2000).

Hypothesis one proposed that there will be positive association between instagram addiction, quality of peer relationships and social anxiety among youth. Correlation analysis of the data revealed that the relation between instagram addiction, quality of peer relationship and social anxiety is not statistically significant. The correlation that exists is weak. There are many factors which may influence on these findings including individual differences among participants may not have been adequately controlled for in the analysis. Personality traits may be the factor such as extroversion, introversion, neuroticism, or openness, can influence how people engage with social media, interact with peers, and experience social anxiety (Ross et.al,2009). A study found that only the path from Instagram use on social anxiety was not significant. This results showed that Instagram use failed to directly influence social anxiety (Shaohai&Annabe, 2020). A study found that attachment in peer relationships did not moderate the relationship between social anxiety. Quality of peer relationships was not found to be a moderating variable in the relationship between social anxiety symptoms (Sappington&L,2020).

Correa et al. (2010) investigated the relationship between personality traits and social media use. Cognitive factors, such as thought patterns and cognitive biases, can influence how individuals perceive their own Instagram use. For example, individuals with certain cognitive biases may interpret their frequent use of Instagram. Individuals with different attachment styles may use social media platforms like Instagram to fulfill their social and emotional needs differently. For example, those with secure attachment styles

may use Instagram for positive social interactions and connection, while individuals with insecure attachment styles (e.g., anxious or avoidant) may turn to Instagram for validation or as a means of avoiding face-to-face interactions (Mikulincer, M., & Shaver, 2007). Users on social media usually compare themselves to the abilities, look, social talent and popularity of others, thus increasing social anxiety, so Instagram does not directly affect social anxiety except with the social comparator's presence (Jiang, & Ngien, 2020).

When interpreting this in the context of the Self-Determination Theory (SDT), which focuses on individuals' intrinsic motivation and psychological needs. Individuals who are addicted to Instagram may be seeking a sense of autonomy or control over their online activities. However, if this autonomy is not associated with negative consequences in their peer relationships or increased social anxiety, the correlation may not be significant. Instagram use might not be directly linked to feelings of competence or incompetence in peer relationships. A lack of correlation could indicate that the platform's use doesn't necessarily impact individuals' perceived effectiveness in their social interactions. While Instagram is a social platform, the lack of a statistically significant correlation with the quality of peer relationships suggests that Instagram use might not strongly influence the sense of relatedness or social connection. This could mean that individuals may separate their online and offline social experiences (Ryan&Deci, 2006)

A person's social media use and interactions with others on social media platforms, although occurring virtually, are embedded in socially evaluative contexts. Since fear of evaluation is considered a core feature of social anxiety (Weeks et al., 2010), it is likely that highly socially anxious people may be more motivated to engage in behaviors to make a particular (virtual) impression to minimize the likelihood of negative evaluations. Indeed,

this is consistent with and an extension of Schlenker and Leary's (1982). The result of study showed that individuals who have higher level of social anxiety results to have higher instagram contingent. It suggests that those individuals who are more socially anxious interact with instagram differently by their experiences on this platform (Lopez & Isabel Polletta,2021). Also the study on instagram addiction and social anxiety showed that addiction to Instagram increased anxiety of the students also increased linearly and significantly. Obsession and Excessive use component of Instagram addiction were the major predictors of anxiety (D'Souza, & Deeksha S.,2019). Similarly, the study from Sherlock and Wagstaff (2018) showed that amount of time spent on Instagram was positively correlated with depressive symptoms, trait anxiety, physical appearance anxiety, body image disturbance, and social comparison.

Hypothesis two proposed that there will be significant negative association between instagram addiction and positive quality of peer relationship among youth. The findings of study revealed that the correlation (0.039, $p < 0.05$) is statistically significant in the analyzed sample. The relationship observed in the data does not necessarily mean that Instagram addiction directly causes a decline in friendship quality or vice versa. Other factors could be influencing these correlations. Chou and Edge (2012) found that excessive social media use, including Instagram, was associated with poor peer relationships among adolescents. Results showed that adolescents who spent more time on social media reported feeling more socially isolated, which in turn was associated with poorer quality peer relationships. Excessive use of the instagram may lead to social isolation, as individuals may become more engrossed in online interactions than in face-to-face relationships. Kerkhof et al. (2011) who also found that those with high compulsive Internet use experienced decreased

offline relationship quality. This detachment from real-world connections can negatively impact the depth and quality of friendships, particularly if online interactions substitute for in-person bonding experiences. The reason could be that individuals who are more addicted to Instagram may engage more actively in online social interactions, leading to a potential enhancement of friendship quality. The platform's visual nature allows for sharing personal experiences and staying connected with friends, contributing positively to the overall perception of friendship quality (Kim et al., 2015).

Hypothesis three proposed that there will be significant gender differences between Instagram addiction, quality of peer relationship and social anxiety among youth. The findings of study revealed that males showed significantly higher score in Instagram addiction compared to females. It may be due to some similarities in the ways that boys and girls think about friendship; for example, both boys and girls emphasize that they depend on friends for company, approval, and support. Boys are more concerned with status within the peer group and more oriented towards the larger peer group, whereas girls are more concerned with and oriented towards friendship and close affiliations. The results of study (Pilar et al., 2019) showed that the Instagram is more used by men as compared to women. It suggests that suggested that males had a higher association with social networks addiction. Females exhibit a significantly higher scores in friendship quality compared to males. The reason could be the perspective that suggests females may tend to prioritize emotional intimacy and communication in their friendships, which can contribute to what some perceive as higher friendship quality. Males might focus more on shared activities and companionship in their friendships, which can be perceived differently than the emotional intimacy seen in female friendships. There is no significant difference in social

anxiety related for social media users between males and females in present study. Both male and female use supporting apps to post photos and videos, but differently. For instance, men usually use photoorganizing applications to alter the photographs, whereas women, mostly, use filters and post their photos. Hence, both are involved in same type of social comparison process (Thelwall & Vis, 2017).

In Pakistan, a study investigated the connections between Instagram usage, social comparison, self-esteem, and social anxiety, while considering demographic factors (age, gender, education, income). Results showed that there is no statistically significant relation between gender and social comparison on the use of Instagram. Both male and female use supporting apps to post photos and videos, but differently. For instance, men usually use photo organizing applications to alter the photographs, whereas women, mostly, use filters and post their photos. Hence, both are involved in same type of social comparison process. Another study (Ly-Anne et.al,2022) showed that the interaction between social anxiety and gender was non-significant Gender exclusively influenced photo manipulation, with females engaging in more changes in images before posting to Instagram.

Hypothesis four proposed that age is differently related to instagram addiction. The findings of study revealed that there is no relationship between instagram addiction and age in the given sample. A study found no statistically significant age differences in social media addiction among university students (Azizi et.al, 2019). It is due to several factors including individual differences having different experiences and behaviors. Also, societal changes means rapid changes in technology and societal norms can impact how youth engage with social media and navigate peer relationships. A key finding of the study is that study do not reveal the age as a significant factor determining Instagram use and Social

Comparison. this study is conducted on the sample of 16- 25 years of age group, which generally exhibit the same characteristics in terms of social media use, so the patterns of the use of Instagram would probably not be different among them (Zeib, F. 2021).

Hypothesis five proposed that there will be significant education differences between instagram addiction, quality of peer relationship and social anxiety among youth. The findings of study revealed that there is no statistically significant relationship between education with Instagram addiction and friendship quality. A study found that there is no statistically significant differences in education between social networking addiction among university students (Azizi et.al, 2019). Hsiao et al. (2017) found that compulsive social app usage did not affect the academic performance of students negatively. But in present study, there is statistically significant difference ($p = 0.013$) among education and social anxiety, suggesting that social anxiety for social media users differs education levels. The reason is that emerging adults who feel a greater sense of belonging with their peers outside of Instagram may not necessarily use Instagram less, but rather feel it less necessary to engage in like-seeking behavior (i.e., seeking validation and attention from others) on Instagram. Individuals who suffer from social anxiety experience functional impairment in occupational, educational, and/or social domains resulting in a poor quality of life (Dryman et al. 2016).

Hypothesis six proposed that there will be significant social media apps differences between instagram addiction, quality of peer relationship and social anxiety among youth. The findings of study revealed that there is statistical relationship of social media apps with instagram addiction and friendship quality but there is no statistical relation between social media apps and social anxiety among social media users. Several factors are involve in it

including the quality of social interactions on social media platforms. It's not just about the quantity of apps but also about the nature of the connections and content within those apps. Positive and supportive interactions may reduce social anxiety, while negative or harmful interactions could increase it. Also the interest factor could be reason that people find more comfort in online interaction rather than face to face interaction. A study found the percentage of use of social media applications, which is always used by youth, it is seen that 14% of them use the Facebook, 38.3% of them use the Instagram, 5.6% of them use the Twitter, 12.9% (Bekar et.al, 2022). The findings of the study indicates that 5.3% of Facebook users, 11.5% of Instagram users, and 12.4% of Twitter users visit the app more than 40 times a day (Allahverdi& F. Z,2022).

Conclusion

The association between Instagram addiction, quality of peer relationship and social anxiety has been explored in this study. The study also includes demographic factor affecting the relationships. With the introduction 3G and 4G internet on cellular devices in past on decades use of social media on mobile phones is increased drastically in developing countries like Pakistan. Availability of smart phones has also increased because of comparatively low prices. Majority of Pakistan population is comprised of youth and social media is a popular tool among youth for information gratification, entertainment. Instagram has become one of the fastest-growing social media platforms, particularly among younger populations. With its increasing popularity, many people are concerned about whether Instagram might lead to greater emotional burdens, such as stress and anxiety. It may be argued that unlike the other types of addictions, internet addiction begins with an earlier age (Odabaşioğlu et al., 2006) and the parents and teachers' positive touch, acceptance and support would be very important to prevent such a problem. If youth find the social support they need from their parents and significant others, they do not seek it in virtual medium. In present study, majority of sample consists of females, with highest age range of 19 years. The results revealed that there is weak correlation among study variables. There is moderate relation between instagram addiction and social anxiety. There is inverse relation between instagram addiction and friendship quality as instagram addiction increase, friendship quality tends to decrease. Results show a significantly higher score in Instagram addiction compared to females. Females exhibit a significantly higher score in friendship quality compared to males. There is no significant difference in social anxiety related to social media use between males and females. According to demographic of education, it

shows statistical relation with social anxiety. The age group of 19 years showed greater score on instagram addiction. Similarly, FQS have greater scores in 22 years' age. For SAS_MU, the greater score is on 22 years' age. There is statistical relation of social media app usage among instagram and friendship quality but there is no relation among social media app usage and social anxiety.

Limitations

- There are also other social media apps that are used by youth. The role of other apps can have affect on the outcome of present study.
- Since measures are self-report based, future research should try to collect data from multiple informants including teachers, peers, or parent for precisely replicate the findings.
- The design of present study was based on the participants of specific age group. Future studies would identify the discrepancies found in the use of Instagram among different age groups.

Implications

- The findings of this study provided the empirical evidence by showing the association of instagram addiction, quality of peer relationship and social anxiety. Interventions can be designed for reducing addictive use of instagram, improving peer relationships and social anxiety.
- It can offer valuable insights that can be applied in various domains to support mental health, establishing interventions and treatment and providing awareness and education about the negative impacts of excessive instagram usage.

- Users of instagram, educators, families, policymakers, and social media companies can use the findings to help them develop addiction prevention strategies and policies.

References

- Aktan E. Sosyal medya ve sosyal kaygı: sosyal medya kullanıcıları üzerine bir araştırma. *Selçuk İletişim* 2018;11:35-53.
- <https://doi.org/10.18094/josc.397272>
- Alfano, C. A., Beidel, D. C., & Turner, S. M. (2006). Cognitive correlates of social phobia among children and adolescents. *Journal of Abnormal Child Psychology*, 34(2), 189-201.
- Allahverdi, F. Z. (2022). Relationship between perceived social media addiction and social media applications frequency usage among university students. *Psychology in the Schools*, 59(6), 1075-1087.
- American Psychiatric Association. 2013. Diagnostic and Statistical Manual of Mental Disorders (DSM5®). Washington DC: American Psychiatric Publishing
- Andreassen, C. S., Pallesen, S., & Griffiths, M. D. (2017). The relationship between addictive use of social media and video games and symptoms of psychiatric disorders: A large-scale cross-sectional study. *Psychology of Addictive Behaviors*, 31(3), 252-262.
- Andreassen, C. S., Pallesen, S., & Griffiths, M. D. (2017). The relationship between addictive use of social media, narcissism, and self-esteem: Findings from a large national survey. *Addictive Behaviors*, 64, 287-293.

- Azizi, S. M., Soroush, A., & Khatony, A. (2019). The relationship between social networking addiction and academic performance in Iranian students of medical sciences: a cross-sectional study. *BMC psychology*, 7(1), 1-8.
- Ballarotto, G., Volpi, B., & Tambelli, R. (2021). Adolescent Attachment to Parents and Peers and the Use of Instagram: The Mediation Role of Psychopathological Risk. *International Journal of Environmental Research and Public Health*, 18(8), 3965.
doi:10.3390/18083965
- Baumeister, Roy F., and Mark R. Leary. 2017. "The Need to Belong: Desire for Interpersonal Attachments as a Fundamental Human Motivation." In *Interpersonal Development*, edited by Rita Zukauskiene, 57–89. London: Routledge
- Bekar, P., Arıkan, D., & Çapık, C. (2022). The Relationship of Internet Addiction with Social Media Use Purposes and Loneliness of Adolescents. *Journal of education and research in nursing*, 19(3), 342-349.
- Biggs, B. K., Vernberg, E. M., & Wu, Y. P. (2012). Social anxiety and adolescents' friendships: The role of social withdrawal. *The Journal of Early Adolescence*, 32(6), 802-823.
- Black, A. and Deci, E. (2000). The effects of instructors' autonomy support and students' autonomous motivation on learning organic chemistry: A self-determination theory perspective. *Science Education*, 84, 740-756.

- Brinthaupt, T. M., & Lipka, R. P. (2002). Understanding early adolescent self and identity: An introduction. *Applications and interventions*, 1-21.
- Burton, K., Lydon, J., D'Alessandro, D. and Koestner, R. (2006). The differential effects of intrinsic and identified motivation on well-being and performance: prospective, experimental, and implicit approaches to self-determination theory. *Journal of Personality and Social Psychology*, 91, 750-762.
- Caplan, S. E. (2003). Preference for online social interaction: A theory of problematic Internet use and psychosocial well-being. *Communication Research*, 30, 625–648.
- Caplan, S. E. (2007). Relations among loneliness, social anxiety, and problematic Internet use. *CyberPsychology & Behavior*, 10, 234–241.
- Chan, J. T. H., Lai, C. M., & Leung, L. (2012). Is compulsive social media use a behavioral addiction? Proceedings of the 2012 International Conference on Communication, Media, Technology and Design, 73-78.
- Chan, M., Wu, X., Hao, Y., Xi, R., & Jin, T. (2012). Microblogging, online expression, and political efficacy among young Chinese citizens: The moderating role of information and entertainment needs in the use of Weibo. *Cyberpsychology, Behavior and Social Networking*, 15(7), 345–349.
- Chou, H. T. G., & Edge, N. (2012). "They are happier and having better lives than I am": The impact of using Facebook on perceptions of others' lives. *Cyberpsychology, Behavior, and Social Networking*, 15(2), 117-121.

Claudia, Marino, Elena Mazzieri, Gabriele Caselli, Alessio Vieno, and Marcantonio M. Spada. 2018. "Motives to Use Facebook and Problematic Facebook Use in Adolescents." *Journal of Behavioral Addictions* 7 (2): 276–283.

Claudia, Marino, Gianluca Gini, Federica Angelini, Alessio Vieno, and Marcantonio M. Spada. 2020. "Social Norms and E-Motions in Problematic Social Media Use Among Adolescents." *Addictive Behaviors Reports* 11: 100250.

Cohen, R., Newton-John, T., Slater, A., 2017. The relationship between Facebook and Instagram appearance-focused activities and body image concerns in young women. *Body Image* 23, 183–187.

<https://doi.org/10.1016/j.bodyim.2017.10.002>

Correa, T., Hinsley, A. W., & De Zuniga, H. G. (2010). Who interacts on the web?: The intersection of users' personality and social media use. *Computers in Human Behavior*, 26(2), 247–253.

<https://doi.org/10.1016/j.chb.2009.09.003>

Deci, E. L., & Ryan, R. M. (1985). The general causality orientations scale: Self-determination in personality. *Journal of Research in Personality*, 19(2), 109-134

Dhir, A., Khalil, A., Lonka, K., Tsai, C.-C., 2017. Do educational affordances and gratifications drive intensive Facebook use among adolescents? *Computers in Human Behavior* 68, 40–50.

<https://doi.org/10.1016/j.chb.2016.11.014>

Dhir, A., Yossatorn, Y., Kaur, P., Chen, S., & Foo, S. (2018). Online social media fatigue and psychological wellbeing—A study of compulsive use, fear of missing out, fatigue, anxiety and depression. *International Journal of Information Management*, 40, 141-152.

doi: 10.1016/j.janxdis.2011.11.001.

Donnelly, E., & Kuss, D. J. (2016). Depression among users of social networking sites (SNSs): The role of SNS addiction and increased usage. *Journal of Addiction and Preventive Medicine*, 1(2), 107.

Dossey L. (2014). FOMO, digital dementia, and our dangerous experiment. *Explore: The Journal of Science and Healing*, 2(10), 69–73.

Dryman, M. T., Gardner, S., Weeks, J. W., & Heimberg, R. G. (2016). Social anxiety disorder and quality of life: How fears of negative and positive evaluation relate to specific domains of life satisfaction. *Journal of Anxiety Disorders*, 38, 1–8.

D'Souza, L, Samyukta, A & Bivera, TJ (2018). Development and Validation of Test for Instagram Addiction (TIA). *International Journal of Indian Psychology*, 6(3), 4-14.

Doi:10.25215/0603.081

DunyaNews. (2018). No Title. <https://dunyaNews.tv/en/Technology/447531-Five-mental-disorders-thathave-plagued-the-Pakistani-youth#:~:text=According to the reports of,suffering with anxiety and depression.>

- Elhai, J. D., Dvorak, R. D., Levine, J. C., & Hall, B. J. (2016). Fear of missing out, need for touch, anxiety and depression are related to problematic smartphone use. *Computers in Human Behavior*, 63, 509-516.
- Elhai, J. D., Levine, J. C., Dvorak, R. D., & Hall, B. J. (2016). Fear of missing out, need for touch, anxiety and depression are related to problematic smartphone use. *Computers in Human Behavior*, 63, 509-516.
- Elphinston, R. A., & Noller, P. (2011). Time to face it! Facebook intrusion and the implications for romantic jealousy and relationship satisfaction. *Cyberpsychology, Behavior, and Social Networking*, 14(11), 631–635.
- Elphinston, R. A., & Noller, P. (2011). Time to face it! Facebook intrusion and the implications for romantic jealousy and relationship satisfaction. *Cyberpsychology, Behavior, and Social Networking*, 14(11), 631-635.
- Erath, S. A., Flanagan, K. S., & Bierman, K. L. (2007). Social anxiety and peer relations in early adolescence: Behavioral and cognitive factors. *Journal of Abnormal Child Psychology*, 35(3), 405-416.
- Erikson, E. H. (1968). *Identity: Youth and crisis* (No. 7). WW Norton & company.
- Esen, B.K. & Gündoğdu, Mustafa. (2010). The relationship between Internet addiction, peer pressure and perceived social support among adolescents. *The International Journal of Educational Researchers*. 2. 29-36.

- Fardouly, J., Diedrichs, P. C., Vartanian, L. R., & Halliwell, E. (2018). Social comparisons on social media: The impact of Facebook on young women's body image concerns and mood. *Body Image*, 26, 38-45.
- Forest, A., & Wood, J.(2012). When social networking is not working: Individuals with low selfesteem recognize but do not reap the benefits of selfdisclosure on Facebook. *Psychological Science*, 23(3), 295-302.
- Foroughi, B., Griffiths, M.D., Iranmanesh, M. *et al.* Associations Between Instagram Addiction, Academic Performance, Social Anxiety, Depression, and Life Satisfaction Among University Students. *Int J Ment Health Addiction* **20**, 2221–2242 (2022).
- Giordano, P. C. (2003). Relationships in adolescence. *Annual Review of Sociology*, 29(29), 257–281.
<https://doi.org/10.1146/annurev.soc.29.010202.100047>.
- Hamdani, S. U., Huma, Z.-E.-, & Tamizuddin-Nizami, A. (2021). Debate: Child and adolescent mental health services in Pakistan; Do we need in-patient mental health facilities for children and young people? *Child and Adolescent Mental Health*, 26(2), 182–183. <https://doi.org/10.1111/camh.12463>
- Hampton, K. N., L. Rainie, W. Lu, I. Shin, and K. Purcell 2015. “Social Media and the Cost of Caring.” Pew Research Center, January 15.

- Harman, J. P., Hansen, C. E., Cochran, M. E. & Lindsey, C. R. (2005). Liar, Liar: Internet faking but frequency of use affects social skills, self-esteem, social anxiety and aggression. *CyberPsychology and Behavior*, 8 (1), 1-6
- Heimberg, R. G., Liebowitz, M. R., Hope, D. A., and Schneier, F. R. (eds.). (1995). Social phobia: Diagnosis, Assessment, and Treatment. 435. Available online at: <https://psycnet.apa.org/fulltext/1995-98887-000.pdf> (accessed May, 28, 2021)
- Hong, W., Liu, R.-D., Oei, T.-P., Zhen, R., Jiang, S., & Sheng, X. (2019). The mediating and moderating roles of social anxiety and relatedness need satisfaction on the relationship between shyness and problematic mobile phone use among adolescents. *Computers in Human Behavior*, 93, 301–308.
- Hsiao KL, Shu Y, Huang TC. Exploring the effect of compulsive social app usage on technostress and academic performance: Perspectives from personality traits. *Telematics and Informatics* 2017;34(2):679–90. <https://doi.org/10.1016/j.tele.2016.11.001>.
- Hyung Hur, M. (2006). Demographic, habitual, and socioeconomic determinants of internet addiction disorder: An empirical study of Korean teenagers, *Cyber Psychology and Behavior*, 9 (5), 514- 525
- Jelenchick, Lauren A., Jens C. Eickhoff, and Megan A. Moreno. 2013. ““Facebook depression?” Social Networking Site Use and Depression in Older Adolescents.” *Journal of Adolescent Health* 52 (1): 128–130.

- Jiang, Q., & Ngien, A. (2020). Sharing Happiness on Social Media: The Role of Positive Life Events, Social Comparison, and Emotion Regulation. *Cyberpsychology, Behavior, and Social Networking*, 23(5), 333-340.
- Jiang, S., & Ngien, A. (2020). The effects of Instagram use, social comparison, and self-esteem on social anxiety: A survey study in Singapore. *Social Media+ Society*, 6(2), 2056305120912488.
- Jiang, S., & Ngien, A. (2020). The effects of Instagram use, social comparison, and self-esteem on social anxiety: A survey study in Singapore. *Social Media+ Society*, 6(2), 2056305120912488.
- Jiang, Shaohai, and Annabel Ngien. 2020. "The Effects of Instagram Use, Social Comparison, and Self-Esteem on Social Anxiety: A Survey Study in Singapore." *Social Media+ Society* 6 (2): 2056305120912488.
- Kanwal, S., et al.: Self-Disclosure and SNS Addiction in South Asian Youth: An Empirical Study of Pakistan.
- Kanwal, S., Pitafi, A. H., Akhtar, S., & Irfan, M. (2019). Online self-disclosure through social networking sites addiction: A case study of Pakistani university students. *Interdisciplinary Description of Complex Systems: INDECS*, 17(1-B), 187-208.
- Katz, I., & Crocker, J. (2015). Self-esteem and narcissism: A comparison and preliminary investigation of their relations to perceived regard. *Journal of Personality*, 83(3), 252-262.

Kerkhof, P., Finkenauer, C., & Muusses, L. D. (2011). Relational consequences of compulsive Internet use: A longitudinal study among newlyweds. *Human Communication Research*, 37(2), 147-173.

doi:10.1111/j.1468-2958.2010.01397.x

Kim JW, Kim B-N, Kim JI, et al. Social network analysis reveals the negative effects of Attention-Deficit/Hyperactivity Disorder (ADHD) symptoms on friend-based student networks. *PLoS One*. 2015;10(11): e0142782

Kim, H. S., Kim, S. Y., & Park, H. (2016). A study on the moderating effects of social support for Oiettolie propensity adolescent in the process of internet game addiction. *Journal of the Korea Society of Computer and Information*, 21(10), 149–156.

Kim, Junghyun, Robert LaRose, and Wei Peng. 2009. “Loneliness as the Cause and the Effect of Problematic Internet Use: The Relationship Between Internet Use and Psychological Well-Being.” *Cyberpsychology & Behavior* 12 (4): 451–455.

Kircaburun K, Griffiths MD. Instagram addiction and the big five of personality: The mediating role of self-liking. *Journal of Behavioral Addictions* 2018;7(1): 158–70

Kircaburun, K., Griffiths, M. D., Billieux, J., & Mamun, M. A. (2018). Instagram addiction and the Big Five of personality: The mediating role of self-liking. *Journal of Behavioral Addictions*, 7(1), 158-170.

- Kuss DJ, Griffiths MD. Social networking sites and addiction: Ten lessons learned. *International Journal of Environmental Research and Public Health* 2017;14(3): 311
- Kuss, D. J., Griffiths, M. D., Karila, L., & Billieux, J. (2013). Internet addiction: A systematic review of epidemiological research for the last decade. *Current Pharmaceutical Design*, 20(25), 4026-4052.
- La Greca, A. M., & Harrison, H. M. (2005). Adolescent peer relations, friendships, and romantic relationships: Do they predict social anxiety and depression? *Journal of Clinical Child and Adolescent Psychology*, 34(1), 49-61.
- Lee, B.W. & Stapinski, L.A. (2012). Seeking safety on the internet: Relationship between social anxiety and problematic internet use. *J Anxiety Disord*; 26(1):197-205
- Lee, E., Lee, J., Moon, J. H., & Sung, Y. (2015). Pictures speak louder than words: Motivations for using Instagram. *Cyberpsychology, Behavior, and Social Networking*, 18, 552-556.
- doi: 10.1089/cyber.2015.0157
- Lin, H., Tov, W., & Qiu, L. (2014). Emotional disclosure on social networking sites: The role of network structure and psychological needs. *Computers in Human Behavior*, 41, 342–350.
- <https://doi.org/10.1016/j.chb.2014.09.045>

- Lin, W.-S., Chen, H.-R., Lee, T. S.-H., & Feng, J. Y. (2019). Role of social anxiety on high engagement and addictive behavior in the context of social networking sites. *Data Technologies and Applications*, 53(2), 156–170.
- Liaquat, R. Social Media and Body Image: A qualitative study of the impact of Instagram use on body image and associated behaviors in university female students. *Methodology*, 20, 21.
- Mahmood, Q. K., Jafree, S. R., & Sohail, M. M. (2022). Pakistani youth and social media addiction: the validation of bergen Facebook addiction scale (BFAS). *International Journal of Mental Health and Addiction*, 20(1), 581-594.
- Mäntymäki, M., Salo, J., 2011. Teenagers in social virtual worlds: Continuous use and purchasing behavior in Habbo Hotel. *Computers in Human Behavior* 27, 2088–2097.
- <https://doi.org/10.1016/j.chb.2011.06.003>
- Mikulincer, M., & Shaver, P. R. (2007). Attachment in adulthood: Structure, dynamics, and change. Guilford Press.
- Naeem, H., & Inam, A. (2021). Betrayal, Trust and Forgiveness among Adolescent Friendship Groups in Pakistan. *Nurture*, 15(1), 17-25.
- Nesi, J., Choukas-Bradley, S., & Prinstein, M. J. (2019). Transformation of adolescent peer relations in the social media context
- Nurmandia, H. W., & Masluchah, L. (2013). Hubungan Antara Kemampuan Sosialisasi dengan Kecanduan Jejaring Sosial. *Journal Penelitian Psikologi*

- Odabaşıoğlu, G. et al. (2006). İnternet bağımlılığı kaç yaşında başlar?: Sıra dışı bir vaka üzerinden çocuk ve ergenlerde internet bağımlılığı, 3. Ulusal Bağımlılık Kongresi Bilimsel Çalışmalar Kitabı, 56
- Penni, J., 2017. The future of online social networks (OSN): A measurement analysis using social media tools and application. *Telematics and Informatics* 34, 498–517.
<https://doi.org/10.1016/j.tele.2016.10.009>
- Perloff, R. M. (2014). Social media effects on young women’s body image concerns: Theoretical perspectives and an agenda for research. *Sex Roles*, 71(11-12), 363-377.
- Pew Research Center. (2014). World Wide Web timeline. Pew Research Center Internet and Technology.
- Pew Research Center. (2019). Internet use demographics. Pew Research Center Internet and Technology.
- Pierce, T. (2009). Social anxiety and technology: Face-to-face communication versus technological communication among teens. *Computers in Human Behavior*.
- Pilar, A-M., Manuel, R-R., Alberto-Jesús, P-M., del Pilar, M.M., Claudia, P., Dolores, R.M., Manuel, V-A., Gender differences in the addiction to social networks in the Southern Spanish university students, *Telematics and Informatics* (2019),
doi: <https://doi.org/10.1016/j.tele.2019.101304>
- Primack, B. A., Shensa, A., Escobar-Viera, C., Barrett, E. L., Sidani, J. E., Colditz, J. B., & James, E. (2017). Use of multiple social media platforms and symptoms of

depression and anxiety: A nationally-representative study among U.S. young adults. *Computers in Human Behavior*, 69, 1-9. doi:10.1016/j.chb.2016.11.013

Rapee, R. M., & Lim, L. (1992). Discrepancy between self-and observer ratings of performance in social phobics. *Journal of Abnormal Psychology*, 101(4), 728-731.

Rodgers, R.F., Faure, K., Chabrol, H., 2009. Gender Differences in Parental Influences on Adolescent Body Dissatisfaction and Disordered Eating. *Sex Roles* 61, 837–849.

<https://doi.org/10.1007/s11199-009-9690-9>

Rogowska, A.M.; Libera, P. Life Satisfaction and Instagram Addiction among University Students during the COVID-19 Pandemic: The Bidirectional Mediating Role of Loneliness. *Int. J. Environ. Res. Public Health* 2022, 19, 8414.

Ross, C., Orr, E. S., Sisic, M., Arseneault, J. M., Simmering, M. G., & Orr, R. R. (2009). Personality and motivations associated with facebook use. *Computers in Human Behavior*, 25(2), 578–586. <https://doi.org/10.1016/j.chb.2008.12.024>

Ryan, R. M., & Deci, E. L. (2006). Self-regulation and the problem of human autonomy: Does psychology need choice, self-determination, and will *Journal of Psychology*, 74(6), 1557–1586.

S&ers, C., Field, T. F., Diego, M. & Kaplan, M. (2000). The Relationship of internet use to depression and social isolation among adolescents. *Adolescence*, 35 (138), 237-242

Sappington, L. (2020). Through the Screen: Examining Peer Relationships, Social Anxiety, Loneliness, and Social Media in Undergraduates.

Schlenker, B. R., and Leary, M. R. (1982). Social anxiety and selfpresentation: a conceptualization and model. *Psychol. Bull.* 92, 641–669.

doi: 10.1037/0033-2909.92.3.641

Schlenker, Barry R., and Mark R. Leary. 1982. “Social Anxiety and Self-Presentation: A Conceptualization Model.” *Psychological Bulletin* 92 (3): 641–669.

Schou Andreassen, Cecilie, and Stale Pallesen. 2014. “Social Network Site Addiction-An Overview.” *Current Pharmaceutical Design* 20 (25): 4053–4061.

doi:10.2174/13816128113199990616.

Sharifi Fard, S. A., Griffiths, M. D., Mohseni, F., Nabi Zadeh, S., & Ali Babaei, G. (2023). Basic Psychological Needs and Psychological Well-being: The Mediating Role of Instagram Addiction. *Journal of Technology in Behavioral Science*, 1-9.

Sheldon, P. and Bryant, K. (2016). Instagram: Motives for its use and relationship to narcissism and contextual age. *Computers in human Behavior*, 58: 89-97.
Available:<https://www.sciencedirect.com/science/article/abs/pii/S0747563215303307>

Sheldon, P., & Bryant, K. (2016). Instagram: Motives for its use and relationship to narcissism and contextual age. *Computers in Human Behavior*, 58, 89-97.

Sherman, L. E., Payton, A. A., Hernandez, L. M., Greenfield, P. M., & Dapretto, M. (2016). The power of the like in adolescence: Effects of peer influence on neural and behavioral responses to social media. *Psychological Science*, 27(7), 1027-1035.

- Siedlecki, K. L., Salthouse, T. A., Oishi, S., & Jeswani, S. (2014). The relationship between social support and subjective well-being across age. *Social indicators research*, 117(2), 561-576.
- Stapleton, Peta, Gabriella Luiz, and Hannah Chatwin. 2017. "Generation Validation: The Role of Social Comparison in Use of Instagram Among Emerging Adults." *Cyberpsychology, Behavior and Social Networking* 20 (3): 142–149.
- Statista. (2019). Number of monthly active Instagram users from January 2013 to June 2018. Retrieved April 3, 2019
- Tariq, W., Mehboob, M., Khan, M. A., & Ullah, F. (2012). The impact of social media and social networks on education and students of Pakistan. *International Journal of Computer Science Issues (IJCSI)*, 9(4), 407.
- Teachman, B. A., & Allen, J. P. (2007). Development of social anxiety: Social interaction predictors of implicit and explicit fear of negative evaluation. *Journal of Abnormal Child Psychology*, 35(1).
- Thelwall, M., & Vis, F. (2017). Gender and image sharing on Facebook, Twitter, Instagram, Snapchat and WhatsApp in the UK: Hobbying alone or filtering for friends? *Aslib Journal of Information Management*, 69(6), 702–720. <https://doi.org/10.1108/AJIM-04-2017-0098>
- Thien, L. M., & Nordin, A. R. (2012). Academic Coping, Friendship Quality and Student Engagement Associated with Student Quality of School Life: A partial least square analysis. *Social Indicators Research*. Advance online publication.

doi:10.1007/s11205-012-0077-x.

Thien, L. M., Nordin, A. R., & Hazri, J. (2011, October). Alternative procedures in scale development and validation. Paper presented at the International Conference on Measurement and Evaluation in Education, Universiti Sains Malaysia.

Tillfors, M., Persson, S., Willén, M., & Burk, W. J. (2012). Prospective links between social anxiety and adolescent peer relations. *Journal of Adolescence*, 35(5), 1255–1263.

<https://doi-org.umiss.idm.oclc.org/10.1016/j.adolescence.2012.04.008>

Tsai, C.C. & Lin, S.S.S. (2003). Internet addiction of adolescents in Taiwan : An interview study. *CyberPsychology & Behavior*, 6, 649- 652.

Vol 04 No 02, 107-119.

Wang, Y., Li, X., Luo, J., & Lin, X. (2020). Informational social media use, public opinion expression, and political participation: Panel analysis of Chinese microblog users. *Journal of Information Technology & Politics*, 17(1), 38-52.

Waterloo, S. F., Baumgartner, S. E., Peter, J., & Valkenburg, P. M. (2017). Norms and the Social Dynamics of Online and Mobile Messaging Apps: Comparing WhatsApp, Facebook Messenger, and Instagram Direct. *Social Media + Society*, 3(3), 2056305117721710.

Watson, A., Lecki, N.K., Lebcir, M., 2015. Does size matter? An exploration of the role of body size on brand image perceptions. *Journal of Product & Brand Mgt* 24, 252–262.

<https://doi.org/10.1108/JPBM-05-2014-0616>

Weeks, J. W., Jakatdar, T. A., and Heimberg, R. G. (2010). Comparing and contrasting fears of positive and negative evaluation as facets of social anxiety. *J. Soc. Clin. Psychol.* 29, 68–94.

doi: 10.1521/jscp.2010.29.1.68

Whiting, A., & Williams, D. (2013). Why people use social media: A uses and gratifications approach. *Qualitative Market Research: An International Journal*, 16, 362–369

Widiartanto, Y. H. (2015). Remaja Pilih Mana, Facebook Atau Instagram? Diakses pada Oktober 19, 2019, dari Kompas.com: <https://amp.kompas.com/teknoread/2015/10/21/15440037/Remaja.Pilih.Mana.Facebook.atau.Instagram>.

Wills, T. A. (1985). Supportive functions of interpersonal relationships. In S. Cohen & S. L. Syme (Eds.), *Social support and health* (pp. 61–82). Academic Press.

Yavuz, C. (2019). Does internet addiction predict happiness for the students of sports high school? *International Online Journal of Educational Sciences*, 11(1), 91-99.

<https://doi.org/10.15345/iojes.2019.01.007>

Young, K. S. & Case, C. J. (2004). Internet abuse in the workplace: New trends in risk management. *Cyberpsychology and Behavior*. 7(1), 105-111.

Zeib, F., & Shahzad, S. (2023). Instagram use and social anxiety among youngsters in Pakistan: serial mediation analysis. *Pakistan Journal of Social Research*, 5(02), 1091-1104.

Zorbaz, O. & Tuzgöl Dost, M. (2014). Examination of problematic internet use of high school student in terms of gender, social anxiety and peer relations [in Turkish]. Hacettepe Üniversitesi Eğitim Fakültesi Dergisi [Hacettepe University *Journal of Education*], 29(1), 298-310.

ID			
-----------	--	--	--

Appendix A Information sheet

I am Syeda Memoona Zainab, a student of Psychology at Capital University of Science and Technology, Islamabad. I am doing a research study which aims to find out association between instagram addiction, quality of peer relationship and social anxiety among youth, under the supervision of Dr. Ishrat Yousaf.

I would like to invite you to take part in a research study. Before you decide you need to understand why the research is being done and what it would involve for you. Please take time to read the following information carefully. This process would take 20-25 minutes. Ask questions if anything is not clear. Take time to decide whether or not to take part.

Purpose of research

The purpose of this research is to find the association between instagram addiction, quality of peer relationship and social anxiety among youth. By studying Instagram addiction helps us to understand its impact on mental health and overall well-being. It also helps us to improve communication and build stronger connections with peers. By understanding and managing anxiety is important for navigating social situations with confidence.

What will happen to the information which you give?

The data will be kept confidential for the duration of the study, available only to me and my research supervisor. It will be securely stored. On completion of the project, they will be destroyed.

Risks

There are no foreseeable risks and harms in this study. In case of any discomfort or problem that arises due to this study, you can contact at the information given at the end.

Contacts for Queries or Problems

In case of any question, you can email at:

Bsp201057@cust.pk or

ishrat.yousaf@cust.edu.pk

Appendix B**Consent form**

Assalam o Aliakum, I am Syeda Memoona Zainab, student of BS Psychology at Capital University of Science and Technology. My study is about “association between instagram addiction, quality of peer relationship and social anxiety among youth”. It is requested to you to solve the given questionnaires and fill the demographic sheet too. Your given information remains confidential. Your participation is highly appreciated.

I have understood the proceedings information that has been given and I have been given the opportunity to ask questions regarding this. My participation is on a volunteer basis and I have been given the choice to withdraw at any time with no legal issue.

	I have read and understood the information provided by this research	yes	No
1.	I have been given the opportunity to ask questions and has been given satisfactory answers	Yes	No
2.	I understand that my participation in voluntary and I can withdraw at any stage.	Yes	No
3.	I agree to participate in this research	Yes	No

Participant's Signature _____

Appendix C**Demographic information****Age (in years)**

Gender

- Male
- Female

Which social media apps do you use (Please tick all that apply).

- Facebook
- Instagram
- Snapchat
- Tiktok
- Twitter

Education level

- Intermediate
- Undergraduate
- Graduate

Appendix D
Instagram Addiction Scale (IAS)

Please rate the frequency of the following scale of 1 to 6.

6= Always 5= Often 4= Frequently 3= Occasionally 2= Rarely 1= Never

	Statements	6	5	4	3	2	1
1	How often do you prefer the excitement of Instagram instead of being with your close friends?						
2	How often do you form new relationships with fellow Instagram users?						
3	How often do you become defensive or secretive when anyone asks you what you do on Instagram?						
4	How often do your grades or school work suffers because of the amount of time you spend on Instagram?						
5	How often do you snap, yell, or act annoyed if someone bothers you while you are on Instagram?						
6	How often do you try to hide how long you've been on Instagram?						
7	How often do you choose to spend more time on Instagram over going out with others?						
8	How often do you feel depressed, moody or nervous when you are not on Instagram, which goes away once you are back on Instagram?						
9	How often do you try to cut down the amount of time you spend on Instagram and fail?						
10	How often do you check your Instagram before something else that you need to do?						
11	How often do you block out disturbing thoughts about your life with soothing thoughts of the Instagram?						

12	How often do you find yourself anticipating when you will go on Instagram again?						
13	How often do you fear that life without the Instagram would be boring, empty, and joyless?						
14	How often do you lose sleep due to late night log-ins to Instagram?						
15	How often do you find yourself saying “just a few more minutes” when on Instagram?						

Appendix E
Friendship Quality Scale (FQS)

Please rate the frequency of the following scale 4-point Likert response scale (1 = Strongly disagree, 2= disagree, 3= agree, 4 = Strongly agree)

	Statements	1	2	3	4
1	I believe in all the information given by my friends.				
2	My friends never break a promise.				
3	I am confident that my friends will not leak my secret.				
4	My friends never lie to me.				
5	I always listen to my friends' advice.				
6	I feel safe when my precious belongings are kept by my friends.				
7	I help my friends immediately if he or she encounters problems in school.				
8	I feel safe when accompanied by my friends.				
9	I always joke with my friends.				
10	I understand my friends' mood.				
11	I always chat with my friends even if we are from different classes.				
12	My friends and I always share our life experiences.				
13	I understand the family background of my friends.				
14	I would not feel shy when performing something humorous in front of my friends.				
15	My friend(s) forgive me easily.				
16	My friend and I can overcome differences in our opinion immediately.				
17	My friends treat me well.				
18	My relationships with my friends are like brothers and sisters.				
19	My friends correct my mistakes in my homework.				
20	My friends always help me when I have problems in completing my homework.				
21	My friends help me to solve problems.				

Appendix F
Social Anxiety Scale for Social Media Users (SAS_MU)


Please read carefully the items below 5-point scale from 1: Never, 2: seldom, 3: sometimes, 4: usually, 5: always

	While using social media.....	1	2	3	4	5
1	I am concerned about the negative thoughts of people about me.					
2	If I have to talk about myself with others I feel nervous.					
3	I would be worried about the privacy of my account.					
4	I worry about not being able to meet people's expectations.					
5	I feel worried while making new friends.					
6	The possibility of having my private information shared with others makes me anxious.					
7	I feel anxious about people having a negative impression about me.					
8	I worry when talking with people I have just met.					
9	I feel uneasy when my friends share my private information with people I do not know.					
10	I feel tense when I meet someone for the first time.					
11	I am concerned about being judged about my shared content by my friends with others.					
12	I afraid that my close friends will not approve of my actions.					
13	I feel nervous when I talk with the people I do not know very well.					
14	I wouldn't feel comfortable when my friends express their dislike publicly for the content I have shared.					
15	I am concerned about being ridiculed by others for the content I have shared.					
16	I am afraid of interacting with others.					
17	I am concerned about disapproval of my behaviors by others.					
18	The possibility of having my private information hacked by others makes me feel anxious.					

19	I am concerned about the fact that the things I share will not be liked by others.					
20	I feel worried about the how/ways social media companies/managers handle my private data.					
21	I feel worried about the fact that others might find my actions awkward.					

Appendix G

Permission Letter from University


 Capital University of Science and Technology
 Islamabad

Islamabad Expressway, Kahuta Road,
 Zone - V, Islamabad, Pakistan
 Telephone : +92-(51)-111-555-666
 : +92-51-4486700
 Fax: : +92-(51)-4486705
 Email: : info@cust.edu.pk
 Website: : www.cust.edu.pk

Ref. CUST/IBD/PSY/Thesis-608
 August 7, 2023

TO WHOM IT MAY CONCERN

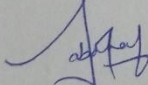
Capital University of Science and Technology (CUST) is a federally chartered university. The university is authorized by the Federal Government to award degrees at Bachelor's, Master's and Doctorate level for a wide variety of programs.

Ms. Syeda Memoona Zainab, registration number **BSP201057** is a bona fide student in BS Psychology program at this University from Spring 2020 till date. In partial fulfillment of the degree, she is conducting research on "Association between Instagram addiction, quality of peer relationship and social anxiety". 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 H

Author permission

Friendship Quality Scale

Request of permission to use scale Inbox x ↕ 🖨 🔗

 **Memoona Zainab** Tue, 10 Oct 2023, 19:25 ☆
Greetings Lei Mee Thien, I hope this email finds you in good health and spirits! I'm Syeda Memoona Zainab, student at Capital University of Science and Technolog

 **Thien Lei Mee** <thienleimee@usm.my> Tue, 10 Oct 2023, 19:27 ☆ 😊 ↶ ⋮
to me ▾

Hi, Memoona Zainab,

Feel free to use the Friendship quality scale with its 4-point Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree).

Good luck!

Regards,
Lei Mee THIEN (Dr.)
Associate Professor
Ed.D Program Chairperson
School of Educational Studies
Universiti Sains Malaysia
11800 USM, Penang, Malaysia