ACADEMIA International Journal for Social Sciences
Volume 4, Issue 3, 2025 ISSN-L (Online): 3006-6638

Social Media Mirage Toolkit

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Received: 16-07-2025 **Revised:** 21-08-2025 **Accepted:** 03-09-2025 **Published:** 15-09-2025

ABSTRACT

This study aimed to develop and validate a scale for measuring social media addiction. The research used mixed-method design, involving semi-projective approach, in-depth interviews, followed by exploratory and confirmatory analyses (EFA & CFA). Themes emerging from semi-projective test were about psychological dependence & emotional effects, social comparison & validation seeking, critical awareness & risk recognition, and intentional & functional use. The sample for objective test is (N=400), EFA and CFA was run on (n=200) & (n=200) separate data. These themes served as the foundation for item generation and final 12-items SMAS scale revealed three empirically and theoretically supported subscales: Psychosocial Disruption, Affective Social Comparison, and Techno-compulsion. Exploratory factor analysis supported a three-factor solution explaining 52.54% of variance, with a KMO of .75 and significant Bartlett's test. CFA confirmed model fit ($x^2/df=2.80$, df =51, SRMR=.071, GFI=.90) and internal consistency was good (Cronbach's Alpha $\alpha = 0.87$ full scale). Grounded in the Psychosocial Model and Components of Addiction Theory, this scale serves as psychometrically reliable and valid tool to assess and evaluate social media addiction. It has important and practical implications for education, prevention programs, media studies and policies, behavioral studies, and for future researches.

Keywords: *social media use, assessment toolkit, psychosocial disruption, techno-compulsion, affective social comparison*

INTRODUCTION

Social media becomes an integral part of today's life. It helps people to easily communicate and connect across the globe. Different platforms such as Facebook, Instagram, TikTok, Twitter, WhatsApp have created virtual communities where individuals keep in touch with friends and family and help each other in many projects like education, digital marketing and explore endless ideas by just a tap. It helps us learn new things, stay updated to the world around us, provides several educational and earning resources online. It also brings challenges or issues like privacy concerns, cyber bullying, misleading or fake information, social comparisons, time wastage and several health issues. People use most of their time to scroll for entertainment. Some compare themselves to others on social media and it leads to many Impairments like dissatisfaction of their oneself and disturb their lifestyle. Some people postpone their important tasks because of usage of social media. Also distract one's thoughts when they try to focus on other things. So, social media have also positive and negative impact on society, but it becomes a vital part of our daily livings.

Social Media

Russo, Watkins, Kelly, and Chan (2008) defined social media as "those that facilitate online communication, networking, and/or collaboration."

Social media is a platform that people use for different purposes like online marketing, communication with relatives globally, to share pictures of memorable events, and it also helps in running online businesses. Social media in today's era is the most important part of our lives; without it, our lives would be stuck. It also helps students in different disciplines, like in their studies, projects, and jobs. Social media is divided into many subcategories, and every category has its task, such as Facebook is an application that connects people from different geographical locations. It allows people to send and receive pictures, audio, and videos from each other. It is the way of communication. YouTube is also an application of social media by which we can watch and listen to our favorite music, serials, movies, comedy shows, different recipes, and much more. Similarly, there are many other applications that we can use today for different purposes. Social media provides challenges and opportunities in the form of Collaborative Projects that enable the joint and simultaneous creation of content by many users. This can lead to better outcomes than doing it individually. Social Networking Sites are online applications that allow users to create their information profile, invite friends, and send e-mails and instant messages to each other. In conclusion, social media provides a way of keeping in touch with friends, communities, and relatives and is changing the ways in which people interact with each other.

Objective Test

The first objective test designed by Cattell and Warburton (1967) had a mechanical or pencil-and-paper format. Objective tests are instruments that are used to assess an individual's ability, skills, personality, and behaviors. This work aims to provide researchers with knowledge to design an objective personality test. The pioneering work of Cattell and Warburton (1967) showed that objective tests could also be designed to measure personality variables. The objectivity of an instrument can be studied from two points of view. On the one hand, we can consider the point of view of the researchers who carry on the assessment.

Psychosocial Disruption

Social media use may provide many benefits in modern society, but excessive or problematic use of social media can have adverse consequences on physical and mental health among a minority of individuals, especially young adults (Satici et al., 2021). For some individuals, this may result in problematic social media use and (in extreme cases) social media addiction (SMA) (Griffiths et al., 2014). SMA has been defined as a problematic pattern of social media use with uncontrollable urges and the inability to successfully regulate the use of social media, resulting in adverse consequences on relationships, occupation, and/or education (Malak et al., 2021).

Excessive social media use can disrupt an individual's daily life. Many face challenges using social media as privacy issues, psychological and physical health issues, academic challenges, issues in social relationships, and addiction for entertainment. Social media is creating social isolation in real life.

Research shows that functional impairment is negatively related to mental well-being (Loke et al., 2011). A meta-analysis concluded that functional impairment in psychological and social domain is a risk factor for the onset of depressive symptoms (Lenze et al., 2001).

Affective Social Comparison

Social comparison is the emerging trend on social media, like we compare ourselves with others as we see others on social media to evaluate or enhance some aspects of the self. Whenever we see others, what they are, what they can and cannot do, what others can strive to achieve and have failed to achieve, we relate ourselves to others. Emotional reactivity is about an individual's know-how of emotions in response to external or internal stimuli, particularly how many time the emotional arousal remains before coming back to a normal situation (Nock et al., 2008). Online viewing of contrasting lifestyles shows dysregulated mood swings. They tend to have antecedents in the form of emotional dysregulation and reactivity, making them easily responds to stimuli on social media that cause stress. Individuals assess their abilities and self-worth by comparing themselves to others and the process can significantly affect emotional health. Perceived social deficits provide individuals with a sense of carelessness, and emotional insecurities. Social comparison, the tendency to compare oneself to others in various domains of life, has long been associated with psychological outcomes (Morina et al., 2024). Fear of missing out is also a term used in social networking sites, which means a desire to stay continually connected with what others are doing. It is considered a problematic type of social media use, and it can cause harmful consequences like emotional tension, insomnia, anxiety, and lack of emotional regulation. Current researches also point out the potential connection of fear of missing out with psychological health and well-being (Przybylski et al. 2013).

Techno-Compulsion

Compulsive use is assumed to be basically the negative use of social media. It means an uncontrollable urge to check or use social media. Social media addiction is characterized by excessive and compulsive usage that affects daily functioning and overall well-being. It encompasses more than just spending an excessive amount of time online; it involves compulsively checking for updates, feeling anxious when offline, and suffering from negative impacts on real-life relationships and responsibilities (Andreassen et al., 2016). This addiction is in different forms, like ignoring personal or work responsibilities and feeling very upset or anxious when you can't use social media. Compulsive use of social media is associated with poor mental health outcomes such as anxiety, depression, and lower self-esteem (O'Reilly et al., 2018).

Semi-Projective Test

It is a type of instrument that is used to evaluate a person's personality and behavior. It is an incomplete statement that a participant will complete with a line or paragraph and then interpreted by a psychometrician.

Fake news on social media today is the most serious issue, attracting tremendous attention. Nowadays, there is an unexpected amount of fake news, and it is difficult to find authentic information that impacts important matters, eroding trust in institutions, and even impacting real-world events.

Speech is a tool to communicate ideas, beliefs, feelings, and any other form of information with one another. Verbal and symbolic information is used to communicate over social networks. Hate speech is a widespread phenomenon affecting its users. "Hate speech is a term used to refer to any kind of offensive material, i.e., verbal, nonverbal, symbolic, or communicative actions that are deliberately used to denigrate and belittle members of a particular social group based on their membership" (Simpson, 2013). Hate speech exposures can

have short-term consequences as well as long-term consequences, such as anger, loneliness, mood swings, and erode social trust.

Subjective Test

It is a type of assessment that demands long responses, which are then evaluated by a psychologist's judgments and interpretation.

One of the most popular social media platforms is TikTok. Most TikTok filters are known as 'beauty filters,' which are photo editing tools that change a user's appearance to put them in line with society standards. These beauty filters on digital platforms allow people to change their facial and physical features.

Body shaming is the action of expressing humiliation about another individual's body. It is the act of saying something negative about a person's body. Social media influencers are at more risk of experiencing body shaming.

Social media may limit the exposure to diverse perspectives and favor the formation of groups of like-minded users framing and reinforcing a shared narrative, that is, echo chambers. The echo chamber reflects our mentality. The algorithm of social media networks is designed in this way that the social media platforms' content is always correlated with our existing beliefs.

Theoretical Framework of Objective Scale

Social Media Addiction Scale (SMAS) is maintained and justified through the disruption in psychological and social domains as explained by the Psychosocial Model (Engel G.L., 1977) and through the behavior of compulsive use of social media as elaborated by the Components of Addiction Theory (Griffiths, 2005). The psychosocial model explains how attachment patterns and social comparison drive the addictive behavior, which then disrupts social and mental well-being causing disturbances in social activities and psychological state. (Kim H., Schlicht R., Schardt M., Florack A., 2021). The themes of mood modification, salience, and withdrawal in this scale are the key ingredients of any addictive behavior, which are justified through the components of addiction theory, as it suggests that all addictions have six components, i.e., salience, withdrawal, mood modification, tolerance, conflict, and relapse (Griffiths, 2005). Integrating both the model and the theory helps in interpreting and understanding the different domains and aspects of life that are disturbed due to the addictive behavior of social media use.

LITERATURE REVIEW

We are going to assess the emerging issues of the recent years, such as the excessive use of social media. What is the impact of social media on our lives? The negative consequences of social media. What would happen if social media were banned? What are the opinions and beliefs about the news and information we see on social media? All the emerging issues of social media that we are concerned about are the main themes of our research topic. The existing literature will help to identify our gap and grasp knowledge about our topic. Also, through a systematic review, we aim to identify the research trends and provide clear propositions to guide future research.

Social media refers to a set of online tools that are designed to focus on social interactions. Social media is a broader term that covers a variety of technologies and services such as Blogs, Microblogs, Social sharing services, Text messaging services, and social networking services. (Hansen, Shneiderman, & Smith, 2011; Matei, 2011). "These tools vary dramatically in their purposes and approaches, but they share an emphasis on enabling users to communicate, interact, edit, and share content in a social environment" (Tepper, 2003). Social media applications are driven by user-generated content. Social media technologies are now regularly employed by most internet users. Among younger users, the use of these tools is nearing universal, such as 86% of 18–29 years adults using social media every day (Madden, 2010). Similarly, 72% of adults and 87% of teens use text messages every day (Lenhart, 2010). In July 2010, Facebook announced that it had over 500 million users.

According to most research studies, social media's emerging trend, such as online harassment that encompasses a wide range of abusive practices possible by technological platforms. These practices include doxing, impersonation, public shaming, and flaming (Blackwell et al., 2017).

Research by (Che et al., 2025) social comparison refers to social cognition process in which a person form comparison of self with others in many dimensions like education, achievement, social status and wealth. The misleading information or fake news detection on social media presents challenges that make existing detection algorithms from traditional news media not applicable. Fake news is written to mislead the reader to believe on false information. These trends have a bad impact on the lives of many human beings (Shu et al., 2017). Social media enables people to share ideas, experiences, information and enhances connectivity. It has revolutionized the businesses and organizations. Social media also presents several challenges to the man's life concerns about privacy and data security. So, it brought about significant societal impacts, both positive and negative. According to a study by (O'Keeffe et al., 2011), the main risks of adolescents online today are the risks from each other, risks or improper use of technology, lack of privacy, sharing too much legal or personal information and pictures, or posting false information about themselves or others, that had a very bad impact on the mental health of people. All these types of behavior put their privacy at risk. Adolescents who lack awareness about privacy issues often post inappropriate messages, pictures of family or friends, and videos without understanding that once the information goes online, they will stay online for a lifetime.

Social media addiction is a form of internet addiction in which adolescents feel forced to use social media in excessive amounts (Starcevic, 2013). Adolescents who are addicted to social networking are typically over worried with it and driven by an irrepressible need to log in to utilize it (Andreassen, 2015). Social network addiction is manifested as mood, perception, physical and mental reaction, and behavioral and mental health issues. According to reports, about 12% of adolescents on social networking platforms suffer from social media addiction (Wu et al., 2013). Addiction to social networking has a detrimental effect on one's quality of life. Numerous Studies on the relationship between social media use and mental health have revealed that prolonged use of Facebook and other social media sites is negatively connected with long-term happiness and favorably connected with mental health conditions like stress, anxiety, and depression (Shakya & Christakis, 2017; Eraslan-Capan, 2015).

Social media is becoming part of our society, changing social norms and culture, and impacting students' social behavior (Hashim, Al-Sharqi, & Kutbi, 2016). Information and content sharing is now a social desire (Wolf et al., 2015). Social media gives people a way to connect, communicate, talk, and engage with one another. Research suggests that it appears to make use of social media equally by boys and girls, but the type of use differs. Boys focus on entertainment, and girls are more interested in relationships on social media (Barker, 2009). The network offers information and news for both sexes. Shabir et al. (2014) believed that young people, especially women, are influenced by social media. Today's global events are influenced by social media, since studies show that 50% of individuals obtain their daily news instantly through this platform. As technology has advanced, studies have shown that social media is crucial to the expansion of the economy, bringing friends together and facilitating the creation of new ones. However, its consequences include cyber bullying, terrorists attack, poaching for sexual exploitation, and time wasting (Makinde, Odimegwu, Abdulmalik, Babalola & Fawole, 2016). Students use social media in a variety of fields, such as information systems and nursing, among many others. Additionally, for a variety of objectives, including social interaction, sharing and access to educational materials, group discussion forums, chat rooms, wikis, enjoyment, and many more (Al-Sharqi et al., 2015). Currently, social media use among university students can have both beneficial (positive) and detrimental (negative) impacts. According to Al-Sharqi et al. (2015), social media also helps students develop a fresh, creative mentality while enhancing their relationships with teachers and other students. Among other things, this new medium can be addicting, time-consuming, distracting, socially isolating, mono-phobic, etc.

Rationale

The aim of developing SMMT is to measure the severity of social media use among adolescents ranging from 15 to 19, and adults ranging from 20 to 50. The key feature of this toolkit is that three tests are combined in this toolkit, which are objective, semi-projective, and subjective tests. If one person shows the phenomenon of social desirability in one of the tests, their unconscious will be revealed in the other two tests. That is the main strength of the Social Media Mirage Toolkit. This toolkit targets various dimensions, for example, psychosocial domains, fake news, hate speech & echo chambers, etc. These can be seen as impacts of social media use.

Objectives

- To get a complete outlook on the psychological, social, and addictive components of individuals using social media.
- To create a psychometrically valid and reliable tool that is validated through both exploratory and confirmatory factor analysis
- To create a toolkit with objective, semi-projective and subjective tests, to get detailed and enriched information from a social media user.

METHODOLOGY

This study employed a mixed method survey research design, combining qualitative and quantitative approaches to develop and validate a toolkit for measuring excessive use of social media among social media users. The design included two phases: (a) The qualitative phase involving in depth interviews to generate item content for subjective test which consists of 5 items. The four core themes emerged from semi-projective test through thematic analysis were psychological dependence & emotional effects, social comparison & validation seeking, critical awareness & risk recognition, and intentional & functional use. (b) The quantitative phase comprising the exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) to establish the scale's factor structure and psychometric properties. The themes that emerged from the data collected after the tryout of semi projective test were used for the item generation of objective test. After expert review and exploratory factor analysis, the 12-item for objective test-Social Media Addiction Scale (SMAS), comprising of three subscales: Psychosocial Disruption, Affective Social Comparison, and Techno-compulsion was designed and finalized.

Research Design

The research design for developing a toolkit on excessive use of Social Media is a mixed-method Survey research design.

Sampling Technique

The sampling technique for the try-out of this toolkit is a purposive sampling technique.

Sample

We are developing three kinds of scales on excessive use of Social Media. So based on these scales, we have taken a different kind of sample for a try-out. For the objective test, we have taken 400 participants. The 200 sample for EFA & 200 for CFA. According to Ebel (1979), who suggested that a general rule of thumb for determining the appropriate sample size for test validation is to have at least 5-10 subjects per item. But we have more than 10 subjects per item for the best results. For semi-projective and subjective test we have taken 13 participants.

Inclusion Criteria

The inclusion criteria for this mixed-method approach are that the ages of participants ranging from 15- 19 for adolescents and 20-50 for adults. They should also be user of social media. No gender was specified; both have

an equal chance, one more important criterion is that they should also post something on social media and should use social media for at least one hour daily.

Exclusion Criteria

The exclusion criterion for this mixed-method approach is that there should be no participant outside of the above said age range. No participants will be included who don't use social media.

Frequency Table

Table 1

Sociodemographic Characteristics of Participants (*N= 400)*

Characteristics	*N*	%
Gender		
Male	150	37.5
Female	250	62.5
Age		
Adolescents	172	43
Adults	228	57
Platform		
TikTok	125	31.3
Snapchat	44	11.0
Instagram	109	27.3
Facebook	46	11.5
Others	76	19.0
Time spent on Social Media		
1-2 hours	60	15.0
2-4 hours	119	29.8
4-6 hours	121	30.3
More than 6 hours	100	25.0
Purpose of social media use		
Entertainment	242	60..5
Education	57	14.2
Work related	32	8.0
Content creation	27	6.8
Others	42	10.5

Note. N= number of participants.

Table 1 shows the frequency of demographic information. Table 1 shows that a greater number of female participants (*n*= 250, 62.5%) participated as compared to male participants (*n*= 150, 37.5%). The greater number of social media users are from the age group of adults (*n*= 228, 57%), showing more social media usage in the adults as compared to the adolescents (*n*= 172, 43%). The most used platform is TikTok (*n*= 125, 31.3%) as compared to Instagram (*n*= 109, 27.3%), Facebook (*n*= 46, 11.5%), Snapchat (*n*= 44, 11.0%), and others (*n*= 76, 19.0%). The greater number of participants are spending almost 4-6 hours (*n*= 121, 30.3%) daily on social media as compared to others who spend 2-4 hours (*n*= 119, 29.8%), 1-2 hours (*n*= 60, 15.0%) and more than 6 hours (*n*= 100, 25.0%) on social media per day. The primary reason for social media usage among participants was entertainment (*n*= 242, 60.5%). Educational use followed at 14.2% (*n*= 57, 14.2 %), while work-related activities

accounted for 8% (*n*= 32, 8.0%). Only a small portion of participants use social media for content creation (*n*= 27, 6.8%). And 10.5% participants use social media for other purposes (*n*= 42, 10.5%).

Scale Items

The items of the objective test that have selected response format are 12, and the scaling method is the Likert scaling method, and the options range from 1-5. 1 for strongly disagree and 5 stands for strongly agree. 11th and 12th items have reversed scoring. The ranges of score from 12-27 have low use of social media, 28-44 for moderate use of social media, and 45-60 for excessive use of social media.

For the semi-projective test, which is a constructed response format, there are 8 incomplete statements, whereas for the subjective test, which is also a constructed response format, there are 5 items, or we can say that 5 questions for the interview.

Procedure

A semi projective test consisting of 8 items with construct response format and subjective test of 5 items for in-depth interviews were developed and tried out. The 4 core themes emerged from the data collected via semi projective test which served as basis for item generation of objective test alongside with psychosocial model and components of theory.

For developing a scale on excessive use of social media, we have followed all five steps of test development. First, we have defined the purpose of our tests. Then we gave the answers to all the questions that are necessary for test conceptualization. The second step is test construction, in which we have decided, like which type of sample are we aiming for, which type of demographic information is necessary, and give a ranking to items. Also, we have decided to make themes for semi-projective and subjective test. The themes that emerged from the data collected after the tryout of semi projective test were used for the item generation of objective test.

In the third step, we have tried out the test on participants who meet our inclusion criteria. The administration conditions were the same for all participants. The psychometric properties such as, reliability and validity of the objective test were checked. After completing the psychometric properties of the toolkit, three factors were derived from the objective test through exploratory factor analysis using the Varimax rotatory method. This was confirmed through the process of factor analysis, in which the KMO value is 0.75, Bartlett's Test of Sphericity (p<.001>), eigenvalues, and Scree plot. The structure of these three factors was validated through confirmatory factor analysis (CFA) using AMOS. Model fit was assessed using multiple indices: χ^2/df, SRMR, and AGFI.

In the fourth step i.e. item analysis, we have checked the convergent validity of the scale with the Social Networking Addiction Scale, which indicated that the correlation between SMAS and SNAS is high positive and highly significant (r=0.84***,p<.001), here, our validity index was also fulfilled, which means that our items fully follow the criteria that had been set.

In the last step, we have done a revision of the test, and identified which steps were necessary to make them the best. After expert review and exploratory factor analysis, the 12-item Social Media Addiction Scale (SMAS), comprising of three subscales: Psychosocial Disruption, Affective Social Comparison, and Techno-compulsion was designed and finalized.

Protocols for Assessment Toolkit

Test Format

The test format for this includes three types of tests: Objective test, semi-projective test, and subjective test.

The objective test consists of 12 questions, having two reverse coded items, and the response format is a Likert-type response format. Every item has 5 options ranging from "Strongly Agree" to "Strongly Disagree". The

second test chosen for this toolkit is semi-projective, and the format chosen for this test is a construct-response format, specifically a half-statement test. Participants will be presented few words, and they must construct the sentence with whatever comes to their mind after reading the incomplete sentence. The last type of test selected for this toolkit is a subjective test format, which includes questions that demand comprehensive answer. The purpose of including this test is to get a comprehensive viewpoint and opinions of participants who have just performed the other two tests.

Target Population

The target population for this toolkit is social media users, age ranging from 15-19 for adolescents and 20-50 for adults.

Administration

The test was briefly introduced, and participants consented to participate. The test items were presented to the participant, and their responses were collected in written form for the objective and semi-projective test, while they responded orally to the subjective test, and interviews were recorded and later transcribed by the researcher.

Time

The time limit given for the objective test was about 10-12 minutes, while for the semi-projective test is almost 6-8 minutes. The short time limit is necessary to keep the participant away from letting their thoughts wander and to prevent them from overthinking. The subjective test can take up to 25-30 minutes to get a complete picture of the opinions of the participant.

Interpretation

The score given to each response in the objective test is as follows:

Response	Score
Strongly Agree	5
Agree	4
Neutral	3
Disagree	2
Strongly Disagree	1

The items numbered 11 and 12 are reversely scored.

The ranges for the scores on objective test and the meaning associated with them are as follows:

Score Ranges	Indication
12-27	Mild social media use
28-44	Moderate social media use
45-60	Extreme social media use

The interpretation of the subjective test is based on thematic analysis. The responses of participants are analyzed critically and then interpreted. Themes are extracted from their responses. Then super themes are extracted and presented.

The interpretation of the semi-projective test is based on a collective approach and a thematic approach, which means identifying the components underlying the responses and extracting themes from the responses. The responses of participants are analyzed critically; components and themes are identified from their responses collectively.

At last, we can conclude that in this assessment toolkit, different approaches were used to interpret the responses of participants. The objective test is interpreted by SPSS, subjective by thematic-based based and semi-projective by a collective approach & thematic approach.

RESULTS

Findings of Social Media Addiction Scale

This chapter presents the findings from the psychometric evaluation of the social media addiction scale (SMAS) among social media users. The sample for objective test is (*N*=400), EFA and CFA was run on (n=200) & (n=200) separate data. To explore the factors in objective test, exploratory factor analysis (EFA) was performed, the purpose was to gather the variables that are related to each other, to uncover the underlying structure of the scale, and to reduce the number of items forming the scale (Gokdas, & Kuzucu, 2019). Exploratory factor analysis (EFA) using principal component analysis with Varimax Rotation was conducted to identify the underlying structure of the scale. In exploratory factor analysis (EFA), a three-factor structure emerged: (i) Psychosocial Disruption, (ii) Affective Social Comparison, and (iii) Techno-Compulsion. The first factor is composed of 5 items (items 3,4,5,6 & 7), the second factor is composed of 4 items (8, 9, 10 & 11), and factor 3 composed of 3 items (1, 2 & 12). These three factors were confirmed through the KMO value (0.75), Bartlett's Test of Sphericity ($p < .001$), Eigen values, and Scree plot. The internal consistency of the scale and its subscales was also assessed by using Cronbach's alpha. The relationship between the factors was also assessed through the intercorrelation analysis. The findings support the construct validity of the scale. The results also indicate that it is a useful tool for measuring social media addiction among social media users. Then, confirmatory factor analysis (CFA) was conducted to validate the three-factor structure (Liu, Yang, Wang, & Li, 2025).

Table 2

Kaiser-Mayer-Olkin Test for Sampling Adequacy and Bartlett's Test of Sphericity (N=200)

Test	Values
Kaiser-Mayer-Olkin Test for Sampling Adequacy	.75
Bartlett's Test of Sphericity	601.54***
Df	66

Note. *** $p < .001$

Table 2 indicates that the KMO value indicated good sample sufficiency and adequacy, as the value was 0.75. The ranges of KMO values are 0.5-0.7 = mediocre, 0.7-0.8 = good, 0.8-0.9 = great, and above 0.9 = superb (Kaiser, 1974). The value of "Bartlett's Test of Sphericity" was also highly significant, which confirmed data suitability for factor analysis.

Table 3

Eigen Values and Variance Explained by Factors of Social Media Addiction Scale among Social Media Users (N=200)

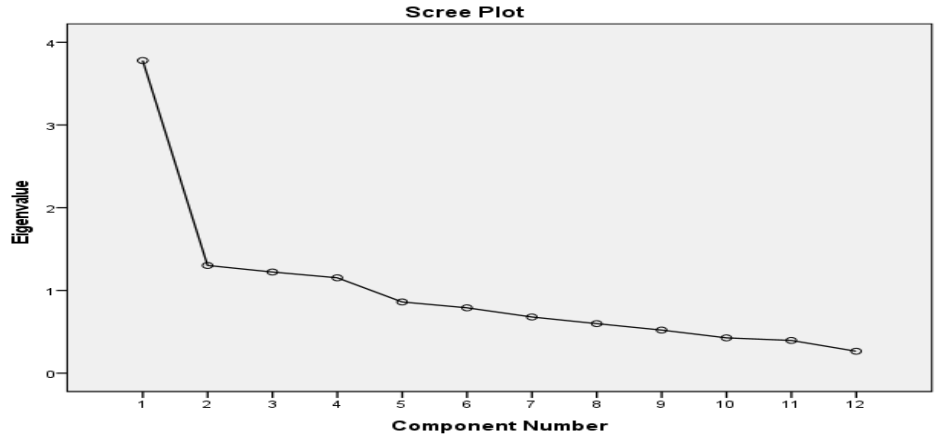
Factors	Eigen Value	% of Variance	% of	Cumulative

			Variance
Psychosocial Disruption	3.78	19.67	19.67
Affective Social Comparison	1.30	16.50	36.17
Techno-Compulsion	1.22	16.37	52.54

Table 3 shows the Eigen values, which are greater than 1.0, and the percentage of variance explained by the factors. The three factors together explained 52.54% of the total variance. The three factors were extracted by considering both the scree plot and Eigen values.

Figure 1

Scree Plot for Measuring Social Media Addiction Scale (N = 200)



The scree plot shows that the line becomes nearly flat after the third component/factor, and the slope starts to level out after that. It also shows that the curve proceeds horizontally after the third factor, so a three-factor structure emerged. The number of factors is also confirmed by the Eigen value (Yong, & Pearce, 2013).

Table 4

Factor Loadings and Item Analysis for Exploratory Factor Analysis with Varimax Rotation of Social Media Addiction Scale (N= 200)

Scale Items	F1	F2	F3
Item 1			.51
Item 2			.56
Item 3	.57		
Item 4	.70		
Item 5	.54		
Item 6	.66		
Item 7	.55		
Item 8		.47	
Item 9		.64	
Item 10		.59	
Item 11		-.61	
Item 12			.79

Table 4 reveals 3 factors that were extracted through EFA. These three factors comprised of 12 items with factor loadings of ≥ .40. Items 11 & 12 were reverse-coded. Factor 1 is composed of items 3,4,5,6 & 7, Factor 2 is composed of 8,9,10 & 11, and Factor 3 is composed of items 1, 2 & 12.

Table 5

Psychometric properties of Social Media Addiction Scale (N=400)

Variables	*M*	*SD*	Range	Cronbach's α
Psychosocial Disruption	16.90	4.47	6-25	0.77
Affective Social Comparison	12.83	3.70	5-20	0.73
Techno-Compulsion	10.27	2.99	3-15	0.72
SMAS	40.00	9.72	19-60	0.87
SNAS	29.67	9.71	10-50	0.89

Note. *M* = Mean, *SD* = Standard Deviation, SMAS = Social Media Addiction Scale, SNAS = Social Network Addiction Scale.

Table 5 reveals the psychometric properties for the scales used in the present study. On the sample of 400 participants (*N* = 400), the reliability analysis showed that the Cronbach's alpha of Factor 1 (Psychosocial Disruption) is 0.77, which shows good and acceptable internal consistency. The Cronbach's alpha of Factor 2 (Affective Social Comparison) is 0.73, which shows good and acceptable internal consistency. The Cronbach's alpha of Factor 3 (Techno-Compulsion) is 0.72, which shows good and acceptable internal consistency. The Cronbach's α of the total scale SMAS was 0.87 (>0.80), which shows good internal reliability. The Cronbach's α for SNAS was 0.89 (>0.80), which indicated good internal reliability.

Table 6

Inter-correlations among the Social Media Addiction Scale and its Sub-scales (N=400)

Variables	Psychosocial Disruption	Affective Social Comparison	Techno-Compulsion	SMAS	SNAS
Psychosocial Disruption	-				
Affective Social Comparison	0.64***	-			
Techno-Compulsion	0.57***	0.66***	-		
SMAS	0.88***	0.88***	0.82***	-	
SNAS	0.73***	0.76***	0.71***	0.84***	-

Note. SMAS = Social Media Addiction Scale, SNAS = Social Network Addiction Scale.

*** $p < .001$

The table 6 shows that the total scale and all its sub-scales are significantly correlated, showing a highly significant relationship among the total scale and its' sub-scales. This also shows that affective social comparison has moderately positive and highly significant correlation with psychosocial disruption ($r = 0.64$, $p < .001$). The techno-compulsion has moderately positive and highly significant correlation with psychosocial disruption ($r = 0.57$, $p < .001$) and affective social comparison ($r = 0.66$, $p < .001$). The social media addiction scale (SMAS) has a high positive and highly significant correlation with psychosocial disruption ($r = 0.88$, $p < .001$), affective social comparison ($r = 0.88$, $p < .001$), and techno-compulsion ($r = 0.82$, $p < .001$). This means

each sub-scale strongly correlates with the total scale (SMAS), which indicates construct validity. The social network addiction (SNAS) has high positive and highly significant correlation with psychosocial disruption (r = 0.73, p< .001), affective social comparison (r = 0.76, p< .001), techno-compulsion (r = 0.71, p< .001) and social media addiction scale (r = 0.84, p< .001).

Confirmatory Factor Analysis (CFA)

The confirmatory factor analysis (CFA) was performed using AMOS to validate the factor structure and check model fit indices. For confirmatory factor analysis (CFA) we have taken 200 participants. The confirmatory factor analysis (CFA) was conducted to validate the three-factor structure (Liu, Yang, Wang, & Li, 2025). The fit indices obtained were $\chi 2$ = 143.034, df = 51, $\chi 2$/df = 2.80, CFI = .83, TLI = .78, SRMR = .0718, GFI = .90, AGFI = .85, RMSEA = .095 and RMR = .09. Model is acceptable fit due to $\chi 2$/df = 2.80, SRMR = .0718, AGFI = .85 but poor fit due to CFI = .83, TLI = .78, RMSEA = .095 (high).

Table 7

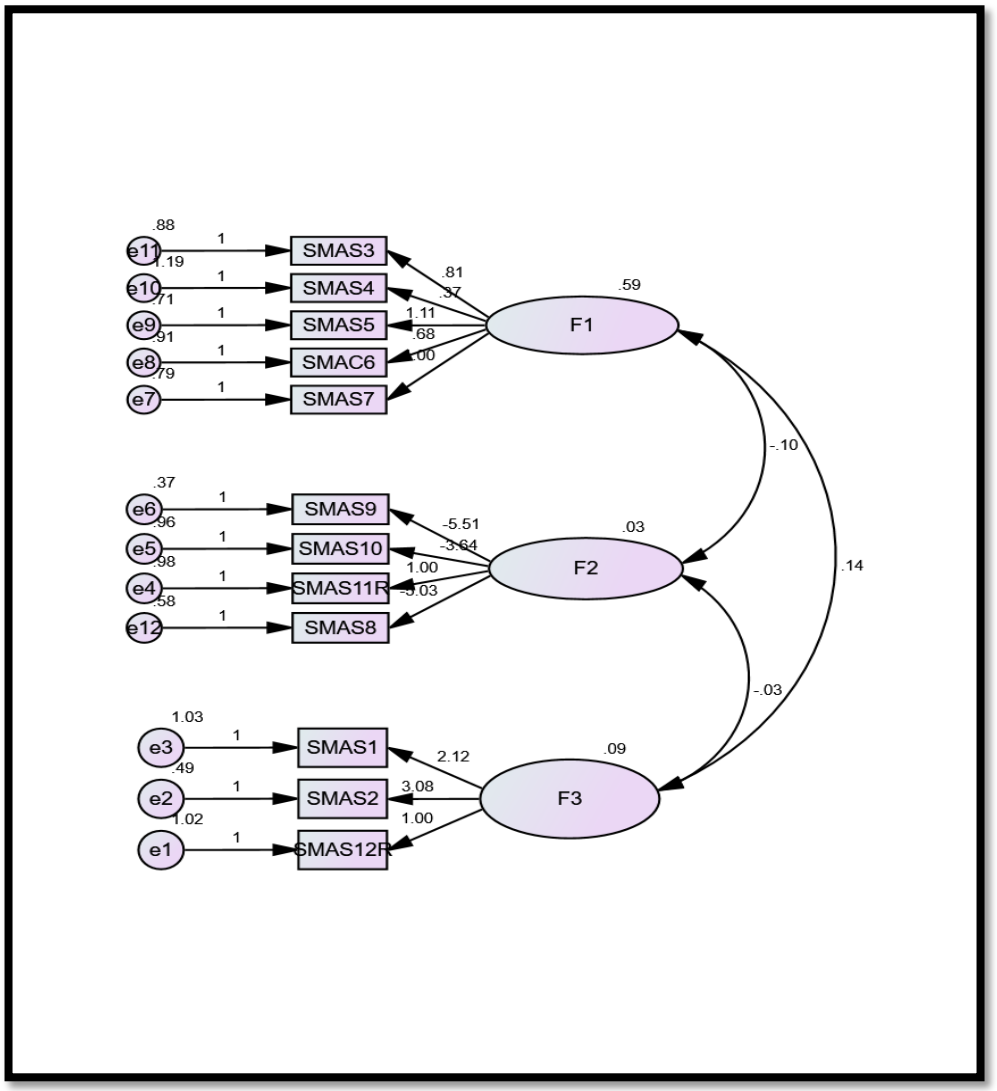
Model fit indices of Confirmatory Factor Analysis (CFA) for Social Media Addiction Scale (N = 200)

Indexes	Chi square	Df	CFI	GFI	AGFI	TLI	RMR	RMSEA	SRMR	χ^2/df
Model	143.03	51	.83	.90	.85	.78	.09	.095	.0718	2.80

In confirmatory factor analysis (CFA), the model demonstrates the chi-square value of (χ^2 = 143.03, df = 51, p < .05), indicating a poor fit model because a highly significant value means there is a significant difference between the hypothesized model and observed data. According to Morin, Arens, and Marsh (2016), CFI and TLI >.95; RMSEA < .06, indicate an acceptable fit model to the data. The comparative fit index (CFI) .83 < .95 indicates marginal fit to the data (below the acceptable fit i.e. 0.95) (Bentler, 1990). Goodness of fit index (GFI) .90 = 0.90 indicates an acceptable model fit. Adjusted goodness of fit index (AGFI = .85) indicates an acceptable fit (Sathyanarayana & Mohanasundaram, 2024). Tucker-Lewis index (TLI).78 < .95, indicates a poor fit. The root mean square residual (RMR = .90 > .80) was slightly high. The root mean square error of approximation (RMSEA = .09 > .06) suggests a mediocre fit to the data (Browne & Cudeck, 1993). The standardized root mean square residual (SRMR = .07 < .80) indicates a good fit, which means the model has acceptable residual error and has a reasonable match between the hypothesized model and observed data (Hu & Bentler, 1999). χ^2/df = 2.80 indicates acceptable model fit because it was < 3(Sathyanarayana & Mohanasundaram, 2024). Overall, the results indicate a marginal but acceptable fit model (Hu & Bentler, 1998).

Figure 2

Factor Structure of Social Media Addiction Scale (N=200)



Reliability of Scales

Table 8

Psychometric Properties of Scales (N= 400)

Scale	*M*	*SD*	Range	Cronbach's α
SMAS	40.00	9.72	19-60	0.87
SNAS	29.67	9.71	10-50	0.89

Note. M = Mean, SD = Standard Deviation, SMAS = Social Media Addiction Scale, SNAS = Social Networking Addiction Scale.

Table 8 shows psychometric properties for the scales used in the present study. The Cronbach's α for SMAS was 0.87 (>.80), which indicated good internal reliability. The Cronbach's α for SNAS was 0.89 (>.80), which indicated good internal reliability.

Table 9

Correlation Matrix for Convergent Validity

Variables	*N*	1	2
1. SMAS	400	-	
2. SNAS	400	0.84***	-

Note. *N*= Number of Participants, SMAS = Social Media Addiction Scale, SNAS = Social Networking Addiction Scale.

****p*< .001.

Table 9 shows that SNAS has a high positive and highly significant correlation with SMAS (r= 0.84, p< .001). According to Campbell and Fiskes (1959), if a new scale shows a significant and strong relationship with an already established scale, measuring the same construct, and the correlation is closer to one, not close to zero, it means convergent validity exists. Because both are measuring the same underlying construct, and their results show a strong relationship so all this shows that validity exists. From Table 9, the new scale (SMAS) shows a significant and high strong positive correlation with the established Smartphone and Social Networking Addiction Scale (SNAS) (r = 0.84, p < .001), indicating strong convergent validity. According to Campbell and Fiske's (1959) idea of the multitrait-multimethod matrix, the social media addiction scale truly measures social media addiction among social media users, meaning it shows convergence with the Social Networking Addiction Scale (SNAS), which also measures the same construct. So, both scales, despite sharing the same items, measured the same construct (like social media and digital addiction), and after administering, showed a strong and meaningful relationship with each other. As the Social Networking Addiction Scale (SNAS) is already an established scale means it was already validated. SMAS, which was a new scale and showed strong correlation (r = 0.84) it means SMAS has strong convergent validity.

Objective Test Interpretation

An objective scale (Social Media Addiction Scale – SMAS) was developed, which consists of 12 items. This scale was then administered to 13 participants along with the subjective test and semi-projective test. The results of the objective test are interpreted here.

Table 10

Indication	Mild social media user	Moderate social media user	Extreme social media user
Ranges	12-27	28-44	45-60
No of participants	0	9	4

Table 10 indicates that out of 13 participants, there are zero participants who are mild social media users, 9 participants are moderate social media users, and a total of 4 participants out of 13 are severe social media users.

After administering the objective test to 13 participants, the scores indicate that no participant scored between 12-27, which indicates participants are mild social media user, 9 participants scored among 28-44, which indicates participants use social media at moderate level and 4 participants scored among 45-60, which indicates participants are severe social media users.

Table 11

Indication	Mild social media user	Moderate social media user	Extreme social media user
Ranges	12-27	28-44	45-60
No of participants	32	310	58

Table 11 indicates that out of 400 participants, 32 participants are mild social media users, 310 participants are moderate social media users, and a total of 58 participants out of 400 are extreme social media users.

Thematic Analysis of the Semi-Projective Test

Figure 3

Themes from semi-projective test

Themes from Responses of Semi-projective Test

Themes	Relevant Responses
1. Psychological Dependence & Emotional Effects	Would not be able to know about new trends; Wasting time vs. entertained Don't remember time; Social media is time consuming Bored without it; Enjoy scrolling Feel tired and bored; Take deep interest Social media makes me happy and lazy Lose track of time; Both connected and distracted
2. Social Comparison & Validation Seeking	Often lost myself; Use social media to stay busy I can't take good selfies; Is my video viral or not They have what I haven't; Think about people's reaction Why I couldn't get it; Others will enjoy my life Inspired to be like others; Want higher reach
3. Critical Awareness & Risk Recognition	I am perfect than others; Think it will be enjoyable for others Don't believe without evidence; Think before posting Think if it's ethical; Comments are too exposing People are idol/worthless; Use to avoid overthinking Verify it from different sources; Comments waste time
4. Intentional and Functional Use	Posts should reflect true personality; Aware of comment types Use it to relax; Sometimes useful comments Use to learn something; Against family posts Inclined toward Islamic posts; Cause spiritual effect Use to get information; Think before posting Watching informational videos; Share experiences and articles

Thematic Analysis of Subjective Test

Figure 4

Themes Extracted from Subjective Test

Thematic Analysis of Subjective Test

Major Theme	Sub-Themes (from participants' interviews)
Mixed/Balanced Views of Social Media	Balanced view of benefits & drawbacks. Mixed feelings about social media. Social media helpful for career/learning. Mindful/purposeful use. Professional benefits vs. content concerns.
Distrust of Online Information	Skepticism toward social media news. Belief that most content is fake/promotional. Preference for authentic/verified platforms. Awareness of fake accounts/promotional news.
Content Alignment with Beliefs, Moods, or Daily Life	Reinforcement of beliefs/interests. Mood-dependent/emotional alignment. Content reflecting personal conversations/routines.
Privacy and Online Safety Concerns	High concern about privacy & hacking. Low concern/overconfidence in safety. Fear of mind-reading/AI/fake images. Selective or cautious safety measures.
Dependence vs. Readiness for Ban	Dependence for academics & career. Social media for entertainment & boredom relief. Belief life would be better without social media. Mixed/ambivalent views on banning.

DISCUSSION

Developing a toolkit on excessive use of Social Media, which is an emerging issue in today's generation and the name given to that toolkit, is Social Media Mirage Toolkit. First, we have found the emerging issues in our society. There were a lot of emerging issues, but the issue that provoked our interest was excessive use of social media. We found through recent research that individuals utilize social media platforms for a variety of reasons, such as relationship maintenance, entertainment, information sharing, and personal expression, among others (Ryan et al., 2014). This research proves that social media impacts user, both positively and negatively. This topic covers a lot of domains, like we can say that beauty filter, cyber bullying, wastage of time, and loss of educational interest, etc. After finding a common emerging issue, we have reviewed the literature.

We haven't found any toolkit that has three types of tests and measures excessive use of social media and has a mixed method approach. But there was a lot of research that supported our toolkit, in which a mixed-method approach was used. But GELOPH<15> + picture-geloph, which is also known as the Gelotophobia assessment toolkit which is developed by (Ruch & Poyer, 2017), its' purpose is to assess the motivation or fear of laughter.

This toolkit contains semi-projective (Ruch & Poyer, 2014) and subjective test (Ruch & Poyer, 2008). There was the same author for the Gelotophobia assessment toolkit as well as a semi-projective and subjective test. Wade Silvermann & Treffers, (2001) used a multi-method assessment approach for diagnosing and assessing anxiety disorders in children and adolescents. In this approach, they used semi-structured interview anxiety disorder interview schedule child & parent versions (ADIS-C/P) (Silvermann & Albano, 1996), self-report questionnaires, multidimensional anxiety scale for children (MASC) (March et al., 1997), objective measures, children's global assessment scale (CGAS) (Shaffer et al., 1983), projective tests like thematic apperception test (TAT) (Murray, 1943). These were used to assess overlapped symptoms of anxiety and were beneficial for the treatment of anxiety disorders. This research supports our toolkit that we can use 3 or more scales to assess one thing in a clinical setting. After finding a topic, we have started working on it.

First of all, we started work on test development. Our first step was the test conceptualization. There were a lot of questions in test conceptualization, like what is designed to measure, what is the objective of the test, who will use the test, what is the ideal format for the test, and what content will the test cover? To answer all these question, we have selected the domains of social media which meet up the test type like social comparison (Sabatini & Sarracino, 2015)., psychological and social disruptions (LaRose et al., 2003) and compulsive use (Suh et al., 2018) for objective test, fake news, hate speech and human to human interactions for semi-projective test and body filter and echo chambers for subjective test. This was also proved by recent research that social media affects our different domains and features like according to Griffiths (2013), who identified six key features of addictive behavior, which were characterized by preoccupation, emotional escape, escalating intensity, adverse reactions to stopping, personal and social problems, and recurrence of behavior. Also, the inclusion criteria were written as demographic information.

Our next step was test construction. In this step, we set the rules for assigning ranks in the objective test and themes for semi-projective and subjective tests. Also a research done by Tang et al. (2016) proves that individuals who excessively use social media and experience discomfort as a result prefer the term "excessive social media use" over "social media addiction". The format or scaling method for the objective test is a Likert scale ranging from 1-5, in which 1 stands for strongly disagree and 5 stands for strongly agree. The objective test has 12 items. The items 11th and 12th have reversed scoring. We had set a range that items cover. Along with the selected response format, we have constructed a response format that is completion of items semi-projective and the short answer, which is a subjective test. The semi-projective test has 8 items, whereas the subjective test has 5 items.

We haven't given scoring to the semi-projective scale; instead extracted some themes from responses because the study **(**P. A. Gooding, A. R. Mayes, R. Van Eijk, P. R. Meudell, and F. L. MacDonald, 1999) was done to check whether the associated word stem completion and cued recall share the same memory retrieval processes. For this, they have developed a method that was a hybrid associative stem completion method in which two types of tests were used. These two types of test were the classic word-association test (Jung, 1919) and the implicit memory test (WSC) word stem completion task (Warrington & Weiskrantz, 1970)**.** Both tests were semi-projective without any manual or ranking system; rather, they only cover some domains related to memory (unconscious) and intelligence. From these recent researches it is found that themes could be extracted from semi-projective test which was based on fake news, hate speech, and human-to-human interactions. Themes extracted from semi-projective test were psychological dependence and emotional effects, social comparison and validation seeking, critical awareness and risk recognition and intentional and functional use derived from the responses of the participants. All these four themes were also discussed in recent researches like Azhar et al. (2025) found that false self-presentation notably increases fear of negative evaluation, which mediates and drives excessive social media use. Additionally, social comparison boosts self-esteem yet also fuels overuse especially among women. From this, we can say that social media becomes the cause of psychological dependence and emotional effects. It is also found that fewer positive reactions lead to negative emotions and stress, while receiving many positive reactions promotes social connectedness and reduces loneliness, showing the emotional

dependence on online validation (Voggenreiter et al., 2023), which leads to social comparison and validation seeking. Su, Zierau, Kim, Wang, & Wambsganss (2025) propose emotion-aware moderation dashboards that increase users' emotional self-awareness and reduce hate speech though with some side effects like increased negative emotional expression at times. This reflects emerging attention to the emotional risks of discourse dynamics and leads to critical awareness and risk recognitions. Allcott, Gentzkow, and colleagues (2025) report that deactivating Facebook or Instagram for five weeks led to modest improvements in happiness and reductions in anxiety and depression especially in Instagram users under 25 and Facebook users over 35. This implies emotional relief and less dependence from intentional disengagement which proves the intentional and functional use of social media.

We have used the subjective open-ended test instead of the projective test for some reasons. This decision was based on both practical and theoretical backgrounds. Our focus was to assess the impact of excessive use of social media on interpersonal relations, psychological factors, and individualistic factors. Through this, respondent can answer the questions according to their life experiences, while in the projective test, we would have failed to capture these experiences. Brinkmann and Kvale, (2018) also described in their research that qualitative interviews or subjective tests are more effective for rich contextual insights than scoring and projective tests. In a projective test, a stimulus, which may be a card or picture, is given to a person and asked to tell about that, and it is possible that respondents perceive it as ambiguous and start faking. But in a subjective test, questions are asked to the respondents, and here the probability of faking is less as compared to the projective test. Also projective tests require specialized training, expertise and materials (Gimpel et al., 2006, Meyer & Kurtz, 2006).

After the step of test construction, the next step we followed was the test try-out. To try out our scales, we selected the sample that were excessive users of social media and also posted something on social media. According to Ebel (1979), who suggested that a general rule of thumb for determining the appropriate sample size for test validation is to have at least 5-10 subjects per item. We selected 400 participants for the objective test. The 200 sample for EFA & 200 for CFA. They were all users of social media and were adolescents and adults. Their age ranging from 15- 19 for adolescents and 20-50 for adults. For the semi-projective and subjective test, we have selected 13 participants. They were also asked to answer the objective test. To conduct test, we also have followed the ethics of test conduction.

In the start, we gave them informed consent in which the purpose, time, and criteria were described in detail. Also described about the privacy and confidentiality of participants will be maintained. It was also informed that they can withdraw at any time without any penalty. After successfully conducting the tests, we checked the validity and reliability of the toolkit. Our objective test has good internal reliability, which is 0.87, and has good correlation with Social Networking Addiction Scale (SNAS) (r=0.84, p<.001), indicating strong convergent validity. Our toolkit has external reliability because, as results came from objective test, same results came from semi-projective and subjective test.

This is also assessed in a try-out that our toolkit has face validity because an item reflects the construct being measured by appearance. It also has external validity, and the objective scale has construct validity proven through EFA. This is proved by a try-out because we can apply our toolkit in different places at different times.

After completing the psychometric properties of the toolkit, exploratory factor analysis (EFA) was conducted. This was conducted with Varimax rotation to identify the underlying structure of the scale, to gather the variables that related to each other, and to reduce the number of items forming the scale (Aksu, Eser, & Guzeller, 2017). Through this analysis, three factors were derived from the objective scale, which were (i) Psychosocial disruption containing 5 items, (ii) Affective social comparison comprises of 4 items, and (iii) Techno-compulsion has 3 items. These three factors were confirmed through KMO value (0.75) and Bartlett's Test of

Sphericity ($p < .001$). According to LaRose et al. (2003) described that excessive use of social media causes psychosocial disruption, which includes impaired emotional regulation and social withdrawal, and according to Suh et al. (2018), frequent use of social media with psychosocial disruption leads to techno-stress and which causes techno-compulsive behavior. Excessive use of social media leads to social comparison, which reduces self-esteem and identity distress through upward comparison interactions (Sabatini & Sarracino, 2015).

After the EFA, the confirmatory factor analysis was conducted using AMOS. This analysis was performed to validate the three-factor structure (Liu, Yang, Wang, & Li, 2025). The results analyzed through this analysis indicate that all items will be retained without the elimination of any item. The fit indices obtained through this analysis were $\chi^2/df = 2.80$, where $\chi^2 = 143.034$ and df=2.80, CFI=.83, TLI.78, SRMR=.0718, GFI=.90, AGFI=.85, RMSEA=.095, and RMR=.09. Model was an acceptable fit due to high χ^2/df, SRMR, and AGFI, but a poor fit due to CFI/TLI < .95 and RMSEA > 0.06 because high RMSEA shows borderline fit. (Hu & Bentler,1999).

After trying out the toolkit in the fourth step, we have analyzed the items. Our toolkit has fewer items of difficulty, and this is understood by the formula P = the number of people answering the item correctly/ N. Our participants easily answered the items correctly. According to Rouis (2012), excessive social media use among university students can impair cognitive function and reduce concentration, and this leads to a decline in academic performance. By using this recent research, we can say that the participants who easily answer items correctly are excessive users of social media, and this also impacts their lives. Also, in item analysis, this toolkit has a qualitative method in the subjective test. We have taken peers review for this toolkit who were our professors and they give us some suggestion. From which it is concluded that the items in objective test which are based on the extracted theme of semi-projective are good in this toolkit and beneficial which is proved by EFA, CFA and peer reviews.

After doing all the steps mentioned above, the last step was the test revision. There was no such type of items that should be eliminated from the toolkit and it has cross-validation. Individuals with high levels of FOMO (fear of missing out) who excessively use social media to keep up with others often suffer from increased anxiety, diminished self-esteem, and feelings of inadequacy (Stead & Bibby, 2017). We can add this research to our toolkit that individuals with excessive use of social media also have anxiety, and also have a high level of missing out. That's why they are always connected with friends and family on social media. Here at this point, our toolkit is successfully developed.

LIMITATIONS

The current version of the Social Media Mirage Toolkit is all about excessive use of social media. This current toolkit has several key limitations. First, this toolkit doesn't include a true projective test, which helps to explore deep unconscious thoughts and emotions related to social media use. Secondly, the themes covered by this toolkit are quite limited, mainly focusing on fake news, hate speech, body filters, human interactions, social comparison, psychological and social disruptions, and compulsive use, but misses important issues like digital burnout and online identity.

This toolkit is based on the psychosocial model and theory of components of addiction, which are useful, but it doesn't consider biological and cultural factors like brain responses, genetics, family norms, and social values, which affect how people use social media. Lastly, thematic analysis for subjective and semi-projective test requires a subjective approach with clear and concise guidelines and requires expertise in this area to get authentic results.

RECOMMENDATIONS

The Social Media Mirage Toolkit (SMMT) consists of three types of tests, which aims to cover a wide range of social media topics. Our recommendation for the development of such a new toolkit or the further refinement of this toolkit is to include "Projective tests" to ensure that we could get the complete outlook of the participant's unconscious mind. This test can include different images related to social media, which would act as stimuli. Whatever their perception of stimulus is, would be revealed through their responses.

The focus of the objective test (Social Media Addiction Scale - SMAS) of SMMT is on three dimensions of social media: social comparison, psychological & social disruptions, and compulsive use. In future researches, other dimensions can also be explored, such as biological factors and cultural factors, etc. In the biological domain, researchers should explore how neurological responses, or genetic predispositions could influence addictive behavior of social media usage.

The Social Media Mirage Toolkit (SMMT) covered limited domains, therefore, the suggestion for future researchers is that they should expand the themes or include multiple domains in their toolkits for a deeper understanding of social media usage.

The Social Media Mirage Toolkit (SMMT) was grounded in the Psychosocial Model and Components of Addiction Theory. The recommendations for future researchers are that they could explore various alternative theoretical frameworks so they can get multiple insights regarding social media usage.

Theoretical and Practical Implications

The Social Media Addiction Scale (SMAS) holds significant theoretical relevance by integrating the Psychosocial Model (Engel, 1977) and the Components of Addiction Theory (Griffiths, 2005) to measure the psychological (mental health disruptions) and behavioral aspects of social media use. It captures both the addictive components such as salience, withdrawal, mood modification and psychosocial disruptions caused by social comparison and attachment patterns (or due to excessive online engagement).

Practically, the toolkit can serve as a diagnostic tool for psychologists, teachers, counselors and digital well-being experts to access that how excessive social media usage impacts individuals life. This toolkit has multi method testing approach because it uses three types of test so it minimize the influence of social desirability bias and provide more accurate results. Furthermore, it can inform policy efforts, awareness programs targeting to reduce the negative impacts of social media usage by promoting healthy online habits. For future research, the toolkit opens the pathway to study how social media habits, personality and psychosocial behaviors are connected and how excessive social media usage affects relationships. The researchers can also adapt this toolkit across different cultures to enhance its generalizability.

CONCLUSION

This study presents a psychometrically reliable & valid and theoretically sounds 12-item Social Media Addiction Scale (SMAS). It was developed through mixed-method design, and provides an insight into how excessive social media use disturbs an individual's mental & emotional state, personal and social life. By offering a reliable toolkit to assess these aspects of social media usage on a user's life, this study contributes to the growing need for evidence-based comprehensive measures, including three types of tests for detailed and enriched information. This toolkit finds its implications in the field of education, media studies, policy reforms and future researches.

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Appendix A: Objective Test

1. I check social media immediately after waking up.
2. I feel anxious or restless when I cannot access social media.
3. I find it difficult to reduce the amount of time I spend on social media.
4. I feel mentally exhausted after using social media for long periods.
5. I often postpone important tasks because I'm using social media.
6. I get distracted by thoughts about social media when trying to focus on other things.
7. My time with friends or family is negatively affected by my social media use.
8. I feel dissatisfied with my life after viewing idealized lifestyles on social media.
9. I frequently compare myself to others on social media.
10. My mood changes depending on what I see on social media.
11. I rarely feel the urge to check social media. (R)
12. I can stay away from social media for long periods without feeling uncomfortable. (R)

Appendix B: Subjective Test

Instructions

This test is designed to gather your opinions on the use of social media. Read each question carefully and respond in your own words. There are no right or wrong answers; we value your authenticity. Please provide detailed responses, but keep them concise. Your responses will be kept confidential.

1. How do you see social media and your online connections of social media?
2. What is your opinion on the news and information that you see on social media?
3. Do you often see content on social media that aligns with your existing beliefs?
4. How concerned are you about your online safety and data security when using social media?
5. How would your life change if social media were banned?

Appendix C: Semi-Projective Test

Instructions

This test consists of a series of incomplete statements that invite you to share your thoughts and feelings about social media. Please read each statement carefully and complete each statement with whatever comes to your mind, respond quickly without overthinking. Complete each statement with your honest thoughts and feelings. Respond briefly. Your responses will be kept confidential.

1. If I didn't have social media, I would __
2. When I am scrolling, __
3. Social media makes me feel, __
4. Before I post something on social media I think__
5. When I see others' perfect selfies, I feel __
6. When I see something on social media ----
7. I use social media to---
8. Comments on social media posts-----