



Psychosocial Predictors Of Social Anxiety Among Adolescents: The Role Of Imaginary Audience Beliefs And Problematic Social Media Use

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Abstract: Adolescence is considered an important stage in an individual's life during which self-consciousness and identity are more prevalent. Adolescents are more sensitive to peer evaluation during this stage. Adolescence is often considered a stage where social anxiety is more common among individuals. Social anxiety is the fear or apprehension experienced by an individual in social situations. Adolescents are more engaged with social media in the modern age compared to previous eras. Two important psychosocial factors that may cause social anxiety among adolescents are imaginary audience beliefs and problematic social media use.

This study aimed to investigate whether imaginary audience beliefs and problematic social media use predict social anxiety among adolescents. A sample size of 132 adolescents between 13 and 18 years of age was considered for the study using a convenience sampling design. Standardized instruments were used to measure imaginary audience beliefs, problematic social media use, and social anxiety among the sample group. The results revealed that both imaginary audience beliefs and problematic social media usage were positively related to social anxiety and were significant predictors of levels of social anxiety. These findings underscore the need to take into consideration cognitive and behavioral aspects of social media usage while developing interventions to aid adolescents' mental health.

To conclude, this paper makes an addition to the existing body of knowledge on the determinants of social anxiety disorder and the association between imaginary audience and social media addiction. Therefore, it becomes necessary for adolescents to engage in healthy social media behavior and be conscious of their self-consciousness in order to overcome social anxiety.

Index Terms - Screen time, cognitive failures, metacognitive awareness, online learners, digital learning, cognitive functioning.

Index Terms - Social anxiety, imaginary audience beliefs, problematic social media usage, adolescents, psychosocial predictors

I. INTRODUCTION

Adolescence is a developmental stage marked by major biological, cognitive, emotional, and social changes that influence psychological functioning. It provides an important opportunity for identity formation, autonomous development, and increased peer orientation (Steinberg, 2014). Adolescence, in addition to these normal developmental processes, is a time when people are more vulnerable to internalising challenges, notably anxiety disorders. Among these, social anxiety disorder appears from

early to mid-adolescence and is defined by an intense fear of negative evaluations, shame, or humiliation in social or performance contexts (American Psychiatric Association [APA], 2013). According to epidemiological research, social anxiety disorder often begins in adolescence, with lifetime prevalence rates among teenagers ranging from 7-9% in community samples (Kessler et al., 2005; Beesdo et al., 2007).

The imaginary audience is one of the development-related factors that make social anxiety more prevalent among adolescents. According to Elkind (1967), the imaginary audience means that the adolescent feels like he or she is always being watched and judged by other people. The reason for such an illusion lies in adolescent egocentrism. It causes excessive self-consciousness and sensitivity to social evaluation. Consequently, adolescents might become preoccupied with their appearance in the eyes of others, thus making themselves feel even more embarrassed and fearful about being negatively evaluated. Research done before implies that the existence of a strong imaginary audience affects social anxiety positively because adolescents perceive that the attention of others is directed towards them.

Apart from cognitive development-related issues, current digital ecosystems have become key elements that affect the psychological health of adolescents. Social media applications offer teenagers constant opportunities for interactions, self-expression, and feedback; nevertheless, their excessive or problematized utilization might lead to the development of anxiety. Compulsive social media use implies that an individual cannot control his or her social media usage, becomes obsessed with online activities, and uses the Internet frequently despite knowing about possible consequences, which typically results in negative psychological repercussions. Such applications can exacerbate self-consciousness through processes like social comparison, fear of missing out, and consistent exposure to other people's evaluations. Although prior studies have analyzed social anxiety, imaginary audience perception, and social media usage separately, there is currently little empirical work combining all three factors into one theoretical model.

1.1 Conceptual Understanding

1.1.1 Social Anxiety

Social anxiety at this developmental stage is linked to poor academic performance, strained peer relationships, low self-esteem, and an increased risk of depression and substance abuse (Beesdo et al., 2007). Understanding the factors of social anxiety throughout adolescence is crucial for future research due to its early onset and longterm psychological implications. One of the most significant cognitive changes that occurs during adolescence is the emergence of superior perspective-taking abilities. According to Piaget's (1972) theory of cognitive development, adolescents reach the stage of formal operational thinking, which allows for abstract reasoning and metacognition.

1.1.2 Imaginary Audience Beliefs

Elkind claimed that adolescents, because of their increased self-awareness and increasing ability to think about the ideas of others, frequently develop the belief that they are continuously being monitored and assessed. This view, known as the imaginary audience, represents the adolescent's perception that peers are always focused on their physical appearance, behaviour, and social performance. Imaginary audience belief is considered developmentally normative; it reflects the adolescent's growing preoccupation with social judgement and identity formation. However, if it becomes too intense, it can lead to excessive self-consciousness and anxiety. According to Elkind and Bowen (1979) imaginary audience ideation is connected with increased self-focus and worry about peer evaluation. In theory, this cognitive distortion is quite similar to current cognitive models of social anxiety. Clark and Wells (1995) hypothesised that socially anxious people have heightened self focused attention and overestimate the likelihood and repercussions of negative judgement.

1.1.3 Problematic Social Media Use

The notion of problematic social media use refers to a type of behavioral addiction that can be identified via such characteristics as mood change, tolerance, withdrawal, conflict, and relapse (Griffiths, 2005). This phenomenon becomes dangerous especially for adolescents since the development of reward and socioemotional networks continues in their brain (Steinberg, 2014). The constant interactions via "likes," "comments," and "shares" stimulate the activation of reward processes in users. Thus, an individual can

become addicted to using social media due to the fear of missing out on events that may influence his/her emotions negatively.

1.2 Theoretical Framework

1. The theory of adolescent egocentrism (Elkind, 1967)

As per Elkind's model, teenagers become very self-conscious because of their enhanced ability to think, thus making them feel like they are always being watched and evaluated by other people. Imagining themselves under evaluation causes teenagers to be more sensitive towards the views of others, hence making social anxiety inevitable.

2. The cognitive model of social anxiety (Clark & Wells, 1995)

According to the cognitive theory, socially anxious people have a tendency to focus on themselves and underestimate the probability of negative judgment as well as its consequences. This is how social information gets misprocessed, resulting in higher levels of social anxiety. The concept of an imaginary audience is consistent with this theory, because both include inflated beliefs regarding being evaluated by others.

3. The Behavioural Addiction Model (Griffiths, 2005)

Within the behavioral addiction theory, problem behavior on social media platforms includes elements like mood alteration, tolerance, withdrawal, conflict, and relapse. Due to their developing neurobiology, adolescents become more susceptible to the behaviors mentioned above. The reinforcement aspect within the platform, such as receiving likes and comments, promotes repeated exposure to the platform, leading to potential emotional regulation problems and anxiety.

4. The Social Comparison Theory (Festinger, 1954)

According to this theory, people assess themselves through the comparison of their qualities and capabilities with those of others. As far as social networks go, they create more opportunities for users to see idealized portrayals of other people's qualities and capabilities, thus prompting upward social comparison.

1.3 Rationale

The rising prevalence of social anxiety among teenagers, along with the fast-growing usage of social media, underscores the necessity of looking into some essential psychosocial determinants of mental well-being among teenagers. Adolescence is characterized by identity development, enhanced self-consciousness, and sensitivity to peer judgments. While imaginary audience beliefs are an expected part of psychological development, in their heightened form, these may result in social anxiety, among other undesirable effects. Yet, in today's context, problematic social media use can be regarded as another contributing factor that may increase the risk of suffering from social anxiety as a consequence of social comparison, fear of missing out, seeking validation, and fear of negative evaluation.

It should be noted that previous research on the issue has focused on cognitive distortions associated with social anxiety and problematic social media use separately. The present study aims at investigating how developmental self-consciousness and modern-day behavior contribute to developing this condition together and in isolation from each other.

1.4 Objectives

1. To examine the relationship between imaginary audience beliefs and social anxiety among adolescents.
2. To examine the relationship between problematic social media use and social anxiety among adolescents.
3. To determine the combined predictive contribution of imaginary audience beliefs and problematic social media use on social anxiety among adolescents

1.5 Research Questions

1. To what extent are Imaginary Audience Beliefs associated with Social Anxiety among adolescents?
2. To what extent is Problematic Social Media Use associated with Social Anxiety among adolescents?

3. To what extent do Imaginary Audience Beliefs and Problematic social media Use jointly predict Social Anxiety among adolescents?

1.6 Hypotheses

H1: Imaginary Audience Beliefs will be significantly positively related to Social Anxiety among adolescents.

H2: Problematic Social Media Use will be significantly positively related to Social Anxiety among adolescents.

H3: Imaginary Audience Beliefs and Problematic Social Media Use will significantly predict Social Anxiety among adolescents.

II.METHODOLOGY

2.1 Research Design

The current study looked at psychosocial predictors of social anxiety in adolescents using a quantitative, cross-sectional, correlational research methodology. The degree and direction of the associations among problematic social media use, social anxiety, and imaginary audience beliefs were evaluated using a correlational approach. To ascertain if Imaginary Audience Beliefs and Problematic Social Media Use significantly predict Social Anxiety, multiple linear regression analysis was also performed. Since no variable modification was done, the design is non-experimental in nature.

2.2 Population

The population of this study will be adolescents who attend school or university. Adolescence is an important stage of development marked by heightened self-awareness, identity development, and susceptibility to peer appraisal, making them more susceptible to beliefs of imaginary audience.

Adolescents have been chosen because they are active users of social networking sites and depend largely on such sites to communicate socially. Exposure to comparison, evaluation, and feedback may affect their mental well-being, and hence make them an appropriate choice for this study.

2.3 Sample and Sampling Technique

2.3.1 Sample

The target population was adolescents between 13 to 18 years old who attended school or college. There were 132 participants for the research. This sample size was sufficient enough to carry out correlation and regression tests and conforms to other psychological studies.

2.3.2 Sampling Technique

Non-probability convenience sampling procedure was employed in order to choose the subjects for this research. Convenience sampling procedure was selected because of the convenience involved and the feasibility of accessing teenagers at school. Those that were accessible and ready to take part were selected.

The inclusion criteria for the participants were:

- Adolescents within the age range of 13–18 years
- Currently enrolled in school or college
- Ability to understand English
- Provided informed consent

2.4 Research Tools

The use of standardized psychometric scales was adopted to determine imaginary audience beliefs, social media problems, and social anxiety among young people. The scales chosen were based on their proven validity, reliability, and popularity in psychological research. The instruments used in this study include:

2.4.1 New Imaginary Audience Scale

The 42 items on the New Imaginary Audience Scale are intended to measure the tendency of adolescents to think that other people are watching, judging, or admiring them. Increased self-consciousness and perceived social judgement during adolescence are measured by the scale. Each topic is answered by participants using a 4-point Likert scale, with 1 denoting "never" and 4 denoting "frequently." Stronger hypothetical audience beliefs are indicated by higher overall scores. The scale is frequently used in studies in developmental psychology to assess adolescents' self focused social cognition.

2.4.2 Bergen Social Media Addiction Scale (BSMAS)

Six questions make up the Bergen Social Media Addiction Scale (BSMAS), which is used to evaluate problematic and compulsive social media use behaviours. Salience (preoccupation), tolerance, mood modulation, withdrawal, relapse, and conflict are among the fundamental elements of addiction that are measured by the scale. A 5-point Likert scale, with 1 denoting "very rarely" and 5 denoting "very often," is used for evaluating participant responses. The symptoms of poor social media use are reflected in each item. Increased levels of problematic social media use are indicated by higher overall scores.

2.4.3 Social Interaction Anxiety Scale (SIAS)

Twenty questions make up the Social Interaction Anxiety Scale (SIAS), which measures anxiety during social encounters. The scale measures how distressed a person is when speaking, meeting new people, or expressing themselves in social circumstances. A 5-point rating system is used to record responses, with 0 denoting "not at all characteristic or true of me" and 4 denoting "extremely characteristic or true of me." Higher scores indicate higher degrees of social interaction anxiety. Total scores are determined by adding item responses.

2.5 Procedure for data collection

Data was gathered by administering surveys online using digital tools like Google Forms. The process entailed:

- Designing an online questionnaire that included consent form
- Dissemination of the survey link to students within educational institutions
- Providing information on the objective of the research and confidentiality
- Requesting the respondents to answer truthfully
- Using anonymous answers
- Screening the answers for validity prior to analysis

Use of online methods facilitated easier access and larger sample size among adolescents.

2.6 Methods of Data Analysis

The statistical software used in this study is Statistical Package for the Social Sciences (SPSS).

The analyses included are:

- Descriptive statistics
Analysis of mean and standard deviation in order to understand the distribution of variables
- Pearson correlation test
This test was used to determine the relationship between imaginary audience beliefs, problematic social media use, and social anxiety
- Multiple linear regression

The purpose of conducting this analysis was to predict the role of imaginary audience beliefs and problematic social media use on social anxiety

Correlation is a tool used to measure relationships between two or more variables, whereas regression determines how much each predictor variable contributes to the prediction.

Statistical tests were considered significant at $p < 0.05$.

III.RESULTS

Table 3.1

Variable	N	Mean	Std. Deviation
SocialAnx	132	56.13	16.443
ImAud	128	112.19	22.027
PSocU	132	17.56	5.066

Table 1 displays the descriptive statistics for Social Anxiety, Imaginary Audience Beliefs, and Problematic Social Media Usage among teenagers ($N = 132$). The mean values for Social Anxiety, Imaginary Audience Beliefs, and Problematic Social Media Usage were found to be $M = 56.14$ ($SD = 16.44$), $M = 112.20$ ($SD = 22.03$), and $M = 17.57$ ($SD = 5.07$), respectively, which denote moderate values in all measures.

Table 3.2

Correlations for Study Variables

Variables		SocialAnx.	ImAud	PSocU
SocialAnx	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	132		
ImAud	Pearson Correlation	.345**	1	
	Sig. (2-tailed)	.000		
	N	128	128	
PSocU	Pearson Correlation	.569**	.534**	1
	Sig. (2-tailed)	.000	.000	
	N	132	128	132

** . Correlation is significant at the 0.01 level (2-tailed).

Social anxiety was significantly positively correlated with both imaginary audience ($r = .345$, $p = .000$) and problematic social media use ($r = .569$, $p = .000$), according to Pearson correlation analysis. Additionally, imaginary audience was significantly positively correlated with problematic social media use ($r = .534$, $p = .000$).

Table 3.3

Multiple Regression Analysis

Model	R	R Square	Adj.R Square	Std.Error	F Change
1	.573a	.328	.323	13.52589	61.485

The Problematic social media use significantly predicted social anxiety ($\beta = \text{---}$, $p < .001$), while imaginary audience beliefs did not contribute significantly to the model. The overall regression model was statistically significant, $F(1,126) = 61.49$, $p < .001$, explaining 32.8% of the variance in social anxiety (R^2

= .328; Adjusted $R^2 = .323$). These findings indicate that problematic social media use is a significant independent predictor of social anxiety among adolescents.

Table 3.4
Regression Coefficients

Predictor	Estimate	SE	t	p
(Constant)	24.263	4.296	5.648	.000
PSocU	1.836	.234	7.841	.000

The problematic use of social media significantly predicted social anxiety ($\beta = .573$, $p < .001$), accounting for 32.8% of the total variation in social anxiety. Imaginary audience was found to have no significant contribution to the prediction model.

IV. DISCUSSION

The current study sought to investigate the psychosocial predictors of social anxiety in adolescents, with a specific emphasis on imaginary audience beliefs and problematic social media use. The results revealed strong correlations between the primary study variables, although the intensity and predicted relevance of each factor varied.

In support of Hypothesis 1, the study found that Imaginary Audience Beliefs had a significant positive correlation with Social Anxiety in adolescents. Indeed, the study found support for this idea. A correlation study revealed a strong positive correlation between Imaginary Audience Beliefs and Social Anxiety in adolescents ($r = .35$, $p < .01$). This suggests that adolescents who believe that others are always seeing and judging them tend to experience high levels of social anxiety. The positive correlation between the two variables suggests that increased self-consciousness and feelings of social scrutiny tend to correspond to increased feelings of anxiety in social situations. This makes sense in light of the idea that increased self-consciousness in adolescence corresponds to increased feelings of social humiliation.

Hypothesis 2 argues that problematic social media usage is strongly positively related to social anxiety among adolescents. This hypothesis was strongly supported by the results. Problematic social media usage has a strong positive relationship with social anxiety ($r = 0.57$, $p < 0.01$). The strength of this relationship was stronger than that of Imaginary Audience Beliefs, suggesting that excessive social media usage is more strongly related to anxiety than other beliefs. Adolescents who frequently compare themselves, validate themselves, or maintain digital contact may have more anxieties related to their social acceptance by their peers. These results support recent research indicating that digital environments have psychological effects on adolescents.

Hypothesis 3 proposed that Imaginary Audience Beliefs and Problematic Social Media Use would be significantly correlated with Social Anxiety among adolescents. The results of the regression analysis revealed that the whole model was statistically significant, $F(1,126) = 61.49$, $p < .001$. The model explained 32.8% of the variance in Social Anxiety ($R^2 = .328$). The results revealed that when the two factors were included simultaneously, Problematic Social Media Use was a significant predictor of Social Anxiety ($\beta = .57$, $p < .001$), whereas Imaginary Audience Beliefs failed to add predictive power to the model. Therefore, this idea received partial support. It should be noted that although Imaginary Audience Beliefs correlated significantly with Social Anxiety, its predictive power for Social Anxiety disappeared when the effect of Problematic Social Media Use was controlled.

These results imply that behavioural involvement with social media may be a more immediate and important factor in teenage social anxiety than cognitive tendencies. Although cognitive tendencies are important in explaining social anxiety, behavioural involvement with social media appears to explain more of the variance in social anxiety.

From a theoretical perspective, teenage self-consciousness has been shown to lead to increasing peer evaluation concerns. In recent years, social media may potentially increase these concerns by offering regular opportunities for evaluation. Thus, behavioural involvement with social media may function as a contextual amplifier of cognitive weaknesses.

Overall, these results suggest that cognitive and behavioural psychosocial factors are strongly related to social anxiety in teenage samples. Problematic Social Media Use appears to be a more reliable predictor of social anxiety in this sample. These results expand our existing body of knowledge about teenage social anxiety by including traditional psychological components with modern social media involvement.

4.1 Limitations of the study

- The study used a cross-sectional research approach, which limits its capacity to demonstrate causal correlations between variables. Although there were substantial connections between Imaginary Audience Beliefs, Problematic Social Media Use, and Social Anxiety, the direction of causality could not be established. Higher levels of social anxiety may contribute to more problematic social media participation.
- The study collected data using self-report measures. Response biases in self-report instruments include social desirability bias, recollection bias, and subjective item interpretation. Participants' levels of anxiety or social media use may have been underestimated or overestimated.
- The sample was limited to a specific adolescent group, which may reduce the findings' generalisability. Cultural, social, and educational differences were not thoroughly controlled, which may limit the application of the findings to larger populations.
- Furthermore, the modest change in sample size across variables (due to missing replies) could have altered statistical estimations, especially in regression analysis.
- Finally, the study looked at only two psychosocial determinants of social anxiety. Other crucial variables, such as self-esteem, peer support, emotional control, and familial environment, were not included, but they may have a major impact on teenage social anxiety.

4.2 Recommendations

Recommendations that can be made based on the findings of the current study are aimed at the school level, adolescence, and future research. Given that the use of social media was found to be an important predictor of social anxiety, it is important that educational institutions promote balanced and rational use of social media by adolescents. Raising awareness and developing digital literacy are the ways to increase understanding among adolescents of the psychological consequences of excessive social media usage.

Social anxiety intervention programs may target emotional regulation, self-esteem, and fear of being evaluated negatively. In addition, adolescents' maladaptive self-consciousness, including the heightened belief in imaginary audience, needs to be addressed by educators and psychologists. Future studies need to apply longitudinal design in order to clarify the direction of association between the mentioned factors.

Future studies need to investigate the mediating role of several variables, such as self-esteem, peer connectedness, emotional regulation, and fear of missing out (FoMO). Furthermore, the effects of decreasing the amount of time spent using social media on social anxiety need to be examined through experimental studies.

Future investigations could benefit from a broader sample base and the utilization of qualitative research methods.

V. CONCLUSION

In this study, the relationship between imaginary audience beliefs and problematic social media use was explored concerning social anxiety among adolescents. The study aimed at investigating the relationship between developmental cognitive theories such as imaginary audience beliefs, which relate to social anxiety, and current behavioral patterns involving social media usage. The study revealed how the two variables play an important role in the prediction of social anxiety.

Both imaginary audience beliefs and problematic social media use were found to predict social anxiety among adolescents. It was shown that self-conscious adolescents and those who had constant evaluations of themselves from other people had higher social anxiety. Also, the more participants used problematic social media, the higher the levels of social anxiety they reported. This shows how social media use is a factor contributing to social anxiety due to comparison, feedback, and validation-seeking processes.

Despite their significant relationship with social anxiety, imaginary audience beliefs became less important when compared to problematic social media use. Problematic social media use became a more powerful predictor of social anxiety among adolescents. Imaginary audience beliefs had some effects on social anxiety; however, these effects became less apparent when the use of problematic social media became an issue.

This research indicates that there is an urgency to promote healthy practices when engaging in digital activities, the regulation of emotions, and the knowledge of the comparison process in the online world. This research stresses the importance of developing policies in both educational and government institutions that can promote positive development among adolescents in the modern digital age.

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