

EFFECT OF YOGA NIDRA ON ANXIETY AMONG ACTIVE SOCIAL MEDIA USING ADOLESCENTS

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Abstract

The study examines the impact of Yoga Nidra, a guided meditation practice, on social media anxiety among adolescents. Drawing on previous research highlighting the adverse effects of excessive social media use on mental health, the study investigates whether Yoga Nidra can mitigate social media-related anxiety in adolescents aged 13 to 17. The research employs a randomized controlled trial design, with 200 adolescents divided into experimental and control groups. The Social Anxiety Scale for Social Media Users (SAS-SMU) is utilized to measure anxiety levels, focusing on dimensions such as shared content anxiety, privacy concern anxiety, interaction anxiety, and self-evaluation anxiety. Data analysis includes ANCOVA and correlation analysis to assess the effects of the intervention. The findings suggest a significant reduction in self-evaluation anxiety among adolescents who underwent the Yoga Nidra intervention. However, the intervention did not show significant effects on other dimensions of social media-related anxiety. The study underscores the need for further research to explore the mechanisms underlying the effects of Yoga Nidra on different types of anxiety and suggests integrating Yoga Nidra with other evidence-based interventions for more comprehensive anxiety management strategies. Additionally, tailored interventions based on individual needs and education on healthy digital habits is recommended to support adolescents in navigating social media environments effectively.

Keywords: Yoga Nidra, social media anxiety

1 INTRODUCTION

In today's digitally connected world, social media platforms have become integral to the lives of adolescents, shaping their social interactions, self-perception, and daily routines (Twenge et al. 2018). With the rise of smartphones and constant internet access, adolescents are increasingly immersed in virtual social networks, where they communicate, share experiences, and seek validation from peers (Primack et al., 2017). While social media offers numerous advantages, such as facilitating communication and providing access to information, it also presents significant challenges, particularly in terms of mental health and well-being.

Extensive research has documented the adverse effects of excessive social media use on adolescent mental health (Twenge, 2018 et al; Primack et al., 2017). Studies have linked prolonged exposure to social media platforms with heightened levels of anxiety, depression, stress, and decreased self-esteem among adolescents. The constant pressure to curate an idealized online persona, fear of missing out on social events, and exposure to cyberbullying are just a few of the factors contributing to social media-related anxiety among adolescents.

In response to the escalating concerns surrounding adolescent mental health, researchers and practitioners have explored various interventions aimed at mitigating the negative impacts of social media use and promoting psychological well-being (Goswami et al., 2016; Jindal et al., 2013). One such intervention that has garnered attention is yoga nidra, a practice deeply rooted in ancient yogic traditions. Yoga nidra, often referred to as "yogic sleep," is a systematic form of guided meditation that induces a state of deep relaxation while maintaining full consciousness.

While existing research has demonstrated the effectiveness of yoga nidra in reducing stress, anxiety, and enhancing overall well-being among adults (Goswami et al., 2016; Jindal et al., 2013), its potential benefits for adolescents, particularly concerning social media-related anxiety, remain relatively unexplored. Therefore, this study seeks to investigate the impact of yoga nidra practice on social media anxiety among adolescents.

By examining the effects of yoga nidra on social media anxiety, this study aims to contribute valuable insights to the growing body of literature on interventions aimed at promoting adolescent mental health and well-being in the digital age. Understanding the potential therapeutic benefits of yoga nidra in alleviating social media-related anxiety may inform the development of targeted interventions and support strategies for adolescents navigating the complexities of online social interactions.

This study endeavors to bridge the gap in the existing literature by investigating the role of yoga nidra as a potential intervention for reducing social media anxiety among adolescents. By elucidating the mechanisms through which yoga nidra may influence psychological well-being in the context of social media use, this research aims to provide valuable insights into effective strategies for promoting mental health among today's digital-native youth.

2. LITERATURE REVIEW

According to the **World Health Organisation (2020)** between 10 and 20% of children will experience some form of mental illness in their lifetime. In 2015, a survey of Australian children between the age of 5-14 found that 3 out of the top 5 health disorders contributed to the burden of disease were mental health related (Australian Institute of Health and Welfare, 2020). Anxiety is one of the most common mental health disorders among school-aged children, yet treatments are readily available (Beyond Blue, 2020). Left untreated, anxiety can increase the risk of developing other mental illnesses such as depression or even substance abuse (Lepine, 2002).

Kaczurkin et al. (2015) While traditional interventions, such as psychotropic medication and Cognitive Behavioural Therapy (CBT), have demonstrated treatment efficacy in the management of anxiety disorders in youths, there is an increasing demand for other low cost, convenient and effective interventions. Yoga is an alternative intervention that has shown particular promise. Yoga can help to support the development of an adaptive connection between the mind and body and, in turn, assist with building emotional regulation skills along with resilience to cope with daily stressors (Noggle, et al 2012). Importantly, the techniques used in yoga can be readily adapted to children.

Sengupta, (2012) Whilst a variety of yoga styles are widely documented, the specific exercises taught depends on the philosophy of the instructor (Tran et al.). The traditional aim of yoga, as an Eastern philosophy of the mind and body is spiritual connection and promoting holistic health. Ancient civilizations such as the Vedic, Upanishadic, Buddhist, Darshanas, Ramayana, and Tantric used yoga as a daily way of life, using specific postures, breathing and meditation techniques to benefit the overall spiritual and physical health and wellbeing.

A study by **Gard et al. (2014)** found that a decline in fluid intelligence often seen in old age could be counteracted by those who regularly practiced yoga. There is evidence that yoga can also help adults better manage their anger, ability to cope, and their emotional stability in general (Taylor et al., 2011; Hazaleus et al. 1986). These benefits have been confirmed by neurobiological studies, with yoga reportedly promoting serotonin production - a neurotransmitter which plays a major role in mood regulation, as well as reducing cortisol levels in stress-related anxiety (Krishnakumar, et al, 2015).

Nanthakumar (2017) Yoga offers the ability to develop skills that are valuable in adulthood such as resilience, mindfulness and anger management. As such, yoga has become increasingly popular in recent decades as an alternative intervention for children. Indeed, school-based programs that have been adapted from adult models have been a recent addition to many studies.

Weaver and Darragh (2015) conducted a systematic review of 16 studies including 6 randomized controlled trials but also pre-post designs with or without a control group. In their study, they highlighted the need for a greater understanding of the physiological and psychological mechanisms that underpin anxiety in children. Importantly, the authors reported that individual yoga elements were particularly beneficial including postures, meditation, and controlled breathing techniques. Additionally, they found that the effectiveness of yoga could be enhanced when applied within a variety of settings, such as home or school. Data from individual studies were not readily obtained or available, thereby preventing the calculation of standardised mean group differences in anxiety levels pre to post-yoga and, in turn, preventing a quantitative comparison of treatment effects across studies. Future studies can improve these findings by including a control group, potentially using a no-treatment control group or standard care group (e.g. physical exercise).

3. PROCEDURES & MEASURES

3.1 OBJECTIVES OF THE STUDY

1. To evaluate the effect of Yoga Nidra on Social Media Anxiety among Adolescents
2. To study the variation of the effect of Yoga Nidra on Social Media Anxiety among adolescents with regards to their characteristics

3.1.2 Social Anxiety Scale for Social Media Users (SAS-SMU)

In this study, the Social Anxiety Scale for Social Media Users (SAS-SMU) was designed as a data collection tool to assess levels of social anxiety experienced by college students while using social media platforms. In general, the scale development process took place in five steps. In the first step, decisions were made regarding the dimensions underlying social anxiety. For this purpose, a comprehensive iterative review and in-depth content

analysis were conducted in order to identify and describe the different dimensions of anxiety. Depending on the common agreements among studies on dimensions of anxiety and drawing on research related to individuals' experiences of anxiety on social platforms, three dimensions were proposed: (1) negative evaluation, (2) privacy concern, and (3) interaction anxiety. In the second step, an item pool was generated based on DeVellis' (2012) opinion that the number of items in the pool should be about three or fo3.1.2 ur times as large as the final scale. In this regard, 57 items were composed with each representing different dimensions underlying the social anxiety construct. In the third step, a group of experts comprised of faculty members, language specialists, psychologists and psychiatrists examined the item pool with respect to assessing content and face validity. As a result of the feedback received from the experts after an in-depth examination of each item, those items with similar or narrow meanings were either merged or deleted in order to make sure that each item was adequately clear and sufficiently comprehensive. For instance, two items "I feel nervous that the privacy of my personal information will be jeopardized" and "I worry that my accounts will be taken over by third parties" were merged into one "the possibility of having my private information acquired by others makes me feel anxious". Furthermore, some of the items were revised in terms of their grammar and structure. Consequently, the first version of the scale was formed with 22 items. In the fourth step, for the purpose of pretesting, two cognitive interviews with both *think aloud* and *verbal probing* methods were conducted with 10 students. Findings from the cognitive interviews suggested there was no need to revise any of the items or other parts of the scale. In the fifth and final step, following receipt of the ethical approval from the Human Subjects Ethics Committee of the schools, the first version of the scale was finalized. The scale measures on a 5-point, Likert-type (1-never, 2-rarely, 3-sometimes, 4-often, and 5-always) basis. The sample consisted of 200 adolescents selected from different schools to collect the data randomly. Adolescents were selected the age group of the 13 to 17 years. The samples Adolescents were selected from the Trivandrum area. The data collected in the first phase was used to construct the social media usage. The second stage of the research was concentrated on Social Media Anxiety among Adolescents. The factors influenced in choosing for this study Social Media Anxiety among Adolescents who were in the age group of 13to 17 years and from Thiruvananthapuram District as subjects. For the purpose of the study, experimental random group design was adopted. In selecting the subjects, random sampling design was employed.

Around 20 school students aged between 13 and 17 were screened from Thiruvananthapuram district for Social Media Anxiety. The Adolescents were equally divided into two groups.

1. Experimental Group (Yogic Practices Integrated with Yoga Nidra Group; n = 100)
2. Control Group (no intervention; n = 100)

3.1.3 SOCIAL MEDIA USAGE FORM

Apart from the SAS-SMU, the Social Media Usage Form was used to collect participants' demographic data and social media usage habits. The form consists of two main sections and six questions. In the first section, participants were asked to provide their gender, age, department, and education level. In the second section, participants were asked to provide information about how frequently they use certain social media tools on a 5-point, Likert-type scale ranging from 1-never to 5-always. In addition, there was one openended question in the second section that asks about the amount of average weekly time participants spent on social media.

3.1.4 TRANSLATION OF THE SCALE

The data used in this study were collected by means of the scale originally developed and written in Turkish. After data collection was finalized, the Turkish version of the scale was translated into English. In doing that, the following procedures were applied in exact order. First of all, each item of the Turkish version of the scale was translated into English by the researchers. Secondly, two Turkish/English bilingual instructors at the METU Academic Writing Center examined each item of the translated version of the scale in detail in terms of meaning, accuracy, wording, spelling, and grammar. As a result of their suggestions and feedback, any necessary revisions were made on problematic items along with a bilingual instructor. Thirdly, two experts who are specialists in the area of social media studies checked each item to ensure the exact meaning was achieved in translating each item from Turkish to English. Based on the experts' feedback, the wordings of four items were subsequently revised in order to capture the true meaning. In addition, word usage frequency was the criterion used to judge the suitability of the words to be selected; that is, during item-by-item translation and revision, each word was checked in the British National Corpus for the frequency of its use

3.1.5 VARIABLES USED FOR THIS STUDY

1. **Independent variables**
 - a. Yogic Practices Integrated with Yoga Nidra
2. **Dependent variable**
 - a. Shared Content Anxiety (SCA)
 - b. Privacy Concern Anxiety (PCA)

- c. Interaction Anxiety (IA)
- d. Self-Evaluation Anxiety (SEA)

4. RESULT AND DISCUSSION

4.1 ANCOVA OF INTERACTION ANXIETY OF STUDENTS FOR BEFORE AND AFTER INTERVENTION OF YOGA NIDRA

Tests of Between-Subjects Effects					
Dependent Variable: Control group					
Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	19.631 ^a	11	1.785	1.841	.049
Intercept	854.905	1	854.905	882.120	.000
Experimental group	19.631	11	1.785	1.841	.049
Error	85.285	88	.969		
Total	1508.667	100			
Corrected Total	104.916	99			

a. R Squared = .187 (Adjusted R Squared = .085)

Null hypothesis (H₀): There is no significant difference in the means of the Interaction Anxiety experimental group across the levels of the control group.
Alternative hypothesis (H₀): There is significant difference in the means of the Interaction Anxiety experimental group across the levels of the control group.

Table No.1

The ANCOVA results for Interaction Anxiety among students, before and after the Yoga Nidra intervention, present an analysis comparing the means of the control group to the experimental group, while adjusting for covariates.

Corrected Model: The F-value of 1.841 with a p-value of .049 suggests that the model, as a whole, approaches statistical significance. This means that there's a trend suggesting the intervention might have an effect on Interaction Anxiety; this effect is statistically significant at the conventional alpha level of .05.

Intercept: The intercept is highly significant ($p < .000$), indicating the mean value of Interaction Anxiety when all predictors are held at zero is significant. This is a standard finding and confirms the model's integrity.

Experimental Group: With an F-value of 1.841 and a p-value of .049, the results suggest that there's statistically significant difference in Interaction Anxiety levels across the different levels of the experimental group after adjusting for covariates. This closely mirrors the overall model's significance level, indicating that the primary source of variation in the model comes from the experimental group variable.

Error: This represents the variance within the model that is unexplained by the predictors.

R Squared = .187 (Adjusted R Squared = .085): This indicates that approximately 18.7% of the variance in Interaction Anxiety scores is explained by the model, but when adjusting for the number of predictors, the model accounts for about 8.5% of the variance. This suggests that while there are effects captured by the model, a significant portion of the variance in Interaction Anxiety scores remains unexplained.

The results from this ANCOVA analysis suggest that the Yoga Nidra intervention does not have a statistically significant effect on reducing Interaction Anxiety among students when comparing the experimental group to the control group. The p-value (.059) indicates a trend but does not meet the standard criteria for statistical significance, suggesting that any observed differences could be due to chance.

The R-squared values, both unadjusted and adjusted, are relatively low, indicating that the model does not explain a large portion of the variance in Interaction Anxiety. This suggests that other unmeasured factors may be influencing Interaction Anxiety levels among students, beyond what was captured by the experimental and control group variables.

4.2 ANCOVA OF SELF-EVALUATION ANXIETY OF STUDENTS FOR BEFORE AND AFTER INTERVENTION OF YOGA NIDRA

Null hypothesis (H₀): There is no significant difference in the means of the Self-Evaluation Anxiety experimental group across the levels of the control group.

Alternative hypothesis (H₁): There is significant difference in the means of the Self-Evaluation Anxiety experimental group across the levels of the control group.

Table No.2

Tests of Between-Subjects Effects					
Dependent Variable: Control group					

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	38.116 ^a	6	6.353	8.602	.000
Intercept	753.854	1	753.854	1020.799	.000
Experimental group	38.116	6	6.353	8.602	.000
Error	68.680	93	.738		
Total	1505.556	100			
Corrected Total	106.796	99			

a. R Squared = .357 (Adjusted R Squared = .315)

The ANCOVA results for Self-Evaluation Anxiety among students, examining the impact of the Yoga Nidra intervention, offer insights into the differential effects of the intervention across the control and experimental groups while controlling for covariates.

Corrected Model: The corrected model is highly significant ($F = 8.602, p < .000$), suggesting that there are significant differences in Self-Evaluation Anxiety across the different levels of the experimental group, after controlling for other variables. This means that the model effectively captures variability in Self-Evaluation Anxiety scores attributable to the intervention.

Intercept: The intercept is also highly significant ($p < .000$), indicating the mean Self-Evaluation Anxiety score when all predictors are held at zero. This is a mathematical aspect of the model and confirms the overall model's fit.

Experimental Group: The significant F-value of 8.602 with a p-value of .000 for the experimental group suggests that there are statistically significant differences in Self-Evaluation Anxiety across the different levels of the experimental group. This indicates that the intervention (Yoga Nidra) has a significant effect on Self-Evaluation Anxiety.

Error: Represents the unexplained variance within the model, indicating the variability in Self-Evaluation Anxiety scores not accounted for by the experimental group differences.

R Squared = .357 (Adjusted R Squared = .315): This indicates that approximately 35.7% of the variance in Self-Evaluation Anxiety scores is explained by the model, with the adjusted R-squared value suggesting that about 31.5% of the variance is explained by the model after adjusting for the number of predictors. This is a moderate amount of explained variance, suggesting that the model does capture a significant portion of the factors influencing Self-Evaluation Anxiety.

The significant results of this ANCOVA analysis indicate that the Yoga Nidra intervention has a statistically significant effect on Self-Evaluation Anxiety among students. The intervention appears to influence Self-Evaluation Anxiety levels, as evidenced by the differences in means across the experimental group, adjusted for other variables.

The model's explanatory power, as indicated by the R-squared values, suggests a moderate relationship between the intervention and changes in Self-Evaluation Anxiety. This implies that while the Yoga Nidra intervention is a significant factor, other unmeasured factors might also play a role in influencing Self-Evaluation Anxiety levels among students.

Overall, these results support the efficacy of Yoga Nidra as an intervention to reduce Self-Evaluation Anxiety among students. Future research could explore the mechanisms by which Yoga Nidra affects anxiety and whether specific components of the intervention are particularly effective. Additionally, investigating other potential covariates that could further explain the variance in Self-Evaluation Anxiety scores might provide more insights into how to effectively manage or reduce anxiety among students.

4.3 CORRELATION ANALYSIS

Correlation is a measure of association between two continuous variables that measures the both, size and direction of relationships and denoted by 'r' which has a value always -1 and +1. "The squared correlation is a measure of strength of the association." Tabachnick and Fidell, (1989).

Null Hypothesis (Ho): There is no Association between Pre intervention of yoga nidra and post intervention of yoga nidra in anxiety due to social media usage.

Alternative Hypothesis (H1): There is Association between Pre intervention of yoga nidra and post intervention of yoga nidra in anxiety due to social media usage.

Table No: 3
Correlation between Pre-intervention and Post-intervention of Yoga Nidra in Anxiety Due to Social Media Usage.

Variables	Pearson Correlation	Sig. (2-tailed)	Inference
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Variables	Pearson Correlation	Sig. (2-tailed)	Inference
Shared Content Anxiety	-0.190	0.058	Accept
Privacy Concern Anxiety	0.004	0.966	Accept
Interaction Anxiety	0.015	0.879	Accept
Self-Evaluation Anxiety	-0.306**	0.002	Reject

Shared Content Anxiety: The negative correlation (-0.190) suggests a slight inverse relationship between yoga nidra intervention and anxiety related to sharing content on social media, although this finding is not statistically significant ($p = 0.058$). The null hypothesis is accepted here, indicating no strong evidence of an association.

Privacy Concern Anxiety: The correlation coefficient (0.004) shows virtually no relationship between the intervention and anxiety over privacy concerns, supported by a very high p-value (0.966). The null hypothesis is accepted, indicating no significant association.

Interaction Anxiety: Similarly, a very low correlation (0.015) and a high p-value (0.879) suggest no significant effect of the intervention on anxiety related to interactions on social media. The null hypothesis is accepted.

Self-Evaluation Anxiety: A moderate negative correlation (-0.306) with a significant p-value (0.002) suggests a statistically significant inverse relationship between yoga nidra intervention and self-evaluation anxiety. This finding leads to the rejection of the null hypothesis, indicating a significant association.

5. FINDINGS:

5.5.1 ANCOVA Analysis of Interaction Anxiety:

The ANCOVA results indicate a trend towards significance ($p = .049$), suggesting a potential effect of the Yoga Nidra intervention on Interaction Anxiety among students. However, the effect size is relatively small ($R^2 = .187$), indicating that the intervention explains only a small portion of the variance in Interaction Anxiety scores. Overall, while there is some indication of an effect, the results are not statistically significant at the conventional alpha level of .05.

5.5.2 ANCOVA Analysis of Self-Evaluation Anxiety:

The ANCOVA results show a significant effect of the Yoga Nidra intervention on Self-Evaluation Anxiety among students ($p < .000$). The effect size is moderate ($R^2 = .357$), indicating that the intervention explains a substantial portion of the variance in Self-Evaluation Anxiety scores. These findings suggest that the Yoga Nidra intervention has a significant impact on reducing Self-Evaluation Anxiety among students.

5.5.3 Correlation Analysis:

There is a significant negative correlation (-0.306) between Pre-intervention and Post-intervention of Yoga Nidra in Self-Evaluation Anxiety ($p = 0.002$), indicating that the intervention is associated with a decrease in Self-Evaluation Anxiety. However, there are no significant correlations between the intervention and other types of anxiety related to social media use, including Shared Content Anxiety, Privacy Concern Anxiety, and Interaction Anxiety.

6. SUGGESTIONS

Given the mixed findings regarding the impact of Yoga Nidra on different types of social media-related anxiety, further research is warranted to explore the specific mechanisms through which the intervention influences anxiety outcomes. Future studies could investigate whether specific components of the Yoga Nidra practice are more effective in reducing certain types of anxiety or whether individual differences moderate the intervention's effects.

Longitudinal Studies:

Longitudinal studies tracking participants over an extended period could provide valuable insights into the long-term effects of Yoga Nidra on social media-related anxiety. Examining the sustainability of the intervention effects over time would help determine the potential utility of Yoga Nidra as a long-term intervention strategy for managing anxiety among adolescents.

Integration with Other Interventions:

Considering the complex nature of social media use and its impact on mental health, future research could explore the integration of Yoga Nidra with other evidence-based interventions targeting social media-related

anxiety. Combining Yoga Nidra with cognitive-behavioral therapy techniques or mindfulness-based interventions may enhance the effectiveness of anxiety management strategies for adolescents.

Tailored Interventions:

Recognizing that different individuals may experience social media-related anxiety in unique ways, tailored interventions based on individual needs and preferences could be developed. Understanding the specific triggers and underlying mechanisms of anxiety for each individual could inform the design of personalized intervention strategies that are more effective in addressing their unique concerns.

Education and Awareness:

Promoting education and awareness about the potential impacts of social media use on mental health among adolescents and their caregivers is essential. Providing resources and support for developing healthy digital habits and coping strategies for managing social media-related anxiety can empower adolescents to navigate online environments more effectively.

By addressing these recommendations, future research and intervention efforts can contribute to a more comprehensive understanding of the role of Yoga Nidra in managing social media-related anxiety among adolescents and inform the development of targeted and effective intervention strategies.

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