

A quantitative analysis of adolescent appearance anxiety in the pseudo-environment of online media based on uses and gratification theory

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Abstract. With the advancement of economic level and science and technology, electronic products are flooding the lives of teenagers. While many people are willing to show themselves on social media, they can freely experiment with different ways to present themselves on the Internet, which could be thought of as a kind of social laboratory. The objective of this article is to analyze whether self-expression will bring satisfaction or anxiety to people's lives. This article uses self-presentation(Ideal self, Multiple selves, Consistent self, Online presentation preference) as an independent variable, life satisfaction and appearance anxiety as dependent variables. This paper is based on use and satisfaction theory and investigates self-presentation based on prior beliefs utilizing the method of a questionnaire survey which includes a primary focus on people's degree of satisfaction or anxiety. The final sample included 419 individuals in Weibo, the percentage of female participants is 70.74%, while the proportion of the male participants is 29.26%. According to the findings, appearance anxiety may be more severe when a person is more willing to exhibit themselves on online social media. Additionally, the teens' life satisfaction increased with their willingness to present themselves on online social media.

Keywords: Teenager; uses and gratifications approach; self-presentation; social media.

1. Introduction

Recently, the fast and real-time information dissemination and updating characteristics of various new media and social platforms make it easy for adolescents to access information in multiple ways and platforms. Due to aesthetic immobilization, social media users' emotional health, particularly that of young people, may be impacted. Owing to immobilization of aesthetics, browsing on social media may impact people's emotional health, especially for young people. Adolescence generally includes both middle and high school, which is between the ages of 13 and 18. During this period, an important feature of adolescent physical development is the dramatic change in body size, with large changes in height and weight and the appearance of secondary sexual characteristics. Especially during adolescent development, weight gain is very pronounced as adolescents may gain up to 5 to 6 kg per year, and in some cases up to 8 to 10 kg, and all parts of the body need to be fully developed during this period. In addition, another important physical characteristic of adolescence is the maturation of sexual organs and functions. Based on the awareness of gender relations and new emotional experiences with the opposite sex, adolescents will begin to pay attention to their appearance and grooming. Physically, adolescents' bodies tend to gain weight rapidly, but cognitively, adolescents become aware of their appearance. This may lead to conflicting perceptions of their bodies and result in body image anxiety. According to the National Study on Internet Usage of Minors in 2020, the scale of underage Internet users continues to grow, and the trend of contacting the Internet at a younger age is more obvious. China will have 183 million underage Internet users in 2020, with a penetration rate of 94.9%, up 1.8 percentage points from the previous year and greater than the

country's overall penetration rate of 70.4%. More than one-third of elementary school students start using the Internet before school age, and the trend is increasing year by year. As the digital age develops, children are getting younger and younger when they first contact the Internet. However, teenagers are at the stage of immature development of their minds and intellects, and they are still lacking in the screening of information and the judgment of truth and falsity, etc. There are some problems in their self-presentation and social interactions, for example, teenagers tend to focus on the part and ignore the whole. They focus on phenomena and ignore the tendency to consider problems in a one-sided and superficial way.

Therefore, influenced by consumer culture and mass media, it repeatedly implied that commercial aesthetic standards are easily accepted and approved by the adolescent group without thinking, and adolescents try to present appearance-focused content through social media postings. Therefore, adolescents portray their idealized appearance to satisfy their own needs. Because of this, it is also important to pay attention to how adolescents' social media usage impacts their own growth and social development. Among all developmental areas, this study places emphasis on life satisfaction and appearance anxiety, which are two critical factors for adolescents to maintain mental wellness. By conducting quantitative research, the authors aim to explore how self-representation on social media will impact adolescents' life satisfaction and appearance anxiety level.

2. Literature review

In daily life, information technologies have become essential parts of facilitating the use of social media [1]. Social media is a particular part of modern social life, especially for the youth, and most youths are inclined to spend their daily time on social media. Studies have proven that social networking can be an addiction [2]. In addition, in earlier articles, the topics of excessive social media use as an addiction, the fear of missing out and SNS addiction, smartphone addiction and SNS addiction, and nomophobia and SNS addiction were also covered [3]. This addiction may cause anxiety and there is a link between young people's use of social media and depressed symptoms [4]. Although causality is not clear, and further development is needed in research on this topic. However, some research looked into mediating and moderating factors, as well as confounding variables including age and gender (e.g. insomnia, rumination and self-esteem) [5]. As a result, this article will be based on relevant scales and mainly focuses on two dimensions: social media appearance comparison and social media appearance awareness.

On the other hand, social networks can also serve as a medium to help youth relieve their anxiety. Teenagers have the option to voice their opinions thanks to social networking tools. It becomes easy for adolescents to distinguish between what is good and what is terrible if they are allowed to express their thoughts and feelings, and this phenomenon demonstrated the advantages of social media. Even though youth will be affected differently when using social networks, they will also be affected by many different factors, such as time, between-person level and within-person level active or passive effect, platforms [6]. Consequently, this article also refers to the relevant scale which is five-point and also has proven Satisfaction with Life Scale (SWLS) correlated at an adequate level [7].

This paper is based on the uses and gratifications theory, which means people use media to gratify specific wants and needs. Firstly, this paper will refer to the original research on the uses and gratifications frameworks [8]. According to a study, there are five individual reasons why people use new media (news and chat, personal assistance, search for information, comfort and entertainment) [9]. In terms of motivation based on this theory, there are eight motivators (entertainment, information searching, networking, social support, sense of community, social anxiety, and outside assistance) which refers to the individual drive fostered by live social media streaming [10]. The report also lists eleven benefits and uses for using social media. The ten uses and pleasures identified in this study are social interaction (88%) information seeking (80%), pass time (76%) entertainment (64%) relaxation (60%) communicative utility (56%) opinion expression (56%) convenience utility (52%) information sharing (40%) and surveillance and watching of others (20%) [11]. According to these studies, self-

presentation can be a factor to promote both positive and negative effects, so that this paper refers to the scale of previous studies to measure different factors that can influence adolescents on social media [12].

To summarize, this essay will examine how various forms of self-presentation on social media will impact young people's ability to cope with anxiety. The article makes the following assumptions based on the above analysis:

H1: The degree of self-presentation intention on online social media was positively correlated with the degree of life satisfaction.

H2: The degree of self-presentation intention on the adolescent social media network was negatively correlated with the degree of anxiety influenced by social media.

3. Methodology

3.1. Research method

In order to test the hypothesis presented in the article, the authors distributed a questionnaire with a comprehensive survey purpose in China. The questionnaire contains 44 questions and aims to investigate the social media impact on appearance anxiety and life satisfaction among contemporary youth. The questionnaire referred to several articles, "The benefits of Facebook friends: social capital and college students' use of online social network sites", "The development of social media appearance anxiety scale and assessment on reliability and validity", and "Self-conception clarity and online self-presentation in adolescents". Statistical demographic characteristics were first investigated, and information between men and women and adolescent age criteria according to international criteria were applied to the questionnaire. The authors published the questionnaire on the Wenjuanxing platform. As of December 7th, 2022, 453 questionnaires were collected. The percentage of males was 29.26% and the percentage of females was 70.74%. Among them, 419 questionnaires were valid. Responses over the age group of adolescents were not used as a reference and the majority of respondents were high school and college students, counted for 47.47% and 45.16%, respectively. The correlations and results were finally analyzed using SPSS.

3.2. Research variables

3.2.1 Independent variable

Self-presentation was analyzed as the independent variable in this study. Previous studies involved self-presentation, and gave a complete scale, which was directly used in this study (Self-Concept Clarity and Online Self-Presentation in Adolescents). All questions are on a 5-point Likert scale ('strongly disagree' to 'strongly agree') and the questionnaire has good internal consistency (Cronbach's $\alpha = 0.86$).

3.2.2 Dependent variables

Life satisfaction and appearance anxiety were evaluated as the dependent variables in this study. Previous articles had directly measured satisfaction of life scales. The 5-item life satisfaction scale addresses the global life satisfaction component of subjective well-being. Using a 7-point Likert scale ranging from strongly disagree (1) to strongly agree (7), respondents rated five items (e.g., "I am satisfied with my life") ($\alpha_{Time1} = 0.90$; $\alpha_{Time2} = 0.90$). Adolescent life satisfaction was estimated by averaging item scores.

Appearance anxiety mainly considers the anxiety that teenagers develop about their physical appearance in the use of social media. Previous studies have measured appearance anxiety (The Development of Social Media Appearance Anxiety Scale and Assessment on Reliability and Validity) through a 12-item social media appearance anxiety questionnaire. The investigation in appearance anxiety includes two dimensions: social media appearance awareness and social media appearance comparison with good reliability and validity. In accordance with international standards, the questionnaire in this study used information between men and women and age criteria for adolescents.

The questions in the questionnaire were divided into five levels from 1 to 5, representing strongly disagree, disagree, neutral, agree and strongly agree.

4. Results

A clear understanding can be found in the data of the results calculated by Pearson correlation analysis. The four factors belonging to the independent variable self-presentation (Ideal self, Multiple selves, Consistent self, Online presentation preference) and the dependent variable (Appearance anxiety, Life satisfaction) have different degrees of correlation, and the discrepancies in the correlations between the different variables are significantly different. Table 1 summarizes the correlations between different self-presentation variables and appearance anxiety and life satisfaction.

Table 1. Correlation between variables

Variables		Mean	Age	Appearance anxiety	Life satisfaction
(1)	Age	2.51	1.00	-.266**	-.482**
(2)	Social media intensity	3.81	-.147**	.491**	.306**
(3)	Social media friends	4.071	.012	.050	.061
(4)	Social media hours	4.669	.510**	-.215**	-.317**
(5)	Ideal self	33.73	-.262**	.490**	.316**
(6)	Multiple self	17.04	-.453**	.543**	.454**
(7)	Consistent self	13.59	-.266**	.316*	.442**
(8)	Online presentation preference	10.57	-.371**	.468**	.462**

When evaluating Ideal self, the correlation between Age and the Ideal self of the sample showed a negative correlation ($r = -.262^{**}$, $p < 0.01$), which means that in the self-presentation, participants with older ages are less likely to present the idealized version in the online social media. Based on the data, there is a positive correlation between Ideal self and Appearance anxiety ($r = .490^{**}$, $p < 0.01$) and the correlation between the two variables is moderate, indicating that adolescents who present more idealized versions on online social media platforms also have higher appearance anxiety. Furthermore, there was a positive correlation between the Ideal self and Life satisfaction ($r = .316^{**}$, $p < 0.01$) and the correlation is weak, suggesting that adolescents who presented more idealized versions in online social media platforms had higher satisfaction with life.

While analyzing Multiple selves, the correlation between Age and the Multiple selves of the sample exhibited a significant negative correlation ($r = -.453^{**}$, $p < 0.01$), which can be reflected in the self-presentation that participants with older ages have a lower likelihood to present different versions of selves in the online social media environment. Analysis of the statistics showed that Multiple selves demonstrated a positive correlation with Appearance anxiety ($r = .543^{**}$, $p < 0.01$) and a moderate correlation, which means that the greater the extent to which adolescents present different versions in online social environments, the more appearance anxiety is also likely to appear. Simultaneously, there was a moderate positive correlation between Multiple selves and Life satisfaction ($r = .454^{**}$, $p < 0.01$), which revealed that the larger extent to which adolescents presented different versions in the online social media environment led to a higher level of satisfaction with life.

Considering the Consistent self, the results reveal that adolescents' age and the Consistent self in the sample are negatively correlated ($r = -.266^{**}$, $p < 0.01$). In self-presentation, it can be explained that the increase in age corresponds to a lesser degree of offline and online self-presentation are analogous. Adolescents are more disinclined to express their real selves. The survey scale found that Consistent self showed a weak positive correlation with Appearance anxiety ($r = .316^{*}$, $p < 0.01$), suggesting that the greater the extent to which adolescents' self-presentation in online social settings is consistent with offline self-presentation, the more likely appearance anxiety is to emerge. Moreover, a moderate positive correlation was found between Consistent self and Life satisfaction ($r = .442^{**}$, $p < 0.01$),

which indicates that the higher the degree of life satisfaction is when the self-presentation in an online social media environment is closer to the offline real self.

When assessing Online presentation preference, the correlation between adolescents' age and the Online presentation preference factor in the sample showed a negative correlation ($r=-.371^{**}$, $p<0.01$), and what can be elucidated throughout self-presentation is that increasing age drives a lesser degree of online social media platforms' willingness to self-presentation, and increasing age at the adolescent stage is less likely to conduct online self-presentation. Research investigation showed that the two variables of Online presentation preference and Appearance anxiety showed a positive correlation ($r=.468^{**}$, $p<0.01$). This suggests that the greater the level of willingness to self-presentation in online social media, the greater the level of appearance anxiety may be. Similarly, there was a positive correlation between Online presentation preference and Life satisfaction ($r=.462^{**}$, $p<0.01$), indicating that the more willing the adolescents were to engage in self-presentation in online social media, the higher their life satisfaction was.

5. Discussion

First of all, in this study, the authors collected data on social media intensity, friends, and hours, but did not analyse them in the final results for the following reasons: they are not self-reported factors, and specifically, the factor "social media friends" has almost no correlation with the dependent variable. The social media times has a weak negative correlation, but given the relatively even distribution of age groups in this sample and the large gap between high school and university students' mobile phone usage in China, the mean value of this data is not valid for practical purposes; the social media intensity also has the same reason, so these three data are not analysed. The authors did not analyse these three data, which is also a shortcoming of this research experiment. In addition, this study is not representative of China's large youth population due to its relatively small sample size, nor does it accurately reflect the representation of high and middle education levels, which means that future research should aim to maximise the representative sample size of each group.

In addition to this, the survey analysis of this experiment focuses on the correlation of different factors of self-presentation on their appearance anxiety, life satisfaction, to give a feasible reference hypothesis for a large group of teenagers and to test it, but as the data shows, the authors find that none of the individual factors of self-presentation have a high correlation with the dependent variable, so it can be concluded that the study needs to, on the one hand, consider some of the millennials' use of new media characteristics, i.e., address a more diverse sample size, such as trust in new media leaders, the influence of family and schooling on young people's use of new media, or new media with different emphases (e.g., short-form video-driven new media, or text-forum format-dominated new media, etc.). This step requires more specific and detailed research and analysis in order to explore the paper in further depth.

The relationship in this paper is a relatively simple Pearson correlation, i.e. a simple data analysis of a linear relationship, but this is inadequate in terms of use and satisfaction theory, as mentioned earlier, millennials' use of new media is diverse and the processes that contribute to their final appearance of anxiety and life satisfaction should be progressive, perhaps even nested. This paper is based on previous research and specifically analyses the relationship between self-presentation (the relatively output-oriented aspect of social media) and the dependent variable, so although it is a direct and reasonable process, it does not reflect the relationship between social media and adolescents' appearance anxiety. For this reason, in subsequent studies, scholars need to adopt more complex and reasonable models to abstractly represent this process and conduct specific analyses to find reasonable parameters, or even several parameters to import in a combined form to obtain a more practical fitting relationship, such as path analysis.

There is also the problem that the analysis does not specifically analyse what the reasons are for the correlation between the dependent and independent variables, for example, why the multiple self and the ideal self have a higher correlation with appearance anxiety than the congruent self and the

ideal self has a lower life satisfaction than these two, a part that has been documented in some academic studies in psychology, but not in the new social media. This part has been documented in some academic studies in psychology, but has not been specifically analysed in the context of the new social media, so analysing each of the dependent variables with relatively high correlations is an option for subsequent experiments, and exploring the reasons behind this may provide more effective strategies to help children with appearance anxiety, or low life satisfaction, in a more practical way.

6. Conclusion

The behaviour of self-expression on social media will not only make people anxious, but will satisfy them as well. Moreover, each of them will have different performance factors to influence the relationship between these two sets of variables. Therefore, how to ensure that adolescents use the social network in a reasonable way is a very important noteworthy issue.

Based on the theory of use and satisfaction, this article aims to investigate the direct relationship between the dependent variables of anxiety and life satisfaction and the independent variable of how one presents oneself. In parallel, the authors adopted a questionnaire approach. As per the relevant sections of the predecessors, the production of a questionnaire contains 44 questions and uses SPSS to analyze the correlation and findings after collecting 419 valid surveys in 5 days. Finally, this research can show that the independent variables are positively correlated with both dependent variables, which also shows that the definitive results support the first hypothesis and reverse the second hypothesis.

Correspondingly, this essay is hoped to make contributions to the existing literature to fill the gap and emphasize the significance of social media's effects on young people's mental health.

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