Article **Open Access**

A Study of the Relationship between Appearance Anxiety and Social Media Influence among Chinese Female High School Students

Yunkun Song [1,*], Xiaohui Zhong [2], Yizhou Gao [3] and Pu Sang [4]

[1] Sendelta International Academy, Shenzhen, Guangdong, 518129, China
[2] Xinjiang Urumqi Bayi High School, Urumqi, Xinjiang, 830002, China
[3] Singapore Poly, Singapore 33B Low land Rd, Denver, 547430, Singapore
[4] Garrison Forest School, Owings Mills, Maryland, 21117, US
[*] Correspondence: Yunkun Song, Sendelta International Academy, Shenzhen, Guangdong, 518129, China

Abstract: Contemporary Chinese female high school students are confronted with significant issues of appearance anxiety. This anxiety not only negatively impacts their mental health but also has detrimental effects on their academic life. Traditional psychological intervention methods often fail to address the specific challenges posed by the growing issue of appearance anxiety among female high school students, particularly due to their lack of personalization and adaptation to the unique influences of social media. This article aims to explore the mechanisms by which social media influences appearance anxiety in female high school students. Furthermore, through empirical experimentation, it proposes practical and effective intervention policies to assist contemporary Chinese female high school students in overcoming appearance anxiety. The study employs a combined approach of psychological theory and empirical analysis. By collecting and analyzing substantial and reliable data, it examines the correlation between social practices, the frequency of social media use, and appearance anxiety among Chinese female high school students. The findings indicate that female high school students who excessively focus on appearance-related content on social media are more prone to appearance anxiety, while positive social activities can alleviate this anxiety. Surprisingly, under certain circumstances, the rational use of specific healthy social media platforms can even have a positive impact on the mental health of Chinese female high school students.

Keywords: Chinese female high school students; appearance anxiety; mental health; social media

1. Introduction

1.1. Appearance Anxiety in the Era of Social Media: The Urgency of the Issue

In the context of rapid internet development, appearance anxiety among Chinese female high school students has emerged as a critically concerning issue. As the internet continues to expand at an unprecedented rate, social media platforms, with their potent visual communication capabilities, exert a profound influence on the self-perception and mental health of these students. On various media platforms, these young individuals are regularly exposed to a plethora of idealized and heavily curated images, often presenting an unrealistic and distorted representation of beauty. These so-called "perfect images" frequently bear little resemblance to reality, which can foster the development of unattainable self-image expectations. Such appearance anxiety not only undermines their mental

well-being but also has the potential to adversely affect their academic performance and social skills.

As social media continues to proliferate, Chinese female high school students are increasingly exposed to idealized images. Research indicates that approximately 70% of female high school students spend more than two hours daily on social media, and this high-frequency engagement intensifies their preoccupation with and anxiety about their appearance. While social media offers ample opportunities for social interaction and entertainment, its disproportionate emphasis on appearance has emerged as a primary contributor to appearance anxiety among female high school students. Many of these students are in the midst of adolescence, a pivotal stage in the development of self-identity. During this critical period, external evaluations and feedback play a significant role in shaping their self-image and the formation of their sense of value.

The development of appearance anxiety cannot be attributed solely to the overemphasis on appearance by social media; it is the result of a complex interplay of cultural, societal, and familial influences. For instance, prevailing societal perceptions of female beauty in China, combined with familial expectations and social influences from peers, further contribute to appearance anxiety among Chinese female high school students. Confronted with this pressing issue, conventional psychological interventions—such as self-acceptance exercises and pharmacological treatments—often fail to provide practical effectiveness in addressing conditions like appearance anxiety. Consequently, finding effective strategies to mitigate the detrimental effects of social media on appearance anxiety remains a critical and urgent challenge.

1.2. Research Objectives and Applications: Exploring the Mental Health of Chinese Female High School Students

In the context of the widespread use of social media, the mental health of female high school students has garnered increasing scholarly attention. Appearance anxiety, a pervasive psychological phenomenon, is especially pronounced among adolescent females. This study seeks to investigate the mechanisms through which social media influences appearance anxiety among female high school students, while also proposing effective intervention strategies. By analyzing the dissemination methods and impact pathways of appearance-related content on social media, this research aims to elucidate how such content subtly exacerbates appearance anxiety among Chinese female high school students. Simultaneously, the study also explores the positive potential of social media, examining how its social interaction features can be harnessed to alleviate appearance anxiety.

In terms of practical application, the research extends beyond theoretical discourse to explore actionable strategies. It examines how educators can enhance their support for students' mental health within the school setting, how mental health professionals can assist female high school students in effectively managing the challenges posed by appearance anxiety, and how policymakers can navigate the dual nature of social media when formulating relevant policies.

Through empirical investigation and rigorous data analysis, this study seeks to elucidate the intricate relationship between the frequency and type of social media usage and the prevalence of appearance anxiety. This nuanced understanding aims to uncover the underlying determinants of the issue, thereby offering robust scientific evidence to inform the development of targeted and effective intervention strategies.

2. Research Methodology

2.1. Root Cause Analysis: Mechanisms behind the Formation of Appearance Anxiety

The mechanisms underlying the development of appearance anxiety among Chinese female high school students have become increasingly complex and pressing in contemporary society. The widespread influence of social media contributes to the promotion of unrealistic beauty standards, such as contradictory beauty ideals, celebrity-like features,

and an excessive emphasis on youthful appearance. These distorted representations indirectly foster unrealistic perceptions of appearance among Chinese female high school students. The disparity between these idealized images and reality constitutes one of the primary catalysts for appearance anxiety [1].

The extensive array of filters and photo-editing tools accessible on social media platforms facilitates the creation of seemingly flawless images, subtly influencing the self-perception of contemporary Chinese female high school students. Furthermore, the rising prominence of "internet celebrity culture" on social media represents another critical factor in the exacerbation of appearance anxiety. Internet celebrities frequently attract attention through their conspicuous physical appearance and lifestyle, prompting young users to internalize these attributes as markers of success, thereby fostering dissatisfaction with their own appearance.

The excessive preoccupation with physical appearance not only gives rise to appearance anxiety but may also contribute to a range of mental health issues, including diminished self-esteem and heightened depressive symptoms. However, the emergence of appearance anxiety cannot be solely attributed to social media. A multitude of factors, such as familial environment, peer influence, and cultural background, also exert significant influence. For instance, parental assessments and expectations regarding appearance can profoundly shape female high school students' self-perception and value systems. Similarly, traditional Chinese cultural conceptions of beauty, coupled with widely accepted beauty norms, can profoundly impact individuals' acceptance of their appearance and their attitudes toward it [2].

Therefore, when examining the factors contributing to the development of appearance anxiety, it is crucial to acknowledge that its emergence is the outcome of the interaction among multiple, interconnected influences. This complexity necessitates that policymakers take into account a wide range of contributing factors when devising intervention strategies to effectively address this issue.

2.2. Data Collection and Analysis Strategies: Rationality and Universality of Method Selection

In examining the relationship between appearance anxiety and the influence of social media among Chinese female high school students, the rationality and efficacy of the data collection and analysis strategies are of paramount importance. To ensure the robustness and accuracy of the research findings, this study utilized a triangulation of data collection methods, including surveys, interviews, and content analysis of social media platforms. These methodologies facilitate a comprehensive, multi-dimensional exploration of the underlying mechanisms contributing to appearance anxiety and potential strategies for mitigating it among Chinese female high school students.

For data analysis, a mixed-methods approach, integrating both quantitative and qualitative techniques, was employed. This dual-method approach not only bolstered the reliability of the findings but also enriched the depth of understanding regarding appearance anxiety. Quantitative analysis was conducted using statistical software to process survey data and identify correlations between the frequency of social media usage and levels of appearance anxiety. Meanwhile, qualitative analysis involved the coding of interview data to elucidate individual responses to social media content and its psychological impact.

The following Table 1 outlines the specific implementation details of data collection and analysis:

Table 1. Summary of Data Collection Methods and Key Findings.

Data Collection Method	Sample Size	Analysis Method	Key Findings
Questionnaire Survey	500	Quantitative Analysis	Social media usage frequency is positively correlated with appearance anxiety.

In-depth Interviews	30	Qualitative Analysis	Individuals are highly sensitive to evaluations of appearance-related content.
Content Analysis	100 posts	Qualitative Analysis	Appearance-related content accounts for approximately 60%.
Experimental Observation	50	Mixed Analysis	Positive interactions can effectively alleviate anxiety.

The data presented in the table indicate that the questionnaire survey encompassed a sample of 500 female high school students, with the results revealing a strong positive correlation between the frequency of social media usage and levels of appearance anxiety. The in-depth interviews further illuminated individuals' heightened sensitivity to appearance-related evaluations, thereby complementing the quantitative findings. In the content analysis, it was found that 60% of the 100 randomly selected social media posts contained appearance-related content, underscoring the pervasive emphasis on physical appearance within social media platforms.

Nonetheless, this study is not without its limitations. A notable challenge is the relatively modest sample size of the questionnaire survey, which may constrain the broader applicability of the findings. To address this limitation, the integration of multiple research methods enhances the generalizability and robustness of the conclusions, thereby making the research outcomes more comprehensive and persuasive (Figure 1).
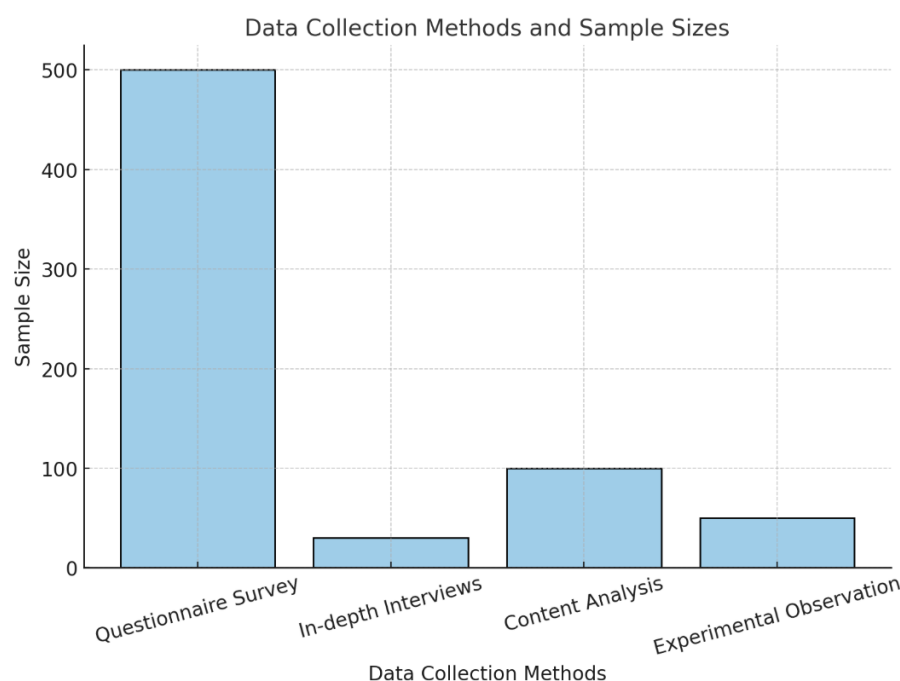

**Figure 1.** Data Collection Methods and Sample Sizes.

2.3. Field Research and Experimental Design: Translating Theory into Practice

In this study, field research and experimental design constitute pivotal steps in translating theoretical concepts into practical application. The experimental design encompasses the careful selection of a representative sample group, the identification of relevant experimental variables, and the formulation of systematic strategies for data collection and analysis. To ensure the representativeness and generalizability of the experimental data, 200 female high school students from diverse regions across China voluntarily participated through social media recruitment. The experimental variables incorporated into the study included types of content, frequency of social media usage, and the psychological well-being of the participants (see Table 2).

Table 2. Relationship Between Social Media Usage Frequency and Appearance Anxiety Scores.

Experimental Group	Sample Size	Social Media Usage Frequency (hours/day)	Appearance Anxiety Score (0–100)
High Frequency Group	100	4–6	75
Medium Frequency Group	50	2–4	60
Low Frequency Group	50	0–2	45

As show in Figure 2, the experimental results indicate that the appearance anxiety scores are highest in the high-frequency usage group, second highest in the medium-frequency usage group, and lowest in the low-frequency usage group. This pattern suggests a positive correlation between the frequency of social media usage and the intensity of appearance anxiety.
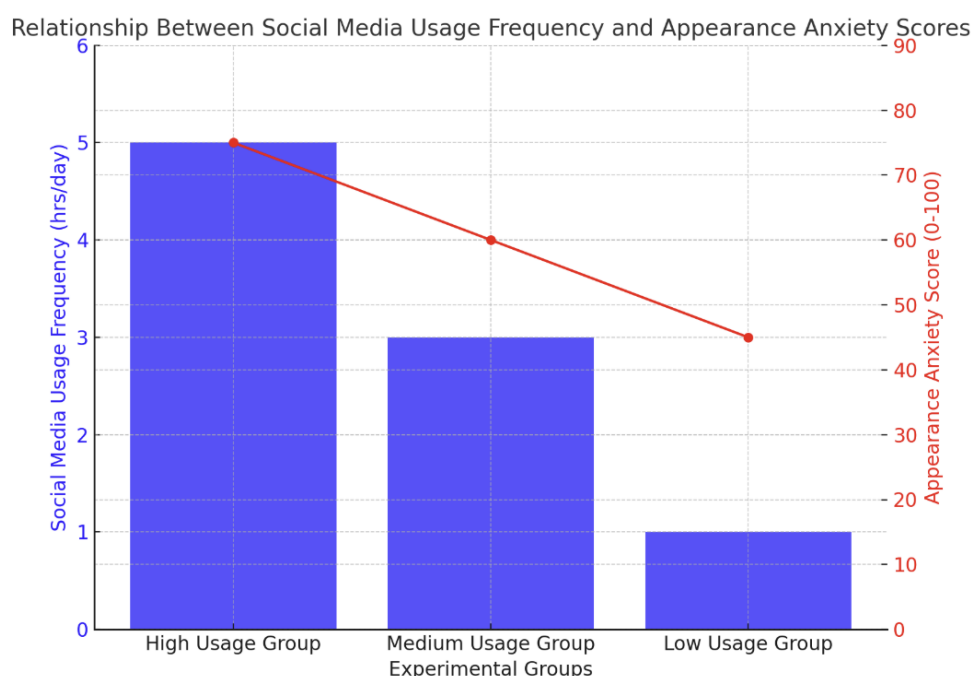
Figure 2. Relationship Between Social Media Usage Frequency and Appearance Anxiety Scores.

Nevertheless, the experiment was not without its challenges, including potential sample bias and certain constraints on data accuracy. However, through meticulously designed experiments and rigorous analysis, we were able to provide compelling evidence that contributes to a deeper understanding of the impact of social media on appearance anxiety.

3. Empirical Research and Result Presentation

3.1. Data Analysis and Result Interpretation: Influencing Factors of Appearance Anxiety

When conducting data analysis and result interpretation on the influencing factors of appearance anxiety among Chinese female high-school students, the frequency of social media use, content types of social media, and interaction methods are considered crucial and significant variables. The following table illustrates the degrees of influence of different social media factors on appearance anxiety discovered in this study (see Table 3).

Table 3. Categories and Levels of Impact of Social Media Usage Factors on Appearance Anxiety.

Factor categories	Influencing factors	Level of impact (0-10)	Sample size
frequency of use	more than 3 hours of use per day	8.5	150
content type	Following beauty and fashion bloggers	9.0	120
content type	Focusing on academic and educational content	3.5	80
Interactive approach	Actively participating in the comments and likes	4.0	100
Interactive approach	passive browsing without engaging in interaction	7.5	130

From the table, it can be seen that for female high-school students who use social media for more than 3 hours per day, the average degree of influence on their appearance anxiety is 8.5. This data indicates that excessive use of social media may exacerbate appearance anxiety.

Moreover, Chinese female high-school students who often follow and pay attention to beauty and fashion bloggers have an average degree of influence on appearance anxiety up to 9.0, which is significantly higher than that of those who focus on academic and educational content. This phenomenon may be related to the idealized images conveyed by some social media. These idealized images are often unrealistic and very likely to trigger appearance anxiety among adolescent female youngsters [3].

In terms of the way of interaction, for female high-school students who actively participate in comments and likes, the degree of influence on their appearance anxiety is 4.0, which is much lower than that of users who passively browse without interaction. According to the research, it is obvious that positive social interaction can alleviate the appearance anxiety of Chinese female high-school students to a certain extent. This may be because female high-school students can obtain and gain social support and recognition during the interaction process, which helps to enhance their self-identity and the sense of fulfillment [4].

However, it should still be noted that the impact of social media varies from person to person. Individual psychological resilience, social support systems, and the ability to think critically about social media content often differ. These factors also significantly affect the impact of social media on individuals. Nevertheless, these data still reveal the sophisticated relationship between social media use and appearance anxiety. Through in-depth analysis of these influencing factors, it can provide valuable references for educators and mental health professionals to design more effective intervention measures to improve the mental health of Chinese female high-school students and combat appearance anxiety (see Figure 3).
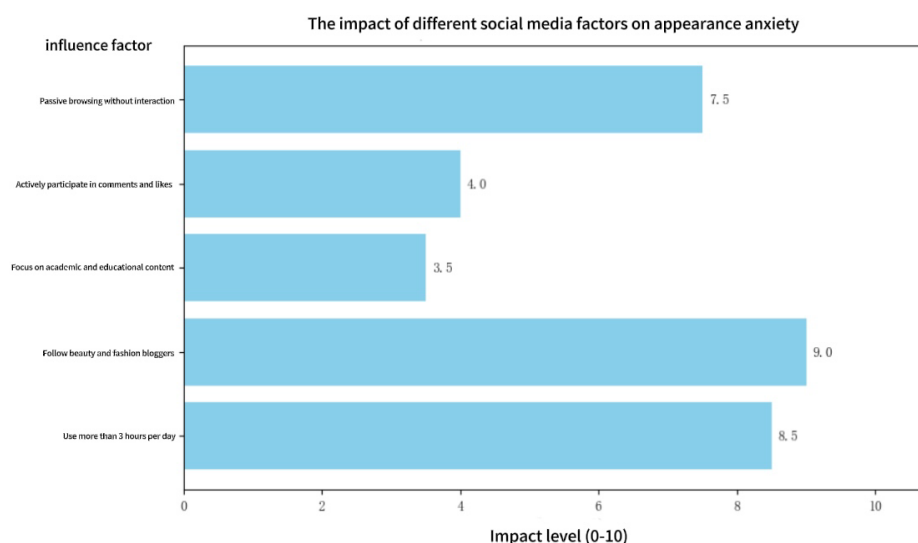
Figure 3. The Impact of Different Social Media Factors on Appearance Anxiety.

3.2. Case Study: The Association between Social Media Use and Mental Health

We conducted a survey in a high school and collected data on the social media use and appearance anxiety scores of 100 female high-school students. The survey found an obvious correlation between the frequency of social media use and appearance anxiety. The following is some of the data from this study (see Table 4):

Table 4. Individual Social Media Usage, Appearance Anxiety, and Positive Interaction Frequency.

student number	Daily social media use (hours)	Appearance anxiety scores (1-10)	Frequency of positive social interactions (times/week)
001	5	8	3
002	2	4	7
003	4	7	5
004	6	9	2
005	3	5	6

According to the data in the Table 4, female high-school students with number 001 and 004 have long daily social media use times, with appearance anxiety scores of 8 and 9 respectively, which are very high. This implies that excessive social media use may exacerbate the appearance anxiety of female high-school students. On the other hand, female high-school students with code 002 and 005 have short use times and relatively low appearance anxiety scores, which can prove that reducing social media use is beneficial for alleviating appearance anxiety.

However, the survey also reveals some complex phenomena. For example, the female high-school student with code 003 has a daily social media use time of 4 hours, which is at a relatively low level, and her positive social interaction frequency is 5 times per week, but her appearance anxiety score is as high as 7. This shows that individual cases still have differences (see Figure 4). However, while an individual case cannot represent the whole group, the research results suggest that under certain conditions, moderate social media use combined with high-frequency positive social interactions may help alleviate appearance anxiety. Further research is required to confirm this effect. This finding provides new intervention ideas for educators and mental health professionals, that is, to relieve appearance anxiety by promoting positive social interactions and moderately controlling daily social media use time [5].
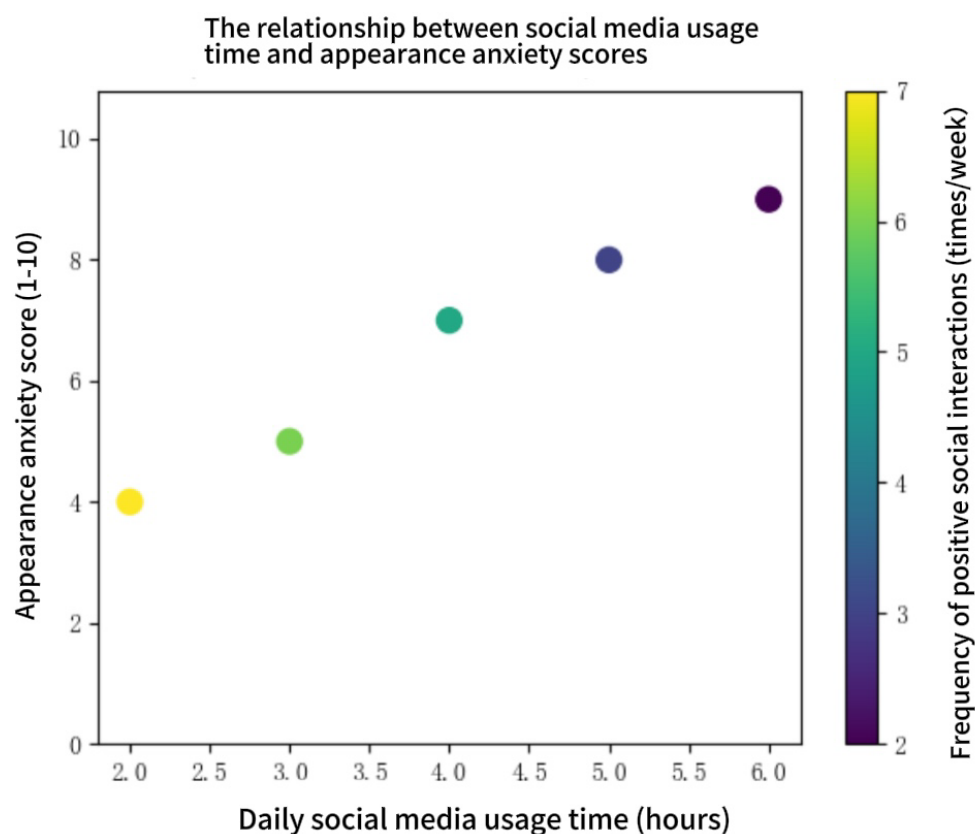
Figure 4. Comparison of Social Media Platforms by Usage, Appearance Anxiety, and Mental Health Impact.

4. Discussion and Implication

4.1. Challenges at the Application Level and Possible Solutions

The practical research on the impact of social media on the appearance anxiety of female high school students in China mainly faces challenges in terms of the complexity of data collection, the effectiveness evaluation of intervention strategies, and the influence of the diversity of social media platforms on research results.

The complexity of data collection is mainly reflected in the representativeness of samples and the accuracy of data. Due to the diversity and extensiveness of the high-school student population, it is not easy to overcome the representativeness of sample collection and the accuracy of data collection. This research adopts a variety of data collection methods, including questionnaires, in-depth interviews, and behavioral observations, to improve the comprehensiveness and accuracy of data and overcome the complexity problem of data collection [6].

In terms of the effectiveness evaluation of intervention strategies, the main challenges at the application-level lie in how to design strategies that can effectively reduce appearance anxiety and be accepted and implemented by high-school students. Moreover, the content and user-group characteristics of different social media platforms vary significantly, which leads to the fact that the same intervention strategy may have significant differences in effectiveness on different platforms. Therefore, when designing intervention strategies, strategy designers need to pay special attention to the specificities of different platforms to improve the effectiveness and pertinence of the strategies.

The following Table 5 summarizes the main challenges in the application process and their corresponding solutions.

Table 5. Main Challenges in the Application Process and Their Corresponding Solutions.

Challenge category	Specific challenges	Solutions	Implementation effects
data collection	Insufficiently representative samples	Multi-channel data collection	significant increase in sample diversity
data accuracy	using behavioral complexity	questionnaires combined with in-depth interviews	Increased data accuracy
Evaluation of Intervention Strategies	Low strategy acceptance	Introducing a mental health education program	increased student engagement
Diversity of platforms	Differences in effectiveness across platforms	Targeted design of platform-specific strategies	Increased applicability of strategies

In the data collection process, multi-channel methods can significantly enhance sample diversity. During the design and implementation of intervention strategies, the introduction of mental-health education courses has effectively increased student participation, indicating that the acceptance of intervention strategies by the female high-school student group has been improved. In response to the challenge of platform diversity, the research has designed platform-specific strategies in a targeted manner, which has enhanced the applicability of the strategies and improved the intervention effects on different social media platforms.

4.2. Generalizability of Research Results and Social Promotion Value

When studying the relationship between the appearance anxiety of Chinese female high-school students and the influence of social media, generalizability and social promotion value become key considerations. Through the analysis of different social media platforms, we found that certain platforms can alleviate appearance anxiety under specific conditions, which provides new ideas for mental-health interventions.

In the Table 6, Platform A has the highest usage frequency of 15 times per week, and its appearance anxiety score is as high as 7.5. However, its mental-health rate is 20%, which is at a relatively high level. This shows that although high-frequency use may increase appearance anxiety, through appropriate guidance and social activities, the mental health of female high-school students can still be maintained. Platform C shows a low usage frequency and a low appearance anxiety score, and its mental-health improvement rate of 25% is the highest among the several platforms, which also indicates that Platform C may provide more positive content and interaction opportunities, which are conducive to alleviating appearance anxiety.

Table 6. Social Media Platform Use, Appearance Anxiety Scores, and Mental Health Improvement Rates.

Social media platforms	Frequency of use (times/week)	Appearance anxiety score (0-10)	Mental health improvement rate (%)
Platform A	15	7.5	20
Platform B	10	6.8	15
Platform C	8	5.9	25
Platform D	12	8.1	10

From the data results, it can be found that by optimizing the content and interaction methods of social media, these positive effects can be better expanded. Nevertheless, in the promotion process, the influences of individual differences and cultural backgrounds

still need to be considered, and strategies should be tailored to different cultural and individual contexts.

The research results not only provide a new perspective and new ideas for mental-health interventions but also provide a scientific basis with generalizability for social promotion. By making rational use of the positive effects of social media, the mental-health status of female high-school students can be improved on a larger scale, contributing to the harmonious development of society.

5. Conclusions and Future Prospects

This research has achieved significant results by discovering the relationship between the appearance anxiety of Chinese female high school students and the influence of social media.

Firstly, it reveals the complex relationships between high-frequency use of electronic devices, type of content, and appearance anxiety. This discovery provides a new perspective on understanding the influence of social media on Chinese female high school students and their mental health.

In practical applications, this research has provided a practical and applicable intervention strategy for educators and mental health professionals. They can effectively alleviate the appearance anxiety by guiding Chinese female high in reasonably using social media, reduce the excessive concern for appearance, and encouraging them to engage in social activities positively and energetically. This strategy can also provide new opinions and new directions for alleviating appearance anxiety in education of psychology in school. Moreover, research has found that after some social media platform has been guided correctly, positive influence to psychological health has been triggered. What's worth paying attention is that some social media has the potential to promote positive social interaction. This discovery not only provides new mindset for how to resist social anxiety, and maintain psychological health, but also provides preferences for how to design and regulate social media.

In the future research, it's suggested to discuss the influence of different social media to appearance anxiety differently and how to use social media more effectively in educational practice and psychological interference. By improving and completing the interference strategy, the ultimate goal is to help Chinese female high school students effectively overcome appearance anxiety.

References

1. F. Deng and X. Jiang, "Effects of human versus virtual human influencers on the appearance anxiety of social media users," *J. Retail. Consum. Serv.*, vol. 71, p. 103233, 2023, doi: 10.1016/j.jretconser.2022.103233.
2. T. K. Papapanou, C. Darviri, C. Kanaka-Gantenbein, X. Tigani, M. Michou, D. Vlachakis, G. P. Chrousos, and F. Bacopoulou, "Strong correlations between social appearance anxiety, use of social media, and feelings of loneliness in adolescents and young adults," *Int. J. Environ. Res. Public Health*, vol. 20, p. 4296, 2023, doi: 10.3390/ijerph20054296.
3. Z. Wang, "Concept of housework of married women: Personal happiness, cooperation, bargaining, and the burden of generalist," in *SHS Web of Conferences*, vol. 183, p. 02007, 2024, doi: 10.1051/shsconf/202418302007.
4. Y. Li, "Assessing the relationship between self-regulated strategies in digital writing and L2 grit for EFL learners," in *SHS Web of Conferences*, vol. 183, p. 03009, 2024, doi: 10.1051/shsconf/202418303009.
5. J. Tian, B. Li, and R. Zhang, "The impact of upward social comparison on social media on appearance anxiety: A moderated mediation model," *Behavioral Sciences*, vol. 15, no. 1, p. 8, 2024, doi: 10.3390/bs15010008.
6. F. Monro and G. Huon, "Media-portrayed idealized images, body shame, and appearance anxiety," *Int. J. Eating Disorders*, vol. 38, no. 1, pp. 85-90, 2005, doi: 10.1002/eat.20153.