

The relationship between social comparison and social appearance anxiety from an evolutionary psychology perspective

Ruoqiong Li^{1,a,#,*}

Ling Wang^{2,b,#}

Angelina Lee^{3,c,#}

Kangni Ou^{1,d,#}

¹ Letter and Science, University of California, Davis, 95616, United States

² Guiyang No.1 High School, Guiyang, China

³ Hong Kong International School, Hong Kong SAR, China
a. li.ruqiong@outlook.com, b. 507204420@qq.com, c. lee63198@gmail.com, d. kniou@ucdavis.edu
*corresponding author email: li.ruqiong@outlook.com
co-first authors

Abstract:

Social appearance anxiety has been widely studied as an important factor affecting today's youth. Severe appearance anxiety is highly likely to develop into Body Dysmorphic Disorder (BDD), which can have a very important impact on people's physical and mental health. In this context, it is particularly important to trace the motivation behind people's appearance anxiety. Our research aims to investigate the relationship between people who spend more time browsing through pictures on Instagram with a higher tendency to develop social appearance anxiety and to understand the motivation for social appearance anxiety in the context of evolutionary psychology, specifically due to their desire to improve their chances of mating. The study will use the Social Appearance Anxiety Scale (SAAS) to measure levels of social anxiety related to perceived appearance in social contexts, and the survey will categorize whether participants spend more time on social media or post more on social media. Our expected results of the study are that participants who spend more time browsing social media will score higher on the SAAS scale. We will discuss various possible outcomes, with the expected result being that people with a higher propensity for social comparison are prone to social appearance anxiety.

Keywords: appearance anxiety, social comparison, evolutionary perspective.

1. Introduction

Social appearance anxiety is an issue that is becoming increasingly prevalent. The spread of media has contributed to more people being able to view a larger amount of information, which also includes ideal-

ized images of body shape and appearance. In recent years, the rise of social media applications, such as Instagram and facebook, has expanded people's access to information. As people view information, the level of social comparison has increased, which in turn has led to appearance anxiety. Although appear-

ance anxiety has been widely studied by researchers, most of the current studies focus mainly on social and psychological factors and do not trace the evolutionary motivation of appearance anxiety more.

The following study focuses on the relationship between social comparison and social appearance anxiety through the perspective of evolutionary psychology. We will investigate whether those who spend more time browsing Instagram are more likely to develop social appearance anxiety. Through this study, we can be more explicit about the evolutionary framework of social appearance anxiety. By exploring the relationship between social media use, social comparison, and appearance anxiety, it will provide more strategies for people to cope with the stress caused by social media, which is important for stabilizing people's mental health.

2. Social Appearance Anxiety

Appearance anxiety is a subclinical indicator of body dysmorphic phobia (BDD) [1], which often manifested as excessive anxiety about some physical defect that one perceives, but which is usually seen as normal by others [2]. This means that people often internalize external standards to their own standards of evaluation. Some research has shown that when people are overly self-focused in a certain area, they are very worried about being judged negatively by others [3]. The way people cope with this concern is by engaging in repetitive behaviors: always checking their appearance or comparing themselves to others [4].

2.1 Motivations for Appearance Anxiety

The reasons why people develop appearance anxiety can be analyzed in depth by looking at the *self-objectification theory*. Self-objectification theory refers to the tendency of people to look at themselves through the eyes of others, that is, to internalize the appearance standards of others into the standards of self-evaluation [5]. This trend exacerbates self-objectification, with more women fearing negative comments from others about their looks and body image. They worry that their appearance is unattractive, which may lead to anxiety or depression. However, if we trace the root cause of this anxiety and worry, it may be due to the desire to receive social acceptance, including the search for cooperative alliances and sexual partners. Research has shown that people are increasingly focused on their attractiveness as times change, and are concerned that their attractiveness will not be socially acceptable [6].

2.2 Psychological Effects of Appearance Anxiety

Low self-esteem: manifested by self-criticism or guilt, excessive concern for the evaluation of others, lack of

self-affirmation, and relatively low energy and motivation. Compulsive behaviors: include frequent mirror looking and various behaviors taken to disguise one's appearance, such as excessive makeup.

2.3 Background from Evolutionary Psychology

Moderate attention to appearance is in fact adaptable throughout evolution and helps individuals improve their chances of survival and reproduction. However, the circumstances and stress of modern society can lead to an excessive representation of this adaptive response, which can trigger anxiety of appearance and the associated psychological problems. Our ancestors lived mainly in small groups with a limited range of physical comparisons. However, today, social networks and advertising continually promote idealized standards of beauty, carefully reviewed and selected, far from the daily reality of ordinary people. Therefore, it is easy to fall into a cycle of continuous comparison and self-denial. Evolutionary psychology reveals the mechanisms of the human brain in the management of society and the comparisons that have helped individuals to adapt in groups during evolution. However, in modern society, especially under the influence of social media, these mechanisms may be overactivated. For example, when we see perfect images on social networks, our brain can generate a strong self-assessment and anxiety reactions. This excessive reaction is not only harmful to our mental health, but can also affect our daily life and our relationships. It is possible that we devote a lot of time and effort to the management of our appearance, and even avoid social activities for fear that our appearance is not perfect. In summary, from the point of view of evolutionary psychology, we can understand more clearly the causes and manifestations of the anxiety of appearance. Although moderate attention to appearance can be beneficial in some cases, we must be attentive to the possible exaggerated reactions of modern society. We must learn to accept and appreciate our uniqueness instead of blindly pursuing idealized aesthetic criteria.

2.4 Social Comparison Theory

Social Comparison Theory proposes that people assess their personal and social worth in comparison to others. Leon Festinger, the proposer of the theory, also states that people are naturally inclined to compare themselves with others in order to establish a benchmark that will allow us to make an accurate assessment of ourselves [7]. Social comparisons can be categorized into two types: upward and downward. Upward social comparison refers to people comparing themselves to others who are better than them, usually with a desire to improve themselves. In contrast, downward social comparison refers to people comparing themselves to people who are worse off

than they are, usually in a way that makes them feel good about themselves [8]. Hu and many other researchers have tested the social comparison theory experimentally [9]. The study divided the participants of the experiment into two separate groups, one group made upward social comparisons and the other group made downward social comparisons. The results of the study showed that people are more inclined to engage in downward social comparisons. The reason for this may be that downward social comparison is more likely to trigger positive self-evaluations and lead to better emotional value and satisfaction. From an evolutionary psychology perspective, we can trace back to primitive animals. Social comparison is not a uniquely human trait and animals also make social comparisons on a regular basis as well. Individuals can make important decisions through social comparison, such as evaluating the abilities of rivals to decide whether to compete or cooperate, or adjusting themselves based on the performance of others. Such social comparisons are developed to fulfill the needs of group life, such as access to resources, mate choice, and so on. Animal behavioral studies have shown that animals often make important decisions based on relative outcomes, both in the laboratory and in the wild, leading to better integration into the group [10].

3. Present Study

The study aims to analyze the relationship between higher social comparison tendencies and social appearance anxiety from an evolutionary psychology perspective. In this study, we will use the Social Appearance Anxiety Scale (SAAS) as the primary measure of appearance anxiety, which will be randomly distributed to young women from different countries and regions. We hypothesize that people with higher scores on the SAAS will make more social comparisons and will also have higher levels of appearance anxiety. Also, we will consider the result that there is no correlation between them.

4. Method

4.1 Participants

A random sample of 2,000 women of all races living in any part of the globe, aged 18 years to 26 years, will be selected for the research paper.

4.2 Procedure

For the primary study, we will use a survey and the SAAS scale; for the survey to be valid and generalizable to the broader youth female population of 18-26 years old, quasi-experimental design will be used.

4.3 Social Appearance Anxiety Scale (SAAS)

A 17 item questionnaire designed to measure anxiety relating to body appearance in social situations. Participants will respond to each item on a scale from 1 (not at all) to 5 (extremely), with examples such as "I feel anxious talking to people due to my appearance" and "I worry about others criticizing my appearance when I'm not present." A survey will be sent out asking participants if they post on Instagram more or spend more time browsing through other people's Instagram pictures; participants will then be split into groups A and B, respectively. The groups will then take a social appearance anxiety test. Possible outcomes of the study will be discussed in the discussion section.

5. Discussion

The discussion section of this study explores potential outcomes regarding the relationship between social appearance anxiety and social comparison, in the context of social media usage. We postulate two main possible results of the experiment: positive correlation between media usage and appearance anxiety, and no correlation between these two variables. By analyzing these potential results, we aim to understand the interaction between the use of social media, the process of social comparison and the development of social appearance anxiety.

5.1 Outcome 1: Positive correlations

Results showing the difference between social comparison and appearance anxiety would mean Group B, who spends more time on social media, will score higher on the SAAS scale. As Group B spends more time on Instagram, they will engage in more social comparisons as social comparison often occurs quickly and requires few cognitive resources. Studies have shown that people make two types of social comparisons: downward and upward comparisons. Downward comparison is when one compares themselves to someone less attractive or worse off than them while upward comparison is when one compares themselves to someone prettier and smarter. When participants in a study received subliminal exposure to the picture of Albert Einstein, individuals rated themselves lower in intelligence. In contrast, subliminal exposure to a picture of a clown caused individuals to rate themselves higher in intelligence. Because people only post the most glamorous side of their lives on social media, where they look the best, Group B, which sees people living better lives, will engage in upward comparison. This invokes the feeling of envy and an increase in feelings of anxiety and threat to the self. Moreover, a Strahan study shows

that from today's salient social norms, it is more likely for people to compare themselves with irrelevant others like professional models or influencers than with their peers or relevant others. From the tendency to compare themselves with attractive and perfect figures, people are more likely to feel envy and increase their feelings of anxiety and threat to themselves.

5.1.1 Connection to evolutionary psychology

Studies have shown humans are biologically predisposed to make social comparisons, as it is an essential adaptation for mating. As when one compares themselves to others, they see their deficiencies and work to improve their appearance in hopes of improving their standing in the mating market and attracting more mates to reproduce.

5.2 Outcome 2: No correlations

If the result of the study shows no correlation, it indicates that there is no significant relationship between Instagram usage and the social appearance anxiety level which is measured by SAAS. This might stem from the limitations of the experimental procedure, as we only collect binary categorical data on Instagram usage by asking participants whether they are browsing more or posting more, which lacks information about the type of content and frequency of browsing. There are possibilities that participants are browsing something they are interested in like friends' posts, pets, music concerts, etc. Besides, we do not have a clear operational definition of glamorous or attractive figure posts, which weakens the relationships between social comparison from viewing other Instagram posts and the level of social appearance anxiety. Given the growing influence of social media in our daily lives, it's crucial to understand its potential effects on our psychological well-being. As mentioned before, within salient social norms, people tend to compare themselves with irrelevant and unrealistic figures, regardless of gender, similar to how they compare themselves with peers. To understand social comparison in a more contemporary context and discuss possible coping strategies for social appearance anxiety, it is important to examine how appearance-related social norms affect social appearance anxiety. Future studies could explore variations in people's anxiety levels when exposed to images of their own ethnicities or cultural groups versus others, or investigate how blurred social norms contribute to appearance anxiety. These studies could provide insights into the importance of understanding the diversity of beauty in order to alleviate appearance anxiety.

6. Conclusion

This study aims to investigate the relationships between social media usage and social appearance anxiety from an evolutionary psychology perspective. Our research highlights the potential impact of social media use leading to an increase in social comparison on platforms like Instagram, where people are exposed to an abundance of perfect pictures that may exacerbate appearance anxiety, especially among young women. This research paper discusses the occurrence of social appearance anxiety through the lens of evolutionary psychology and integrates it with the context of social media, which people use in their daily lives. Whether the results show positive correlations or no correlations between social media usage and social appearance anxiety, the study provides valuable insights about how people's internal impulses, developed through evolutionary pathways, can affect modern situations. Moreover, this research helps to foster support for psychological well-being related to the use of social media.

ACKNOWLEDGMENTS

Ruoqiong Li, Ling Wang, Angelina Lee, and Kangni Ou contributed equally to this work and should be considered co-first authors

References

- [1] Veale, D., Kinderman, P., Riley, S., & Lambrou, C. (2003). Self-Discrepancy in Body Dysmorphic Disorder. *British Journal of Clinical Psychology*, 42, 157–169. <https://doi.org/10.1348/014466503321903571>
- [2] Hart, T. A., Flora, D. B., Palyo, S. A., Fresco, D. M., Holle, C., & Heimberg, R. G. (2008). Development and Examination of the Social Appearance Anxiety Scale. *Assessment*, 15, 48–59. <https://doi.org/10.1177/1073191107306673>
- [3] Liao, J., Xia, T., Xu, X., & Pan, L. (2023). The effect of appearance anxiety on social anxiety among college students: Sequential mediating effects of self-efficacy and self-esteem. *Behavioral Sciences*, 13(8), 692. <https://doi.org/10.3390/bs13080692>
- [4] Williams, J. B. W., & First, M. (n.d.). *Diagnostic and Statistical Manual of Mental Disorders*. Retrieved from <https://doi.org/10.1093/acrefore/9780199975839.013.104>
- [5] Fredrickson, B. L., & Roberts, T.-A. (1997). Objectification theory: Toward understanding women's lived experiences and mental health risks. *Psychology of Women Quarterly*, 21(2), 173–206. <https://doi.org/10.1111/j.1471-6402.1997.tb00108.x>
- [6] Kellett, S., & Gilbert, P. (2010). Acne: A biopsychosocial and evolutionary perspective with a focus on shame. *British Journal of Health Psychology*, 15(3), 479–501. <https://bpspsychub.onlinelibrary.wiley.com/doi/10.1348/135910701169025>

- [7] Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, 7(2), 117-140. <https://doi.org/10.1177/001872675400700202>
- [8] Wang, J.-L., Wang, H.-Z., Gaskin, J., & Hawk, S. (2017). The mediating roles of upward social comparison and self-esteem and the moderating role of social comparison orientation in the association between social networking site usage and subjective well-being. *Frontiers in Psychology*, 8, Article 771. <https://doi.org/10.3389/fpsyg.2017.00771>
- [9] Hu, Y., Zhou, M., Shao, Y., Wei, J., Li, Z., Xu, S., Maguire, P., & Wang, D. (2021). The effects of social comparison and depressive mood on adolescent social decision-making. *BMC Psychiatry*, 21(3). <https://doi.org/10.1186/s12888-020-02928-y>
- [10] Benítez, M. E., & Brosnan, S. F. (2019). The evolutionary roots of social comparisons. In J. Suls, R. L. Collins, & L. Wheeler (Eds.), *Social comparison, judgment, and behavior* (Online ed.). Oxford Academic. <https://doi.org/10.1093/oso/9780190629113.003.0017>