

# How Does Social Media Affect the Risk of Disordered Eating Through Unrealistic Beauty Standards?

Prakriti Patnaik, Amador Valley High School, Pleasanton, CA

E-mail: [prakritipatnaik1@gmail.com](mailto:prakritipatnaik1@gmail.com)

## Abstract

An abundance of factors contribute to the development of disordered eating in various populations. This paper focuses on the involvement of social media usage and harmful social media posts that can cause a user to develop disordered eating behavior and a combination of depression, anxiety, stress, and feeling socially isolated. I was able to address the gap in past studies that have overlooked minority races and age group (ranging from 13 to 50 years old) in disordered eating behavior and the correlation of social media. This gap was addressed through the use of a questionnaire/survey, created by combining other questionnaires such as Identity and Eating Disorders (IDEA), a questionnaire evaluating identity and embodiment in eating disorder patients. This questionnaire/survey resulted in findings that individuals who use Instagram at all (compared to those who do not use Instagram) scored significantly higher on the depression, anxiety, and stress measures.

Eating disorders (ED) are a condition where one goes through abnormal eating patterns and develops a compulsive concern with their body image and weight (Shaw et al., 2004). It includes the persistent disturbance of eating that affects the amount of food consumption and can harm the body physically and mentally. The frequency of eating disorders has “increased over the study period from 3.5% for the 2000–2006 period to 7.8% for the 2013–2018 period” (Galmiche et al., 2019). This paper aimed to measure how different factors can influence the development of eating disorders in Asian American adolescents, specifically. Health and illness have become a cultural focus, with some factors promoting maintaining a slim athletic figure, especially seen in Eastern cultures (Penney & Kirk, 2015). While social media usage showed mixed evidence of beneficial outcomes, it also created harmful situations, such as isolation and social comparison (Clark et al., 2018). This can lead to typical symptoms of eating disorders when the development of dissatisfaction appears in people's self-perception, resulting in efforts to “improve”, for example, through restrictive diets and excessive exercise (Rodgers, 2016). However, as people of younger ages join social media platforms, factors such as stress, workload from school and extracurricular activities, and the unrealistic nature of photos on social media (e.g., photoshopped images and videos, altered photos, glorification of unhealthy and restrictive diets) may affect these adolescents differently than past generations. The amount of stress these factors cause can often lead to disordered eating behaviors in teenagers with high social media usage. In fact, disordered eating increased over the decade 1998–2008 across all

demographic sectors, but at a faster rate in males of lower socioeconomic classes, and older participants (Mitchison et al., 2014). As social media grows and expands, its positive and negative aspects will impact younger generations' self-esteem and body image concerns (Jean et al., 2020).

ED patients usually overvalue their body image and view themselves from a third-person perspective, seeing their bodies as objects. It causes them to alter their perceptual body image, which is the accuracy of body-size estimation relative to actual size (Stanghellini et al., 2011). Disordered eating usually falls within three categories: anorexia nervosa, bulimia nervosa, and a heterogeneous combination of anorexia nervosa and bulimia nervosa. Anorexia nervosa involves extreme body dysmorphia, intense dieting, fasting, and overexercising symptoms. Bulimia nervosa usually is the behavior of an individual who frequently eats large amounts and may purge. Disordered eating takes a huge toll on mental health, as the person potentially values their eating habits and body image over their health. Through the growing prevalence of social media, body image issues that often cause eating disorders may be occurring in younger age groups, as these groups now have access to various social media platforms that place emphasis and high value on one's appearance. This may also occur partly due to social media's portrayal of photoshopped and altered body images, creating societal pressure to achieve a certain body image—regardless of how realistic. Prior research has shown an association between social media dependence and an increased risk of eating disorders, especially among young adults. I hypothesized that the more a person sees unrealistic body standards on social

media, the higher their risk of developing eloping disordered eating and holding negative views of their body image.

The increase of users on social media platforms within the decade has almost tripled from 970 million in 2010 to the number passing 4.48 billion users in July 2021 (Clark, 2018). Many platforms, such as Instagram, have a category of “influencers” who have developed a large following and a moderate personal connection with their followers. While influencers have various benefits, such as peer support, information-sharing, and normalization of societal experiences, the downside of influential people is that some of them can cause toxic comparisons and unrealistic body standards. Social media can lead to psychological distress and concerns about body appearance (Jitosa et al., 2021). By constantly viewing often edited, photoshopped, or altered photos, social media users can risk developing a form of disordered eating (Arora et al., 2019). The pattern can lead to psychological distress, body image concerns, idealization of appearance when an individual focuses on their physical appearance in an obsessive, unhealthy way, self-presentation concerns, and eventually, the development of an ED. However, social media influence isn't the only cause of disordered eating. Many factors ranging from familial, social, cognitive, learning, personality, etc., have been studied and found to make a difference.

The negative psychological effects of unrealistic body standards presented by social media are concerning as these platforms continue to grow with increased number of influencers. While not all influencers have affected adolescents in a negative connotation, a large portion can change the habits of social media users. The main focuses are social isolation, emotional issues (e.g., depression, anxiety), and health issues (Elhai et al., 2011). The amount of time spent on social media is not the direct correlation; rather, the quality of the interaction on social media has more intense psychological outcomes. If the amount of time spent on social media involves social comparison, body image concerns (refer to a person feeling anxious, distressed, or self-conscious about particular body parts), or appearance idealization, the effects on mental health are more intense (Marks et al., 2020). In addition, aspects of perfectionism (which are more prominent in restrictive anorexia nervosa patients) are established as a risk factor for the relationship between the social media environment and eating disorders (He & Yang, 2022). The higher the degree of social media dependence and the planned self-control, the more likely individuals are to be influenced by social media's thin-ideal content and fall into unhealthy eating behaviors and body image dissatisfaction.

Variables such as health and income status also affect the risks of developing disordered eating. While the historical assumption revolves around wealthy and affluent young, white females diagnosed with eating disorders, I mainly focused on sampling Asian Americans (Hudson, 2007). Therefore, it is clear that disordered eating does not only fall upon the stereotypical healthy, white young female but among many different racial-ethnic groups that have failed to be reached properly. I aimed to address this by sampling a

specific range of the Asian American race and socioeconomic status of households.

I additionally proposed that the more extracurricular activities a person accumulated throughout their school year, the more likely they would be influenced by the restrictive diets, altered images, and the subtle promotion of disordered eating on social media. This theory is supported by the fact that employment status greatly impacts an individual's psychological wellbeing (Mulders-Jones, 2017).

I aimed to determine how much time a person spends on Instagram and assess the type of media they consume, focusing specifically on the Asian American population. I tried to comprehend how much depression, anxiety, and stress contribute to the causes and likelihood of an eating disorder developing. Measurements included how many selfies, food, sceneries, animals, etc. the plan was to examine the relationship between the duration of time spent and the type of posts encountered and the likelihood of disordered eating and body image satisfaction. In this paper, eating disorder is a restrictive or controlling disorder, while disordered eating is the behaviors themselves.

## Method

### *Development of the Questionnaire*

The survey was created with a combination of using multiple questions from established scales. One of the scales was Identity and Eating Disorders (IDEA): a questionnaire evaluating identity and embodiment in eating disorder patients. This questionnaire has 33 questions assessing how people with disordered eating patterns are affected by disturbances, including any of the behaviors eating disorders may cause and how they experience their own body (embodiment) and shape their identity. The responses ranged from one to four on the IDEA questionnaire; these items are assessed where one indicated "does not apply to me" and four indicated that the participant heavily agreed with the statement of the questionnaire.

Next, I used the Eating Questionnaire-A (EDE-A) while omitting questions 8, 13, 14, 15-28, and 30-34. These questions were not included to maintain relevance to the target population. Questions were omitted to shorten the length of the survey and some questions pertained to age groups that were not surveyed in the research group. The responses ranged from one to four, where one indicated "does not apply to me" and four indicated "strongly applies to me." Questions featured from this scale included “Have you been scared of losing control overeating?” and “Have you really wanted your stomach to be flat?”

I also used questions from the Adolescent Body Image Satisfaction Scale (ABISS). This questionnaire asked participants to rank how much they agreed with the statements such as “I am in control of my body” and “My body makes me feel confident.” Finally, I used the Depression, Anxiety, and Stress Scale (DASS21) comprised of 21 item and three self-report scales designed to measure these emotional states. Responses ranged from zero being “Did not apply to me at all”

and three being “Applied to me very much or most of the time.”

Sampling allowed for the prevalence of Asian American participants and measure what their self-reported scores were. EDE-A and ABISS were used to combine questions to infer eating behaviors, while DASS21 was used for measuring the levels of stress overall. Participants were also asked about how much they used Instagram on a daily basis.

### Participants

The mean age of this sample was about 25 years old ( $M = 24.9$ ,  $SD = 12.8$ ), and the minimum/youngest age was 13 years old, while the maximum/oldest age was 50 years old; additionally, 45.5% were younger than 18 years old and 54.5% were older than 18 years old. The gender breakdown of this sample was 30.3% male, 60.6% female, and 6% self-identified as something other than male or female. Of the school participants, 9.1% were in 9th grade, 30.3% were in 11th grade, and 18.2% were in 12th grade. For the rest of the participants, the grading system did not apply. Concerning parental education, 3% of the participants’ parents did not complete high school, 15.2% graduated high school (or earned a GED), 3% of the participants’ parents earned an associate degree, or completed trade school, 33.3% of the participants’ parents earned a bachelor’s degree, 39.4% of the participants’ parents earned a graduate or professional degree (e.g., doctor, lawyer, etc.). For the race demographic, 3% were American Indian or Alaska Native, 60.6%, .6% were Asian, 3% were Black or African American, and 27.3% were white.

### Procedure

Once receiving IRB (Institutional Review Board) approval, I distributed the questionnaire through online platforms consisting of Discord, Reddit, local dentistry business, and peers in a middle-class suburban town in ss suburban town in the Bay Area in California. The survey was distributed through servers unassociated with random study topics, TV shows, sports, and books. Geographically, the demographics ranged from all across the nation, but most of the sample was based in California. Important variances were used to control avoiding social media platforms on Discord, Reddit, etc.; groups already having conversations on eating behaviors, disordered eating habits, and social media influence. I asked if the participants were under 18 and obtained informed parental consent if this was the case. I collected information about race/ethnicity, age, gender, grade, and parents’ highest level of education.

### Analytic Plan

Using the Statistical Package for the Social Sciences (SPSS), average scores and frequency statistics of all independent and dependent variables were first assessed. Using independent-samples t-tests in SPSS, I analyzed the association between using vs. not using Instagram and the dependent variables—body image satisfaction and disordered

eating behaviors. Using linear regression in SPSS, I analyzed how the independent variables of interest (e.g., time spent on social media, type of posts shared and viewed on social media, and other factors such as depression, anxiety, and stress) were independently and simultaneously associated with the dependent variables of interest—body image satisfaction and disordered eating behaviors.

### Results

The results of this questionnaire revealed that the participants had mean depression, anxiety, and stress scores (i.e., score on the DASS-21) of 19.4 ( $SD = 14.2$ ) where scores ranged from 0 to 48, a mean score of 9.6 ( $SD = 8.5$ ) for EDEA, which is the Eating Questionnaire, and a mean score of 9.7 ( $SD = 4.8$ ) for ABISS, The Adolescent Body Image Satisfaction Scale. On average, 53.1% of the participants in the study used Instagram, and 46.9% of the participants did not use Instagram. Of the Instagram users, 25% used the app for 30 minutes or less, 21.9% used the app for around 1–2 hours a day, and 6.3% used the app for 3–4 hours a day. Focusing on the number of participants whose posts are selfies, 15.6% reported that 10% of their posts are selfies or less. 9.4% stated that around 10–25% were selfies, 3.1% reported that around 25–50% were selfies, and 12.5% reported that around 50–75% were selfies. When assessing what percent of participants’ posts are photoshopped, 50% reported that they photoshop very few of their photos (less than 10% of them), and 3.1% of the individuals reported that they photoshop 25–50% of their posts.

Through the data, I found that individuals who use Instagram at all scored significantly higher on the depression, anxiety, and stress measures ( $t = -2.41$ ,  $p = .022$ ), scored higher on the disordered eating behavior measures ( $t = -2.39$ ,  $p = .02$ ), and scored higher on the body dissatisfaction scale of ABISS ( $t = -2.31$ ,  $p = .028$ ). Specifically, I found that of the people who reported using Instagram; the majority had scored almost double the mean score of people who did not use Instagram on the DASS-21, EDEA, and ABISS scales. Individuals who use Instagram had a mean score of 24.7 ( $SD = 14.6$ ) on the DASS-21 compared to those without ( $M = 13.5$ ,  $SD = 11.29$ ). On the EDEA scale, individuals who use Instagram had a mean score of 13.0 ( $SD = 8.7$ ), while those who did not use the app ( $M = 6.1$ ,  $SD = 7.0$ ). Lastly, on the ABISS scale, Individuals who use Instagram had a mean score of 11.5 ( $SD = 4.4$ ), and participants that do not use Instagram had a mean score of .8 ( $SD = 4.5$ ).

However, duration of time spent on Instagram was not significantly associated with reports of depression/anxiety/stress, disordered eating behaviors, or body image dissatisfaction ( $B = 4.85$ ,  $p = .37$ ;  $B = 3.05$ ,  $p = .36$ ;  $B = -0.61$ ,  $p = .72$ ), respectively.

There was no significant effect of what percentage of participants’ photos were selfies on depression, anxiety, and stress scores ( $B = -2.00$ ,  $p = .20$ ). I also discovered through the data that the more an individual engaged in photoshopping their posted photos on social media, the higher the scores on the depression and anxiety scale of DASS-21 ( $B = 27.29$ ,  $p =$

.02). However, the more the participants viewed selfies and photoshopped images on their social media feeds, the lower they scored on the DASS-21 ( $B = -10.67, p = .01; B = -7.71, p < .01$ ). The greater the percentage of photoshopped images the participants saw on their social media feeds was also associated with greater dissatisfaction with their body image ( $B = -2.34, p = .04$ ).

## Discussion

The results of this research showed us valuable information about the relationship between social media, disordered eating behaviors, body image dissatisfaction, and other factors, such as depression, anxiety, and stress. The relationship between social media and its effects on mental health has been studied before, and in this research, I can shed more details on this association. I was able to find that individuals who use Instagram score significantly higher on measures of depression, anxiety, and stress (as assessed through the DASS-21) compared to those who did not use Instagram (Clark et al., 2018). Another alarming finding was that Asian Americans who use Instagram scored, on average, nearly double on the depression, anxiety, and stress measures compared to non-Instagram users. The fact that the users who use Instagram scored significantly higher on depression, anxiety, and stress is concerning because there are currently over 2.35 billion monthly active Instagram users (Arora et al., 2019). The effects of social media on the mental health of specific adolescents and their development into adults are distressing and agitating (Jean et al., 2020).

One explanation for this concerning finding this research paper is due to the type of media that is shared on Instagram. The social media platform is known for its emphasis on visual images, and constantly consuming perceptible images that are purposely constructed and designed to cultivate ideal self-images can be taunting and misleading to users viewing these photoshopped and unrealistic images (Rodgers, 2016). This distorted reality can provoke negative thought processes in a user and can lead to further destruction of the well-being of this Instagram user. People viewing these images can develop a sense of inferiority and inadequacy of who they are and their body image. To address the high score on the anxiety and stress factor of the depression, anxiety, and stress scale of DASS-21, the pressure from peers to post images that are presented to show one as their ideal selves can produce higher levels of anxiety and stress.

However, I discovered that the time spent on Instagram was not significantly associated with disordered eating behavior and body image dissatisfaction. This reveals that the impact of social media images flooding the participants' Instagram feeds is not solely negative due to how much time they spend on the app but the specific images they view. This is an important finding for mental health professionals working with patients struggling with their body image because of Instagram usage. The amount of time they spend on the app does not correlate with how high the participants scored on the scale measuring their views on their body image. Instead, the type of content they consume throughout their day has a way more significant

impact than the amount of time spent (Arora et al., 2019). Another specific detail I discovered was that participants who engaged in more photoshopping of their posts reported higher scores on measures of depression, anxiety, and stress (DASS-21), which highlights concerns about the effects of altering one's appearance on someone's mental health. This suggests that the more a user allows the pressure of social media to post altered images of themselves to please the societal views of beauty, the higher their levels of depression, anxiety, and stress are. This specific finding should receive more research on the effects of mental health, ill-being, and overall health of social media user who consistently alters their photos. Further research should address how these users who photoshop their images view their own body and their eating behavior compared to a control group, which would be Instagram users who don't photoshop or alter any of their images, or people who don't use any social media.

A perplexing finding was that the more participants viewed photoshopped pictures on their social media feeds, the lower their scores of measures of depression, anxiety, and stress. This finding went against the original assumptions. Perhaps this finding came out of the individual knowing these images were photoshopped, and therefore do not let it affect their mental health. However, I'm able to see an association between seeing a high frequency of photoshopped pictures on social media and a higher rate of body dissatisfaction. This finding suggests that exposure to heavily photoshopped images may contribute to negative body image perceptions and may play a role in the development of body image issues (He & Yang, 2022). This is significant because there is a widespread amount of photoshopping apps that users can easily access on their cell phones, and these companies should be aware of their effects on their mental health and the behavior they can cause in users who download and consistently use their apps.

## Limitations and Future Directions

Notwithstanding this study's strengths, there are limitations to this work. The study's correlational design makes it difficult to establish causality. Additionally, the sample size is small and relatively homogeneous in the demographic breakdown, limiting the generalizability of the results. Another limitation is that the whole study was based on self-reported responses and can easily be self-biased and skew the data. Participants may have overestimated or underestimated their measurement on the depression, anxiety, and stress scale, DASS-21, their measurements of the eating questionnaire, EDEA, and their measurements on the questionnaire, which was the Adolescent Body Image Satisfaction Scale. Additionally, the research primarily focused on how much it does not consider other social media platforms and their effects on adolescents and the rest of society. For future directions, I should focus on making the participant base much larger; this way, I could include more races, genders, and diversity to receive more accurate results. I should also make a more detailed survey questioning other social media platforms. Hence, I understand the impacts of other social media apps, especially since specific social

media are catered to specific demographics. Future studies should focus on the long-term effects of social media on adolescents' health and body image. If future research focuses on the factor's social media affects, I can gain more information on self-esteem, self-worth, and healthier eating behaviors in the next few generations.

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