

Effect of Social Media Consumption on Female Body Image
Grant Proposal
iCons 1 - Independent Case Study



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Team K

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¹ <https://lpgawomensnetwork.com/problem-solved-womens-golf-fashion-for-every-body/>

I. Project Summary

The purpose of our study is to address the question of whether social media consumption affects body image and eating habits of women in different age groups. We hypothesize that female-identifying individuals in the United States aged 12 to 25 will struggle the most with their body image and report the most eating disorders due to their increased exposure to the media. Given how fast technology is advancing, more and more females will have access to various televisions shows, movies, and social media sites starting at a younger age, exposing them to platforms that could potentially have a significant effect on their self-image and eating habits. Through conducting our research in the form of a survey, the data that we collect will inform both the media industry and female internet users how impactful media representations are on the mindset of growing adolescents. Answering this question is of great importance because it will show adolescent females to be more cautious with how they perceive the media because we believe that idealizing media representations often elicits lower self-esteem or eating disorders.

II. Background

Many previous studies have focused on a variety of factors when examining the relationship between body image and eating habits. Goswami et. al (2012) focuses on the correlation between body weight and self-image within 96 female college students. They also focus on other variables such as family income, parents' education, physical activity, prior dieting history, and satisfaction in life. BMI and hip-to-waist ratio were also calculated to determine the female's body weight. From the data, they concluded that there was a high correlation between body weight and self-image. However, they believed that this correlation needs to be kept in order for female college students to maintain a healthy lifestyle. Our study will also focus on females and their body image and eating habits, but the main variable will be social media consumption.

Sogari et. al (2018) also conducted an experiment on college students, but they focused on individuals aged 18 to 25, excluding first-year students due to their lack of college experience, at Cornell University. Their study produced scientific data on individuals' eating habits. Our study will also be looking into individuals' eating habits, but we will include

first-year college students to observe eating habits during a transitional period where food choices may be influenced by factors present in a new academic and social environment.

Priyadarshini et. al (2019) examined eating behavior as well, but they connected it to stress among students in Udupi District, Karnataka. They compared the stress and eating habits between professional and non-professional students. They found that there was a statistically significant difference in the amount of perceived stress between the two types of students. The professional students had more perceived stress than the nonprofessional students did. They also found that this was an influencing factor in people's uncontrolled eating behaviors. Our study will also focus on how eating behavior can be influenced by an outside factor, but rather than looking at stress, we will look at social media consumption.

Similar to some of the other studies, El Ansari et. al (2014) discusses undergraduate student's body image concerns and their correlates in Egypt. The scientists conducted a study where they sent out a questionnaire to students of Assuit University. The survey asked about socio-demographic factors, lifestyle characteristics, mental well-being, perceived stress and health, and body image perception. They found that body image concern (BIC) exists among males and females but is significantly more prevalent in females. As a result, they believe that the correlates for BIC, which did not differ much between males and females, should all be taken into consideration when developing health promotion programs. Our pilot study reached similar conclusions as this study in that females struggle with body image concern much more than males. As a result, our study will only be focused on examining what factors affect females' body image.

These studies varied in what factors were considered; while some looked at diet, BMI, and weight, others looked at stress factors, socioeconomic status, and gender. Some of these studies have also been conducted in different countries. Because different cultures likely have different beauty standards and preferred food choices, our study will provide new information about eating habits and disorder amongst individuals in the United States.

We started off rather broad, conducting a pilot study that examined all of these factors that often affect college students' body image, such as, gender, social expectations, and stress factors. We chose college students as the transition from living at home to living in college

introduces multiple new factors such as social anxieties, academic deadlines, rigorous course loads, future planning, and others and may alter student's food habits and self-esteem related to body image. We defined body image as how content an individual is with his or her appearance. Upon receiving about one hundred responses, we noticed interesting patterns in the females' responses. We identified that many female college students began to be self-conscious of what they eat starting from the age of 12. From this observation, we decided it was necessary to narrow our focus to female identifying-individuals aged 10-25 in the United States. We also wanted to focus on specific factors that affect one's body image rather than examine all of the ones we included in our pilot study. The gap in most of these studies seems to be that they investigate more personal life choices such as stress, socioeconomic status, and mental well being. There is not an abundant amount of information and data collected about how social media influences people's relationship with food, meaning their eating habits and diet choices. Therefore, our study will serve to investigate how social media portrayals impact eating behavior and body image. It is our goal to answer some of the questions that have not yet been addressed. Do celebrities give individuals a false image of perfection? Do certain foods become more appealing than others due to diet restrictions or attempts at weight loss? There will be value in conducting our work because previous studies have considered a variety of factors affecting body image across a broad range of individuals in different countries, but have not gone as in depth about young females body image perception based on social media's influence. The results gathered from this study will be both relevant and important in understanding how large of an impact social media platforms and influencers have on individuals' perception of themselves.

III. Methods

From the results we have gathered from our pilot study, we will construct a survey relating to body image while isolating the variables of age, gender, and the amount of time spent on social media. During our pilot study, we observed that eating habits in females correlate with body image. As a result, the next survey will include more in-depth questions that target the use of social media and its influence on eating habits. We will conduct research on females aged 10 to 25 living in the United States to observe the changes in eating behavior in respect to the

amount of time spent on social media through participants reporting their “Screen Report Summary” available on their phones everyday for a week. We predict that change in eating behavior will occur in females who spend the most time on social media, which is predicted to be between the ages of 12 to 25 according to our pilot survey.

First, we will gather roughly 1,000 research participants from different parts of the US remotely. Then, we will send out a survey to those participants asking age, sex, race, ethnicity, income level, permanent address zipcode, weight, and height, from which we might be able to determine multifactor relationships. We will also ask the average amount of time spent on social media per day. From this data, we will pick 500 participants with varying race, ethnicity, income level, and average amount of time spent on social media per day. This is to ensure that our research contains a control group who use minimal, or less than 30 minutes of social media, per day.

Then, to the 500 participants, we will send out a second round of surveys, presenting various images of women and foods. The participants will be asked to choose words that best match their initial emotions from a provided list of words. For example, on the survey, there will be a picture of a model and we would list words such as, “happy,” “joy,” “terrified,” “disgusted,” “amazed,” and “aspiring.” The participants will then be asked to choose one word from the list that best represents their initial reaction to the picture.

Lastly, the participants will be asked to report their screen time through surveys that will be sent out everyday for seven days. They will be able to use the Screen Report Summary function on their phones to report these data. We will ask the participants to only use social media on their phones to obtain the most accurate data on social media usage.

However, there are sources of error that need to be considered. One is that people are not truthful when responding to the survey. Unfortunately, this will be something that is out of our control and cannot be easily fixed. However, the sample size of the number of participants who take the survey will be high enough so that we will be able to see a general pattern across all of the data. Additionally, currently, people are in quarantine due to the coronavirus. This may skew our results slightly because people’s schedules and daily habits have slightly changed. This could

lead to the overuse of social media in people, so the sample size of people who use little social media might be smaller compared to those who do.

Results of screen time on social media, initial reaction to varying images, height, and weight will be compared between people who used minimal social media and people who used at least 30 minutes of social media. These results will be analyzed to calculate if there are any statistical differences between the two groups using the chi-squared goodness of fit test. Additionally, we plan to analyze categorical data. We will observe the relationship between social media usage and different subcategories, such as age, BMI, initial reaction to pictures, ethnicity, and income.

IV. Anticipated Results

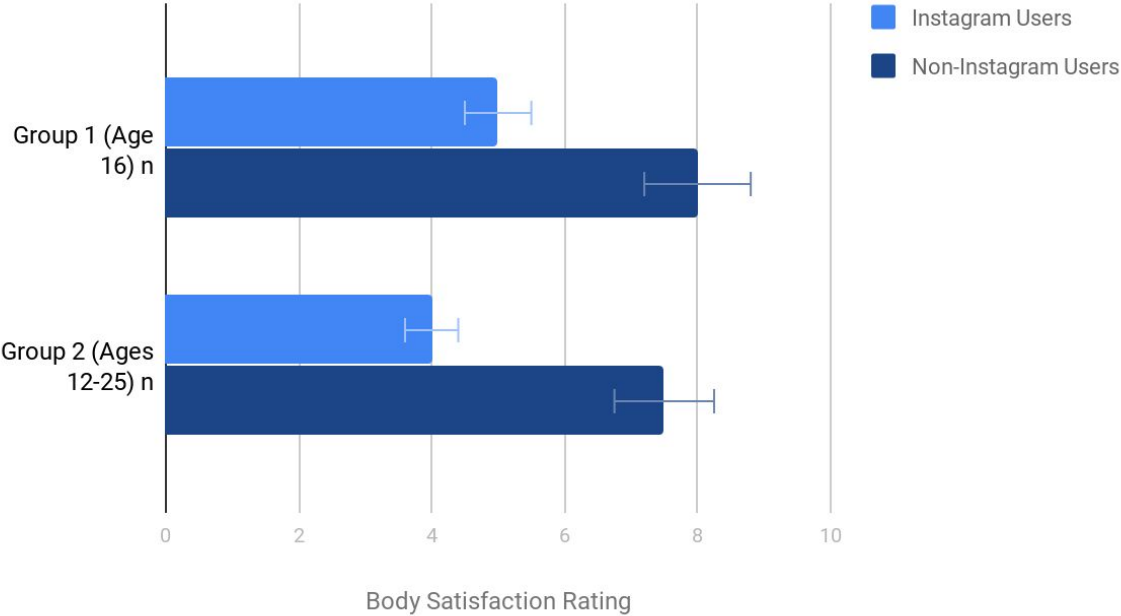
Due to the pilot study we conducted, we predict that there will be an increase of signs of eating disorders between ages 12 to 25. 75 percent of our survey takers identified as female and most of our survey takers were either 18 or 19. However, when asked when people started considering their body image, most people stated 12 or 16. Moreover, 63 percent of the people responded that they stress eat. About a third did not go to the gym at all throughout the week, but 74 percent of the people were wanting to lose weight. Based on these results, we hypothesize that starting from teenagers, women will increase signs of eating disorders. These signs may include not intaking enough calories, exercising too much, and being overly stressed about one's body and weight. We will look more closely at the effects that social media platforms like Instagram have on girls in adolescence regarding body image.

In order to isolate the variable of Instagram usage on the ratings of body satisfaction, we will focus on data from 16 year olds in two groups, those who use Instagram and those who do not and compare their self-reported answers on their rating of their bodies. We will also compare to the total inclusive responses from participants aged 12 to 25 to make additional hypotheses of other factors that might affect body image. The rating scale has a minimum of 1 (meaning low satisfaction with one's body) and a maximum of 10 (meaning complete satisfaction with one's body). We predict that individuals who use Instagram will provide a lower rating of their body satisfaction whereas those who do not use the social media platform will provide a higher rating

of their body satisfaction. We will include error bars to account for any other variables that influence the participant's answers. The "n" in this figure represents the sample size for both groups as we will keep them equal in order to more accurately compare the results. The total number of participants is 1,000.

Figure 1: Bar Graph Representing Predicted Body Satisfaction Ratings with and without use of Instagram

Predicted Model for Body Satisfaction Rating Based on Instagram Usage



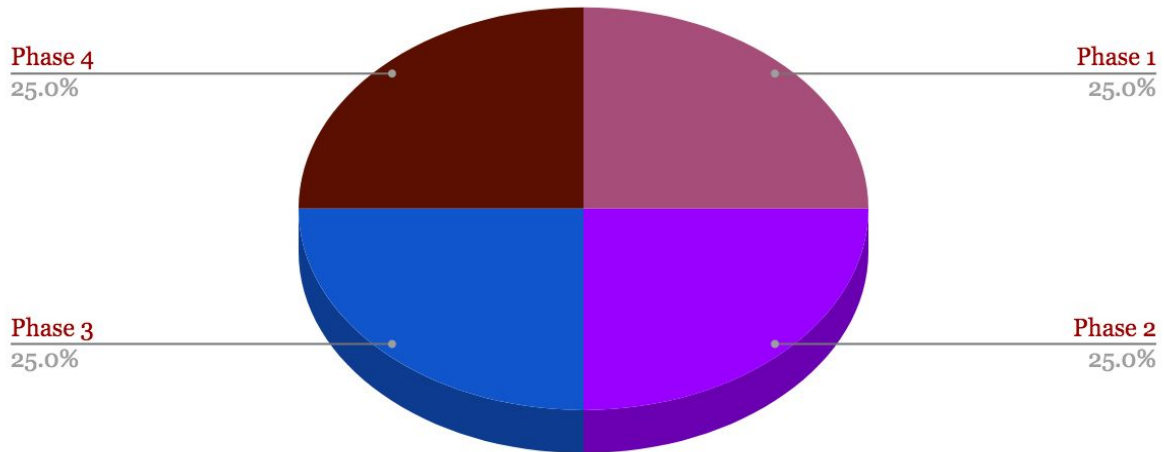
V. Timeline

The schedule for this study will be split into four separate stages, each consisting of seven days, and will be conducted over the course of one month.

Phases (Days)	Agenda
Phase 1 (Days 1-7): Participant Acceptance Period	During the first 7 days, we will work on finding participants through online forums and social media. The volunteers for this study must be female, live in the USA, and must fall under the ages 10-25 in order to aid our data collection. Thus we will accept only those who fall under those categories.
Phase 2 (Days 8-14): Data Collection Period	During these 7 days, participants will be asked to fill out the survey.
Phase 3 (Days 15-21): Data Analysis Period	During these 7 days, we will use online platforms such as excel and others to construct charts and graphs representing our results.
Phase 4 (Days 22-28): Interpreting Results	The last 7 days of this study will be dedicated to finding trends in our images and reviewing key findings from the surveys. We will use this information to communicate whether American beauty standards affect eating behavior in women ages 10-25.

Layout of Phases

Each Phase lasts 7 Days



VI. Materials and Budget

Item	Description	Cost (\$)
Survey	Created by the research team	\$0
Rights to use images	We are presenting girls with images in the survey	\$0-50.00
Gift Card Raffle	To encourage participation in the study	\$50.00
Website Creation	To publish results	\$50.00
Total		\$100.00-150.00

VII. Key Personnel



Natalie Getsey has experience doing research as she was enrolled in a biology lab course during both semesters of her freshman year. As a result, she is very familiar with conducting experiments and doing the necessary research beforehand in order to construct a detailed experimental procedure. Her experience will help our group in developing the overall protocol from conducting the survey to analyzing the data that we collect.



Catherine Millis has experience conducting surveys from prior experiments that she has been involved in. Because of this, she will be able to help format and create our survey by deciding what types of questions to ask (multiple choice or short answer), how many questions will be sufficient to answer our research question, and so on. Her experience will help our group create a survey that is both visually appealing and easy for participants to take.



Annie Zhu has experience with survey delivery via social media from prior studies that she has done. She will be disseminating the survey via Facebook and other social media sites in search of participants for the survey. Because of her interpersonal skills, she will be able to find participants for the two groups we will need for our survey: those who use at least two hours of social media a day and those who use minimal to none.



Samantha Song has experience with statistical analysis and creating graphs and data charts from previous courses she has taken. She will be able to analyze the data we get from our survey and compare the responses from the two groups we surveyed both statistically and visually. Her experience will help our group observe relationships, correlations, and patterns gathered from participants' responses, which will ultimately help us in creating graphs or line plots to publicize.

VIII. Relevance of Proposed Study and Broader Impacts

Our research will bring new information about the relationship between social media usage and body image. Though other external factors, such as weight, height, race, and ethnicity have been used as variables in studying body image in other scientific studies, we found that there were little that focused on social media usage. Moreover, as a group, we observed that young elementary girls have begun to use social media at an earlier age as technology is advancing. This research will be able to show the possible consequences of this pattern.

More specifically, if we can demonstrate that our hypothesis that social media will affect negatively on body image, we can provide scientific numbers that show that unrealistic beauty standards, often used in the form of advertisements, are detrimental to the body image of women between ages 10 to 25. Moreover, this study will benefit women who change or have changed their food choice due to strict societal pressures. Our results will also bring the awareness that certain beauty standards should not be imposed on every body type.

We will communicate our data through our website, which will be displayed through infographics. The website will consist of an overview of study, data and observations, and our explanation of the data. The website will be publicized through each of the team member's social media platforms along with the University of Massachusetts, Amherst Department of Nutrition website.

IX. References

- El Ansari, W., Dibba, E., Labeeb, S., & Stock, C. (2014). Body image concern and its correlates among male and female undergraduate students at Assuit University in Egypt. *Global journal of health science, 6*(5), 105–117. <https://doi.org/10.5539/gjhs.v6n5p105>
- Goswami, S., Sachdeva, S., & Sachdeva, R. (2012). Body image satisfaction among female college students. *Industrial psychiatry journal, 21*(2), 168–172. <https://doi.org/10.4103/0972-6748.119653>
- Sogari, G., Velez-Argumedo, C., Gómez, M. I., & Mora, C. (2018, November 23). College Students and Eating Habits: A Study Using An Ecological Model for Healthy Behavior. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6315356/>
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