

Spring 2024 HCI/d - Capstone Thesis

Juhi Khare

Decoding Algorithmic Impact: Investigating How Instagram Reels Feed Shapes Self-Perception in Young Females

Specialization Focus

Research for Design

Abstract

This research project focuses on investigating how Instagram Reels feed shape self-perception in young females. The aim is to determine whether a woman's self-perception is significantly impacted by the type of content they engage with on social media platforms in today's digital age, or if it remains unaffected by online content.

The study involves 10 young women aged 18 to 24, divided into two groups: an experimental group and a control group. The experimental group will utilize a new Instagram account's Reel section, pre-populated with body-positive content, while the control group will use their personal Instagram accounts. Throughout the four-week experiment, participants in both groups will engage in reflective activities.

Specifically, their moods following each Reel-scrolling session will be recorded, along with daily reflections about themselves. These self-reported data, combined with their social media statistics, will be analyzed to identify patterns. The aim is to determine if exposure to body-positive content leads to positive changes in short-term mood and long-term thoughts about themselves and their physical appearance.

Ultimately, the findings from this research are generalized, considering this as a particular case of the bigger scenario of user's perceptions affected by the content they engage with on social media platforms like Instagram. The conclusions drawn from this research lead to broader questions like: how much user control is healthy for an individual's online experience?, what role does #FoMo on trending content play in user's feed curation? and can we ever create a social media experience that promotes both positive self-perception and exposure to diverse viewpoints?

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01

Background

In American society, people say that there's equality between genders, but there is still a long way to go. Men and women are still seen and evaluated from a different lens. This has taken a toll on women's position in the society and their personal wellbeing for a long time now. In a recent study conducted by the Pew Research Center [1], about 4500 American adults were asked what they thought society most valued in both genders. The results of the study were shocking. More than a third, about 35% of Americans said that **physical attractiveness** is what society values most in women.

According to American beauty standard **white, blue-eyed and thin** women are considered physically attractive. Out of these 3 highlight parameters, being thin is the only one that can be attained by external factors. With the intention of being more valued and respected in society, girls from a very young age start paying attention to how they look and spend most of their growing years trying to fit in the mold set by the society. One study[2] reports that at age thirteen, 53% of American girls are “unhappy with their bodies.” This grows to 78% by the time girls reach seventeen.

Extensive exercising, gyming and dieting are some of the most common measures taken by young women to stay in shape or try to get as thin as possible to be valued by their society. In this process, they lose track of their physical and mental health. These young women start thinking of a thin body to be healthy. There is no proper understanding of the difference between the two. Women trying to catch the standards go through issues like **body dissatisfaction, negative self image and low mental health**. Women unable to match the standards often see themselves as less and have negative self-perception about themselves all these years.

02

Target Audience

Young females, 18-24 years old, who spend about 3 hours everyday scrolling through Instagram reels, and accept that they are comparison conscious individuals.

Females from a very young age are more likely to try and fit in the society's beauty standards with a hope to be accepted, loved and valued by all. Whereas men, on the other hand, are valued more for other factors like their ability to provide and protect for their family. Due to these differences in societal expectations from both genders, females as young as teenagers start comparing themselves to what they see on multiple social platforms, like Instagram, and build a perception of themselves.

As these teenage girls move to the next stages of their lives, be it transitioning to university or getting a job, they are exposed to many new experiences and meet many new people. This sudden exposure, coupled with feelings of inadequacy and negative self-perceptions lead to low self-confidence and reduced quality of work in their new roles.

Social media comes as an escape for these females, giving them an instant boost of entertainment and letting them free from all these negative feelings. Little do they know that subconsciously, the content that they consume on these social media platforms are harming or atleast shaping the way they view themselves.

Because of all these reasons, young females in the particular age group of 18 - 24 years are perfect for this project.

03

Desk Research

Role of Social Media

Self-perception of young women is mainly influenced by three factors [3] : family and friends, culture and media. In this digital era, social media, among other forms of media, emerged as the main source for promotion of these unrealistic beauty standards owing to its audio - visual format. The types of content mainly consumed by the women, **18 to 24 years old** on these social media platforms like Instagram typically fall under the category of beauty, fashion, fitness travel, and lifestyle. These women engage most in **short form video type of content** like Instagram reels. Social media platforms have become the main source of promoting beauty standards that eventually shape self perception in young women.

Studies show that women aged 18 to 24 years old spend more than 40% [4] of the time using the Internet on social media. Out of 314+ million social media users 53.9% [5] are women. In January 2024, 55.7% [6] of **Instagram** users in the United States were women, and 44.3 percent were men. These facts are enough to show that women do spend a reasonable amount of time on social media that it can deeply affect their thoughts about anything, let alone their own bodies. The fact that they consume content that is mostly targeted to how people look, they are very likely to compare their own selves with what they see online, falling into the trap of social comparisons leading to negative thoughts about their own selves.

Impacts of Exposure to Social Media

In my research, I found that women aged 18 to 24 years old typically spend more than three hours per day on Instagram scrolling through reels; these elongated hours of exposure to such content have a deep impact on them. This impact, and be divided into three stages: immediate impact, short-term impact and long-term impact.

Immediate Impact: This refers to what the individual feels immediately after watching a particular reel, one at a time. Users feel entertained and kind of neutral in this scenario.

Short-term Impact: This refers to the feelings after watching a number of reels and stacking the immediate reactions to each reel when seen in relative light of the whole session. This is the moment when some sort of social comparison starts happening.

Long-term Impact: This refers to the feelings and thoughts that linger in the back of one's mind long after ending the session and still impacts their moods, thoughts and perspectives. In the long term, there are more negative feelings towards themselves, and this, eventually, in fact, impacts their self-confidence in social situations.

Even apparently normal sized women with high social media engagement feel relatively worse [7] about their bodies in the long run.

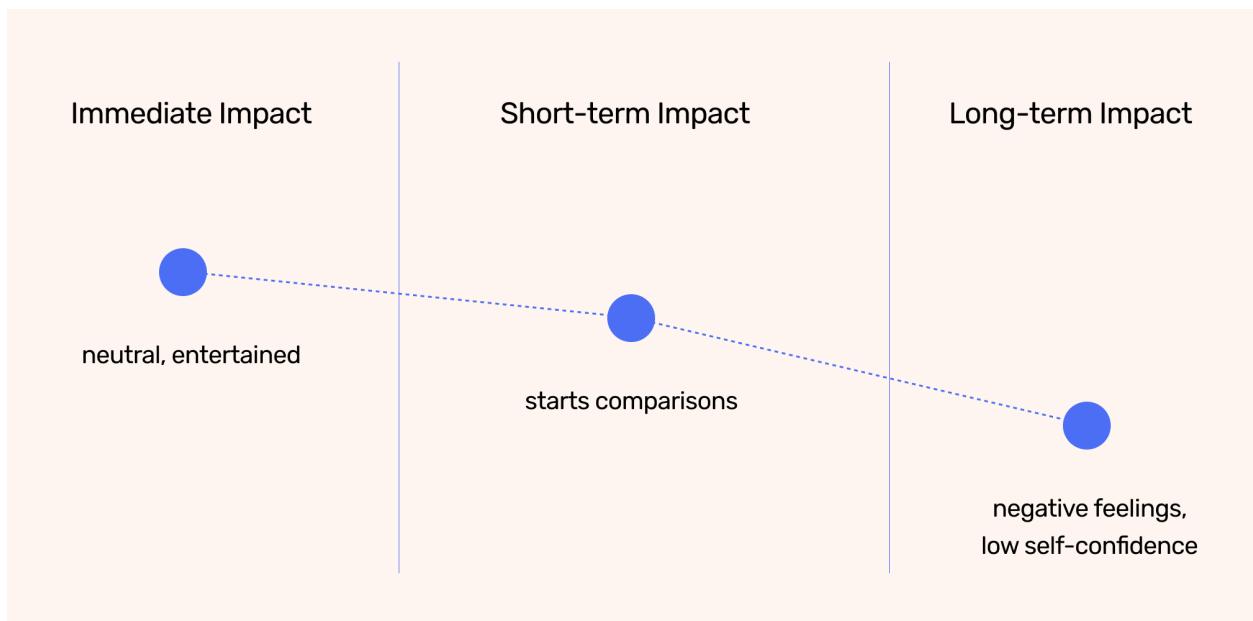


Fig.1 Graph showing impacts of exposure to social media for an elongated period of time

Self Perception and Mood

Self perception is something that is formed in a long time, and there are multiple factors that influence this. As previously discussed, friends and family, country and culture along with media, including social media, highly influence a person's thoughts about themselves.

Immediate mood affects how individuals perceive themselves at a given moment. When these perceptions of particular moments are stacked together throughout a long period of time, self perception is formed. Therefore, we can say that self perception in the long run is **directly proportional** to mood in the short run.

Social media moods depend upon multiple factors, like one's interaction with online friends, the influencers and celebrities that one follows, multiple types of content that one consumes online. Women typically spend most of their time interacting with multiple types of content that they see online, mainly in the form of reels in case of Instagram.

Through my primary research, I noticed a typical pattern in women's mood while scrolling through Instagram reels. If we consider a typical Instagram reel scroll session consisting of nine reels that they saw, out of these 9, two of them lead to some positive feelings, and the other seven have some negative feelings associated with them. Eventually, after the session the overall mood of the individual is negative. This cycle of overall negative moods, repeating in the long term leads to negative self perception.

Instagram Reels

The Instagram algorithm [8] is designed in a way that Instagram reels feature is used to introduce new accounts to users. These **new accounts** have the same genre of content as what the person already follows. While ranking which accounts to show on a person's Instagram reels feed, the algorithm uses some key factors like user activity, interaction with the account, content within the reel and popularity of the content.

Instagram's Efforts to making it more Positive

From our discussion, till now, we know that Instagram reels consumption is leading to negative self perception in women. Instagram did acknowledge this issue, and has taken some steps to make the platform more enjoyable, and eventually having a positive impact on its users. Instagram now uses **expert advice** to offer resources to users facing negative body image. This feature is currently being implemented by the company.

#bodypositivity

#bodypositivity movement was a public initiative to negate the impact of irrational beauty standards on the mental health of women. In the initial days of this movement, people started posting positive content on Instagram, showcasing diverse body types and appearances with a motive to make everybody feel valued despite their physical appearance.

When we search for this hashtag on Instagram, the page is dominated by slimmer white users who are thin and are using the hashtag to simply promote their content for their selfish needs. Over time, the movement **failed**, losing its initial intentions.

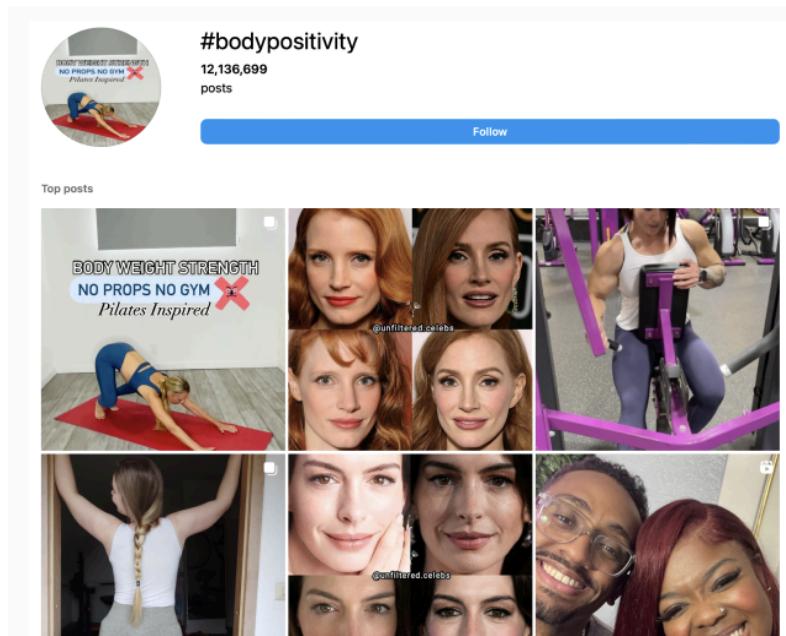


Fig. 2 Results when “#bodypositivity” is searched on Instagram

Takeaways from Desk Research

- Social media, particularly Instagram Reels with its focus on beauty-related content, significantly impacts young women's self-perception.
- Extensive exposure to unrealistic beauty standards online leads to negative self-image and decreased self-confidence in young women.
- The cycle of negative emotions triggered by social media content can contribute to long-term negative self-perception.
- The current #bodypositivity movement on Instagram has lost its initial purpose of promoting diverse body acceptance.

04

Field Research

After spending considerable time at my desk, researching and understanding how exposure to certain content on social media is negatively impacting young females I am moved onto finding out what the situation was like in my university. During this time, I came across two major events. Most initiatives like this are run by the Student Health Center at Indiana University in collaboration with Student Recreation Center.

Every Body Week -

Student Rec Center at Indiana University Bloomington

Every year on a particular week, the student rec center in collaboration with the student health center at IU organizes body positivity and self love promoting events. This initiative is called everybody week. The theme for this week every year is different, but remains in the same team of spreading positivity about physical and mental health among students.

This year the Yearly survey circulated on canvas indicated that lots of students are facing body dissatisfaction issues, and that may be due to upward social comparison. With an aim to spread positivity among the students The mirrors in all the restrooms within SRSC and other student buildings on campus were populated with positive quotes like “I love and accept my body as it is today”. Reading such positive affirmations throughout the day helped many students stay positive and take some time to appreciate themselves as they are.



Fig. 3 Affirmations on public restroom mirrors during Every body Week

Body Appreciation Table -

Student Health Center at Indiana University Bloomington

Similar to the Every Body Week, Student Health Center at IU also conducts body appreciation tabling sessions every semester. While attending one of the sessions I met a public health

student who told me about a very common issue among students. It is hard for them to accept themselves as they are, and strive to build a picture perfect body. This takes a toll on their physical and mental health as they over exercise and follow strict diets to gain that perfect shape.

When asked about the causes of such behavior, the student attributed it to peer pressure and Social media that plays a vital role in motivating these young students to build a physically attractive body according to societal standards. He said that such content without proper information about when to stop, overworking leads to unhealthy behaviors, both physically and mentally.



Fig. 4 Image of one of the many Body Appreciation Tables at IU

Interview with Student Counselor -

Student Health Center at Indiana University Bloomington

During this time, I also scheduled an interview with a student counselor, who also validated the pervasiveness of this issue. Although she could not share specific information, she accepted that The issue of body dissatisfaction has become common in recent years. When asked about how they recognize the issue or how does a person realize that they are facing this issue she replied, saying that their team at Student Health Center rely on self-reported data and therefore they only counsel students who are already aware of their situation.

Takeaways from Field Research

- Institutions can start helping students with body image issues based on what students themselves report, showing self-reported data is a good starting point for interventions.
- Surveys and counselor interviews suggest young women are more aware of body image problems and seeking solutions, indicating a positive trend towards self-acceptance.
- The research underlines the negative impact of social media on mental health, urging universities to address it and equip students with skills to navigate social media in a way that promotes a healthier body image.

05

Primary Research

Interviews [N=10]

Last semester at the beginning of this project, I conducted a general survey to find women who are familiar with Instagram as a platform and use it on a regular basis. Eventually, I used this survey information to recruit participants for my first round of interviews.

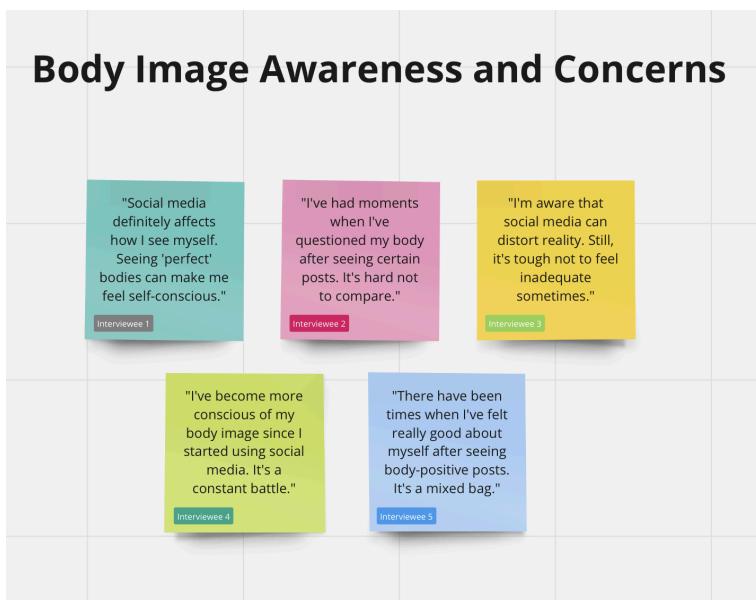
These first rounds of interviews, mainly focused on understanding the social media habits of these women. I wanted to understand their usage patterns, the type of contents that they engage in and how they cope with the negativity that comes with the platform.

Affinity mapping exercise was conducted to analyze interview data and come up with themes.



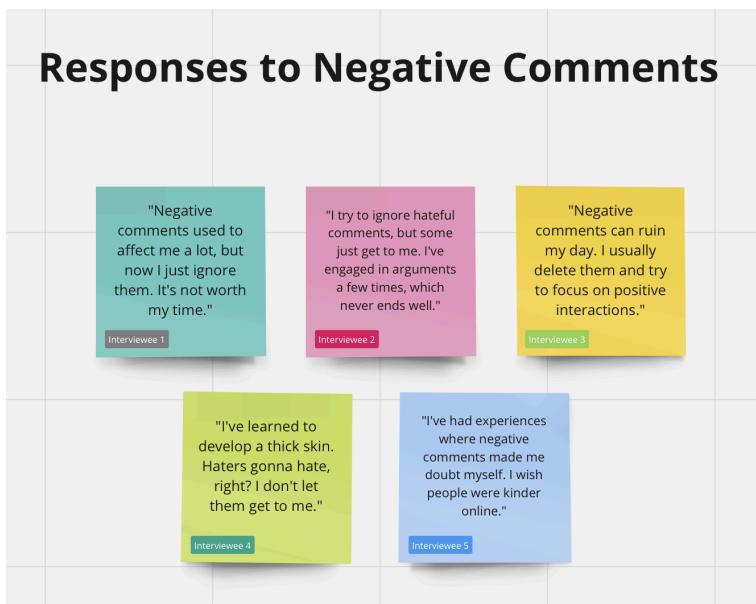
Interviewees use social media for more than 3 hours a day and spend more time interacting with others' content than posting their own.

Body Image Awareness and Concerns



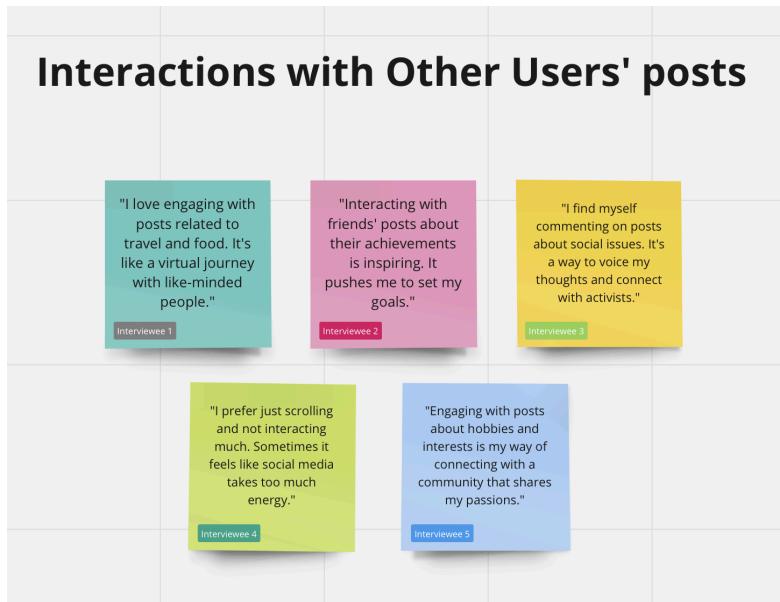
Interviewees accept that social media makes them think about their body image some time or the other.

Responses to Negative Comments



Negative comments on stranger's posts makes them sad but they tend to forget once they scroll further. - Usually ignored. They rarely get hate comments on their own posts.

Interactions with Other Users' posts



Interviewees usually follow people with similar interests but rarely interact with stranger's posts. Interaction takes place mostly in friends' posts.

Engagement with Influencers and Celebs



At this stage interviewees bring up the point of social comparison and how it makes them think about their own body image.

Contextual Inquiry

Following interviews, another round of primary research was conducted. Contextual inquiry was used as a method this time to get into the details of how each participant interacted with the post that they saw on their feed. Through this activity, I could closely observe their interactions with different kinds of content, and how they reacted to the triggers, and I could also ask them about their feelings at the same time.

Main takeaways:

Fleeting Negativity: Participants commonly experience transient negativity from body-related comments on social media platforms, indicating a need to manage and cope with these brief moments of negativity.

Persistent Comparisons: Enduring negative thoughts stem from persistent comparisons with perceived 'ideal' bodies, highlighting the ongoing challenge of managing self-perceptions in the face of social media imagery. (Upward Social Comparison)

Coping Negativity: In order to cope with such negative feelings, users usually limit their time on social media and seek support from friends. Basically, setting boundaries and avoiding social media at certain times.

Content Genres: Females in this particular user group engage mainly in content that fall under themes like: fashion, beauty, fitness, etc. I used these content themes to make their experiment experience more enjoyable and intuitive even when experimental group participants scroll through reels in their new account created specifically for this experiment.



Fig. 5 Popular content themes viewed by participants

Secondary Research

Literature Review

Social Media Use and BodyImage Disorder [9]

This research paper shows that there is a connection between how one sees themselves when they compare their physical appearance with celebrities and influencer posts, emphasizing the role of social media as a catalyst for negative body image perceptions.

The relationships between Instagram Use, Emotional and BehavioralResponses, Self-esteem, Emotional Investment, and Social Comparison [10]

This study shows intricate connections among emotional and behavioral responses, self-esteem, emotional investment, and social comparison, elucidating the multifaceted influences shaping users' experiences on the platform.

#bodypositivity: A content analysis of body positive accounts on Instagram [11]

In the study, they found that posts in the body positivity context were mostly following the theoretical definitions of body positivity. The imagery typically depicted diverse kinds of bodies, trying to make everyone feel included. Another outcome of the study was the realization that social media has the power to challenge set societal norms.

#BoPo on Instagram: An experimental investigation of the effects of viewing body positive content on young women's mood and body image [12]

This study was conducted with women in the age range of 18-30 and the results showed that brief exposure to body positive posts was associated with improvements in young women's

positive mood, body satisfaction and body appreciation, relative to thin-ideal and appearance-neutral posts.

#Loveyourbody: The effect of body positive Instagram captions on women's body image [13]

In this study, researchers found that body positive captions have no overall effect on how people perceive any post on Instagram. Another outcome was that, for women high on thin-ideal internalization, body positive captions on thin images lead to reduced body appreciation.

Main Takeaways

- Social media, especially comparing oneself to celebrities and influencers, can negatively impact young women's body image.
- Excessive social media use is linked to anxiety, depression, and lower self-esteem due to constant exposure to unrealistic beauty standards.
- Body-positive content may improve mood and body image in young women, but the effectiveness can vary.
- Promoting diverse body types on social media can challenge unrealistic beauty standards.

07

Gap in Current Research

There is no current research on the effects of apparently body positive posts / contents on women in the short and long term. Nor is there a study that relates mood to self-perception when it comes to social media and body positivity domain.

This leads me to my final research question:

How do body positive posts on social media influence women's self-perception in both the short and long term, particularly when mood is used as a lens of study?

08

Methodology

In order to study this, I used multiple methods that are divided into four categories namely exploratory, evaluative, attitudinal and behavioral. Exploratory methods aim at exploring a problem space while evaluative methods aim at evaluating a particular product. Attitudinal methods focus on understanding, and hearing what people say while behavioral methods focus more on observing what one does when put in a particular situation.

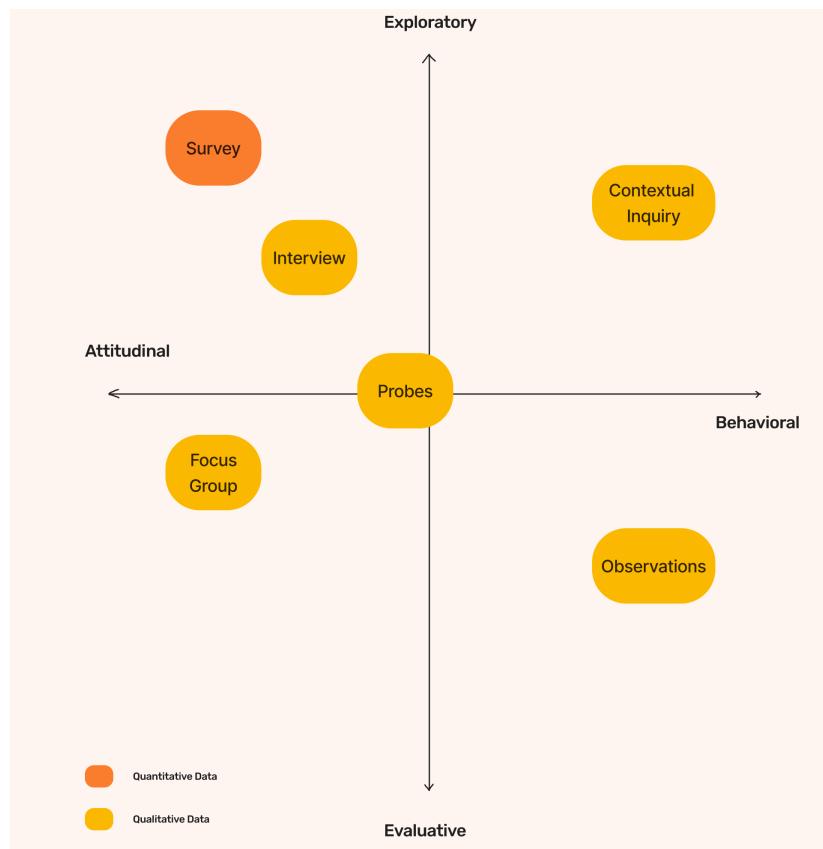


Fig. 6 Methods used in the Research Study divided into categories

09

Experimental Study

N = 10, Duration = 4 weeks

For this research study, I divided my participants into two groups of 5 participants each: experimental and control.

Participants in the experimental group are provided with a new Instagram account where I have already followed, body positive accounts, and interacted with those accounts in order to set the algorithm for them to see and interact with similar kinds of content on the reels feed section of this account. On the other hand, participants in the control group use their personal Instagram account for the study.

Both these groups of participants will then be asked to perform similar activities just with the difference in the Instagram account they started interacting with during the study. By dividing participants into two groups, the aim is to compare and study the effect of exposing body positive accounts on young women.

This four week study consists of multiple rounds of daily and weekly reflections to identify any patterns in their moods and thoughts about themselves.

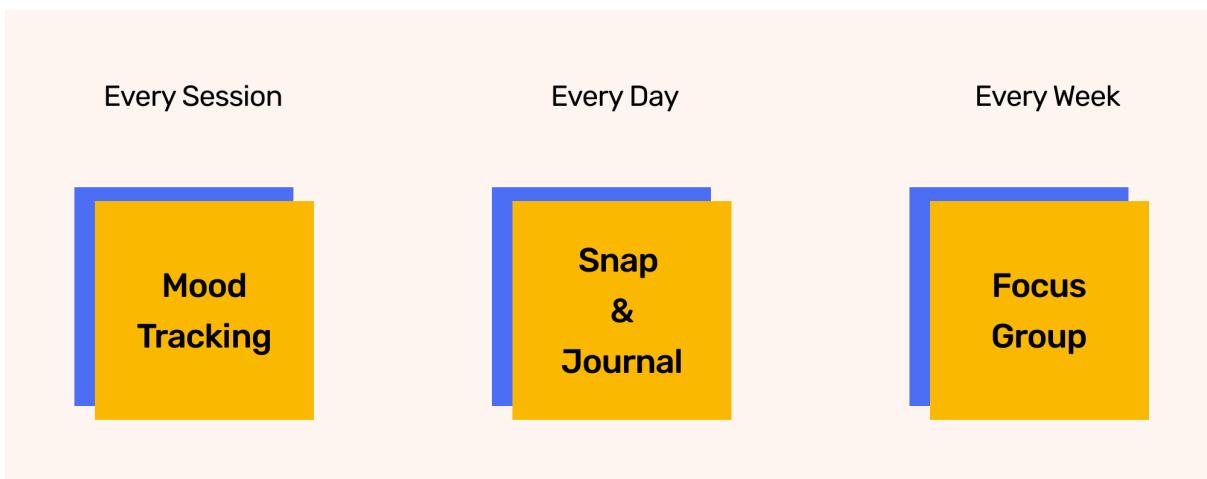


Fig. 7 Experiment structure according to activities and time intervals

Body Positive Accounts:

For this experiment I followed multiple body positive accounts, some are listed below. I wanted to make sure these accounts were not posting one category of content like only fitness videos or only food videos, so I tried to have the content diverse while keeping the theme of body positivity common.

- @laura.iu
- @mynameisjessaamyn
- @theantidietplan
- @thebirdspapaya
- @mypaleskinblog
- @emaralidxbeauty
- @lottidrynan

Design Probes

Mood Tracking:

After every session of scrolling through reels, participants are asked to track how they are feeling at the moment. In order to make their feedback mechanism easy and doable, they are provided with a chart that associates moods with colors. They are also given an abstract poster that they can fill with colors corresponding to their moods after every scroll session so that at the end of each week they will get a visualization of their moods throughout. They can use it as a reflective tool and aim to make it in the most positive color.



Fig. 8 Abstract poster and color - feeling code chart

Daily Snap & Journal:

At the end of each day, participants are asked to click a picture of themselves, and use one of our prompts to reflect upon how they feel about themselves and their physical appearance at the moment.

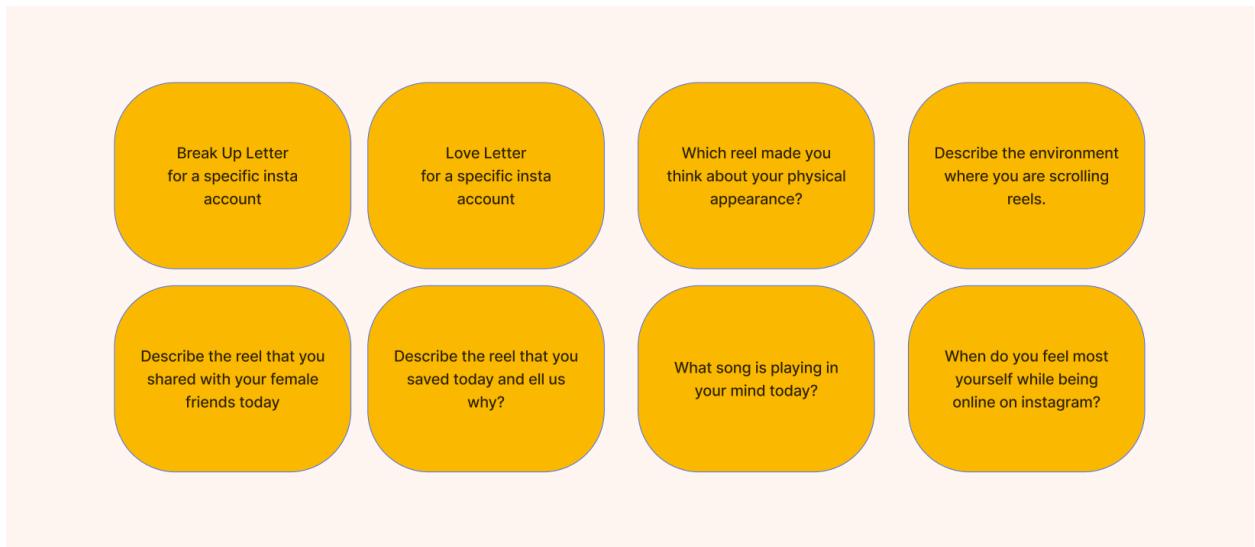


Fig. 9 Some sample prompts for daily reflections

Focus Group

At the end of every week, a focus group would be conducted as a check in activity to see how participants are doing. The aim of this time would be to understand if they are facing any problems with logging their moods or reflections, and iterating or adjusting these probes to improve the quality of data that would be generated and give participants value for their time being invested in this study.

Iterating Design Probes

During the focus group discussion after the second week of the experiment, participants from the experimental group admitted that they found it unnatural and forced to switch to a different account while scrolling, and they were tempted to continue scrolling through reels in their personal account. They would often forget to switch to the new account and get me some days of reflections. Another point raised by the participants in this group was that they felt that the content that they were watching on this new account was ‘too good to be true’. It felt like they were in an artificial environment, and that made the reflections more biased.

In order to deal with these issues, I decided to iterate on the study plan and asked my participants in the experimental group to continue using their personal accounts for this experiment. I asked them to follow multiple body positive accounts and interact with those accounts for at least 20 minutes, so that their personal account algorithms also start suggesting body positive content in their reel feed. I am hoping that this would make it more intuitive for them to reflect and engage with these reels.

Artifacts Generated

At the end of these four weeks, the expected artifacts are posters with colors, associating to the mood after every single session, basically the mood tracking artifact, along with daily snaps and journal reflections.

- Color Logs / Poster
- Daily Selfie Collection
- Emotion Tracking Prompt Answers

Data Analysis

The artifacts generated by both experimental and control groups are analyzed differently and patterns are drawn to understand the differences in the thought process of individuals, an experimental group versus those in the control group.

Experimental Group

The mood tracking posters of experimental group participants showed that they initially had positive moods and there was a peak at first that soon led to a deep fall in their feelings as the content that they were exposed to was ideally extremely positive, and that felt too good to be true for most participants. This was one of the main reasons why they started skipping, using the new account and kept sticking to their personal Instagram accounts for entertainment purposes. I noticed a gap in their posters, where they did not reflect much in the second week, because of the same reason.

In the successive weeks I iterated the probe and now asked them to follow body positive accounts in their personal Instagram accounts, so that they would see a mix of positive and entertaining content. This again led to a gradual increase in their moods towards being more positive as now they were exposed to a balanced amount of positive content, along with more entertaining reels as they scrolled through their reels feed on Instagram.

This gradual progression in positive attitude towards themselves, and more satisfaction with what they have as long as their physical appearance is concerned, was also observed in their daily journals. I could also observe a happier face in the daily selfies, along with a more confident posture. This was true for four of the five participants.

Overall, the participants reported a positive experience, while the participation in the experiment in my last conversation with them during our last weekly focus group most participants accepted that moving forward, they would deliberately continue following

more positive content online as they now realize how it is helping them keep their thoughts positive and help them stay confident in their skin.

When the Instagram statistics based on their interactions with reviews were studied, it showed a disconnect between their interactions, and the reflections, which shows that Interaction metrics are not reliable to study one's feelings.

Control Group

For the control group, the mood tracking posters were mostly neutral as the content that they were interacting with was entertaining to them, and also contained a lot of familiar faces. There were some negative moods at least 4 times a week, that may or may not be because of what they were watching online. Since this study is focused on understanding the effects of exposure to positive contact, it is not fair to conclude anything about the 'why' behind negative reported moods.

The daily reflections of individuals in the control group were very general. They were really connected to the body positivity, theme of the experiment or even content seen online. From the reflections I could derive that when uncontrolled, Instagram's reel algorithm shows content from various creators, and we never know what could trigger which individual. The effects of these triggers might not be immediate, but definitely affects the individual in sometime and even lingers in the back of their mind even after days.

The snapshot clicked by these individuals was also very similar throughout the four weeks. They took this exercise as a daily reflection, and not particularly in the context of this experiment. Therefore, it was just another selfie for them. Nonetheless, this helps me learn how little do these young females focus on their body language and posture when it comes to taking pictures or public appearances. Their only focus is on building picture-perfect figures without focussing much on other aspects of their personalities. As they start appreciating their bodies more, we can expect a more confident posture and happy expressions in the selfies I see in the experimental groups artifacts.

Similar to the experimental group, the interaction matrix of control group participants were also disconnected from their feelings. Therefore, I can confirm that relying on the interaction matrix in Instagram is not a good way to measure one's feelings or reactions to content viewed online.

Experimental vs Control Group

Parameter	Experimental Group	Control Group
Initial Engagement	High initial interest, positive mood tracking.	Moderate interest, neutral mood tracking.
Engagement with New Accounts	Initially skipped new accounts, returned to personal accounts.	Continued normal Instagram usage.
Engagement with Positive Content	Increased engagement after introduction of balanced content (positive & entertaining).	No change in engagement with content.
Focus of Daily Reflections	Shifted focus to body positivity and self-perception after exposure to positive content.	Reflections remained general, not connected to body image or content.
Changes in Selfies	Took selfies with happier expressions and more confident posture after positive content introduction.	No significant changes in selfies, focus on "picture-perfect" appearance remained.

Reported Experience	Expressed positive experience and intention to follow more positive content.	No specific experience reported.

Conclusions

Artifacts generated by experimental group participants showed that exposure to body positive content in a balanced amount made them think positively about themselves. They admitted that they were stuck in the loop of contents that were making them think less about themselves subconsciously.

Considering this as a specific case and thinking about social media content in general, I can say that people want to stay away from negative or triggering content on these social media platforms like Instagram.

When applying this particular case's results to a general scenario we can see that:

1. Exposing users to positive content gradually led to more positive emotions & eventually positive self-perceptions.
2. Interaction metrics (likes, comments) are insufficient for understanding user sentiment.
3. Highlighting the potential for unconscious emotional manipulation through curated content.
4. Even after intervention, the Instagram algorithm continued to promote trending content, introducing negativity.

Because of the way the algorithm's recommendation system works, people are forced to watch trending content irrespective of their individual triggers. Even if I try to personalize the feeds of individuals using their interaction history, it will not be accurate as from my research I found that the interaction matrix is insufficient in tracking user behavior and especially emotions.

Another concern of social media users is that they come to these platforms with an expectation to stay up to date with current news and other trending topics and do not want

to miss out on any of these. The pervasive fear of missing out (#FOMO) keeps people from even attempting to curate their feeds.

This means that we can neither curate feed for users eliminating triggers for them, nor can we let them curate their own feeds.

All these learnings and insights from this research leads us to a broader research question:

Can we create a social media experience that promotes both positive self-perception and exposure to diverse viewpoints?

Limitations

While the study provides valuable insights into the impact of exposure to body positive content on young women's self-perception, it's crucial to recognize several constraints that may affect the interpretation and generalizability of findings. Some limitations include:

1. Reliance on self-reported data, which may be subject to biases and inaccuracies.
2. Focus on a specific demographic of young women aged 18-24 limits generalizability.
3. Duration of the study may not capture long-term effects.
4. External factors such as individual differences and environmental influences could confound results.
5. Engagement with their personal accounts along with this new account by Experimental group biases their moods.

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Appendix

Definitions:

Here are some of the definitions of terms frequently used in this document.

Body Image: Body image is a person's thoughts, feelings and perception of the aesthetics or sexual attractiveness of their own body.

Self-perception: Self-Perception is the view we have about ourselves, our characteristics, and the judgments we make about the traits we have. Self-perception includes our self-concept (the image we have in our heads of who we are) and our self-esteem (how we judge the characteristics we possess).

Body Dissatisfaction: Body dissatisfaction (i.e., a negative attitude towards one's own physical appearance) is assumed to originate from a perceived discrepancy between the actual physical appearance (i.e., actual body image) and the desired ideal state of the body (i.e., ideal body image).

Survey:

Link to Survey: <https://forms.gle/QjwnoMM8DcmjxUxA6>

Survey Questionnaire

Some main questions in the survey included:

- On average, how much time do you spend on social media per day?
- What type of content do you mostly consume when using social media?
- How did you ever feel pressure to present yourself a certain way on social media?
- How often do you compare your own physical appearance to images or posts of others on social media?
- How do you typically react to comparisons on social media related to your appearance?
- Do you believe that your use of social media has contributed to feelings of dissatisfaction or distress related to your physical appearance?

Interview Protocol:

At the beginning of each interview, the interviewee was introduced to the topic and the objectives of the study. Additionally, explicit permission to record the interview was sought and obtained from each participant to ensure transparency and compliance with research ethics.

Theme 1: Social Media Usage and Habits

Can you describe your typical daily routine on social media, including the platforms you use and the amount of time you spend online?

- Follow-up 1: What types of content do you usually engage with during your time on social media?
- Follow-up 2: How do you feel social media impacts your daily life and routines?

Theme 2: Body Image Awareness and Concerns

Are you conscious of how social media affects your thoughts and feelings about your body image?

- Follow-up 1: Could you share an example of a specific incident or situation on social media that made you particularly conscious about your body image?
- Follow-up 2: How do you usually react when you encounter content on social media that makes you think about your body image?

Theme 3: Responses to Negative Comments and Shaming

How do you respond when you come across negative comments or body-shaming content on social media?

- Follow-up 1: Can you provide an example of a time when you encountered negative comments or body-shaming content, and how did it affect you?
- Follow-up 2: Have you ever engaged in discussions or interactions with individuals who posted such content, and if so, what was your approach?

Theme 4: Interactions with Other Users' Posts

When you interact with posts made by other users on social media, what drives your engagement and interactions?

- Follow-up 1: Are there certain types of content or topics that you find particularly engaging or meaningful when interacting with others on social media?
- Follow-up 2: Have you ever experienced changes in your emotions or behaviors based on your interactions with posts from friends or acquaintances?

Theme 5: Engagement with Influencers and Celebrities

Do you notice any differences in your behavior or emotions when engaging with content posted by influencers or celebrities on social media?

- Follow-up 1: Could you share an example of how your interaction with influencer or celebrity content has impacted your thoughts or feelings about your body image?
- Follow-up 2: How do you perceive the influence of celebrities or influencers on your social media experience?

Theme 6: Duration of Body Image-Related Thoughts

After encountering body image-related content on social media, how long do the thoughts or feelings related to it typically stay with you?

- Follow-up 1: Can you describe how these thoughts may affect your daily life or decision-making even after you've left social media?
- Follow-up 2: Have you developed any strategies to manage or alleviate the persistence of these thoughts over time?

Theme 7: Coping Mechanisms and Strategies

- What strategies or coping mechanisms do you currently use to address body image concerns and negative thoughts stemming from your experiences on social media?
 - Follow-up 1: Have you found any particular coping strategies to be more effective than others in helping you manage these challenges?

- Follow-up 2: How do you feel these coping mechanisms impact your overall well-being and mental health?

Participant Consent Form:

Study on Exploring the Impact of Instagram Reels on Self-Perception of Young Females

Thank you for your interest in participating in this research study. Before you proceed, please take a moment to read the following information carefully. If you have any questions or concerns, feel free to ask before signing the consent form.

The purpose of this study is to investigate the impact of exposure to body positive content on Instagram Reels on self-perception among young women aged 18-24. By participating, you will help contribute to our understanding of how social media influences self-perception and body image concerns.

If you agree to participate, you will be asked to:

- Create a new Instagram account or use your existing account.
- Engage with Instagram Reels content following body positive accounts.
- Participate in design probes aimed at promoting positive self-perception, including emotion tracking, daily reflection, and self-compassion exercises.
- Attend a focus group discussion midway through the study to share your experiences and insights.

Your participation in this study will be kept confidential. Your responses and personal information will be anonymized and stored securely. Only the research team will have access to the data collected, and your identity will not be disclosed in any publications or reports resulting from this study.

Participation in this study is voluntary, and you have the right to withdraw at any time without penalty. Your decision to participate or withdraw will not affect your relationship with the researchers or any associated organizations.

If you have any questions or concerns about the study, you can contact Juhi Khare, at jukhare@iu.edu.

By signing below, you indicate that you have read and understood the information provided above, and you voluntarily agree to participate in this research study.

Participant's Signature: _____ Date: _____

Design Probes Kit:

Here are the artifacts that will be included in the design probe toolkit for participants:

- Emotion to color corresponding chart
- Poster to fill in colors
- Prompt cards with questions related to body positivity for participants to answer after each session
- Printed sheets to attach daily selfies and write reflections
- Guided meditation recordings or scripts for self-kindness and body scan meditations
- Printed logs for participants to record their daily emoji choices and emotional responses
- Printed prompts for participants to answer after each session of scrolling through Instagram Reels
- Journal or logbook for participants to record their self-compassion exercises and reflections on self-care activities

Focus Group Protocol:

Objective:

To gather feedback from participants on their experiences with Instagram Reels and the design probes, aiming to understand the impact of these interventions on self-perception and emotional well-being.

Preparation:

1. Select a conducive environment for the focus group, ensuring privacy and comfort for participants.
2. Prepare a discussion guide outlining key topics and prompts for the session.
3. Arrange audio or video recording equipment to capture the dialogue for later analysis.
4. Ensure informed consent from all participants before the session begins.

Facilitation:

1. Welcome participants and introduce the purpose of the focus group.
2. Encourage open and respectful dialogue among participants.
3. Use the discussion guide to steer the conversation towards relevant topics, such as participants' experiences with Instagram Reels, emotional responses, and perceptions of body positivity.
4. Facilitate active listening, allowing participants to share their perspectives without interruption.
5. Probe deeper into participants' responses to uncover underlying insights and perspectives.
6. Keep the discussion focused and on track, ensuring all participants have an opportunity to contribute.

Data Collection:

1. Record audio or video of the focus group discussion for later analysis.
2. Take notes on key insights, themes, and participant responses during the session.
3. Encourage participants to share additional thoughts or reflections after the discussion if they wish.

Conclusion:

The focus group discussions will provide valuable qualitative data on participants' experiences with Instagram Reels and the design probes. By facilitating open dialogue and active listening, the sessions aim to uncover insights that complement quantitative data collected through other research methods.

Capstone Poster:

Decoding Algorithmic Impact

Investigating how Instagram Reels feed shape self-perception in young females

(Research for Design)

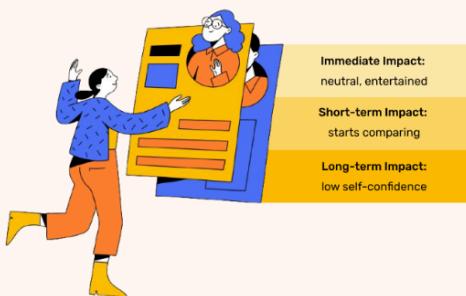


Who is affected?

- Females, 18 - 24 years old
- Frequent social-media (Instagram) users
- Minimum 2-3 hours of reels scrolling daily
- Preferably comparison conscious



Exposure to such content for an extended period of time has multiple short / long-term impacts:



Self-perception (long-run)



Mood (short-run)



How do body positive posts on Instagram (reels) influence self-perception in short / long terms, particularly when women's mood is used as a lens?

Why is this important?

More than 35% Americans said **physical attractiveness** is what society values most in women.

According to American Beauty standards, physically attractive women are white, **thin**, and blue-eyed.

Women trying to match these standards go through issues like: **body dissatisfaction, negative self-image and low mental health.**

In today's digital world, **social media** is the main platform for promoting beauty standards therefore, shaping how women perceive themselves.

Instagram being the preferred platform for 54% American women.

Study Procedure (4 weeks, N=10)

Experimental Group:
5 participants were exposed to body - positive content on instagram reels

Control Group:
5 participants used their usual instagram account's reels feed for this study

Mood Tracking:
after every session of scrolling through Instagram reels.

Snapshot:
once everyday, participants are asked to click a picture of themselves and reflect about their feelings.

Focus Group:
weekly check-in to see if process is going smoothly and iterate experiment if needed.

Results

Artifacts generated by experimental group participants showed that exposure to body positive content in a balanced amount made them **think positively** about themselves. They admitted that they were **stuck in the loop** of contents that were making them think less about themselves subconsciously.

When applying this particular case's results to a general scenario we can see that:

01 Interaction metrics (likes, comments) are insufficient for understanding user sentiment

02 Exposing users to positive content gradually led to more positive emotions.

03 Highlighting the potential for unconscious emotional manipulation through curated content.

04 Even after intervention, the Instagram algorithm continued to promote trending content, introducing negativity.

In conclusion, **showing people more positive content** on Reels and **giving more user control** on what they see most can actually help them feel better about themselves in the long run, even though the app's system can trick them into feeling bad.

Can we create a social media experience that promotes both positive self-perception and exposure to diverse viewpoints?

Finding the right balance could be key to a healthy online future for young people.

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AI Use

Juhi Khare 2024 prompt for Capstone Midway Document **Executive Summary** [make it cohesive - This research for design project aims at investigating how Instagram reels feed shapes self perception in young females. The focus here is to find out if a woman's self perception is influenced highly by the kind of content they interact with on social media in this digital world or is it still unaffected by what they see online. In the study, 10 young women, aged 18 to 24, are divided into two groups, experimental group (will be using a new instagram account's reel section that has been populated with body positive content beforehand), and control group (will use their personal Instagram accounts). Participants in both these groups are asked to engage in certain reflective activities throughout the four weeks of this experiment. Mainly their moods in the short term, I recorded after every real scroll session, and the reflections about themselves are recorded on a daily basis. Eventually these self-reported data paired with their social media statistics will be used to identify patterns, and see if exposure to body positive content leads to positive changes in short-term mood, and long-term thoughts about themselves and their physical appearance. Ultimately, these findings will inform the design of interventions promoting positive self-perception among young women in the digital sphere.]

Chat GPT's Response:

This research project focuses on investigating how Instagram Reels feeds influence self-perception in young females. The aim is to determine whether a woman's self-perception is significantly impacted by the type of content they engage with on social media platforms in today's digital age, or if it remains unaffected by online content.

The study involves 10 young women aged 18 to 24, divided into two groups: an experimental group and a control group. The experimental group will utilize a new Instagram account's Reel section, pre-populated with body-positive content, while the

control group will use their personal Instagram accounts. Throughout the four-week experiment, participants in both groups will engage in reflective activities.

Specifically, their moods following each Reel-scrolling session will be recorded, along with daily reflections about themselves. These self-reported data, combined with their social media statistics, will be analyzed to identify patterns. The aim is to determine if exposure to body-positive content leads to positive changes in short-term mood and long-term thoughts about themselves and their physical appearance.

Ultimately, the findings from this research will contribute to the design of interventions aimed at promoting positive self-perception among young women in the digital sphere.

Juhi Khare 2024 prompt for Capstone Midway Document [Help me create a **Participant Consent form** for my Research Experiment asking participants to sign that they will be involved and willing to participate in a list of activities mentioned. Say that they can leave the experiment at any time that they want and that their data will be kept secret and used only for the sake of my academic project].

Chat GPT's Response:

[Your Institution's Logo]

Participant Consent Form

Title of Research Experiment: [Insert Title]

Principal Investigator: [Your Name]

Dear Participant,

You are invited to take part in a research experiment titled [Insert Title], conducted by [Your Name], a researcher from [Your Institution]. Before you decide whether or not to participate,

it is important for you to understand why the research is being conducted and what your participation will involve.

Purpose of the Experiment:

The purpose of this research experiment is to [briefly describe the purpose of your experiment].

Description of Activities:

By signing this consent form, you agree to participate in the following activities:

1. [Activity 1]
2. [Activity 2]
3. [Activity 3]

...

[Add additional activities as necessary]

You have the right to:

- Refuse to participate in any activity.
- Withdraw from the experiment at any time, without penalty or prejudice.

Confidentiality:

Your privacy is of utmost importance. Any information collected during this experiment will be kept strictly confidential. Your data will only be used for the purpose of this academic project and will not be disclosed to any third party without your explicit consent.

Voluntary Participation:

Participation in this experiment is entirely voluntary. You are under no obligation to participate, and your decision will not affect your relationship with [Your Institution].

By signing below, you acknowledge that you have read and understood the information provided in this consent form. You voluntarily agree to participate in the activities described above.

Participant's Name: _____

Participant's Signature: _____

Date: _____

If you have any questions or concerns about this experiment, please do not hesitate to contact [Your Contact Information]. Thank you for considering participation in this research.

Sincerely,

[Your Name]

Principal Investigator

[Your Contact Information]

Juhi Khare 2024 prompt for Capstone Midway Document [Help me create a **protocol for a focus group** discussion as part of my research experiment. This discussion will be like a czech in to see how the participants are feeling about the probes and if it is convenient to use or not.].

Chat GPT's Response:

Focus Group Discussion Protocol

Objective:

To gather feedback from participants regarding the usability of the probes used in the research experiment.

Agenda:

1. **Introduction (5 minutes)**

- Welcome and Overview

2. **Probe Discussion (30 minutes)**

- Participants share thoughts on probe convenience and suggest improvements.

3. **Probe Demonstration (10 minutes)**

- Show probes and allow immediate feedback.

4. **Feedback and Reflection (10 minutes)**

- Reflect on participant feedback and summarize key points.

5. **Closing (5 minutes)**

- Thank participants and discuss any follow-up steps.

Confidentiality:

All information shared is confidential.

Consent:

Participant signature confirms understanding and voluntary participation.

Signature:

Participant's Name: _____

Participant's Signature: _____

Date: _____

[Your Name]

Principal Investigator