

# Generative AI artificial trend: A New Algorithms for Youth Well-being

Increasing positive experiences for youth on Instagram by 42% through the improvement of the current algorithm, incorporating an artificially generated trend by AI



# Executive Summary

## Problem

Instagram is associated with a **30% rise in body dissatisfaction**

In the USA, **22% of teenagers spend an average of 2 hours daily on Instagram**, where **1 in 3 girls experiences worsened body image due to social comparison**. This pressure to conform has contributed to **anxiety disorders in 6.3 million American teens** and as people tend to pay more attention to negative information, these issues worsen. Thus, Instagram's influence extends beyond users' posts, since users follow celebrities and influencers sharing idealized photos, which often leads to negative self-esteem.

## Solution

**Propelling an Intentional Healthy Lifestyle Trend**

The **AI-powered Instagram algorithm employs a trend-shaping mechanism to promote healthy lifestyle** content in feeds and stories, mitigating the negative impact of anxiety. This refined algorithm identifies potentially harmful content by discerning the positivity or negativity of posts. **If it detects a negative trend, the algorithm updates to show positive content, and a more inspiring feed**; motivating users to actively contribute to the platform's growth and their well-being by creating and sharing more of this uplifting, motivational content, ensuring its expedited reach compared to other post types.

## Impact

**Increasing the amount positive content on Instagram by 42%**

A year into the implementation of the algorithm, we anticipate that **88,612,369 members** of the US youth community on Instagram will **experience a decrease in the frequency of negative emotions**. A quarter of this group is expected to feel increased happiness, thereby contributing to a reduction in the risk of exacerbating issues related to anxiety.

[Detailed calculations](#)

# Why Instagram?

For all the available products of **Meta** out there, why does **Instagram** cause the most harm to the youth? And why did we choose Instagram?

Even though **Instagram is at the top of the list among the social media apps that harm teen girls the most**, Meta hasn't taken a lot of action towards it. This shows how little meta cared about mental health back then. Therefore, we have chosen this specifically to show how urgent the issue is.

Even when we search on google about "**which social media platforms affect mental health the most in America**", the first Meta product on display is INSTAGRAM.



# Instagram's Impact on Youth Mental Well-Being

## Youth Well-being Impact

Instagram's daily exposure affects 144 million individuals aged 13-24 across six countries, leading to a significant 62% increase in self-esteem issues linked to social comparison and the pursuit of social approval..

## Algorithmic Influence

Instagram's algorithms, designed to boost content sharing and profits, play a pivotal role in shaping user experiences. The introduction of the "infinite scroll" feature in 2016, argued to contribute to compulsive platform usage, may harm well-being and mental health, particularly among young users.



## Negative Trends in Youth Behavior

Instagram's influence extends to alarming levels of self-harm behavior among vulnerable youth. Notably, 13.5%<sup>2</sup> of teen girls express that Instagram generates thoughts of suicide, and 6%<sup>3</sup> of US teens disclose that their inclination towards self-harm originated from content encountered on Instagram.

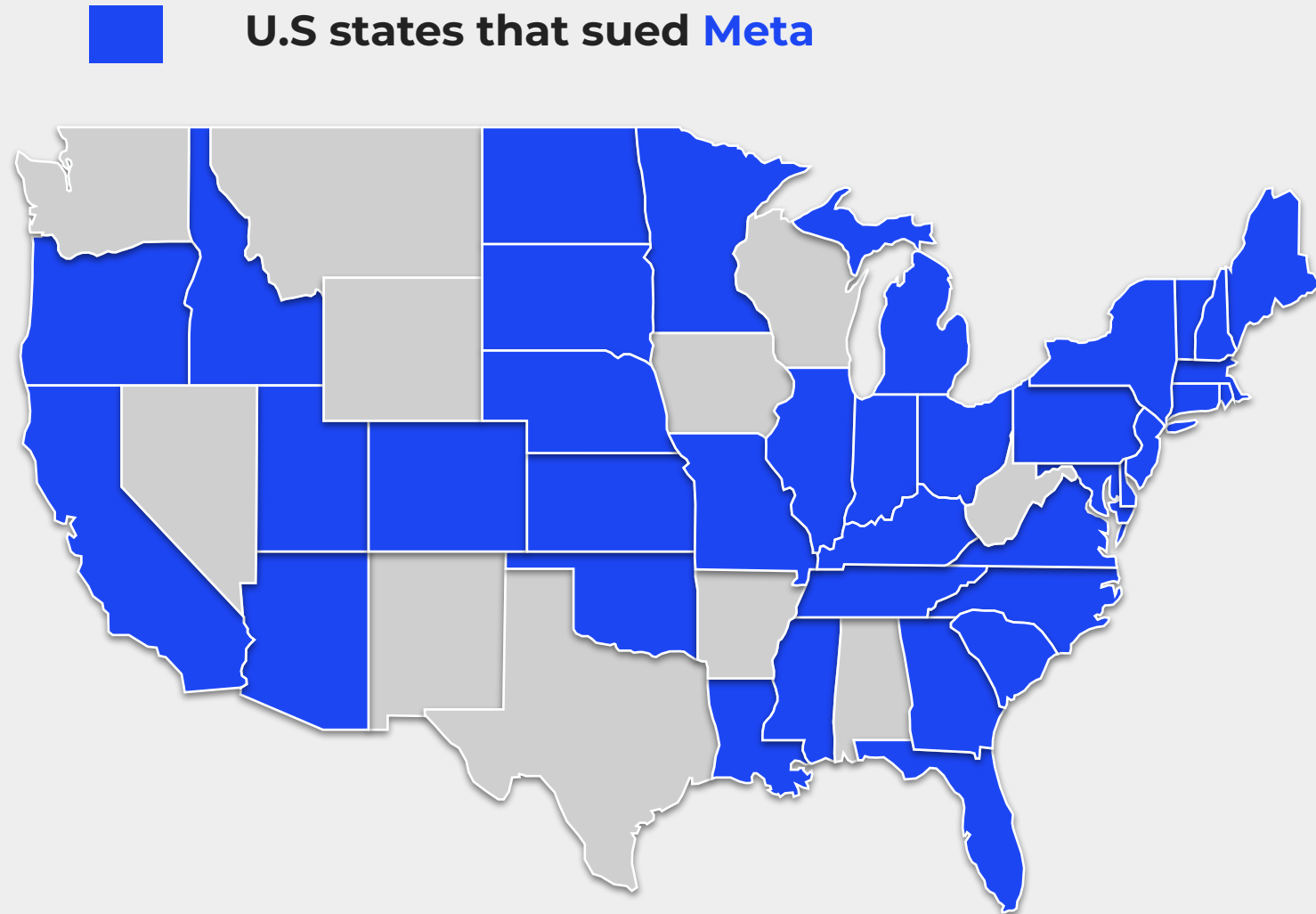
1. [Deeper into the problem](#)
2. [Source for 13.5%](#)
3. [Source for 6%](#)

# Why U.S.A.?

The USA is the second-highest user of Instagram, with **170 million users**<sup>1</sup>, of whom **30.2%**<sup>2</sup> are youth. Statistics reveal that Gen Z users in the U.S. spend an average of **2 hours** per day on Instagram.

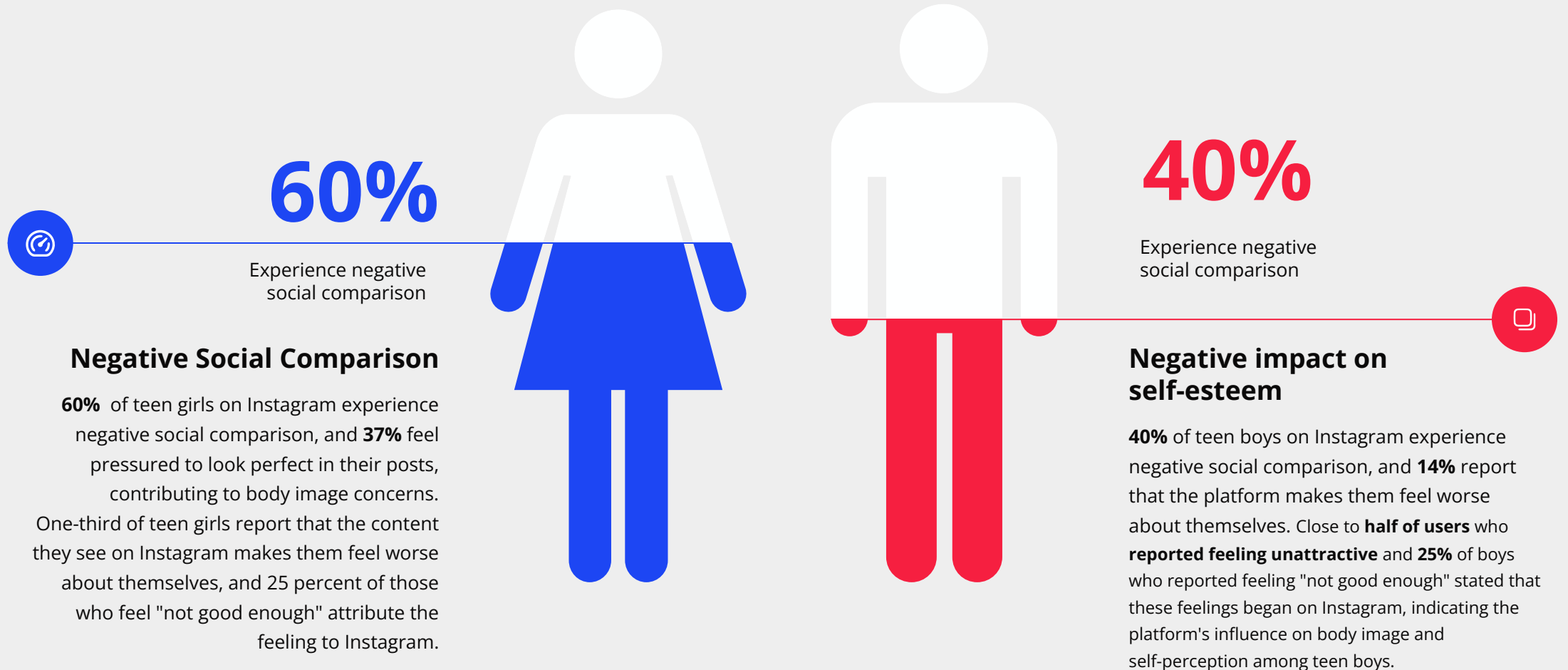
This extensive daily engagement underscores the platform's significant impact on the daily lives and well-being of the younger demographic. As of 2023 Meta is facing lawsuits from **41 U.S. states** that accuse the company of designing algorithms to induce addictive behaviour in youth.<sup>3</sup>

Instagram has a high penetration rate in the United States, with **46.2%** of all smartphone owners having the app installed on their phones.<sup>4</sup>



1. [Source for '170 million users'](#)
2. [Source for '30.2%'](#)
3. [Additional Source](#)
4. [Instagram statistics](#)

# Targeting **girls** and **boys**





## Meet **Ariana Rodriguez**

“I just downloaded Instagram yesterday after taking a **6-month break** from it, and I’ve never felt happier. I hated looking at my profile and what my feed represented compared to the profiles of my friends, who seemed happier or more fulfilled in life. I think what most bothered me was seeing people enjoy parties and concerts that I didn’t attend or wasn’t invited to... so **FOMO** I guess.”

# Solution: An improvement on Instagram's Algorithm



## #1 AI Divider (V and N algorithms)

The AI (V algorithm) used in Meta's algorithm distinguishes content that contributes to social comparison from content that brings joy. It also identifies when users engage with negative content that may impact their well-being or self-esteem. Then, another AI (N algorithm) prompts positive and healthy content into everyone's feed, reels, stories, and posts, with a particular focus on users who have frequently interacted with possible negative content.

### Outcome:

By identifying and promoting positive content while curbing manipulative features, the algorithm aims to create a safer and more positive online environment.



## #2 Sharing loop skipper

Once the V algorithm has sorted positive content from negative content, the positive content takes a shortcut through the sharing loop to reach users more swiftly, while negative content continues to grow at its normal pace.

### Outcome:

Faster delivery of positive content contributes to reducing the impact of harmful content.

# Solution: An improvement on Instagram Algorithm



## #3 Community of influencers

Posts that bring people joy, or are related to having a healthy lifestyle, will go viral as they are prompted into every user's feed. Influencers will be aware of this and will start posting more of this content to grow on the platform.

### Outcome:

Influencers promoting well-being contribute to a healthier content ecosystem, mitigating the negative influence of certain features by **42%**.<sup>1</sup>



## #4 Consumption

After users have been consuming positive posts, due to the mere exposure effect, people will tend to develop a preference for these habits or actions depicted in these posts.

### Outcome:

This positive cycle will contribute to a more uplifting and engaging platform experience.



# Need for Improvement

01

## Being Sued

Meta is facing accusations of disseminating misleading information to the public regarding the potential risks associated with social media use. These concerns extend to the platform's algorithmic practices, particularly the impact of infinite scrolling, which is alleged to contribute to a mental health crisis among young individuals by exposing them to content that negatively influences their well-being.<sup>1</sup>

02

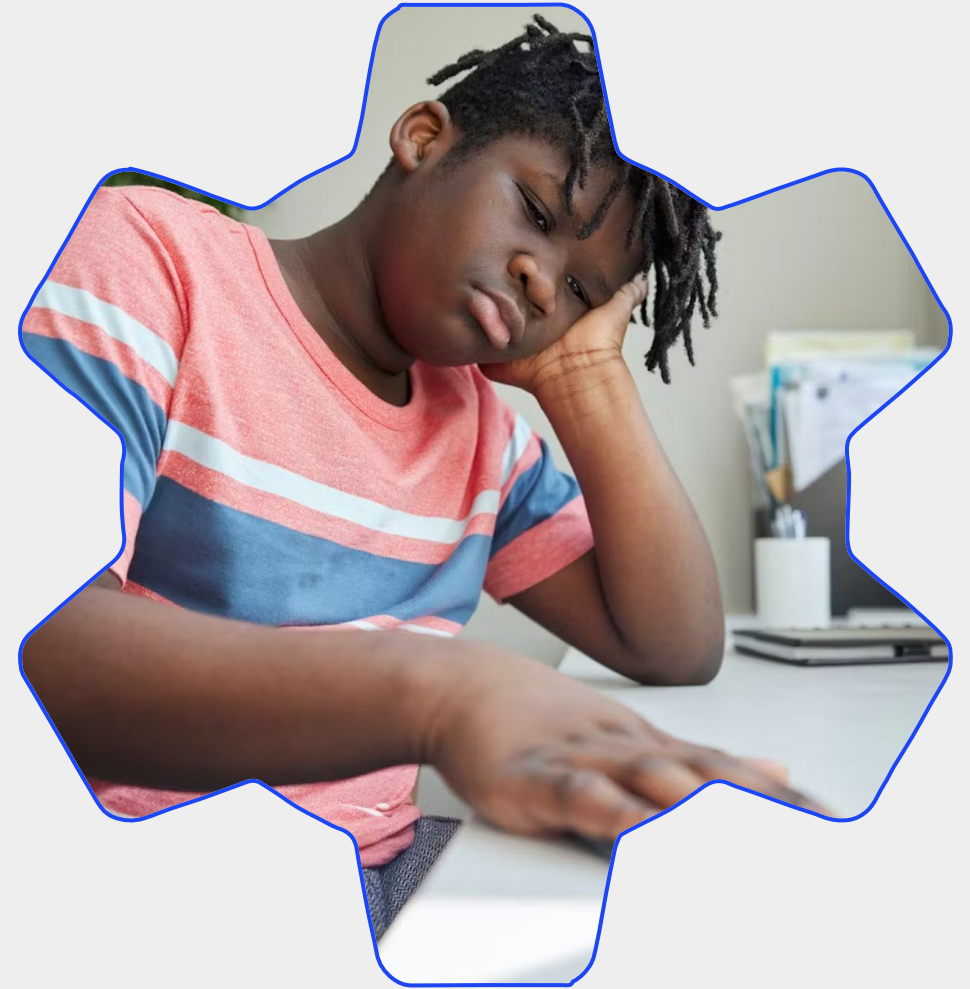
## Beauty filters

The ongoing case against Meta highlights explicit allegations of exploiting vulnerabilities in young users. The company is accused of deploying visual tools such as beauty filters known to promote body dysmorphia and psychologically manipulative features designed to maximise the time young users spend on social media.

03

## Young user reports

Meta has received over 1.1 million reports concerning users under the age of 13 on its Instagram platform since early 2019, with only a fraction of these cases being adequately addressed. The lawsuit seeks to force Meta to stop using certain features that the states say have harmed young users to ensure the safety and well-being of young users.



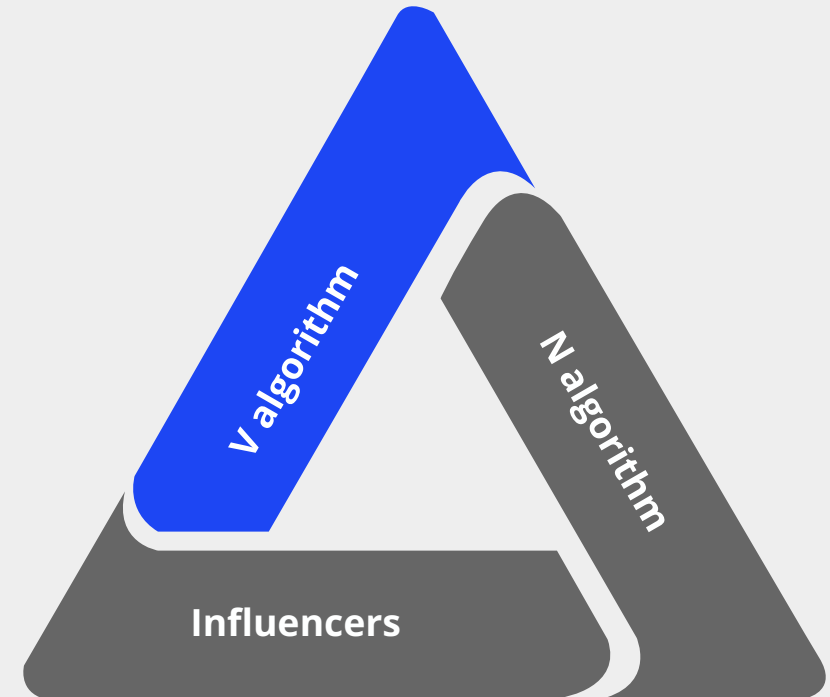
1. [Source- meta being sued](#)
2. [Source- Underage data leaked at Meta](#)

# Explaining V algorithm

The V algorithm is designed to **stimulate the production and circulation** of positive content, differentiating between positive and negative categories. For instance, content promoting unhealthy habits is labelled as negative, while content emphasizing mental health improvement or fitness is labelled as positive. The V algorithm bypasses the regular **sharing loop for "Good" content, directly reaching users and the N algorithm**. This intentional categorization fosters a trend of generating and consuming uplifting content.

## How it Works:

- **Content Categorization:** Videos are classified into "Good" and "Bad" based on their content.
- **Sharing Approach:** "Bad" content follows the normal sharing loop before reaching a broader audience, while "Good" content is promptly delivered to users and the N algorithm.
- **Trend Formation:** By prioritizing positive content, a trend is cultivated where users are encouraged to engage with and produce more "Good" content.



# Explaining N algorithm

The N algorithm is dedicated to **improving the overall user experience by intentionally integrating positive, healthy, motivational, funny, and creative content into users' feeds, reels, stories, and posts.**

## How it Works:

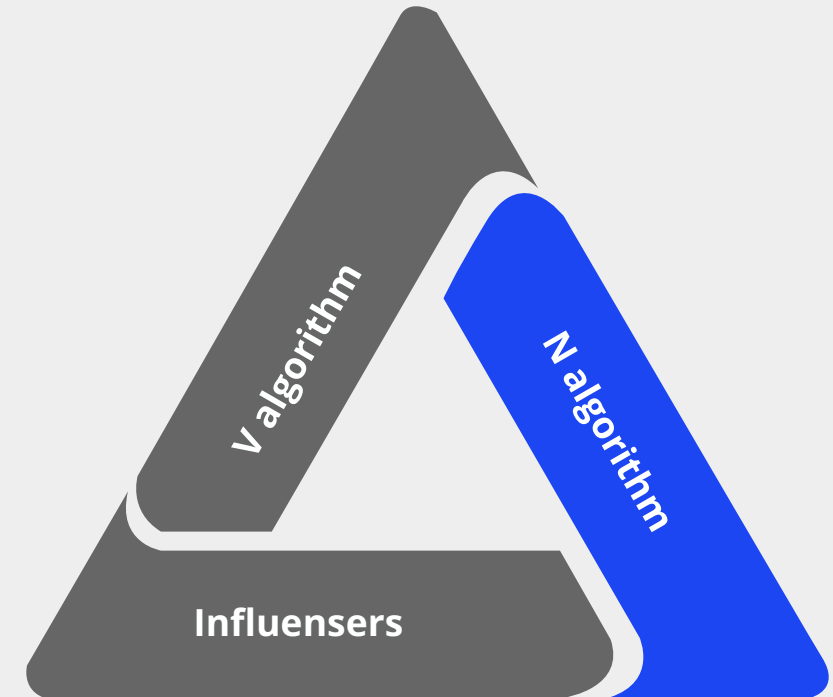
### Content Allocation:

The AI analyses and organizes content in users' feeds based on different categories:

- **55%** User's Interests
- **20%** Healthy Lifestyle Content
- **10%** Humorous Content, Primarily Memes
- **5%** Creative and Personal Growth

### Proactive AI Intervention

The AI's impact becomes more evident when detecting a user engaging extensively with potentially negative content. In such cases, particularly if the content could impact well-being or self-esteem, the N algorithm intensifies its intervention. It redirects the user toward a more positive and uplifting content trajectory, actively steering them away from potential negativity.



# Solution: Content Allocation

## Healthy Lifestyle Content

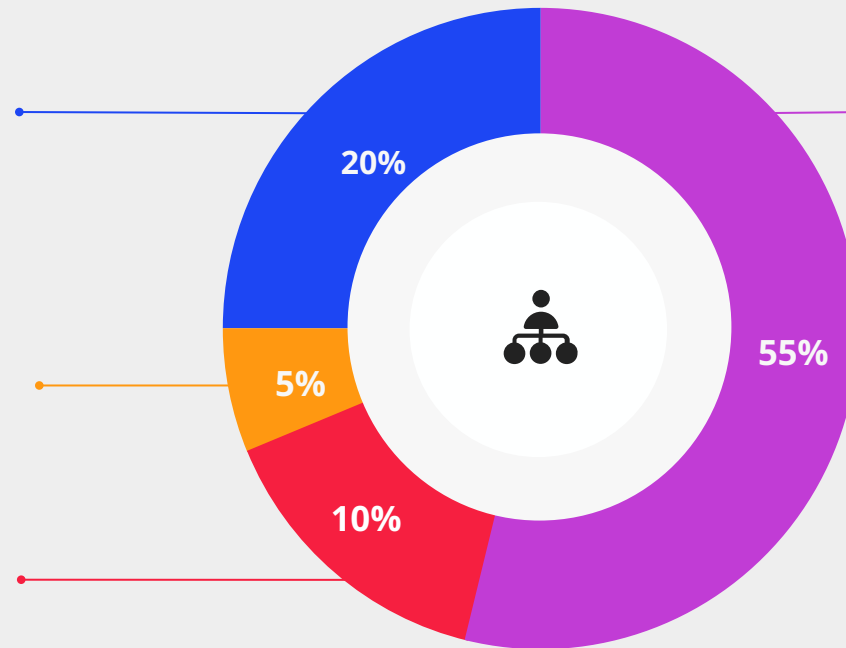
20% of efforts are directed toward **positively influencing** users' lifestyles and fostering a more **optimistic mindset**.

## Creative and Personal Growth

While users prioritize creativity and learning, acknowledging that these may not be their top preferences, we strive to cater to these aspects to enhance their overall experience.

## Memes

Dedicating 10% to memes acknowledges their popularity, comprising 50% of global views on Instagram. Our survey indicates that this content significantly boosts the well-being of youth users..



## Users Interest

We aim for a 55% balance, ensuring users continue to discover and enjoy the content they prefer.

## Why this mix?

Our intricate balance is meticulously designed to guarantee that users not only receive content aligned with their preferences but also encounter content that positively influences their lifestyle. We believe in providing a well-rounded experience that caters to the mind, body, and soul.

# Why Will it Work?

Social media landscape, trends, particularly among the youth, are significantly influenced by peer pressure, with 28%<sup>1</sup> of young people feeling the need to fit in. This susceptibility to influence is heightened as young individuals actively seek new trends and hobbies on social media.

The new algorithm leverages this dynamic by introducing diverse content into users' feeds, fostering a positive trend towards adopting a healthier lifestyle. Moreover, as negative content diminishes, replaced by motivational, humorous, and creative posts, users are poised to enjoy increased happiness and an overall enhanced Instagram experience.

[Short mockup overview video of how it will work](#)

"Seeing these trends appear repeatedly can lead to the assumption that they are more popular or desirable than they actually are. The more one is aware of something, the more likely one is to want it."

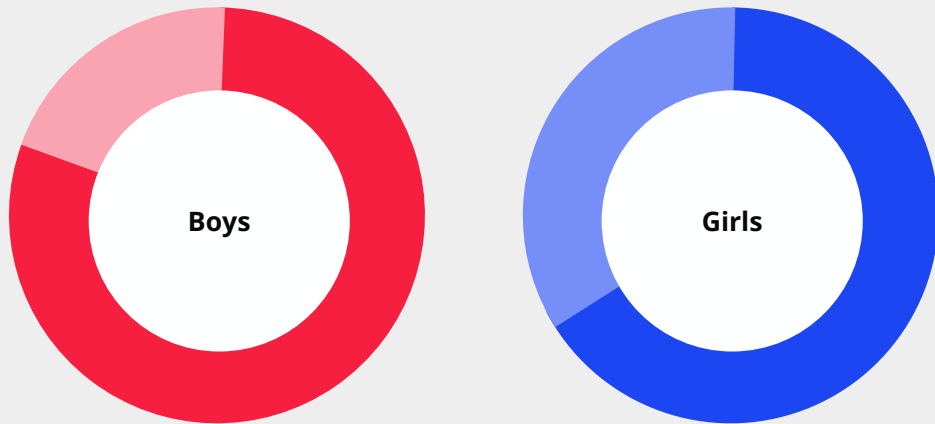
- **Boston Latin School history teacher Mr. Andy Zou**



[Source](#)

# Teen Survey

In half of their instances on Instagram, **70% of female** users and **20% of male** users from Europe, North and South America admitted to feeling pressure to conform to the standards depicted by the platform's content.



Total Instagram users in **Europe, North and South America**

- **103 out of 120 users**, spanning the ages of 13 to 24 from diverse corners of the globe, stated that they would like Instagram to implement features **promoting a healthier online environment for mental well-being**.
- In a global survey, when we inquired about the type of content on Instagram that contributes most to feelings of inadequacy or comparison, respondents provided the following insights:

*"I believe the most significant correlation Instagram has with a negative influence on mental health is the sensation of endless scrolling and the feeling of not accomplishing something during that time. This, in turn, diminishes one's self-confidence and self-esteem, negatively impacting mental health."*

*"Typically, seeing others live a happier, more exciting life than me, when in reality, it isn't true. Everyone has their own struggles behind the screen, and Instagram often presents the idealised version of a person's life."*

# Results

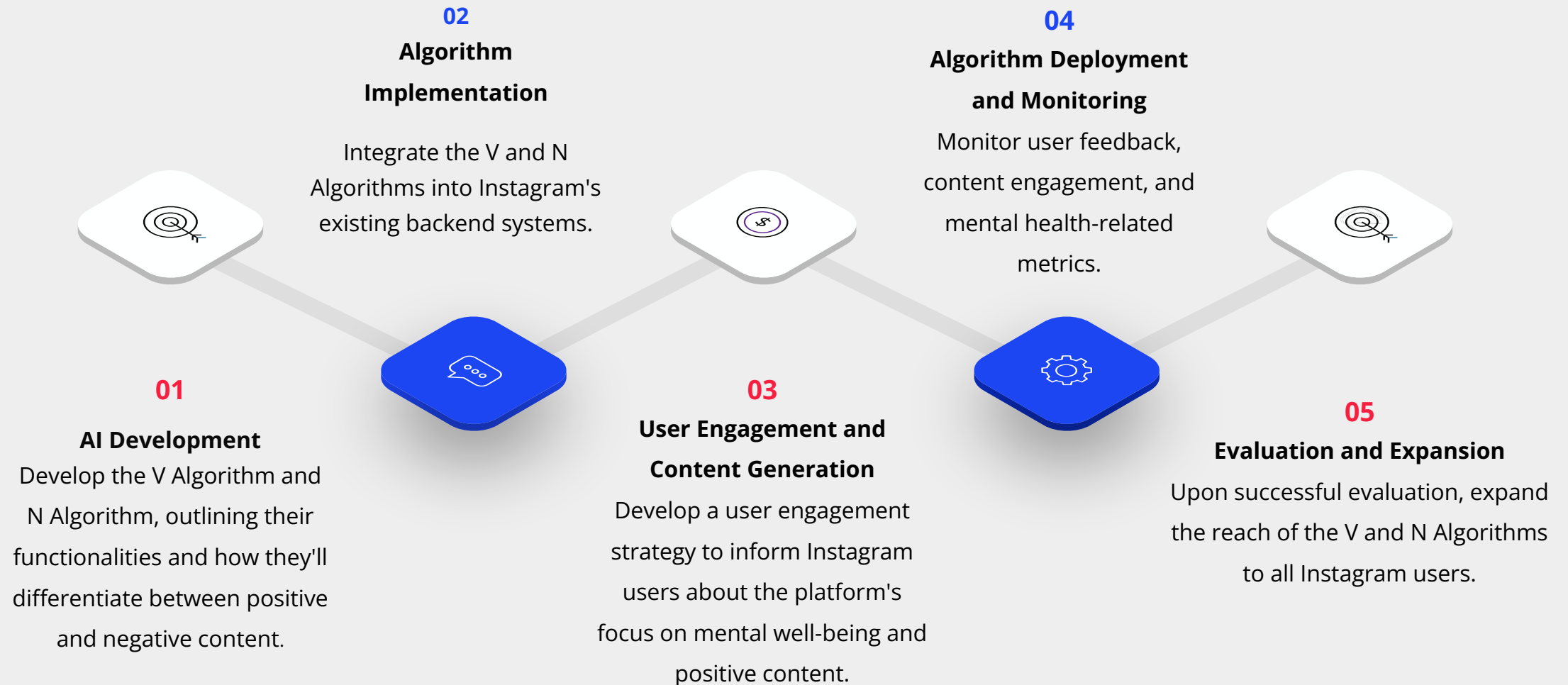
## Inflectable youth

Approximately **9.8%**<sup>1</sup> of US-based Instagram profiles have the potential to influence purchasing decisions and behaviour. This impact is enhanced by an average of **1,261 likes** on Instagram, expected to increase with the integration of positive content on every user's feed. Furthermore, UCLA research suggests that photos with more likes stimulate neural activity associated with reward processing, social cognition, imitation, and attention <sup>2</sup>. This increased susceptibility to influence contributes to fostering a positive environment, building a more engaged and supportive community. Lastly, assuming Meta collaborates with **2%** of these influencers, the potential impact could bring positivity to **28 million users on the platform**.



1. [Source - '9.8%'](#)
2. [Additional Source](#)

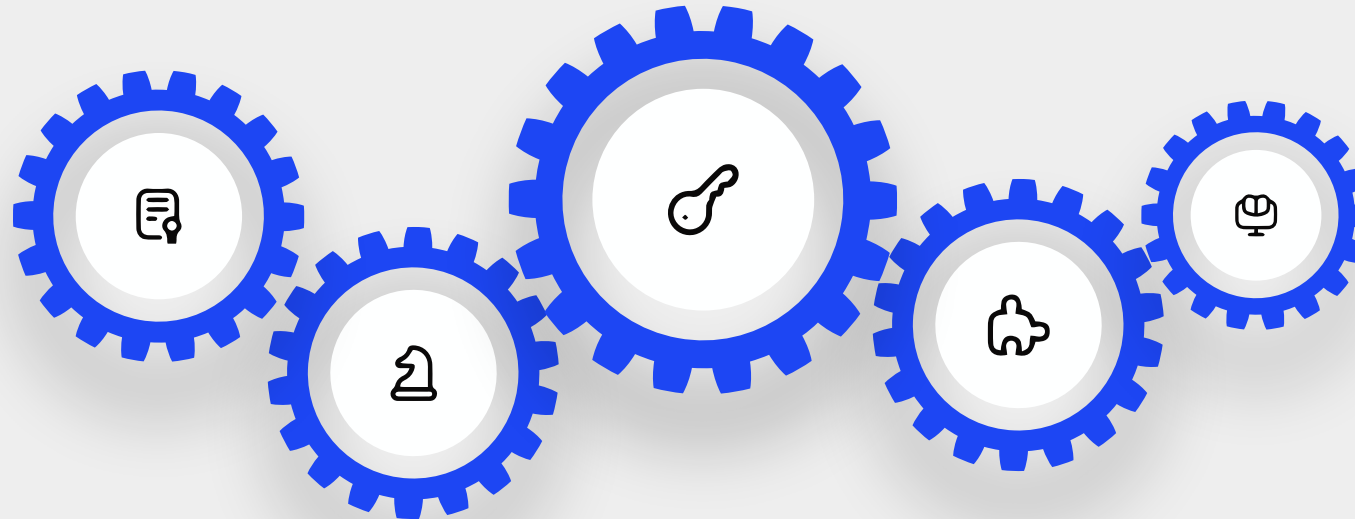
# Roadmap



# Implementation Plan

The estimated budget for this project is \$12,000, and the timeline is set at 2 months.

1. Develop the V algorithm to classify video content as "**Good**" or "**Bad**"



2. Implement a sharing approach for prompt delivery of "Good" content to users and the N algorithm.

3. Deploy the N algorithm to **organise content** in users' feeds based on **specific categories**.

4. Create mechanisms to prioritise **uplifting content and stimulate user engagement**.

5. Implement proactive **AI intervention** to redirect users from potentially negative content.

# OutReach

I'm an experienced Python programmer with more than 5 years of practical know-how in the exciting fields of artificial intelligence and machine learning

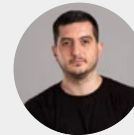


**Manzoor Ahmed**

AI Developer

The profile can be found [here](#)

Freelancer with various skills and experience in the Data Science field. The final product for a project will include a well-documented, commented, and organized python package



**David Gadyan**

AI integration

The profile can be found [here](#)

# Similar Solutions (Red Bull)

## Lifestyle

The company strategically positioned itself as a lifestyle brand, intertwining its product with a specific lifestyle. Red Bull's content strategy focused on captivating their audience's interest in extreme sports, festivals, and high-energy lifestyles, aligning these passions with the drink's ability to provide alertness and energy during these activities. This approach transformed purchasing an energy drink from merely quenching thirst to aligning with a desired lifestyle. The quality and nature of Red Bull's content gave the impression that it wasn't just coming from an energy drink brand but from a company dedicated to creating engaging media. Consequently, Red Bull evolved from being perceived solely as an energy drink to embodying an aspirational lifestyle that consumers wanted to associate with.

***In our case, instead of selling a product, the aim is to create a positive association between Meta and its users,, leveraging positive content to create an aspirational lifestyle that people want to engage with and be a part of.***

## Fake popularity

What Red Bull did to boost sales was directly target their audience in places where they typically socialize—college parties, libraries, coffee shops, bars, and other hangout spots. By distributing free samples and strategically placing empty cans in these locations, they created an illusion of high demand for their drink. This tactic influenced people to want to associate themselves with the perceived popularity of the product and lifestyle it represented, ultimately leading to increased sales.

***Drawing parallels to our solution, where algorithms are implemented to propagate "Good" content throughout Instagram, Red Bull's approach similarly aimed to get people talking about their product without directly advertising.*** The strategic distribution of samples and empty cans encouraged word-of-mouth promotion among their target audience, creating a buzz about their product organically.

## Influencers

Utilizing a direct-to-audience marketing approach, Red Bull established the **Wings Team program targeting marketing students**, enabling them to actively engage in Red Bull's marketing initiatives. Similarly, Red Bull collaborates with influencers and athletes across various social media platforms, empowering them to display their skills, knowledge, and Red Bull's association with their pursuits. These partnerships serve to widen Red Bull's audience reach, create excitement, and offer genuine endorsements that strongly connect with the intended demographic.

***With our algorithm, the aim is to inspire people to create and share "Good" content among their friends and networks.***



# Huge influencers

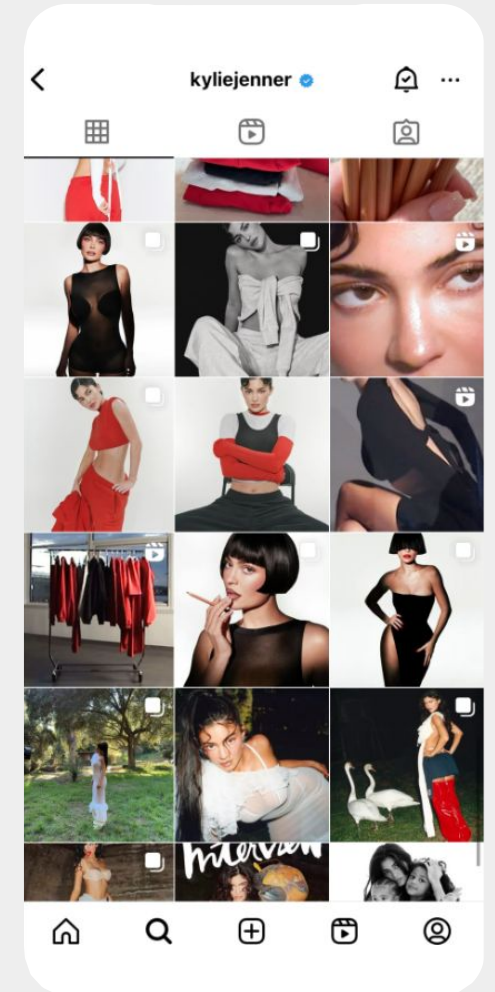
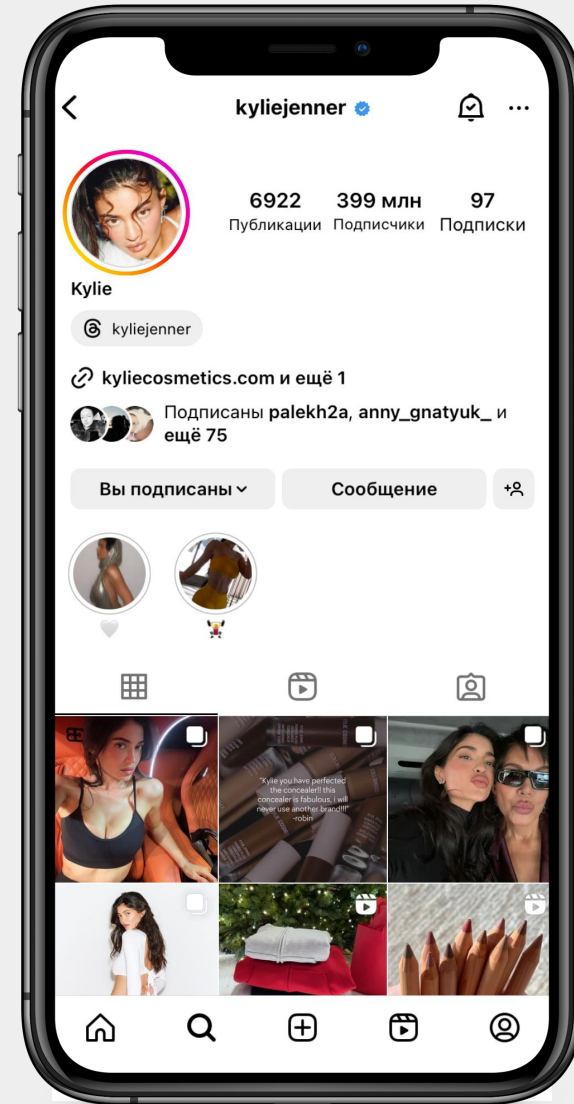
*“When it comes to cosmetics and skincare, Kylie Jenner's avant-garde trends, as well as the launch of her own makeup company Kylie Cosmetics, have had a significant impact not only on the influencer marketing sector but also on current trends. The many lip shades, particularly the ideal nude lip”*

If she can prompt individuals to purchase her products by showcasing the right shade through a single posted story, the potential for swiftly transitioning her followers from one trend to another, particularly towards content promoting a healthy lifestyle and mental well-being, is evident. Currently, her Instagram page epitomizes a benchmark for triggering social comparison.

## Outcome:

Even a solitary 'non-photoshopped' picture shared by her could become viral, prompting widespread emulation.

**And this principle applies to other prominent influencers as well.**



# Why this might fail?



## Working with Influencers

Nearly two-thirds of the 100 most popular fitness influencer accounts promoted unhealthy or unrealistic body shapes. Thereby, we should be careful with the influencer Meta works with, in order to not cause an even greater issue in the Instagram community.



## Assumptions

**Solution, community of influencers:**  
Mitigation of negative influence by 42%<sup>1</sup>

Assumption taken from a Framingham Heart Study which states that people surrounded by happy people, one is more likely to become happy in the future.





# Thank you so much!

Thank you sincerely for this incredible opportunity. We are genuinely grateful for the chance to work alongside Meta, by proposing ideas to improve presence of youth on social media.

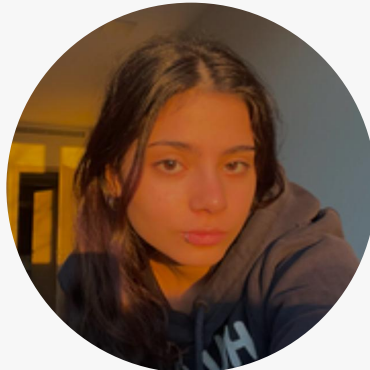
We were excited to make the most of it and looked forward to every second of the past two weeks.

It has been fruitful, it has been valuable, it has been an experience. Seeing Meta coming forward to resolve such an important issue along the youth, has been a kind offer.

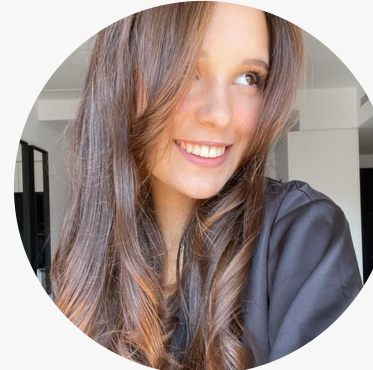
Feel free to reach out to us if you have any further questions!



**Ash Gutierrez-Rodriguez**



**Nayra Cadavid**



**Vladyslava Yarosh**



**Vibhuti Bafna**

