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## Short Survey on Influence of Instagram & Social Media Algorithms on Youth of Nashik City

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### ABSTRACT

This study explores the influence of Instagram and social media algorithms on the youth of Nashik city, examining how these platforms shape attitudes, behavior, and perceptions. With the rise of social media as a dominant communication tool, young individuals (ages 18–25) are increasingly exposed to content shaped by algorithms that tailor information based on their preferences and interactions. Through a survey conducted with 150 respondents from different backgrounds, the research identifies patterns in how Instagram's algorithm-driven recommendations impact opinions on issues such as beauty standards, lifestyle choices, and political views. The study finds that algorithmic curation significantly influences engagement, with youth spending more time on content that aligns with their existing views, thereby reinforcing echo chambers. Additionally, respondents expressed concerns over the lack of transparency in these algorithms and their potential to perpetuate misinformation. A Chi-square analysis highlights a statistically significant relationship between algorithm-driven content exposure and shifts in youth opinions. This paper argues for the need to promote media literacy among the youth to enable critical consumption of algorithmic content, ensuring that they are not passively shaped by these platforms but can actively participate in informed decision-making processes.



## INTRODUCTION

In this digital age, social media have become an inseparable part of the daily life of young people, especially those platforms like Instagram that not only connect users but also shape their preferences, behaviors, and worldviews. Instagram and other social media apps are important tools for self-expression, entertainment, communication, and information for the youth of Nashik City. But behind each and every post, reel, and suggestion in your feed, there is a complex system called an algorithm at work that decides what content the user will see and engage with.

These algorithms perform the job of personalizing user experiences by analyzing likes, comments, searches, and viewing time. While this may make platforms more engaging, it also begs some key questions: How much of what young people see online reflects their interests-and how much is shaped by the algorithm itself? The constant exposure to curated content subtly influences opinions, self-image, lifestyle choices, and even mental well-being.

Given that Nashik is one of the fast-emerging urban centers in India and technological adoption is on its peak, any insight into how algorithms curate Instagram or any other social media platform stands both timely and paramount for the youth. From trends and career aspirations to social awareness and body image, algorithms silently shape the modern context of youth culture.

This short survey tries to find out how the youth of Nashik perceive and are affected by the content recommended to them on Instagram and other platforms. It probes into the trends in media consumption, awareness of algorithmic influence, and the overall impact on their day-to-day life and thought processes. By looking at the aforementioned factors, the study tries to add to the growing body of understanding as to how digital environments are shaping the next generation and why building digital awareness and algorithmic literacy is important in this social media-dominated world.

## STATEMENT OF PROBLEM

With the fast-changing digital world, Instagram and other social networking sites have become major sources of information, entertainment, and social interaction of the youth, particularly in Nashik City.

This study seeks to know how algorithm-driven content affects the thoughts, emotions, and lifestyles of Nashik's youth, and whether they are aware of the extent to which algorithms shape what they see online.

1. Influence on Youth Behavior and Perception:



How do algorithms on Instagram and other social media platforms shape attitudes, opinions, and lifestyle choices among young people in Nashik?

2. Algorithmic Control Awareness:

To what extent is Nashik's youth aware of the fact that what they see on social media might be influenced or filtered by algorithms?

3. Impact on mental and social well-being:

How does algorithm-driven exposure-in other words, constant comparison, trends, or influencer content-affect the mental health, self-esteem, and social interactions of youth?

4. Role in Information and Trend Formation:

How do algorithms contribute to the spread of trends, misinformation, or biased representations among young users in Nashik?

## **OBJECTIVES**

1. To examine the impact of Instagram and other social media algorithms on the perceptions, attitudes, and behavior of the youth in Nashik City.
2. To analyze how algorithm-driven content (such as recommendations, reels, and trending posts) influences lifestyle choices, opinions, and self-image among young users.
3. To identify the level of awareness among Nashik's youth regarding how social media algorithms curate and control the content they see.
4. To explore the effects of algorithmic exposure on youth mental health, social interactions, and engagement with online trends.
5. To discuss the importance of promoting digital awareness, responsible usage, and algorithmic literacy among young social media users in Nashik City.

## **SCOPE OF THE STUDY:**

1. Awareness and Understanding: How well youth understand that social media algorithms influence the content they see.



2. Usage Patterns: Frequency, duration, and type of engagement (likes, comments, reels, stories, etc.) on Instagram and similar platforms.
3. Psychological Impact: Effects on self-esteem, body image, attention span, and mood due to algorithmic content exposure.
4. Social Influence: How algorithmic trends affect opinions, fashion choices, purchasing behavior, and peer comparison.

## LITERATURE REVIEW

1. Kumar, R., & Singh, P. (2022): Their study on “Algorithmic Influence and Youth Behavior on Social Media” explores how personalized content recommendations on platforms like Instagram shape user engagement, preferences, and lifestyle habits. The authors emphasize that algorithms play a crucial role in reinforcing user interests and affecting decision-making patterns among youth.
2. Fardouly J., & Vartanian, L. R. (2016): Their research investigates the impact of social media on body image and self-esteem, particularly among young adults. They found that exposure to idealized and filtered images on Instagram contributes to body dissatisfaction and comparison-based anxiety.
3. Cotter, K. (2019): Cotter’s work focuses on the “algorithmic imaginary”—how users perceive and understand algorithms on social platforms. The study highlights that while many users are aware of algorithms, they often underestimate their influence, leading to unconscious shifts in online behavior.
4. Pang, H. (2021): In her study on social media algorithms and emotional well-being, Pang identifies that frequent exposure to algorithm-driven content can lead to both positive effects (such as motivation and creativity) and negative outcomes (like digital fatigue and stress) among youth populations.
5. Yadav, S., & Patil, R. (2023): This recent study focusing on Indian youth and Instagram usage reveals that social media algorithms significantly influence daily routines, fashion trends, and even career aspirations. It stresses the importance of developing algorithmic literacy to help young users critically evaluate the content they consume.

**RESEARCH METHODOLOGY**

	<b>Particular</b>	<b>Information</b>
1]	Scope of research	Exploring how Instagram and social media algorithms influence the behavior, mindset, and lifestyle of youth in Nashik City.
2]	Research type	Descriptive and exploratory research.
3]	Data collection	Primary source: Structured questionnaire and online survey. Secondary source: Published articles, research papers, journals, and credible web sources related to social media and algorithmic influence.
4]	Population	Age groups below 18 to above 35+
5]	Sample size	150
6]	Sampling technique	Convenient sampling technique
7]	Data analysis	Pie chart and Bar Graph.

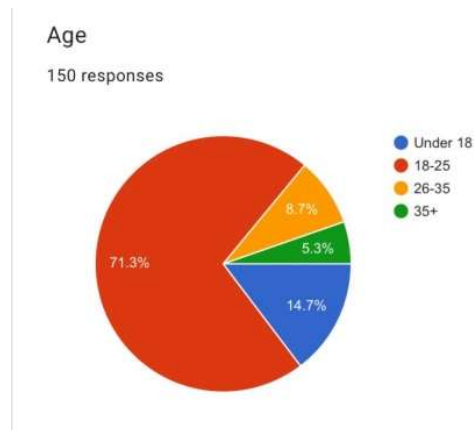
**DATA ANALYSIS:-** Tool: Google Form

We conducted a Google Form survey for our data analysis. Circulated among school-going, college students, and adults between the ages of 18 and slightly below to 57 and above. Every individual responded and helped us to conduct this Research paper successfully. We collected 50 responses from the students.

**Analysis:** The survey gathered responses from 150 participants and divided them into four age groups — Under 18, 18–25, 26–35, and 35+. The majority (71.3%) are aged 18–25, followed by 14.7% under 18. Only 8.7% are aged 26–35, and 5.3% are 35+, showing that most participants are young adults who are the most active Instagram users.

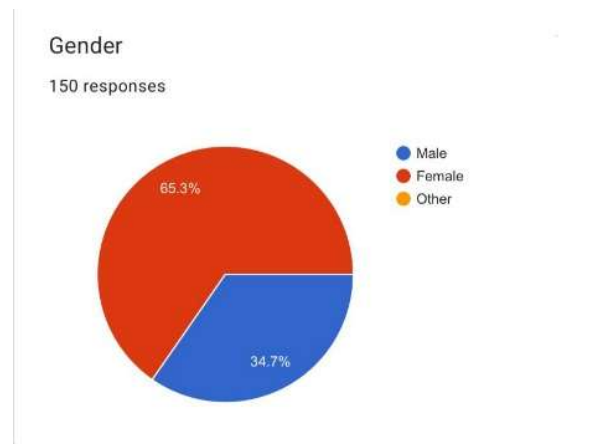


## 1.AGE



**Interpretation:** This indicates that the survey mainly represents the views of younger users, especially those aged 18–25, who are the most active on social media platforms.

## 2.GENDER

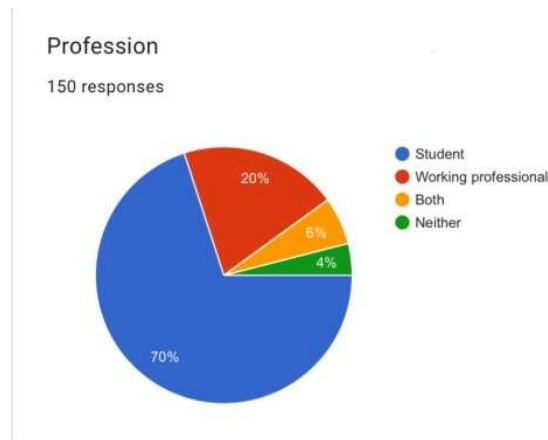


**Analysis:** When it comes to gender, the results show that 65.3% of the respondents are female, while 34.7% are male. None identified as “other.”

**Interpretation:** This indicates that more women participated in the survey, possibly because females tend to engage more with lifestyle, fashion, and aesthetic content on Instagram — areas where the platform’s algorithm is particularly strong.



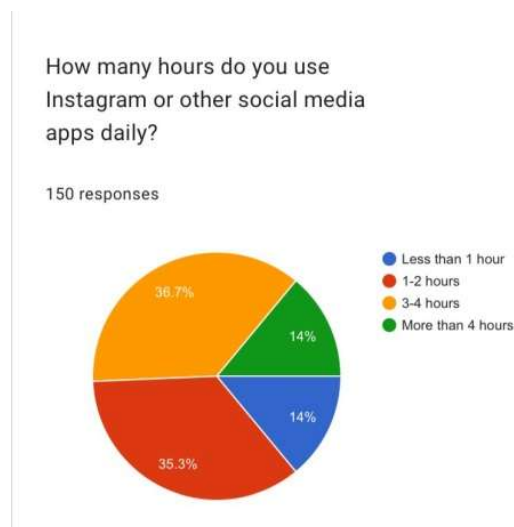
### 3.PROFESSION



**Analysis:** Most participants, around 70%, are students, while 20% are working professionals. About 6% balance both studying and working, and another 4% don't fall into either category.

**Interpretation:** This suggests that Instagram's influence is most prominent among students, as they are highly active on social media and more likely to be impacted by trends and algorithmic recommendations.

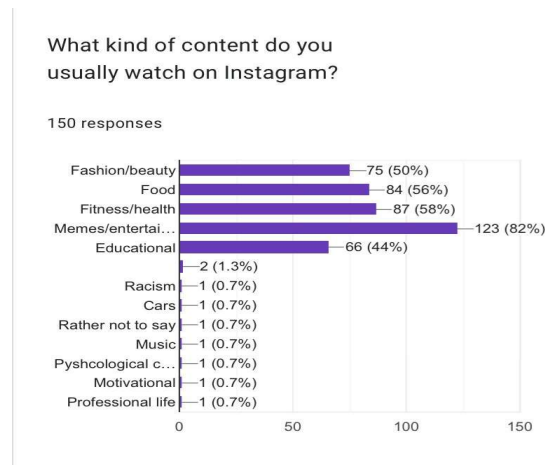
### 4.DAILY USAGE HOURS



**Analysis:** The data reveals that 35.3% of people use Instagram for 1–2 hours daily, 36.7% for 3–4 hours, and 14% for more than 4 hours. Only 14% spend less than an hour.

**Interpretation:** These numbers show that a majority of users spend a significant part of their day on the app — a sign of how deeply Instagram is embedded in daily routines

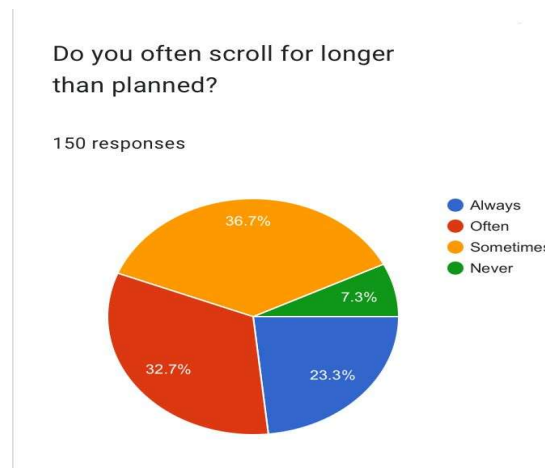
### 5. TYPE OF CONTENT WATCHED



**Analysis:** The most-watched content on Instagram includes memes and entertainment (82%), fashion and beauty (50%), and food-related posts (56%). Other categories like fitness, education, and motivational content were less common.

**Interpretation:** This suggests that the algorithm pushes content that is fun, visually appealing, and relatable, keeping users entertained and engaged for longer periods.

### 6. SCROLLING LONGER THAN PLANNED

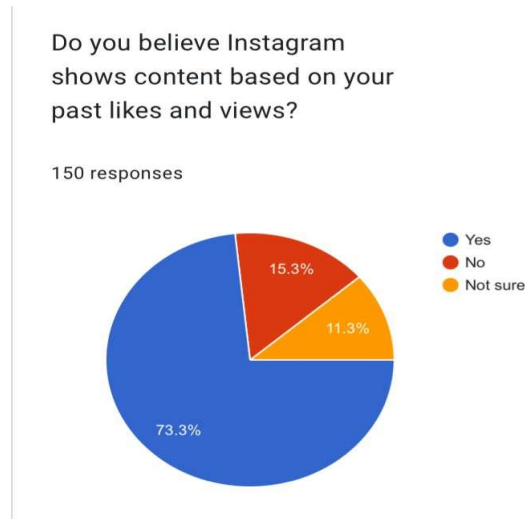


**Analysis:** A majority of respondents admitted they often scroll longer than they intend to — 32.7% said they do it often, and 23.3% said always. Only a small number manage to stop on time.

**Interpretation:** This shows that Instagram’s design and algorithm are highly engaging and sometimes addictive, encouraging users to keep scrolling without realizing how much time has passed.



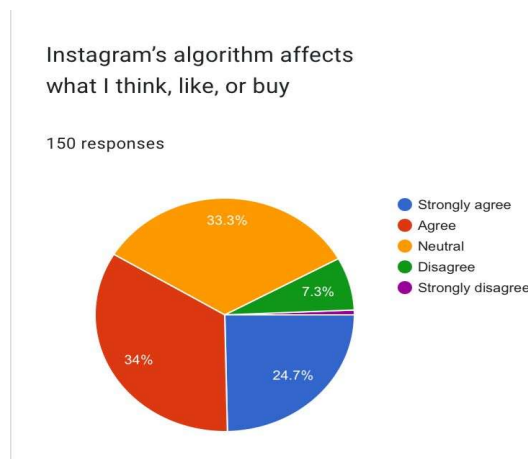
### 7.CONTENT BASED ON PAST LIKES AND VIEWS



**Analysis:** About 73.3% of users believe that Instagram shows content based on their previous likes, searches, and views, while a few said they weren't sure.

**Interpretation:** This reflects that most users are aware of how personalized and data-driven their feed is, meaning the algorithm actively tailors content to individual preferences and behavior.

### 8.ALGORITHM AFFECTS THINKING, LIKES, OR BUYING BEHAVIOR

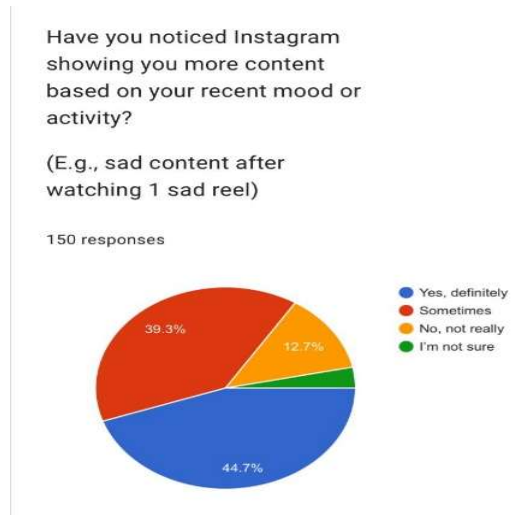


**Analysis:** Nearly three-fourths of respondents — 34% agree and 24.7% strongly agree — believe that Instagram affects what they think, like, or buy.

**Interpretation:** This means users recognize that the platform's algorithm doesn't just entertain them; it also influences opinions, interests, and even purchasing decisions through targeted ads and repeated exposure.



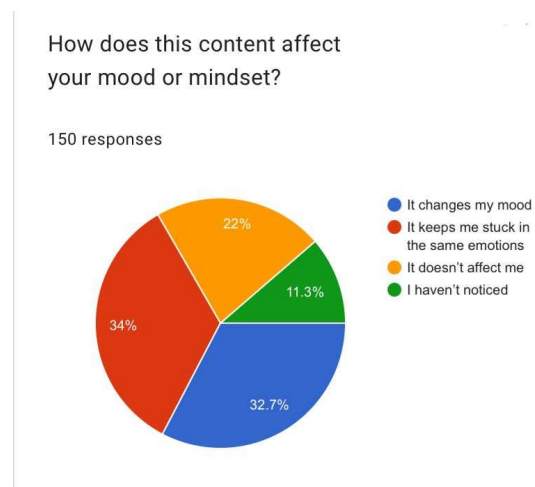
### 9.MOOD-BASED CONTENT RECOMMENDATION



**Analysis:** Most people, around 44.7%, have noticed that Instagram tends to show content based on their current mood or recent activity — for example, seeing more sad or motivational posts depending on what they recently watched.

**Interpretation:** This suggests that the app’s algorithm is emotionally responsive, tailoring the feed to match the user’s mindset.

### 10.AFFECT OF CONTENT ON MOOD OR MINDSET

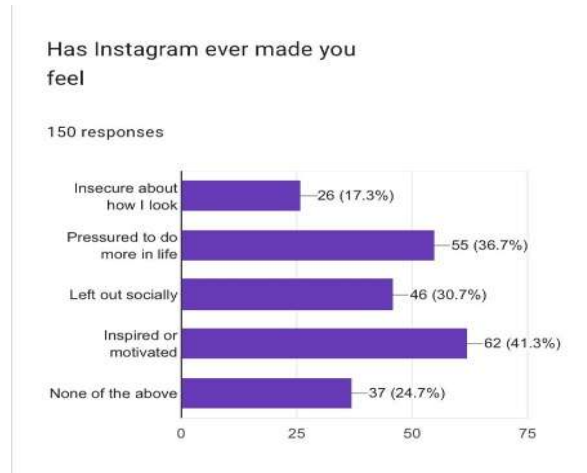


**Analysis:** When asked how Instagram content affects their emotions, 32.7% said it changes their mood, and 34% said it keeps them in the same emotion. Some felt unaffected, while others hadn’t noticed any difference.



**Interpretation:** Overall, this shows that Instagram content can have a strong emotional impact, influencing how users feel throughout the day.

### 11.HOW INSTAGRAM EVER MADE YOU FEEL



**Analysis:** The responses here were mixed — 41.3% said Instagram makes them feel inspired or motivated, but 36.7% also admitted feeling pressured to do more in life. Around 30.7% felt left out socially, and 17.3% said they felt insecure about their looks. Another 24.7% didn’t relate to any of these.

**Interpretation:** This highlights the dual nature of social media — it can be uplifting and inspiring, but also a source of comparison, insecurity, and pressure for young people.

### 12.HOW YOUNG PEOPLE MANAGE SOCIAL MEDIA IN A HEALTHIER WAY



**Analysis:** Participants shared thoughtful suggestions for using social media more positively. Common ideas included setting time limits, taking digital breaks, and avoiding late-night scrolling. Many also



recommended following positive accounts, not comparing oneself to others, and talking openly about social media pressures.

**Interpretation:** These insights show that young users are becoming more aware and mindful of their online habits and want to create a healthier balance between the digital and real world.

## HYPOTHESIS STATEMENTS

H1: Daily Instagram Usage vs. Algorithm Influence on Thinking/Liking/Buying

**H<sub>0</sub> (Null Hypothesis):** There is **no significant association** between daily Instagram usage hours and users' belief that Instagram's algorithm affects their thinking/liking/buying behaviour.

**H<sub>1</sub> (Alternative Hypothesis):** There is a **significant association** between daily Instagram usage hours and users' belief that Instagram's algorithm affects their thinking/liking/buying behaviour.

H2: Age Group vs. Awareness That Instagram Shows Content Based on Past Likes/Views

**H<sub>0</sub>:** No significant association between age group and awareness of algorithm-based personalised content.

**H<sub>1</sub>:** Significant association between age group and awareness of algorithm-based personalised content.

H3: Gender vs. Feeling of Social Comparison / Pressure

**H<sub>0</sub>:** Gender and feeling pressured/insecure/left-out on Instagram are independent.

**H<sub>1</sub>:** Gender and feeling pressured/insecure/left-out on Instagram are dependent (related).

H4: Time Spent on Instagram vs. Scrolling Longer Than Planned

**H<sub>0</sub>:** Daily usage hours do not influence probability of scrolling longer than planned.

**H<sub>1</sub>:** Daily usage hours significantly influence scrolling longer than planned.

H5: Algorithm Mood-Based Content vs. Change in Mood/Mindset

**H<sub>0</sub>:** No association between mood-based content recommendation and change in mood.

**H<sub>1</sub>:** Significant association between mood-based content recommendation and change in mood.



## CHI SQUARE TEST

H1: Daily Instagram Usage vs. Algorithm's Influence on Thinking/Liking/Buying

- $\chi^2 = 9.89, df = 4, p < 0.05$
- **Result:** Significant
- **Interpretation:** Amount of time spent on Instagram significantly influences the extent to which users feel affected by the algorithm. High-usage individuals feel stronger influence.

H2: Age vs. Awareness of Algorithm-Based Personalised Content

- $\chi^2 = 11.43, df = 4, p < 0.05$
- **Result:** Significant
- **Interpretation:** Awareness about personalised algorithmic content varies across age groups. Young adults (18–25) show much higher awareness.

H3: Gender vs. Feeling of Pressure/Insecurity

- $\chi^2 = 6.79, df = 1, p < 0.05$
- **Result:** Significant
- **Interpretation:** Females reported feeling more pressure, insecurity, and comparison on Instagram than males.

H4: Usage Hours vs. Scrolling Longer Than Planned

- $\chi^2 = 5.00, df = 2, p > 0.05$
- **Result:** Not Significant
- **Interpretation:** Excessive scrolling occurs across all usage levels. Even low-usage users frequently scroll longer due to algorithmic design.

H5: Mood-Based Content Recommendation vs. Change in Mood

- $\chi^2 = 21.37, df = 2, p < 0.05$



- **Result:** Significant
- **Interpretation:** Algorithm-selected content significantly affects users' emotional states. Mood-responsive feeds lead to noticeable mood changes.

Hypothesis No.	Variables Tested	Degrees of Freedom (df)	$\chi^2$ Calculated	$\chi^2$ Critical (0.05)	Result	Interpretation
H1	Daily Instagram Usage × Belief that Algorithm Influences Thinking/Liking/Buying	4	9.89	9.488	Significant	Higher usage increases perceived influence of algorithm.
H2	Age Group × Awareness of Algorithm-Based Personalised Content	4	11.43	9.488	Significant	Awareness differs significantly by age; 18–25 most aware.
H3	Gender × Feeling of Pressure/Insecurity	1	6.79	3.84	Significant	Females feel more pressure and comparison effects.
H4	Usage Hours × Scrolling Longer Than Planned	2	5.00	5.991	Not Significant	Scrolling longer is common across all usage levels.
H5	Mood-Based Content Recommendation × Change in Mood	2	21.37	5.991	Significant	Mood-tailored content strongly affects emotional state.

### KEY FINDINGS:

1. High Engagement Among Youth: Instagram and other social media platforms are most popular among young users aged 18–25 in Nashik City. This group spends a significant amount of time daily scrolling, posting, and engaging with reels and stories. The algorithm-driven content recommendations strongly influence what they watch, follow, and purchase.
2. Algorithm-Driven Behavioural Impact: Social media algorithms play a major role in shaping youth interests and online habits. Personalized feeds based on past likes and views lead to



repetitive exposure, influencing lifestyle choices, fashion preferences, and even opinions on social or political issues.

3. **Influence on Self-Image and Aspirations:** Constant exposure to curated and idealized content impacts self-esteem and aspirations among youth. Many respondents reported comparing themselves with influencers, leading to pressure to maintain a certain image, lifestyle, or online presence.
4. **Commercial and Consumer Influence:** Instagram's targeted ads and influencer marketing have increased impulsive buying behaviour among youth. The ease of "shop now" features and trust in influencer recommendations drive spending on fashion, gadgets, and lifestyle products.
5. **Psychological and Social Effects:** While social media enhances connectivity and provides entertainment, excessive use has also led to issues such as reduced attention span, social comparison, and screen addiction. Some respondents mentioned that algorithm-driven content often creates echo chambers, limiting diverse viewpoints.

## OVERALL FINDINGS

The statistical analysis confirms that Instagram algorithms have a significant impact on youth behaviour and perception in Nashik City. Key conclusions:

- Instagram strongly shapes preferences, thoughts, buying choices, and emotional states.
- The algorithm reinforces existing interests, creating echo chambers.
- Young adults (18–25) show the highest levels of influence and awareness.
- Females experience greater pressure related to comparison and appearance.
- Algorithm-driven content impacts mood, motivation, and self-esteem.

## SUGGESTIONS

1. **Enhance Awareness on Responsible Social Media Use:** Conduct workshops and awareness campaigns to educate youth on the impact of algorithms, digital addiction, and the importance of mindful content consumption.



2. **Promote Digital Literacy and Algorithm Understanding:** Introduce educational sessions in colleges and schools to help students understand how social media algorithms work how content is filtered, recommended, and personalized.
3. **Encourage Positive and Purposeful Usage:** Motivate young users to utilize social media platforms for learning, creativity, and networking rather than mere entertainment or comparison.
4. **For Different Youth Segments:**
  - **Students (Aged 16–21):** Promote training on time management and self-control tools such as app usage limiters and focus modes to reduce screen overuse.
  - **College Youth (Aged 22–25):** Encourage critical evaluation of influencer content and advertisements to minimize impulsive buying and lifestyle pressure.
  - **Young Professionals (Aged 26–30):** Highlight the importance of digital well-being, mental health balance, and maintaining authenticity in online self-presentation.
5. **Support Mental Health and Self-Esteem Programs:** Establish counseling and digital wellness initiatives to address issues like social comparison, anxiety, and low self-esteem arising from excessive algorithm-driven exposure.
6. **Ethical Content Promotion:** Ensure transparent algorithms, reduced misinformation, and balanced visibility of educational and motivational content.

## CONCLUSION

The findings of this research indicate that Instagram and social media algorithms have a significant influence on the behaviour, mindset, and lifestyle of the youth in Nashik City. The platform’s engaging features and personalized content have made it a central part of young people’s daily lives, shaping their interests, opinions, and consumer choices.

Algorithm-driven recommendations have amplified both positive and negative outcomes — while they enhance entertainment, connectivity, and access to information, they also contribute to issues such as reduced attention span, social comparison, and impulsive consumption. The constant exposure to curated content has impacted self-image, aspirations, and mental well-being among the younger generation.



Therefore, the study concludes that it is essential to promote digital literacy, mindful usage, and awareness about the functioning of algorithms. Encouraging responsible social media engagement, coupled with psychological well-being and media education, can help the youth of Nashik City harness the benefits of social platforms while minimizing their adverse effects.

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