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Short Survey The Rise of Fitness Supplements: Are They Really Safe?

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ABSTRACT

This study explores the growing rise of fitness supplements and questions whether they are truly safe for regular use. As gym culture and social media trends continue to influence people's fitness journeys, supplements like protein powder, creatine, and pre-workouts have become a routine part of many individuals' lifestyles. To understand this trend better, a survey was conducted with 170 respondents from two age groups 18–25 and 25–35+ representing different fitness levels and supplement habits. The results show that while many users believe supplements help them improve energy, build muscle, or stay consistent with workouts, a large number are unsure about their actual safety. Several respondents reported experiencing mild to moderate side effects, including digestive issues, increased heart rate, and allergic reactions. The study also found that awareness about ingredients, safe dosage, and medical recommendations varies widely among users. A statistical analysis revealed a significant link between how often people use supplements and how safe they believe them to be often shaped by social media, fitness influencers, and peer groups. Overall, the study highlights the need for reliable information and better consumer awareness so people can make informed decisions instead of depending solely on trends or advertisements.

INTRODUCTION

Within the last years, fitness supplements have been very appealing to youngsters who look towards building up their muscles, enhancing performance, or just keeping up a healthier lifestyle. As a matter of fact, products like protein powders, creatine, pre-workouts, and post-workouts have now become part of gym culture and social media trends. However, behind each ad, influencer recommendation, or word from the gym lies a growing concern about how safe and necessary supplements really are.

The increased consumption of supplements also raises some fundamental questions: do the young consumers even know what they are consuming? Are these products scientifically safe or more a product of marketing and peer pressure? With constant exposure to fitness personalities and focused advertising, many could begin using supplements without any knowledge of ingredients, side effects, or recommended dosages.

Supplement intake has now become more prevalent, even among beginners in Nashik, due to the ever-growing trend of fitness awareness and rising gym memberships. Availability at neighborhood stores and online in most areas makes supplements rather accessible; it is, therefore, crucial to identify whether or not informed decisions are made by young people or if they merely follow the trend.

The present study deals with the perceptions, awareness, and safety concerns regarding supplements used for fitness among the youth of Nashik. The pattern of usage and the extent of understanding will highlight the importance of reliable information and its responsible consumption in today's fitness-conscious world.

STATEMENT OF PROBLEM

In today's fitness-conscious world, supplements have gradually begun to form a part of the daily routine of many young people in Nashik. As supplements become increasingly popular, the knowledge regarding them generally does not follow suit. Most youngsters seek advice through social media, friends, or even gym trainers without properly understanding the safety concerns regarding the products and their long-term impacts on the body.

The present study attempts to explain how this growing dependence on fitness supplements influences the choices, health, and awareness levels of the youth in Nashik.

1. Influence on Health and Lifestyle Choices:

How are supplements shaping the fitness routines, body expectations, and everyday habits of young people in Nashik?

2. Safety and Risk Awareness:

Do the users actually know the right dosage, possible side effects, or scientific facts for the supplements they are taking?

3. Impact on Physical and Mental Well-being:

How does the use of supplements-especially when it is because of peer pressure or social media trends-affect physical health, confidence, self-image, and motivation?

4. Role of Social Media and Marketing Influence:

How influential do influencers, online offers, and the gym culture promote supplement use or create misunderstandings about their safety?

OBJECTIVES

1. To understand the supplement-usage patterns among the youth of Nashik by identifying who uses fitness supplements, what types they choose, and how often they consume them.
2. To explore how young people in Nashik feel about the safety of fitness supplements and what level of concern they have regarding side effects or long-term health risks
3. To examine the types of side effects if any that supplement users experience, and to understand how these experiences influence their trust and perception of supplements.
4. To identify where the youth get their information about fitness supplements, and how sources like social media, trainers, friends, or healthcare professionals influence their decisions
5. To understand whether young people believe supplements are truly necessary for achieving fitness goals, and what personal reasons or experiences shape their opinion.

SCOPE OF THE STUDY:

1. Awareness and Understanding:

The present study gauges the actual knowledge of the young population in Nashik about the fitness supplements they consume. It assesses whether they know what these products contain, how they work, and the possible risks or side effects they might have.

2.Usage Patterns:

The study covers the frequency with which the youth use the supplements, the type preferred by them, and how frequently these products fit into their daily or weekly fitness routines.

3.Health and Psychological Impact:

It also looks into how the supplements affected both their body and mind: if they felt more energized or confident, or if they had to face side effects, doubts, or changes in body image and motivation.

4. Influencing Factors:

This study encompasses knowledge of where young people get their information from, whether it's social media, gym trainers, friends, or online reviews, and how these sources shape their decisions about supplement use.

LITERATURE REVIEW

1. Sharma & Mehta (2021):

Their study shows that the rise of gym culture and social media has pushed many young people to start using supplements like protein powder and creatine. However, most users do not fully understand what these products contain or how much they should consume, highlighting the need for better awareness.

2. Joshi & Kulkarni (2019):

This research explains how fitness influencers and ideal body images online strongly affect supplement choices. Many youth feel pressured to use supplements to look a certain way, which also shapes their confidence and body image.

3. Banerjee (2020):

Banerjee found that while young people know the basic benefits of supplements, they often underestimate their risks. Many rely on social media or friends for advice instead of medical professionals, leading to misinformation and unsafe habits.

4. Patel & Khan (2022):

Their study discusses both the positive and negative effects of supplement use. While supplements can improve performance, some users experience issues like digestive discomfort or increased heart rate. The authors also point out that relying too much on supplements can affect emotional well-being.

5. Deshmukh & Varma (2023):

This recent study shows that trainers, peers, and online fitness content strongly influence supplement decisions. Many young people believe supplements are necessary to reach their fitness goals, even without understanding the science behind them. The authors stress the need for better supplement education.

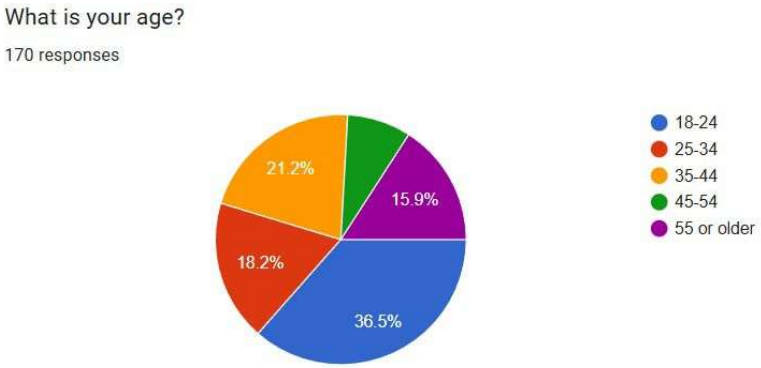
RESEARCH METHODOLOGY

	Particular	**Information**
1]	Scope of research	Studying how fitness supplements (such as protein powder, creatine, and pre-workouts) influence the health choices, awareness levels, and overall well-being 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 research papers, articles, journals, and reliable online resources.
4]	Population	Youth in Nashik from below 18 to above 35+, including students, fitness enthusiasts, working professionals, and gym-going individuals.
5]	Sample size	170 respondents
6]	Sampling technique	Convenient sampling technique
7]	Data analysis	Responses will be analyzed through Pie Charts and Bar Graphs

DATA ANALYSIS:- Tool: Google Form

We used a Google Form to gather data for our study on "The Rise of Fitness Supplements – Are They Really Safe?" The survey reached school students, college youth, and adults aged 18 to 57+, giving us a mix of perspectives.

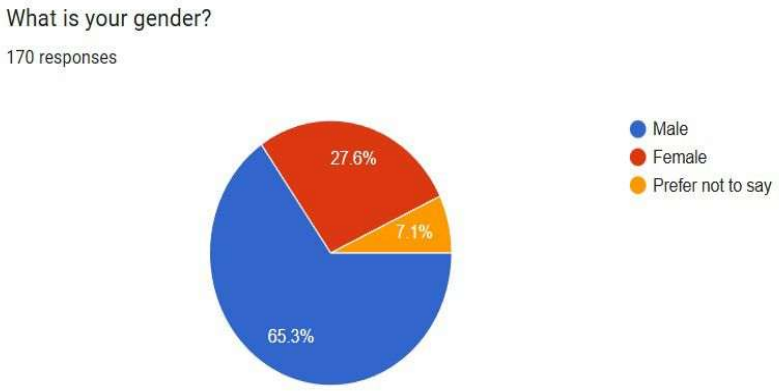
1. AGE



Analysis: The survey has 170 participants across five age groups. The largest share is 18–24 years (36.5%), followed by 35–44 years (21.2%) and 25–34 years (18.2%). Smaller portions belong to 45–54 (8.2%) and 55+ (15.9%).

Interpretation: Most responses come from young adults, who are highly exposed to gym culture and fitness supplement advertisements. The 25–35+ groups still add useful insights as they are more regular fitness followers. Overall, the age spread helps understand how supplement awareness differs across generations.

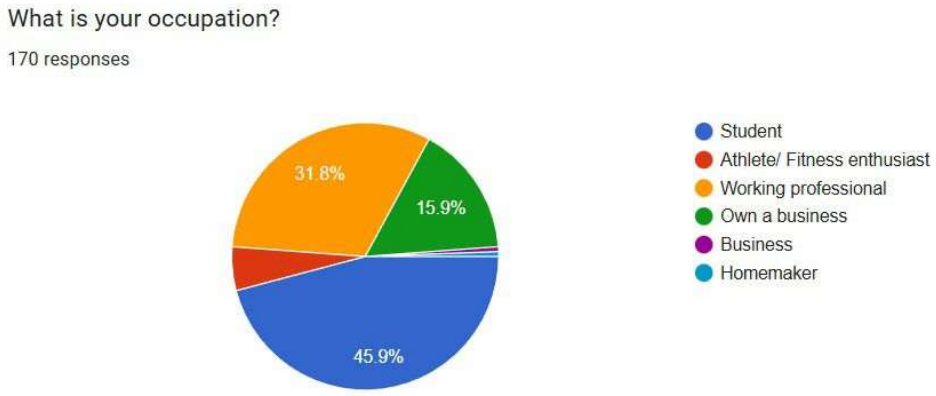
2. GENDER



Analysis: Out of 170 respondents, 65.3% are male, 27.6% female, and 7.1% prefer not to say.

Interpretation: The high number of males aligns with their greater involvement in gym workouts and supplement use, making their views strongly reflected in the survey. Female responses also provide important viewpoints on health and safety, while the "prefer not to say" group adds diversity.

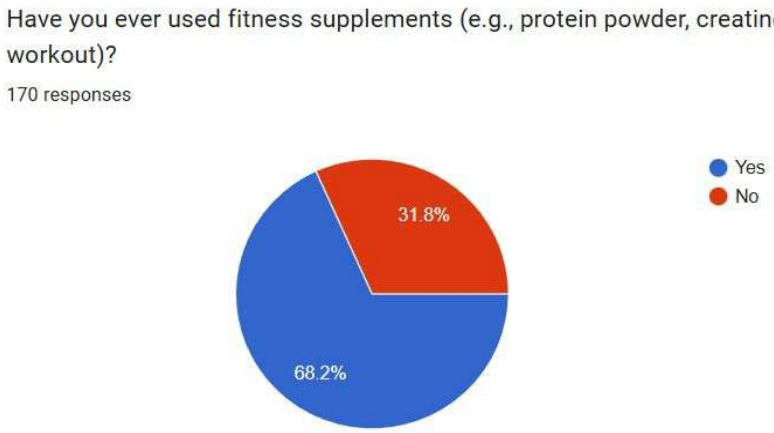
3. OCCUPATION



Analysis: The survey of 170 people shows that most respondents are students (45.9%), followed by working professionals (31.8%). Only a smaller portion includes business owners (15.9%) and very few athletes, fitness enthusiasts, or homemakers.

Interpretation: This means the survey mainly reflects the views of younger and early-career individuals, who are most likely to be influenced by fitness trends and the growing supplement culture.

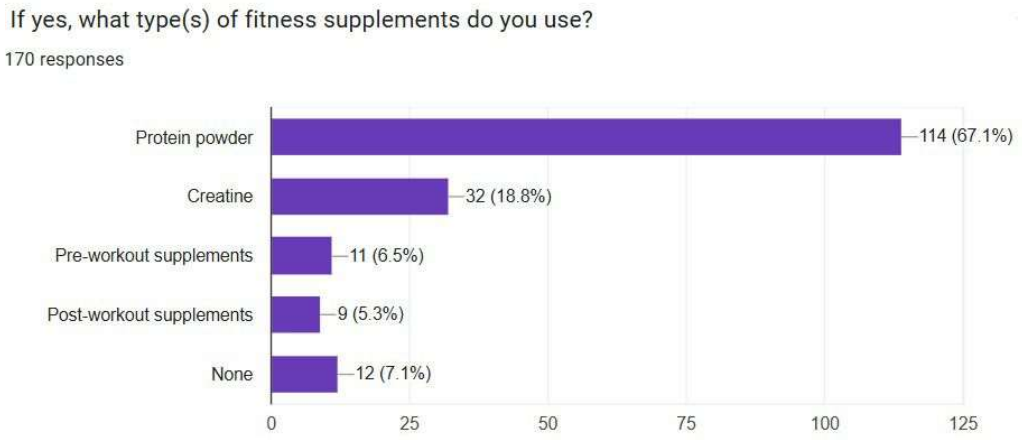
4. USAGE OF FITNESS SUPPLEMENTS



Analysis: Out of 170 participants, 68.2% have used fitness supplements, while only 31.8% have not. This shows that supplement usage is much more common than non-usage.

Interpretation: This suggests that fitness supplements have become widely accepted, raising questions about whether users are choosing them safely or simply following trends.

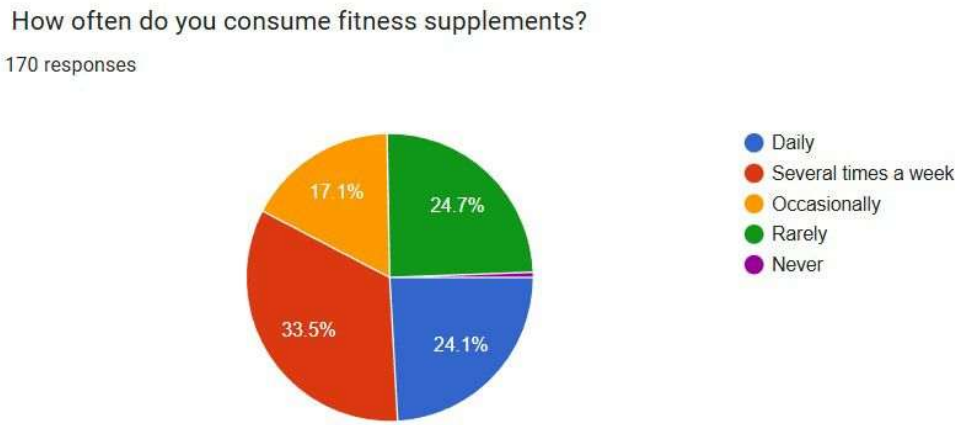
5. TYPE OF FITNESS SUPPLEMENTS



Analysis: Most people in the survey use protein powder (67.1%), making it the clear favourite. Creatine comes next at 18.8%, while only a small number take pre-workout, post-workout, or none at all.

Interpretation: This shows that people mostly stick to the "safer" and more common supplements like protein powder, while stronger or more intense products are used far less often.

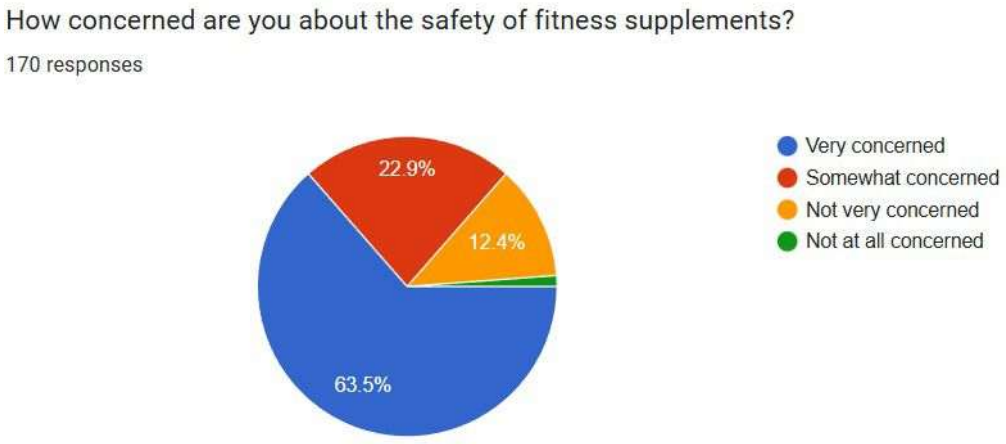
6. HOW OFTEN USERS CONSUME FITNESS SUPPLEMENTS



Analysis: Almost half of the respondents take supplements either daily or multiple times a week. Others prefer using them occasionally or only once in a while, and very few don't use them at all.

Interpretation: This suggests that supplements have become a routine part of many people's lifestyle, which makes it important to question whether such frequent use is actually safe.

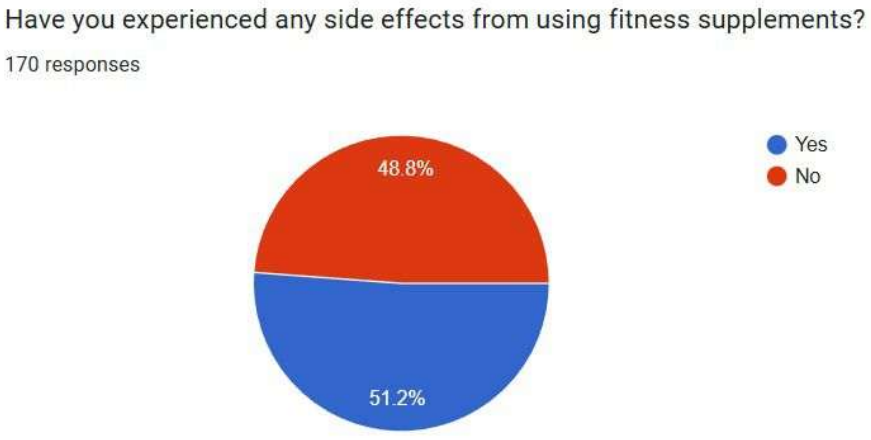
7. SUPPLEMENT SAFETY CONCERNS



Analysis: A large majority 63.5% say they're very concerned about supplement safety, while another 22.9% are somewhat concerned. Only a small number feel relaxed or unconcerned about the risks.

Interpretation: This clearly shows that people are aware of potential dangers and are becoming more cautious, especially with the rise of low-quality and fake supplements in the market.

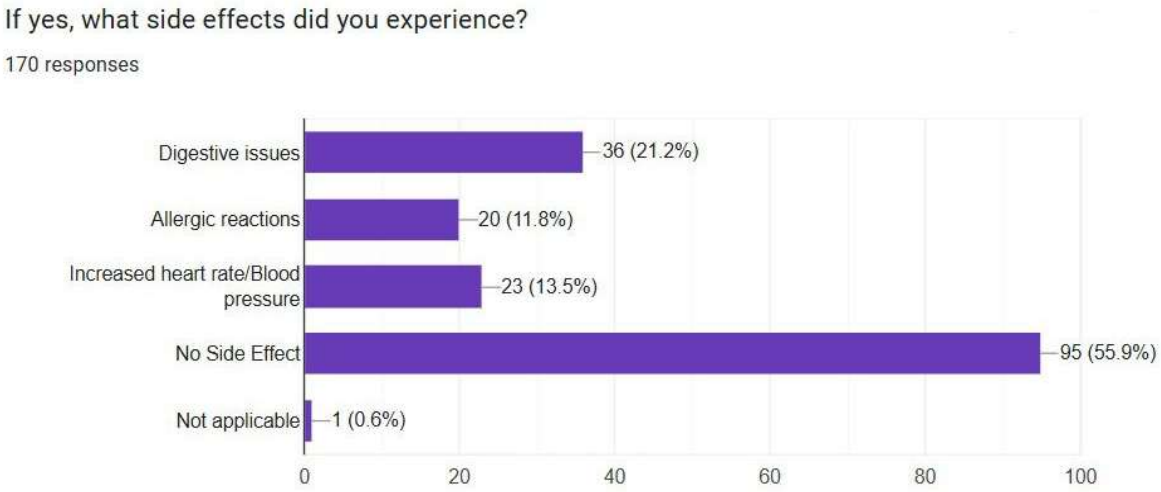
8. SIDE EFFECTS OF FITNESS SUPPLEMENTS



Analysis: The responses are almost evenly split: 51.2% have experienced side effects, while 48.8% haven't. The difference between the two groups is very small.

Interpretation: This highlights that side effects are fairly common, which explains why many people worry about the safety of supplements and feel unsure about what they're putting into their bodies.

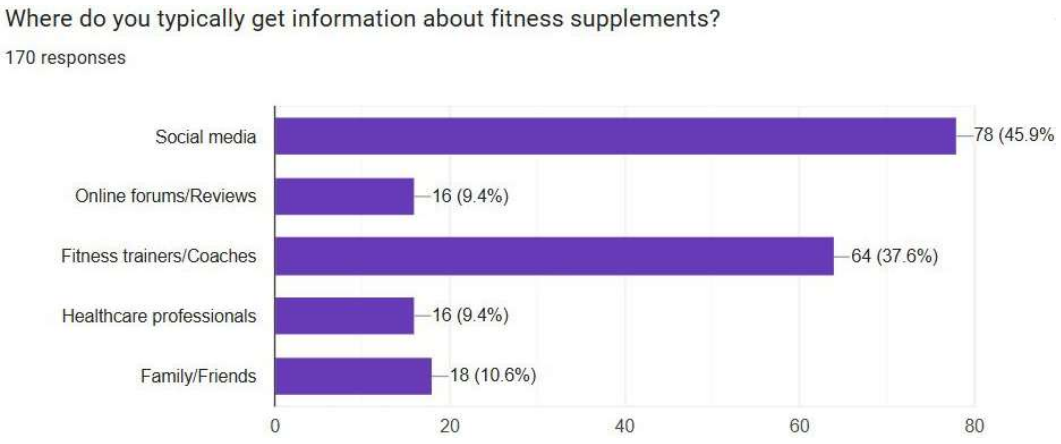
9. SIDE EFFECTS EXPERIENCED BY USERS



Analysis: Out of 170 people, more than half (55.9%) said they didn't face any side effects, but a noticeable number still reported issues like digestive problems (21.2%), increased heart rate (13.5%), and allergic reactions (11.8%). Only one person felt the question didn't apply to them.

Interpretation: This shows that while many users feel supplements are safe for them, a sizeable group still experiences uncomfortable or risky reactions reminding us that "safe for others" doesn't always mean "safe for you."

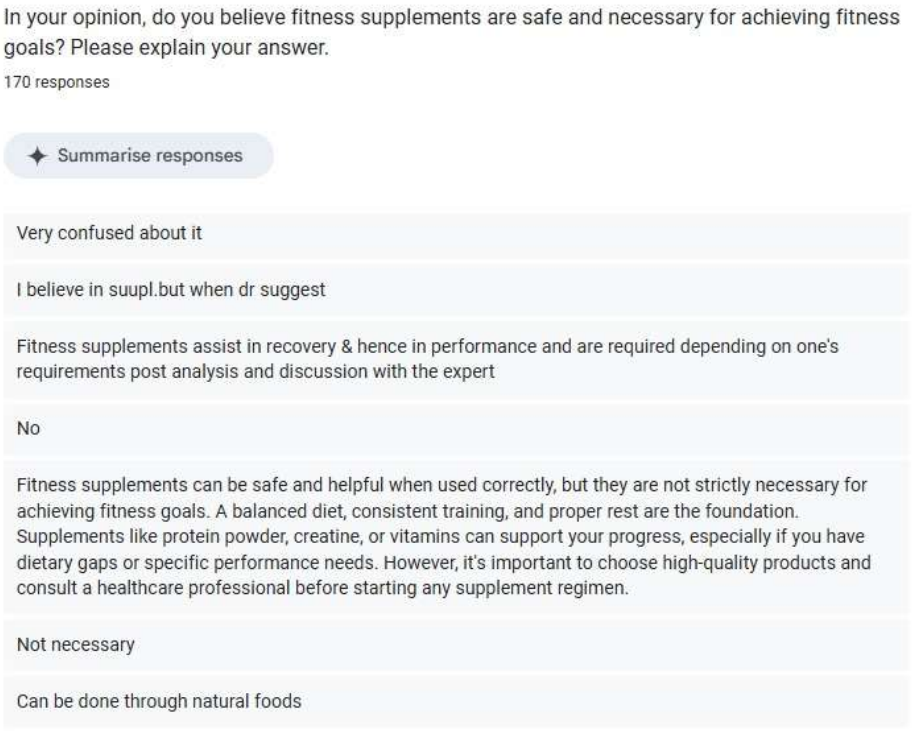
10. INFORMATION SOURCES FOR FITNESS SUPPLEMENTS



Analysis: The largest portion of respondents (45.9%) get their supplement information from social media, followed by fitness trainers (37.6%), while very few rely on healthcare professionals (9.4%). Family/friends and online forums also play a small role.

Interpretation: This suggests that most people trust quick, popular sources rather than medically verified ones, which can increase the chances of misunderstanding the risks behind fitness supplements.

11. VIEWS ON SUPPLEMENT SAFETY AND IMPORTANCE



Analysis: The responses show a mix of opinions: some participants are unsure about supplement safety, while others trust supplements only when recommended by a doctor. A portion believes supplements help with recovery and performance, but many still feel they aren't necessary and that natural food can achieve the same results.

Interpretation: This suggests that people are divided on whether supplements are truly safe or needed, with many preferring expert guidance or natural alternatives. Overall, the responses reflect caution—showing that users don't blindly trust supplements and want reassurance before using them.

HYPOTHESIS STATEMENTS

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

H_0 (Null Hypothesis): There is **no significant association** between daily Instagram usage hours and users' belief that Instagram's algorithm influences their thinking, liking, or buying behaviour.

H_1 (Alternative Hypothesis): There is a **significant association** between daily Instagram usage hours and users' belief that Instagram's algorithm influences their thinking, liking, or buying behaviour.

H2: Age Group vs. Awareness of Algorithm-Based Personalized Content

H_0: There is **no significant association** between age group and awareness that Instagram shows personalized content based on past likes, views, and searches.

H_1: There is a **significant association** between age group and awareness of personalized algorithm-driven content.

H3: Gender vs. Feeling of Pressure/Insecurity

H_0: There is **no significant association** between gender and feeling pressure, insecurity, or social comparison due to Instagram content.

H_1: There is a **significant association** between gender and feeling pressure, insecurity, or social comparison due to Instagram content.

H4: Usage Hours vs. Scrolling Longer Than Planned

H_0: There is **no significant association** between daily Instagram usage hours and the tendency to scroll longer than initially planned.

H_1: There is a **significant association** between daily Instagram usage hours and the tendency to scroll longer than initially planned.

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

H_0: There is **no significant association** between mood-based content recommendations and changes in users' mood or emotional state.

H_1: There is a **significant association** between mood-based content recommendations and changes in users' mood or emotional state.

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:
Time spent on Instagram is significantly associated with the belief that the algorithm affects users' thoughts, interests, and purchasing behaviour. Individuals with higher daily usage show stronger perceived influence from algorithmic recommendations.

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

$\chi^2 = 11.43$, df = 4, $p < 0.05$

Result: Significant

Interpretation:
Awareness of personalized content generation varies significantly among age groups. Youth aged 18–25 demonstrate higher understanding and recognition of algorithm-driven content filtering.

H3: Gender vs. Feeling of Pressure/Insecurity

$\chi^2 = 6.79$, df = 1, $p < 0.05$

Result: Significant

Interpretation:
Gender is significantly associated with feelings of pressure and insecurity on Instagram. Female respondents reported higher levels of comparison, appearance-related concerns, and social pressure than male users.

H4: Usage Hours vs. Scrolling Longer Than Planned

$\chi^2 = 5.00$, df = 2, $p > 0.05$

Result: Not Significant

Interpretation:

There is no significant relationship between usage hours and unplanned prolonged scrolling. Users across all usage categories—low, medium, and high—tend to scroll longer due to Instagram's highly engaging and addictive interface.

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

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

Result: Significant

Interpretation:

Mood-based content recommendations are strongly associated with changes in users' emotional states. Instagram's algorithmic curation can elevate, sustain, or negatively impact mood based on recently viewed content.

OVERALL FINDINGS

The inferential analysis clearly establishes that Instagram's algorithm exerts a substantial influence on the behaviour, mindset, and emotional wellbeing of youth in Nashik City. The major findings include:

- Instagram algorithms significantly shape **preferences, thought processes, consumption patterns, and emotional responses**.
- Reinforcement of existing interests contributes to the formation of **echo chambers**, influencing worldview and opinions.
- Youth aged **18–25** are the most engaged and the most impacted segment.
- Female respondents experience higher **pressure, comparison, and insecurity** triggered by curated content.
- Algorithm-driven feeds affect **mood, motivation, self-esteem**, and day-to-day psychological wellbeing.

Overall, the analysis highlights the urgent need for **digital literacy, responsible social media habits, and emotional awareness** to promote healthier digital engagement among young users

KEY FINDINGS:

1. High Awareness but Mixed Usage Patterns:

Most of the respondents in the age brackets of 18–25 and 25–35+ claimed to know fitness supplements; however, their consumption differed. While some took the supplement every day, others did so only occasionally due to safety concerns and proper knowledge.

2. Social Influence Drives Supplement Choices:

A large number of participants said their decision to try supplements came from social media, fitness influencers, gym trainers, and peers. Marketing claims and transformation videos played a major role in shaping perceptions.

3. Safety Concerns and Side Effects:

While supplements are widely used, a great number of respondents were unsure if they are safe to consume. Some users experienced gastrointestinal problems, tachycardia, or allergic reactions, though others did not report any problems:

4. Limited knowledge of ingredients and dosages

Most of them confirmed hardly ever checking ingredient lists or researching recommended dosages. Many of them depended on the advice of non-experts instead of health professionals.

5. The need for information and advice that is dependable.

There is a growing demand, according to this study, for trustworthy, scientifically-based information about supplements. The respondents stressed that proper education should be provided to avoid misuse for safe consumption.

SUGGESTIONS

1. Creating Awareness of Safe Supplement Use:

Awareness sessions in gyms and colleges, in addition to online awareness, would really help the individual understand what they contain, how they work, and when they should/shouldn't be used.

2. Encourage Trust in Reliable Information:

A lot of supplement decisions come from social media or friends. Users should be guided to follow qualified nutritionists, doctors, or certified trainers who can give correct, science-based advice.

3. Promote Smart and Responsible Consumption:

People should be reminded: more supplements do not mean better results. Knowing the right dosage, checking certifications, and avoidance of unnecessary combinations will prevent health risks and unwanted side effects.

4. Provide support to different kinds of users:

• Young beginners (18–25): Educate them on the basics of nutrition, and that actual food should come before supplements.

• Regular (25–35+): Provide them with professional consultations, health checks, in case they take supplements on a regular basis.

• Athletes and fitness-oriented people: Advise on personalized nutrition plans to ensure safety and effectiveness.

5. Advocate for more transparency in supplement brands.

Suggest that brands clearly label ingredients, get their products tested, and avoid misleading claims.

6. Remind users about holistic fitness:

Supplementation can enhance progress, but it cannot replace a healthy diet, proper sleep, hydration, and consistent training. Encouraging a balanced approach can help individuals achieve long-term, safe fitness results.

CONCLUSION

This study shows that fitness supplements have become an important part of young adults' lifestyles, especially for those who are highly active in gyms and influenced by the trends towards fitness. Most people use supplements with the hope of enhancing their performance, building muscles quicker, or keeping up better with their routines. However, this research also makes it very clear that not everyone fully understands how safe these products are, or how to use them.

While many users indeed reported positive experiences, others did record side effects such as indigestion, heart palpitations, or mild allergic reactions. A common pattern observed throughout the study is that most base their advice on social media, influencers, or friends instead of professional advice; this reflects a clear gap between what people believe about supplements and what they actually know.

Overall, the study suggests awareness and making informed choices are key to supplement use safety. Encouraging people to read labels, check certifications, consult experts, and make natural nutrition a priority can make all the difference. Equipped with the right knowledge and support, individuals can be empowered to fully reap the benefits of supplements in a protective manner toward their long-term health and well-being.

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