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Cognitive Biases in Financial Decisions Made by Teenagers

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Abstract

Teenagers are a vital part of the economy today and make up a large proportion of the consumer industry. In a highly digitalised world, teenagers and adolescents have a strong and active presence on social media and influencers and marketers are reaching out to this demograph who are now a backbone in the decision making process in most families. Behavioral Economics, a relatively recent branch of the science, unlike traditional approaches which believe that people make economic and financial decisions on utility, suggests that financial decisions are more likely to be made by people on the basis of their inherent cognitive biases, their sense of fairness and psychological biases such as loss aversion and overconfidence bias. This study aims to extend this hypothesis to study adolescent and teenage behavioural patterns and answer the question how.

Introduction

Humans Beings are considered rational beings. This means that we are assumed to be making our decisions based on some rationale or sensible trains of thought. When it comes to making financial and economic decisions especially, we as a race are given to making cogent and logical decisions. This is the belief of traditional economists who believe that people make economic decisions based on utility. However there is an entire field of study that combines insights from psychology, judgement, decision making and economics called behavioural economics.[1] (Gino, 2017). Behavioural economists have concluded people have cognitive biases and limited psychological resources that determine how they make financial decisions. Throw into this equation, a Teenager, whose frontal cortex is evolving, who is dealing with the pressure from all the onslaught of social media, advertising, pressure to conform, self-esteem sagas, peer pressure, pressure to perform in high school and adolescent angst and you get a fascinating idea for a research paper. According to Steven Young, Senior Vice President Wealth Management UBS, "behavioral finance recognizes that human beings are not always rational and can be influenced by cognitive biases, emotions, and social factors. These biases can lead to systematic errors in judgment and decision-making, impacting investment choices and market dynamics."[2] (S.Young, Inside Indiana Business, September 7, 2023).

What are cognitive biases ? And why are they important in financial decision especially with regards and its relevance to teenagers. In studying decision making, behavioral economists have defined cognitive biases as psychological

[1] https://hbr.org/2017/10/the-rise-of-behavioral-economics-and-its-influence-on-organizations

[2] https://www.insideindianabusiness.com/articles/how-our-behavioral-biases-affect-our-investment-decisions

tendencies to process information in a predictable pattern.[3] (Kahneman, D. (2011). *Thinking, fast and slow*. Farrar, Straus and Giroux.) These cognitive biases can lead to errors or irrational decisions.

There are 10 types of cognitive biases that influence decision making in financial matters, according to Tim Vipond[4], the Dartmouth educated chair of the Corporate Finance Institute. (T. Vipond, Cognitive Bias, n.d.)

1. Over Confidence Bias : Due to the person's belief that they are right lulls them into a false sense of security regarding their knowledge of financial markets.
2. Self Serving Bias : This type of cognitive bias is the tendency of a person to attribute a positive outcome to a person's skill and a negative outcome to sheer bad luck. If the result is negative then the tendency is to blame circumstances rather than the overconfidence of the individual.
3. Herd Mentality : This is the type of bias when a person tends to copy what other people are doing. In a financial decision for example, if friends and relatives are following the stock market, then the tendency for the individual to do the same is like following 'the herd'.
4. Confirmation Bias : When people tend to go with their pre-conceived notions or their existing beliefs, and can be dangerous when taking financial decisions.
5. Hindsight Bias: "Hindsight is 20 20" is an idiom used to describe the concept that when people are faced with a correct decision, they believe that they were right all along. So when they were actually making the decision, they may or may not have made that choice, but retrospectively will take credit for having made the right selection.
6. Narrative Bias : People tend to make financial decisions on the basis of the story that is told to them. Eg if a financial product has a pretty narrative spun around it, people will choose that product over a better product that is not so well marketed.
7. Loss Aversion : is when investors refuse to recognise and accept a loss and will continue to chase a profit rather than cut their losses and run.
8. Framing Cognitive Bias : This is the kind of bias that occurs when people make a decision on the way an option is presented to them; it can be presented as a profit or a loss even though it may result in the same outcome.
9. Anchoring Bias : The tendency of people to give more weightage to the information that has been given to them initially during a decision making process.
10. Representative Heuristic : Is a form of cognitive bias where our mind leads us to believe that by association, an object belongs to a particular category.

Behavioural economics studies the cognitive biases that influence the economic and financial decisions made by adults. But what about financial decisions made by teenagers ? A Weill Cornell Medical College Study in 2015 stated that "Evidence is mounting to suggest that multiple decision processes are tuned differently in adolescents and adults including reward reactivity, uncertainty-tolerance, delay discounting and experiential assessments of value and risk"[5] (Hartley, C. A., & Somerville, L. H. (2015). The neuroscience of adolescent decision-making. *Current Opinion in Behavioral Science*, *5*, 108–115.) Simply put, this can mean that financial decisions taken by teenagers is influenced by their perception of the rewards they hope to get, the time that may lapse from when they take their financial decision and the outcome, and what is a financial risk in their opinion. It is common knowledge that the pre-frontal cortex does not fully develop until age 25. How then do cognitive biases influence financial decisions in teenagers ?

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[3] Kahneman D. *Thinking, Fast and Slow.* New York: Farrar, Straus and Giroux; 2011. [Google Scholar]
[4] https://corporatefinanceinstitute.com/resources/career-map/sell-side/capital-markets/list-top-10-types-cognitive-bias
[5] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4671080/

Literature Review

Behavioural Economics is emerging as a critical field of study combining relevant aspect
s of both psychology and economics. The Corporate Finance Institute (2023) lists various cognitive biases, such as herd mentality and narrative bias, that distort investor behaviour. The impact of these biases on capital markets is discussed in detail by Kahneman and Tversky (2002), who argue that traditional economic theories fail to account for such psychological factors, which are crucial for understanding market anomalies. Research by Finkelstein and Hurst (2008) provides empirical evidence on how biases influence savings and consumption patterns; This is further developed by Schein (2013) who suggests that organisations can advantageously mould their marketing strategies by targeting the customer's psychology. Recent studies such as the Journal of Marketing (2022), have emphasised the growing importance of Behavioural Economics in influencing economic decisions of customers and the impact on organisations who want to strategize their marketing goals. Hartley and Somerville (2015) explore the neural mechanisms underlying adolescent decision-making, emphasizing the role of developmental changes in brain regions associated with reward and risk processing. Their review highlights how these neurodevelopmental changes contribute to the distinct decision-making patterns observed during adolescence, Including how cognitive biases influence the financial behaviour of teenagers who already are prone to risky behaviour. Mehrotra and Kumari (2022) explore the impact of socialization on teenagers' purchasing behaviour, emphasizing the role of peers, family, and media in shaping their decisions. Their study highlights the significant influence these factors have on teenagers' consumer choices, particularly in modern retail environments.

Research Question/Thesis Statement:

The Influence of Cognitive Biases on Financial Decision Making by Teenagers. The purpose of this paper is to study financial decisions made by adolescents and Teenagers, and to understand how inherent cognitive biases can influence economic decisions made by this very important and influential market segment..

Significance of the Study:

It is very important to study the Financial Behaviour of Teenagers for a number of reasons.

a) Access to Technology :Due to the rise of social media and access to electronics, teenagers wield enormous power in economic decisions made in reference to them and even the family. A recent study by Common Sense Media shows that 93% of US Teens use at least one social media platform and spend 7 hours and 22 minutes on screens, longer than any face to face activity they undertake. (Sivaneshan K, Study International, July 24, 2024).[6]

b) Influencing future financial decisions : Teenagers will be the ones spending in the next decade so it is important to set the foundation for their spending habits.

c) Economic Impact : Teenagers are an important part of the economy as they earn through part time jobs or have access to pocket money to spend.

[6] The impact of social media on teenagers (Study International, 2023).

d) Financial Education : Understanding spending habits of teenagers can help parents and educators tailor financial education at a young age and encourage teenagers to make sound financial decisions.

e) Peer and social Influences : Teenagers are highly influenced by their peers and their relationship with money is guided by peer pressure and peer influences. Understanding these pulls help to create positive interventions to leverage better financial decisions.

f) Teaching good financial habits : Teenagers think differently. Studying how they spend and cognitive influences on their financial decision making can help set up a culture of good financial habits at the outset.

g) Psychological Impact : "Although the overall size and gross organisation of the brain is similar in adolescents and adults, dynamic changes in brain structure, function and features of neuromodulatory systems are occurring throughout adolescence. (Hartley, C. A., & Somerville, L. H. (2015). It is important to study the psychological impact of financial decisions on adolescents as they can lead to long-term ramifications in the case of inappropriate or incompetent decisions.

Methodology

Research Design: There are many academic research papers on the adolescent brain and how teenagers react to social media, cognitive influences on the teenage brain, peer influences on adolescent decision making. Very little research is available on the cognitive influences on a Teenager's financial decisions. For this research paper, primary data was collected through a survey, entitled **Financial Decision Making amongst High School Students.** Subsequently, the name of the Survey was changed to **Financial Decision Making amongst Teenagers.** This was done to expand the scope to include youngsters who had graduated high school but were attending university, or taking a gap year, or working, but had not yet graduated their teen years. Being a High School Student myself, the idea of understanding the economic behaviour pattern of my contemporaries was fascinating for me, and gaining an insight as to how other high school students such as my friends and their friends may or may not have some cognitive biases was an eyeopener. This survey was created on google forms and contained 22 questions including asking participants their age, sex, what kind of income they had (whether they had a job or received an allowance from their parents), whether they had ever purchased items on sale, whether they had undertaken any courses on financial literacy, if there was any peer pressure to purchase items etc. The identity of the surveyors remained confidential as they were not asked to share any personal details that could track their answers to their life.

Data Collection: A purposive sampling study was used. The Data was primarily collected through a survey titled **Financial Decision Making amongst Teenagers (Annexure 1)** which was shared via *what's app* and messages amongst a high school peer group, and friends and family. The respondents were a motley collection of high school students from a prestigious boarding school for boys in North India, their siblings, children of friends and family in India and the United States. The survey also contained some interview type questions which were optional. The survey has a possible upper class bias as most of the respondents belong to a well to do section of society and the survey was not shared in a middle class demo graph. 56 Teenagers were interviewed as part of the survey. The results showed a gender bias since it was shared in an all-boys boarding school.

56 responses were received to the Survey titled Financial Decision Making amongst Teenagers. 26.8% of those surveyed were in the 15 year age group, 8.9% were 14 years old, 26.8% were 16 years old, 17.9% were 17 and 10% were 18, 7.1% were 19. Out of these,82.1% of those surveyed were male and 17.9% were female. 66.1% declared that

they had taken courses in finance or economics whereas 33.9% of those surveyed had never taken such courses. 53.6 % admitted to not having either an allowance or a part time job to support their expenses. The assumption then would be that their parents would be covering most of their needs. 37.5% stated that they had been given an allowance; 7.1% said that they had access to an allowance as well as working part time and 1% shared that they worked part time to meet their expenses. 25 percent of those interviewed divulged that overconfidence led to them making unsuitable financial choices; in contrast to 62% who did not regret making overconfident financial decisions. 50% of those surveyed acknowledged buying items on sale that were not required. A whopping 21.4% had never saved or invested; and the majority (56.9%) conceded that they had made purchases because their friends had done so. In contrast only 25% admitted to feeling pressured spending money to fit in with their peers. 33.9% conceded that they had made impulsive purchases influenced by their friends, whereas 26.8% were influenced by social media, and 28.6% by advertisements.

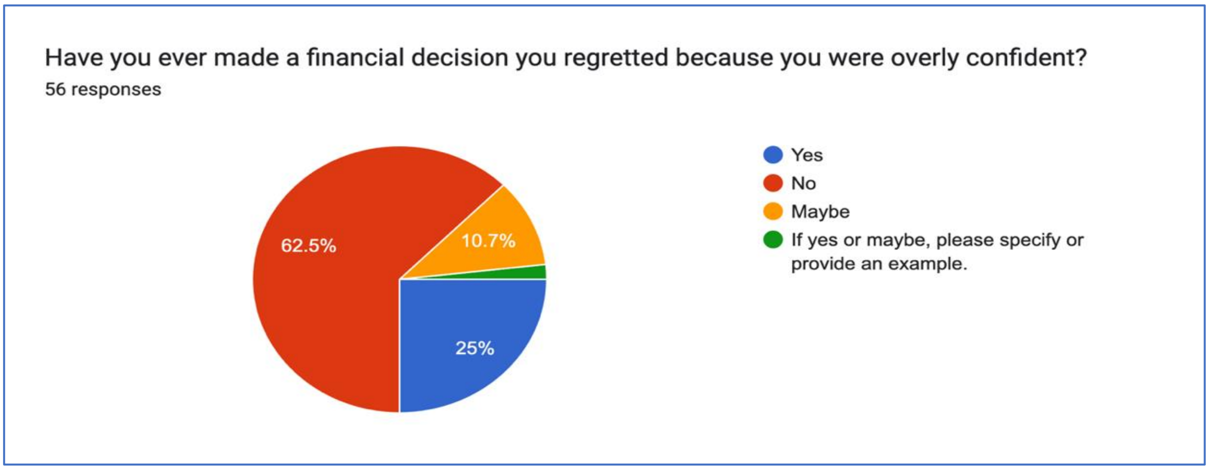
Ethical Considerations

I. Participation Consent : The participants themselves consented to be a part of the survey
II. Privacy of Individual : There was no requirement for the participant to divulge their identity in any way. No names or email ID’s or names of high schools, nationality or even ethnicity were required to be disclosed or shared.
III. Privacy of Data : The sharing and publication of the data is restricted to the academia and will not be shared with any marketing agencies for solicitation.
IV. Voluntary Participation : The participants were not coerced in any way to undertake the survey and for the most part, consisted of friends and family and associates of the researcher. It was clarified to the participants that they could withdraw from the survey at any time.
V. Risk Assessment : Prior to the publication of the survey questionnaire, a risk assessment was undertaken to ensure that the questions in no way, disturbed the psychological and physiological well-being of those surveyed.
VI. Honesty and Integrity : There has been no manipulation of data and the results have been reported honestly and correctly without tampering.
VII. Bias and objectivity : There has been no obvious or deliberate bias in the collection of data. The survey was conducted objectively and fairly.
VIII. Respect for Participants : All participants were treated fairly and respectfully and there was no discrimination on the basis of gender, caste, race or ethnicity.
IX. Economic Bias : There is an unconscious economic bias as the participants came from a high socio-economic strata of society.

Results

Presentation of Findings:

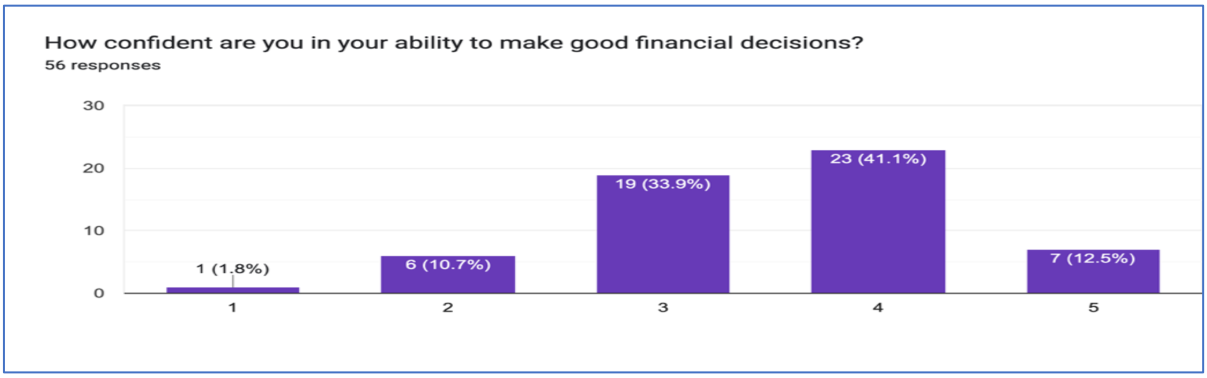
Figure 1. Response to Qs Regarding Regrets on Overconfident Decisions



Note. The pie chart represents the percentage distribution of respondents who answered "Yes," "No," or "Maybe" when asked if they ever regretted a financial decision due to overconfidence.

Over Confidence Bias :62.5% of those polled did not admit to making a financial decision they regretted because they were overconfident. This is a manifestation of an overconfidence bias where a person makes a decision on the basis of their self-assumption that they know best and any decision that they make would be correct. In our survey, it is apparent that there is an over confidence bias in how the teenagers perceive their ability to accurately gauge the outcome of their financial evaluations, even if they lost money. Investing in the wrong stock, losing money in day trading, gambling and buying things that weren't needed were some examples of decisions made in overconfidence cited by our responders. A Buffalo University study on overconfidence[7] among teenagers revealed that "too much confidence among teenage students can be harmful"(Anzalone, C.July 29, 2009)

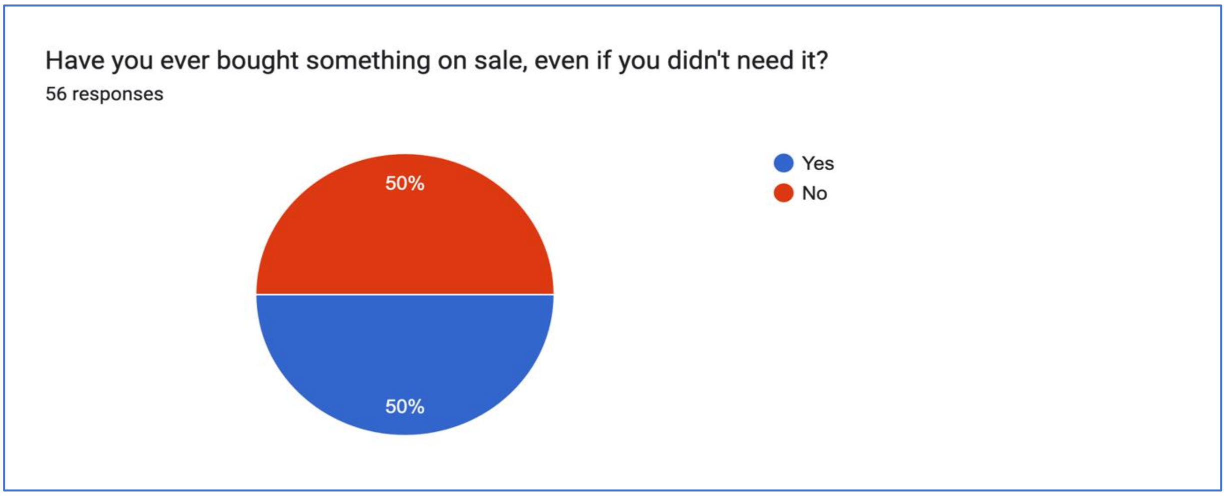
Figure 2: Table depicting percentage of surveyed having confidence in their ability to make good financial decisions



[7] Anzalone, C. (2009, July 29). Overconfidence among teenage students can stunt crucial reading skills. University at Buffalo. https://www.buffalo.edu/news/releases/2009/07/10284.html

The question "How confident are you in your ability to make good financial decisions, on a scale of 1 to 5", 41.4% of the students polled were very confident and answered "4". The Mode (Annexure 1).(The value of the data that appears most frequently). Only 1 student answered 1 (not confident). For students who do not have their own independent source of earnings, this is an eye opener. It could indicate that the overconfidence bias is prominent when the money they are spending does not belong to them.

Figure 3: Pie Chart depicting results Purchases made on sales

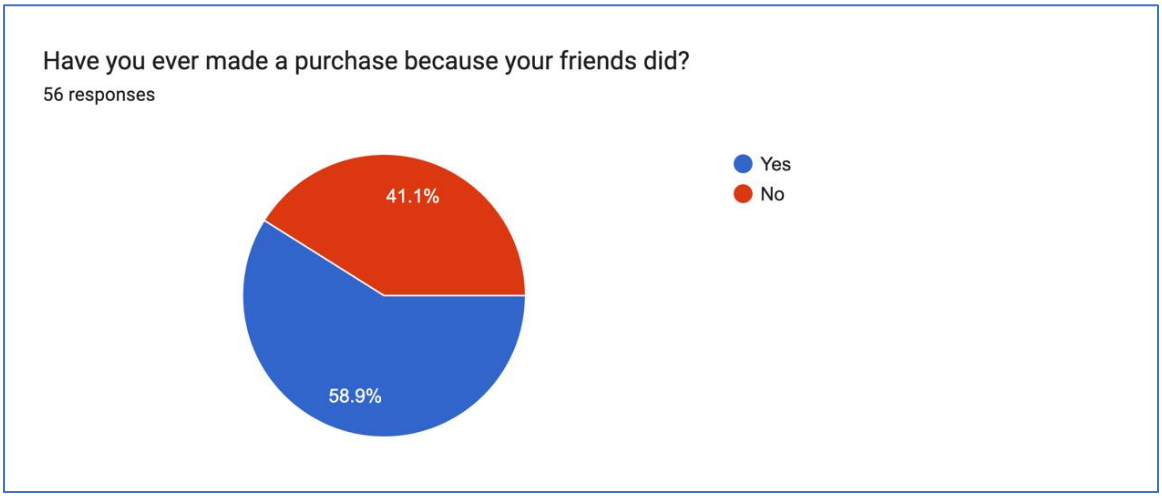


Note. *The pie chart represents the percentage distribution of respondents who answered "Yes," "No," or "Maybe" when asked if they ever bought anything on sale even if they didn't need it*

Buying Things on Sale : 50 % of the teenagers surveyed admitted that they had bought something on sale, even if they did not need it. This is a combination of **Anchoring Bias and Framing Bias.** The buyer is 'anchored' on the original price of the item which may be $ 50 but now is being sold at 'half off', which is $25 and the consumer looks at the reference point of the original price and makes the decision that he is getting an amazing deal. The seller lures the buyer in by 'framing' the deal in a very attractive and enticing manner by offering the product at 'fifty percent off' or 'buy one get one free' or 'buy 2 get fifty percent off the third'. This attractive 'framing' reels the customer who is anchored to the original price lodged in his mind and he is persuaded to purchase the product he may not need. In the case of teenagers, whose frontal cortex is not developed fully, " The possibility that younger people's inexperience in purchasing decisions may make them more susceptible to various cognitive biases, including anchoring, was raised by van Boom (2011)".[8]

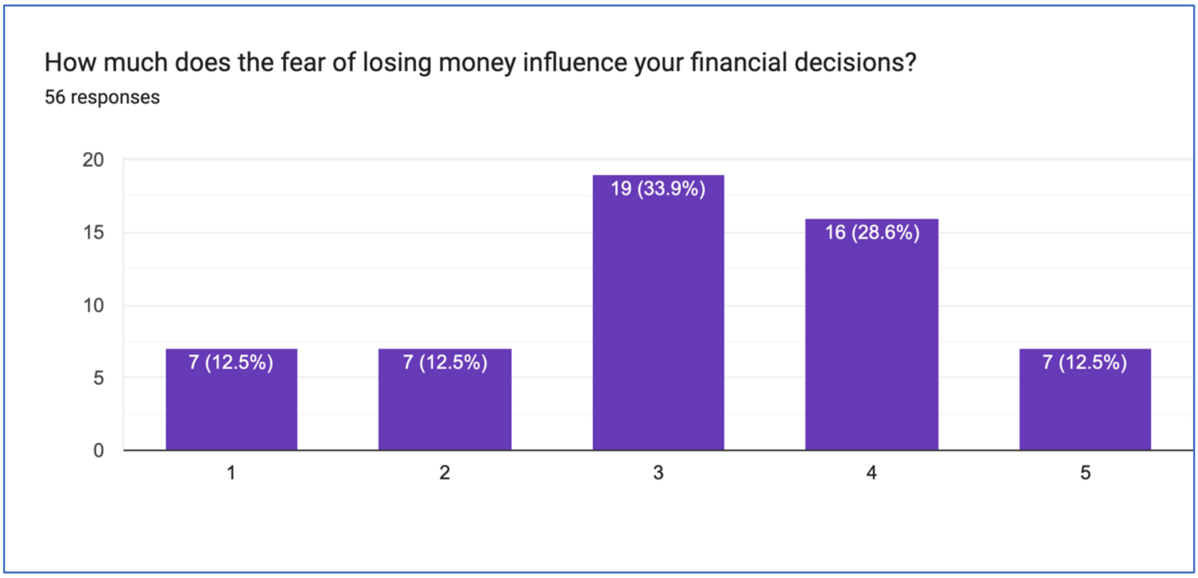
[8] van Boom, W. H. 2011. Price intransparency, consumer decision making and European consumer law.
Journal of Consumer Policy 34:359-7
Jaya Mehrotra & Pallavi Kumari, *Teenager Socialization and Factors Affecting Purchase Decisions of Teenagers*, **IUJ Journal of Management**, 1(Special Issue), 266–278 (2022).

Figure 4 : Chart Depicting %age of surveyed that made a purchase influenced by friends



Herd Mentality :According to a study by ICFAI University on "Teenager socialization and factors effecting purchase decision of teenagers", Cognitive factors are age and gender-related. Environmental factors: family, media and peers.(Mehrotra & Kumari, 2022).58.9 % of the teenagers polled in our survey confessed to having made a purchase because a friend had. Due to the proliferation of social media, (45% of US Teens confessed to being online all the time)[9], teenagers "in 2024 are taking cues from Tik Tok Stars and Instagram Influencers who could be next door neighbours"[10]. The cognitive bias of herd mentality definitely is a factor in influencing the decisions made by Teenagers, financial or otherwise.

Figure 5: Table depicting the effect of fear of losing money on financial decisions

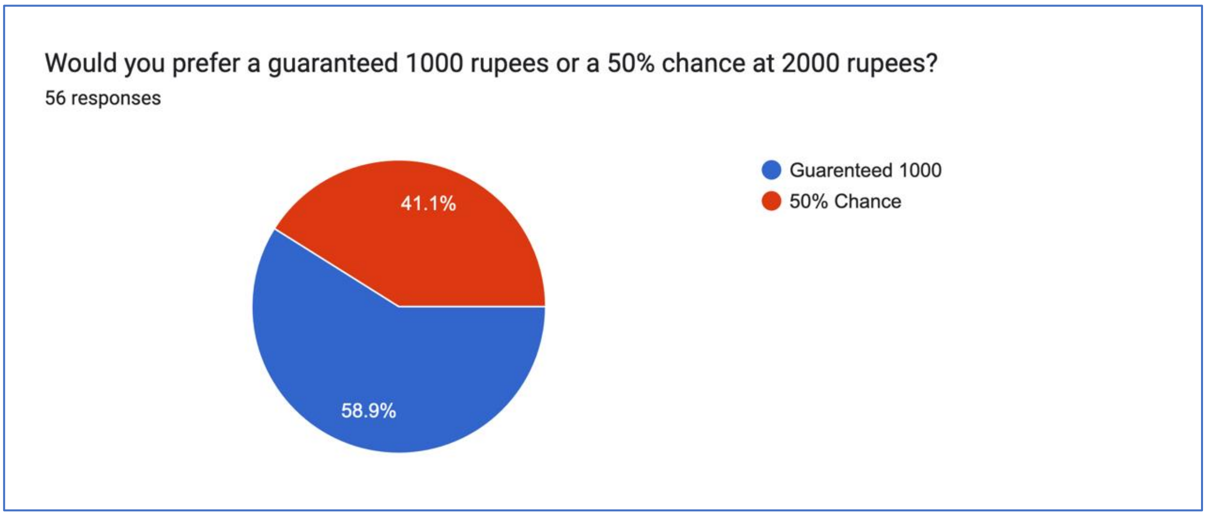


Loss Aversion : When the fear of losing is greater than the positive euphoria felt on winning or succeeding, it is recognises as a loss aversion bias. The fear of losing can be psychologically debilitating for adults and when it comes to adolescents, whose emotions are seesawing on a tidal wave of emotions, the loss aversion bias can discourage them from investing soundly and safely. In our survey, 12.5 % confessed that the fear of losing money very highly influenced

[9] https://studyinternational.com/news/social-media-impact-on-teens/
[10] https://fizzymag.com/articles/teen-fashion-trends-2024

their financial decisions, 26.6% stated that it greatly influenced and 33.9 % said it quite influenced their financial decisions. Only 12.5% respectively said that loss aversion somewhat and hardly influenced their monetarist outcomes. Loss aversion, the term was initially coined in 1979 by Nobel-Laureate Behavioural Economist Daniel Kahneman and his psychologist colleague Amas Tversky to explain the Prospect Theory. In The Prospect Theory, the probability of a perceived loss is considered much more dreadful than the probability of a perceived gain. If a person is given a choice of earning Rs 100 and losing Rs 50, or earning only Rs 50, the person will prefer the second path even though both the outcomes are the same.

Figure 6: Diagram Depicting Percentage willing to take a risk to win extra money



Note. *The pie chart represents the percentage distribution of respondents were willing to take a risk on a 50% chance at Rs2000, or were satisfied with a guaranteed Rs 1000.*

Confirmation Bias : When our pre-conceived notions and ideas influence our decisions, it can be very detrimental and even dangerous financially. We've traditionally been taught that a bird in hand is worth two in the bush and all teenagers behave contrarily to what they have grown up hearing. 41.1% of the teenagers we surveyed would be willing to sacrifice the guarantee of taking home Rs 1000 on the 50 percent odds that they can double the outcome to Rs 2000.

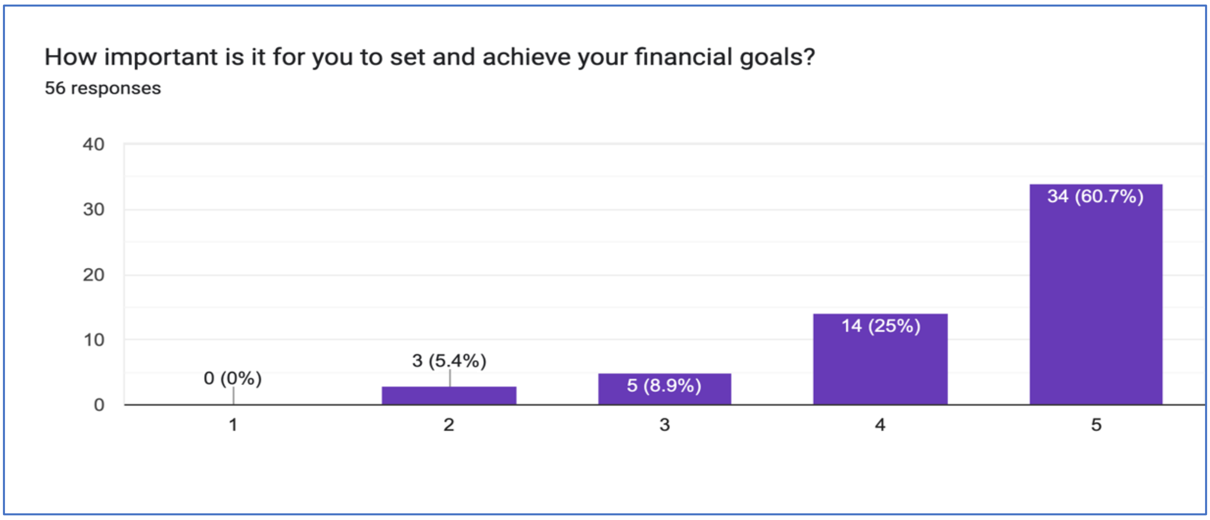
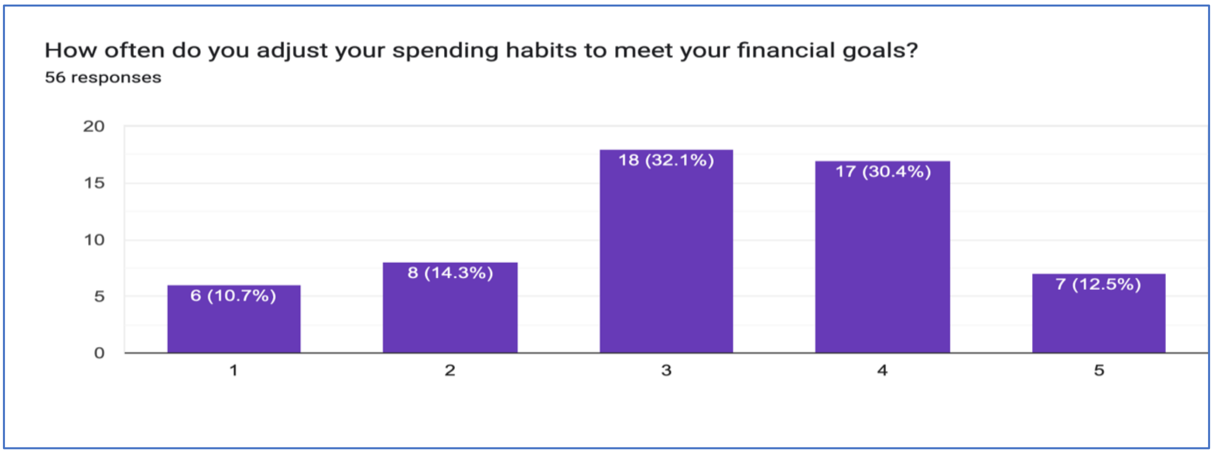


Figure 7: Table depicting the Importance of setting and achieving financial goals

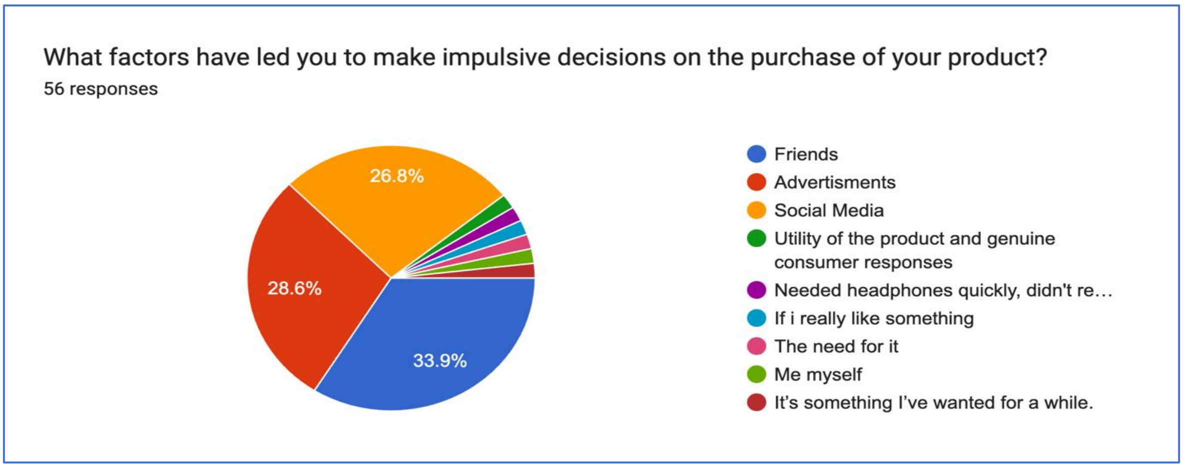
Present Bias & Narrative Bias: "The most effective period for investments in both cognitive and non-cognitive skills are the early years. Nobel laureate and economist James Heckman argues it is when we are the most malleable, flexible and able to be imprinted by parents and culture."[11] (Ahmad T. n.d.) In this era of social media, instant gratification is the chimera that is the glitter that teenagers and young adults are attracted to. We can order food at the click of a button, we can Blinkit[12] if we need groceries immediately, whatever we want is available instantly. So who can blame teenagers if they do not understand long-term financial goals.[13]

Figure 8: Graph depicting adjustment of spending habits to meet financial goals



Our survey showed us that an impressive 85.7% (60.7+25)of our teens surveyed felt it was extremely important to set long term goals. However, 75% (12.5+30.4+32.1) adjusted their spending habits to meet their financial goals. 33.9% were influenced by friends to make impulsive decisions to buy something, 26.8% by social media and 28.6% by advertising. This could be interpreted as meaning that the need to instantly own something in the immediate present and the story behind the product that makes it attractive influences the decision to purchase the product-the cognitive biases are behind it.

Figure 9 :Chart depicting factors leading to impulsive financial decisions by teens



[11] Ahmed, T. (n.d.). *Self-reliance, youth, and the task of character* [Extract]. In *Instant gratification is a toxin poisoning our kids*. The Australian. Retrieved from https://ipa.org.au/research/australian-way-of-life/instant-gratification-is-a-toxin-poisoning-our-kids

[12] "Blinkit (formerly known as Grofers) is an Indian online delivery service that provides a quick and convenient way for consumers to shop for groceries and daily essentials, offering delivery times often within minutes of ordering (Blinkit, n.d.)."

[13] https://www.psychologytoday.com/us/blog/adolescents-explained/202307/is-your-adolescent-accustomed-to-instant-gratification

Hypothesis (H_1):

There is a significant correlation between the confidence teens have in their ability to make good financial decisions and the frequency of their seeking advice from others before making a financial decision. Specifically, teens who are more confident in their financial decision-making are less likely to seek advice from others, reinforcing the cognitive bias of overconfidence.

A regression analysis(Annexure 2) was taken to test the above Hypotheses and find the correlation between the confidence the surveyed teens had in their ability to make good financial decisions and the frequency of their seeking advice from others before making a financial decision. It was found that the teens who were confident about taking financial decisions did not take need to seek advice from others, reinforcing the cognitive bias of "overconfidence".

Discussion

Interpretation of Results: Our research shows that there is a strong influence of Cognitive Biases on the decisions that youngsters take. Out of the 56 students surveyed most displayed some evidence of the 10 Cognitive Biases highlighted by Tim Vipond which are relevant for making financial decisions.

Comparison with Literature: The Literature and research available has highlighted the fact that Teens and Adolescents are susceptible to cognitive biases "Unique interactions between pre-frontal cortical, striatal and salience processing systems during adolescence both constrain and amplify various component processes of mature decision making". (Hartley & Sommerville,)[14] According to Mehrotra and Kumari, 2022, Teenagers are an important part of the financial decisions in current nuclear families which are of a smaller size.

Implications: Thus we can infer that cognitive biases abide in the financial decisions taken by teenagers, who are overconfident, susceptible to peer pressure and anchoring bias, and market researchers, companies and especially parents need to be cognisant of these when involving adolescents and teens in matters of finance.

Limitations of Research

1. The research pool was small. Only 56 students consented to participate in the survey. A better result would have been obtained by a larger sample size.
2. The research was conducted over a two month period during summer vacation during senior year, a hectic period for the researcher.
3. There is an economic bias as the sample pool was from well to do families.
4. Teenagers surveyed were mainly from India where there is a culture to expect the parents to satisfy the financial needs and financial independence through part time jobs etc is culturally frowned upon.
5. There was also somewhat gender bias as the researcher goes to all-boys boarding school and the primary research pool consisted of boys.

1. [14] **Hartley, C. A., & Somerville, L. H. (2023).** *The neuroscience of adolescent decision making*. *Journal of Neuroscience, 43*(5), 234-245. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10071311/

Future Scope

1. There is not very much current research on cognitive biases affecting the financial decision making of teenagers. This research could be expanded to include more numerical data to study their spending habits, their saving ideas.
2. The research could be expanded to include more girls and more responses from a wider sample pool.
3. The spending habits of middle class teenagers in both India and the US could also be included to widen the scope of the research paper.

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APPENDIX 1: Survey Instrument

Purpose: This survey aims to gather insights into the financial decision-making behaviors and understanding of basic financial concepts among teenagers.

Instructions: Please answer the following questions based on your personal experiences and opinions. Your responses will remain confidential.

---

1. How Old are you ?

- 14
- 15
- 16
- 17
- 18
- 19

2. Gender

- Male
- Female
- Other: _______________

3. Have you taken any courses related to finance or economics?

- Yes
- No

4. How would you rate your understanding of basic financial concepts (budgeting, saving, investing)?

- Very Poor
- 1
- 2
- 3
- 4
- 5
- Excellent

5. Do you receive an allowance or have a part-time job?

- Allowance
- Part-time job
- Both
- Neither

6. How do you primarily use your money? (Check all that apply)

- Savings
- Spending on Essentials (e.g., food, school supplies)
- Spending on Non-Essentials (e.g., entertainment, clothes)
- Investing
- Other: _______________

7. How confident are you in your ability to make good financial decisions?

- Not confident at all
- 1
- 2
- 3
- 4
- 5
- Extremely confident

8. Have you ever made a financial decision you regretted because you were overly confident?

- Yes
- No
- Maybe

9. If yes or maybe, please specify or provide an example.

10. Have you ever bought something on sale, even if you didn't need it?

- Yes
- No

11. How often do you regret making a purchase shortly after buying it?

- Never
- 1
- 2
- 3
- 4
- 5
- Very often

12. Do you believe that a more expensive product is always of higher quality?

- Yes
- No
- Depends on the product

13. Would you prefer a guaranteed 1000 rupees or a 50% chance at 2000 rupees?

- Guaranteed 1000
- 50% Chance

14. How often do you seek advice from others before making a financial decision?

- Never
- 1
- 2
- 3
- 4
- 5
- Always

15. How much does the fear of losing money influence your financial decisions?

- Not at all
- 1
- 2
- 3
- 4
- 5
- A lot

16. Have you ever avoided investing or saving because you were worried about potential losses?

- Yes
- No
- Maybe
- Never invested or saved before

17. Have you ever made a purchase because your friends did?

- Yes
- No

18. Do you feel pressured to spend money to fit in with your peers?

- Yes
- No

19. How important is it for you to set and achieve your financial goals?

- Very Unimportant
- 1
- 2
- 3
- 4
- 5
- Very Important

20. How often do you adjust your spending habits to meet your financial goals?

- Never
- 1
- 2
- 3
- 4
- 5
- Always

21. How often do you use any of the strategies mentioned below to avoid making impulsive decisions?

- Creating and Sticking to a Budget
- Researching Products before Purchase
- Never
- 1
- 2
- 3
- 4
- 5
- Always

22. What factors have led you to make impulsive decisions on the purchase of your product?

- Friends
- Advertisements
- Social Media
- Other: _______________

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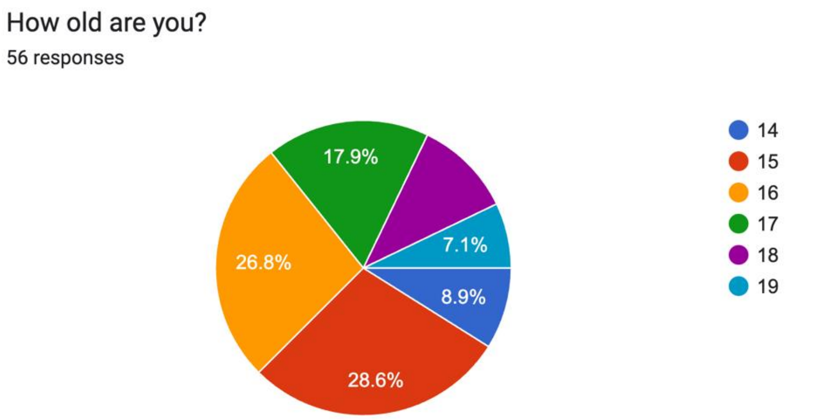
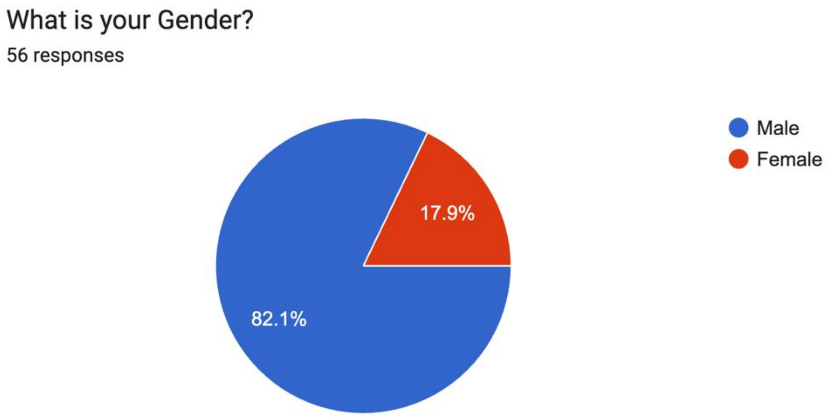
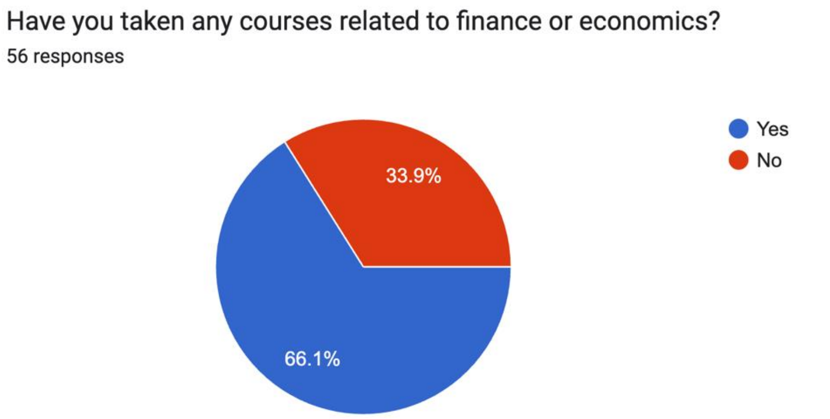
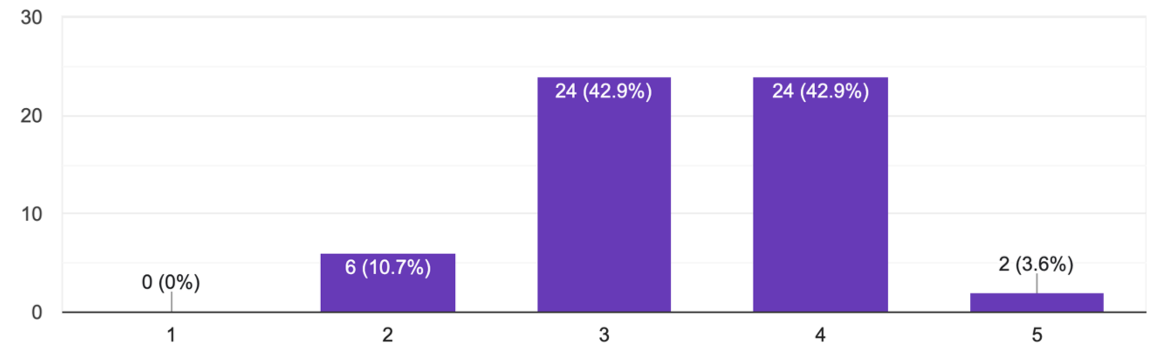
Annexure B : Summary of Survey Results



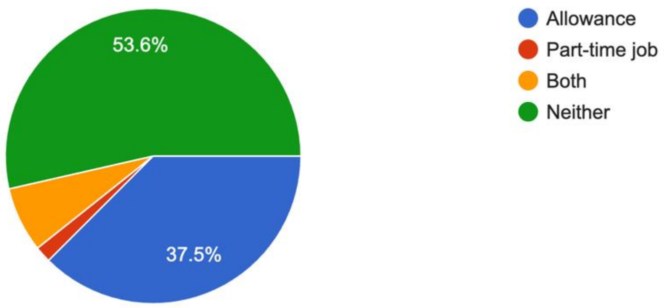




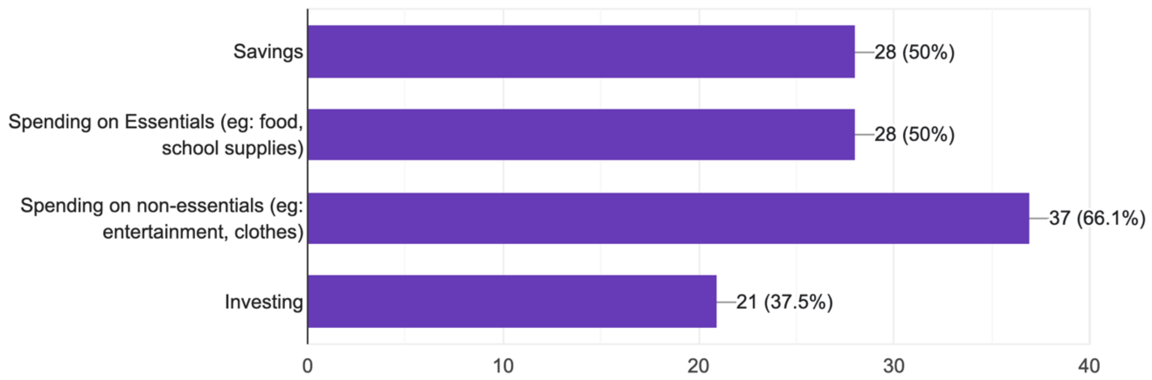
How would you rate your understanding of basic financial concepts (budgeting, saving, investing)?
56 responses

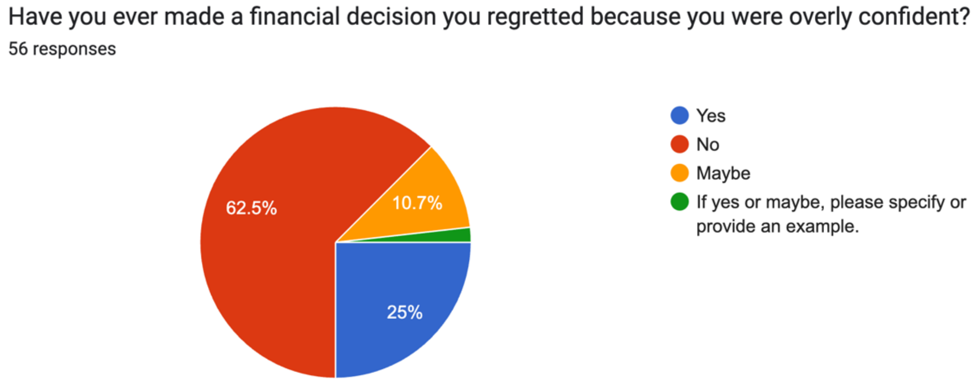


Do you receive an allowance or have a part-time job?
56 responses



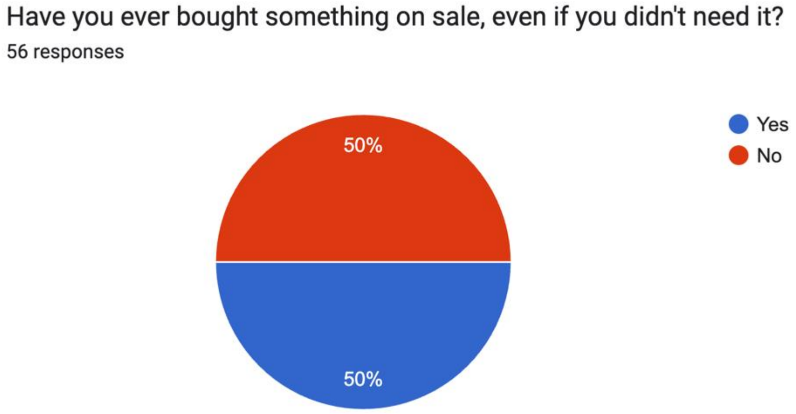
How do you primarily use your money? (Check all that apply)
56 responses



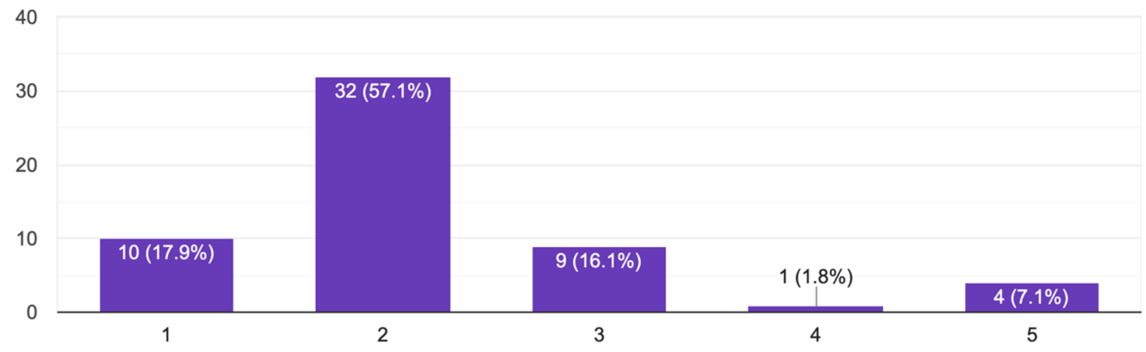


Space to provide an example from the last question.10 responses

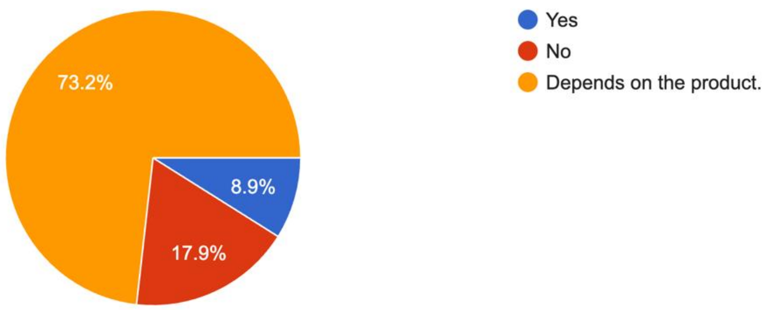
I bought a pair of shoes online thinking they would be perfect for me, but the size didn't fit me and they had a no return policy
Football shoes that were too small for me.
buying headphones even though when I didnt need them
Buying unnecessary things I did not need
I lost 2 lakhs on day trade, but thankfully recovered it later.
-
Investing in the wrong stock
I gambled in JJC.



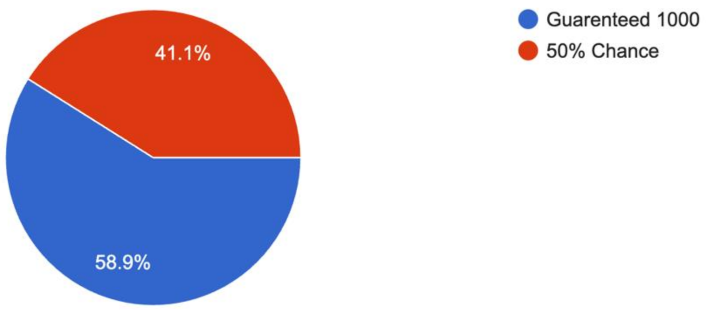
How often do you regret making a purchase shortly after buying it?
56 responses



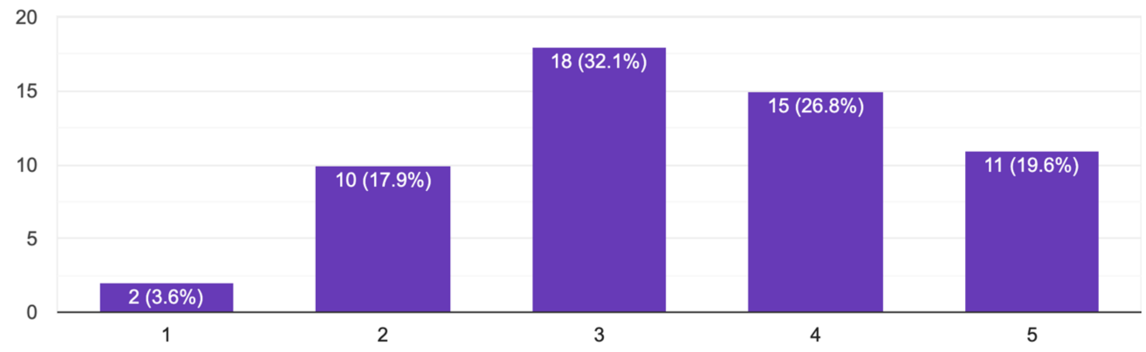
Do you believe that a more expensive product is always of higher quality?
56 responses



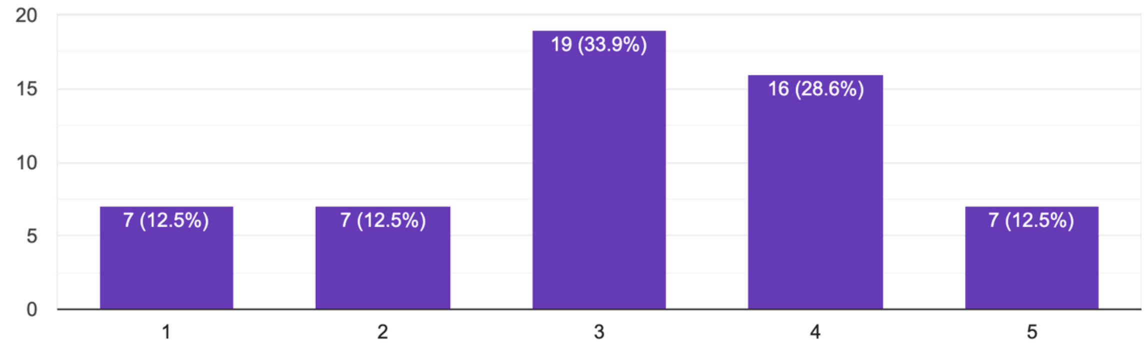
Would you prefer a guaranteed 1000 rupees or a 50% chance at 2000 rupees?
56 responses



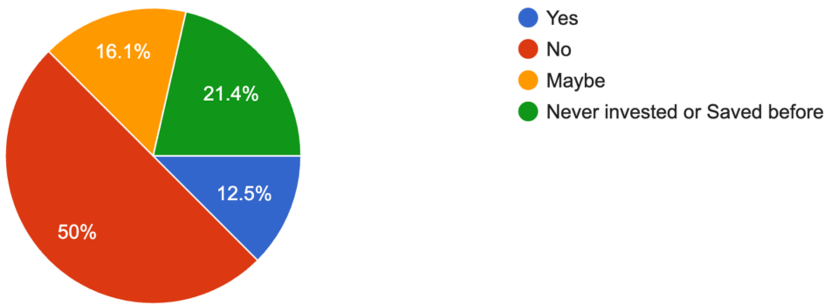
How often do you seek advice from others before making a financial decision?
56 responses



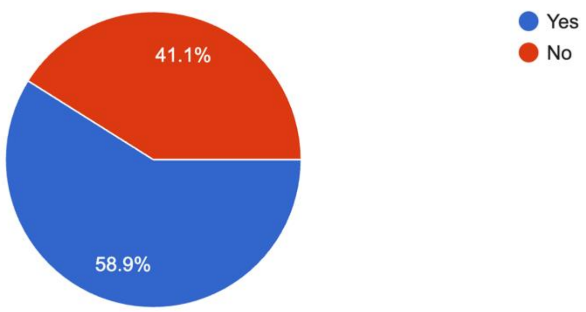
How much does the fear of losing money influence your financial decisions?
56 responses



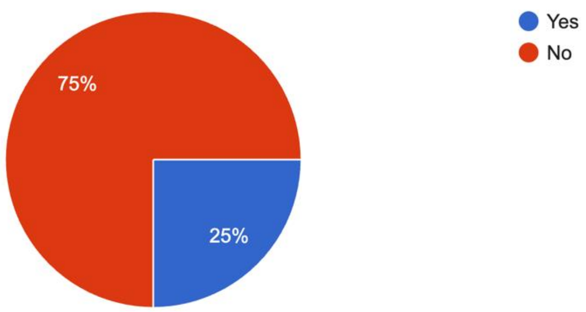
Have you ever avoided investing or saving because you were worried about potential losses?
56 responses



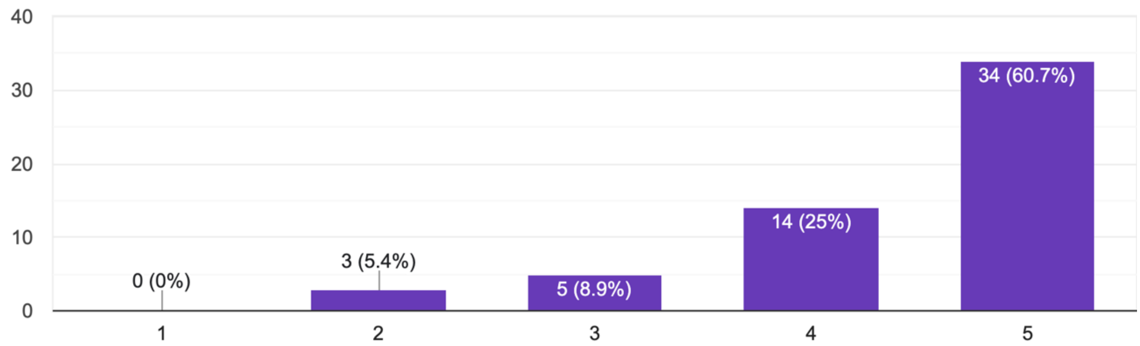
Have you ever made a purchase because your friends did?
56 responses



Do you feel pressured to spend money to fit in with your peers?
56 responses



How important is it for you to set and achieve your financial goals?
56 responses



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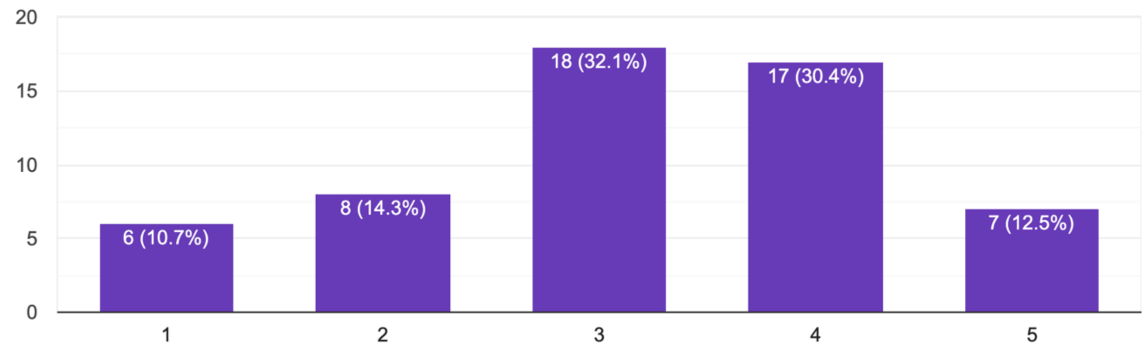
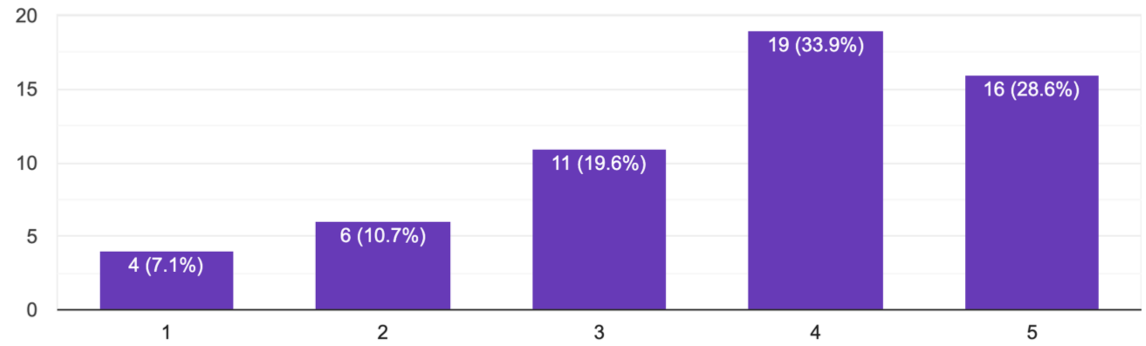
How often do you adjust your spending habits to meet your financial goals?

56 responses



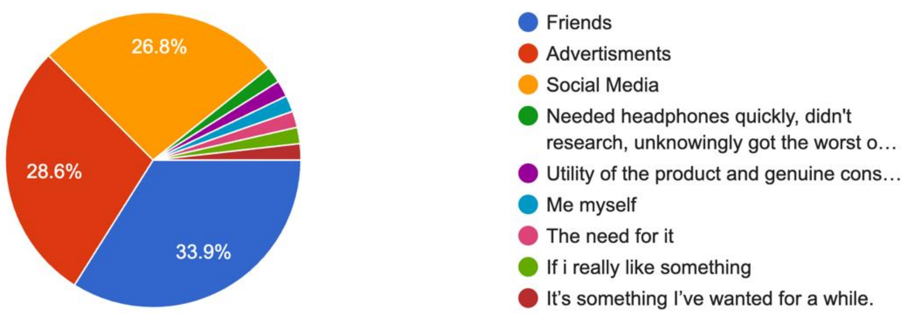
How often do you use any of the strategies mentioned below, to avoid making impulsive decisions? Creating and Sticking to a Budget Research Products before Purchase

56 responses



What factors have led you to make impulsive decisions on the purchase of your product?

56 responses



Annexure 3

Regression Statistics

- **Multiple R**: 0.398
  - This indicates a moderate positive correlation between the predictor and the outcome variable.
- **R Square**: 0.158
  - This means that approximately 15.8% of the variability in the dependent variable can be explained by the independent variable.
- **Adjusted R Square**: 0.142
  - This adjusts the R Square value based on the number of predictors in the model. It suggests that the model's explanatory power is slightly reduced when accounting for the number of predictors.
- **Standard Error**: 0.677
  - This measures the average distance that the observed values fall from the regression line.
- **Observations**: 56
  - The number of data points used in the regression analysis.

ANOVA

- **Regression**:
  - **df** (degrees of freedom): 1
  - **SS** (Sum of Squares): 4.640
  - **MS** (Mean Square): 4.640
  - **F**: 10.138
  - **Significance F**: 0.0024
    - This indicates that the model is statistically significant, with the p-value for the F-statistic being less than 0.05.
- **Residual**:
  - **df**: 54
  - **SS**: 24.717
  - **MS**: 0.458
- **Total**:
  - **df**: 55
  - **SS**: 29.357

Coefficients

- **Intercept**: 2.275
  - The value of the dependent variable when the independent variable is zero.
- **X Variable 1**:
  - **Coefficient**: 0.318
    - This represents the change in the dependent variable for a one-unit change in the independent variable.
  - **Standard Error**: 0.100
  - **t Stat**: 3.184
  - **P-value**: 0.0024
    - This indicates that the coefficient is statistically significant ($p < 0.05$).

- **Confidence Interval for X Variable 1**:
  - **Lower 95%**: 0.118
  - **Upper 95%**: 0.518
    - This interval suggests that we are 95% confident that the true coefficient lies within this range.

Interpretation (Powered by Generative AI)

The regression model shows that there is a statistically significant relationship between the independent variable and the dependent variable. However, the R Square value suggests that the model does not explain a large portion of the variability in the dependent variable, indicating that other factors may also be influencing it.