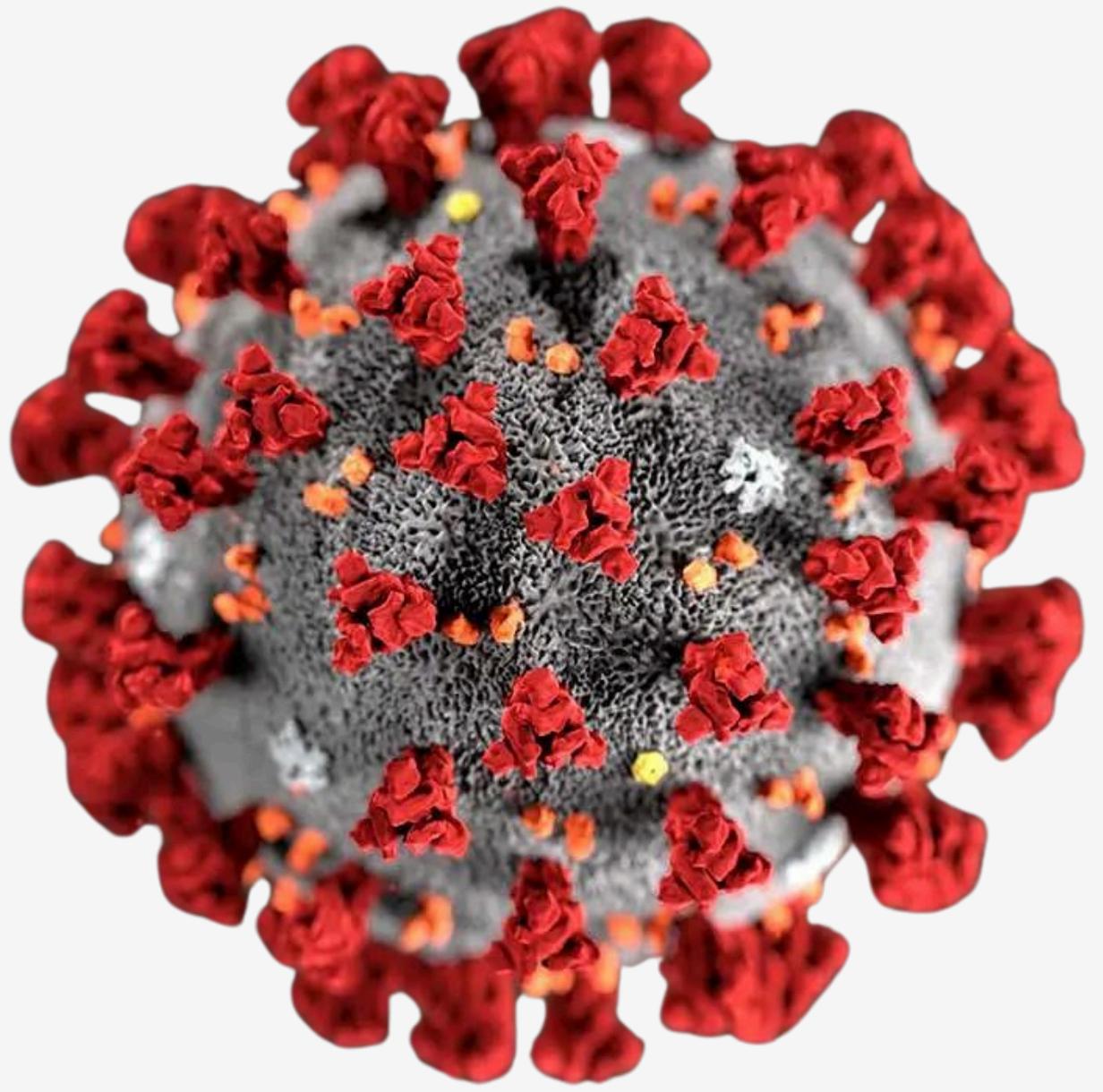


Availability Heuristic

**Group 5: Hamza Kashif, Izzah Waseem, Mehtab Ahmed,
Shahbaz Ali, Zeeshan Nasir & Zoya Salman**



AVAILABILITY HEURISTICS

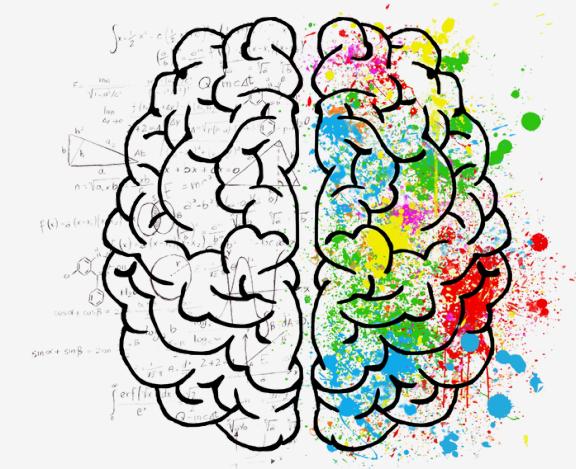
- The availability heuristic is a mental shortcut where people make decisions based on how easily something comes to mind.
- This is influenced by how recent or vivid the information is, or how easily we can retrieve the information based on memory structure, leading people to overestimate the likelihood or frequency of events.

Which pandemic was more severe or killed more people; Covid 19 or Influenza Pandemic?



Ease of Recall

- We tend to overestimate the likelihood of events if they are recent, vivid, or emotionally striking.
- **Vividness & Recency**
- e.g. According to WHO reports, Terrorism accounts for less than 1.5% of the total deaths in Pakistan, but we might overestimate it due to high media coverage.



Retrievability

- It refers to how easily information can be accessed from memory based on its structure, such as the way we organize related information.
- e.g. Students tend to mention topics from the early chapters when asked about important topics, as these are easier to retrieve from memory.

Importance of understanding AVAILABILITY HEURISTICS



Optimizes Decision-Making

Understanding availability heuristics helps us avoid overestimating the likelihood of events based on recent or vivid examples, leading to more rational decisions.



Prevents misjudgement of Risks

It helps recognize when we overreact to rare but memorable events (like accidents), enabling more balanced risk assessments.

Research Objective & Hypothesis

Research Objective:

Our objective was to test whether or not the vividness of an event has an impact on perceived likelihood i.e. Does a vivid emotional story of stroke increases rating the likelihood of having stroke as compared to raw statistics of the stroke.

Hypothesis:

Vividness of an event or story increases the perceived likelihood of the event or story

1. Likelihood of suffering from Stroke?

METHODOLOGY

Group B

- Given Emotional story of stroke to read
- Asked to rate the likelihood of suffering from stroke in their lives
- Responses were collected using Google forms
- sample size 28



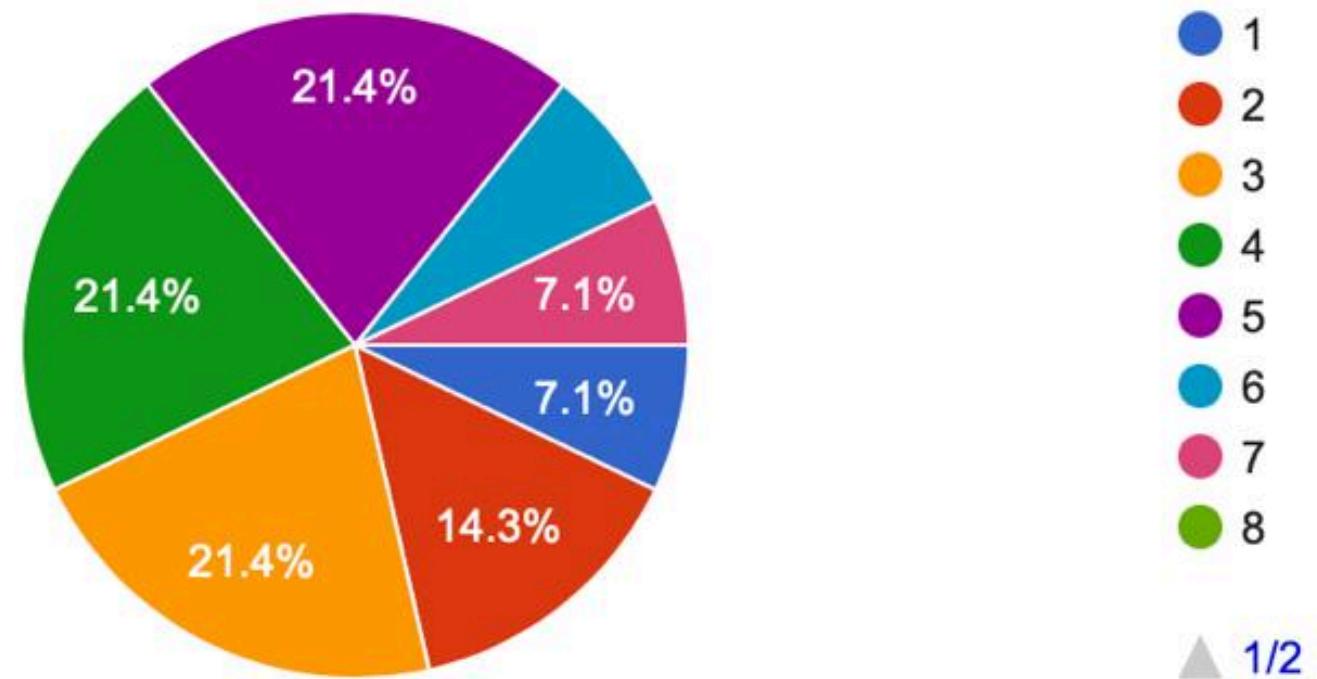
Group A

- Given rough statistics on stroke to read
- Asked to rate the likelihood of suffering from stroke in their lives

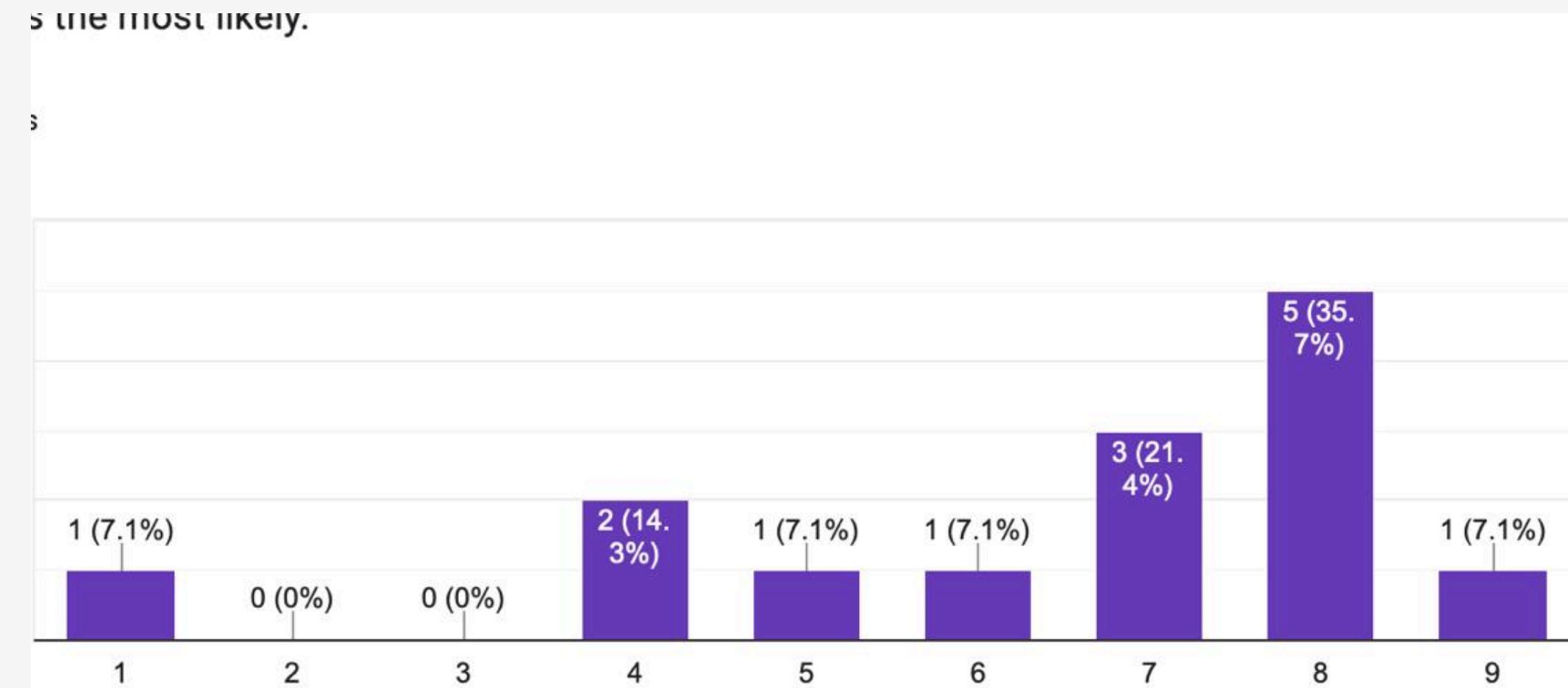


RESULTS

**Group A
(Statistical) 21.4%
rated 4 and 5
each**



**Group B
(Emotional)
35.7% rated
8**

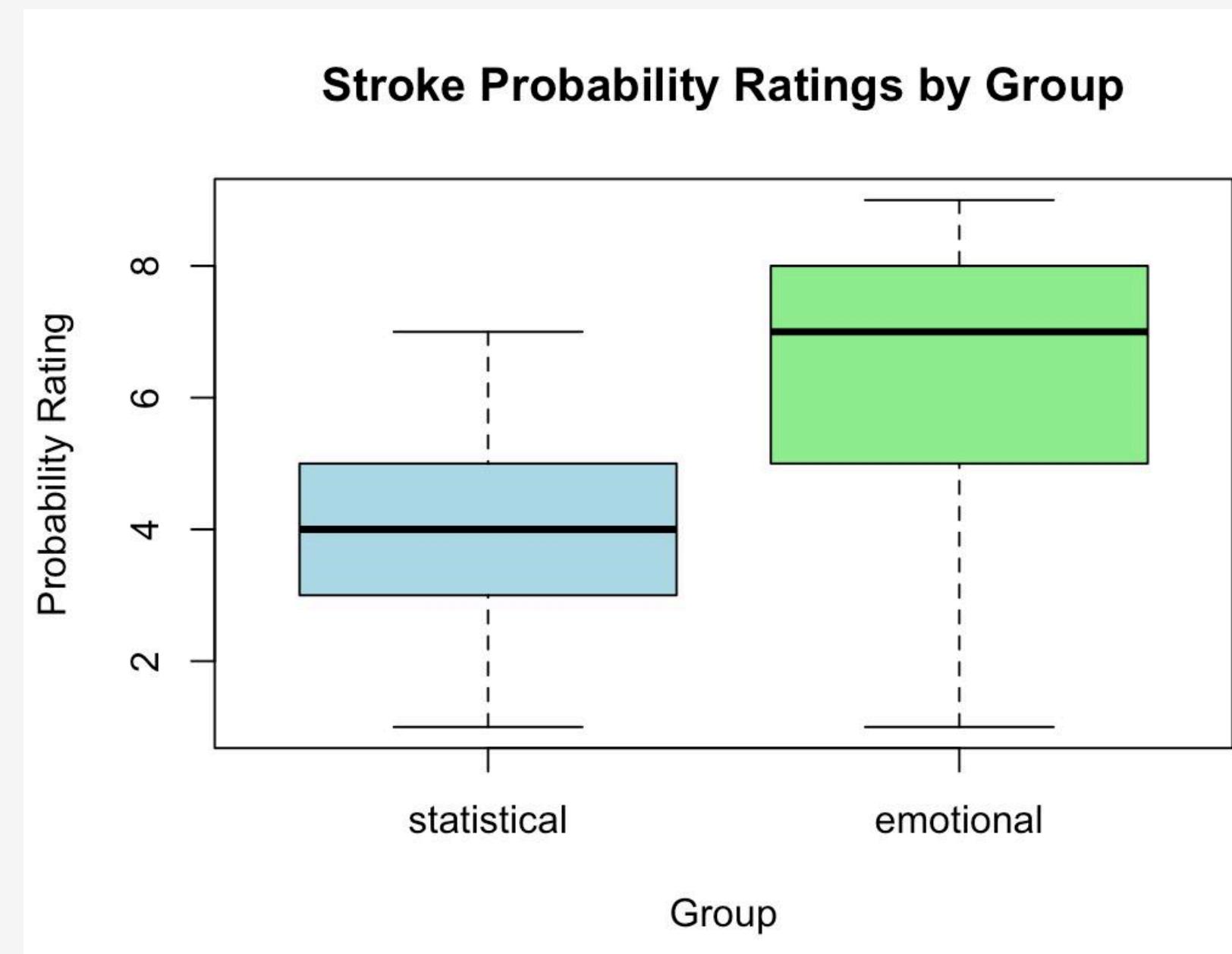


Group A

- Mean perceived likelihood = 3.86
- Range = 2-8
- Mode = 5

Group B

- Mean perceived likelihood = 6.42
- Range= 3-10
- Mode = 8



Hypothesis

H₀: No difference in perceived risk of stroke between the group exposed to emotional story and the group exposed to mere statistics.

H₁: Participants exposed to the emotional story perceive a higher likelihood of encountering stroke

MODEL: LIKELIHOOD OF STROKE =B₀+B₁(GROUPA)+E

REGRESSION RESULTS

```
lm(formula = Rating ~ Group, data = data)
```

Residuals:

Min	1Q	Median	3Q	Max
-5.4286	-1.0000	0.3571	1.5714	3.1429

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	3.8571	0.5219	7.391	7.56e-08 ***
Groupemotional	2.5714	0.7381	3.484	0.00177 **

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 1.953 on 26 degrees of freedom

INTERPRETATIONS

- $B_0 = 3.8571$ Probability of having a stroke by statistical group is 3.8571 when presented with rough statistics
- B_1 : Probability of having a stroke is **2.57 points higher** than those in the “Statistical group” when presented with emotional story.
- The p-value for this coefficient is **0.00177**, which is highly significant (below the 0.05 threshold)
- F-statistic = (12.14) the model as a whole is statistically significant

KEY FINDINGS IN EXPERIMENT 1

- Rejected null hypothesis
- Participants in the emotional group rated their stroke risk “significantly higher” than those in the statistical group.
- The model showed a clear and significant effect of emotional stories on perceived stroke risk, aligning with the availability heuristic theory

2. Desirability to buy a product?

RECALL AND RECENCY

Group A

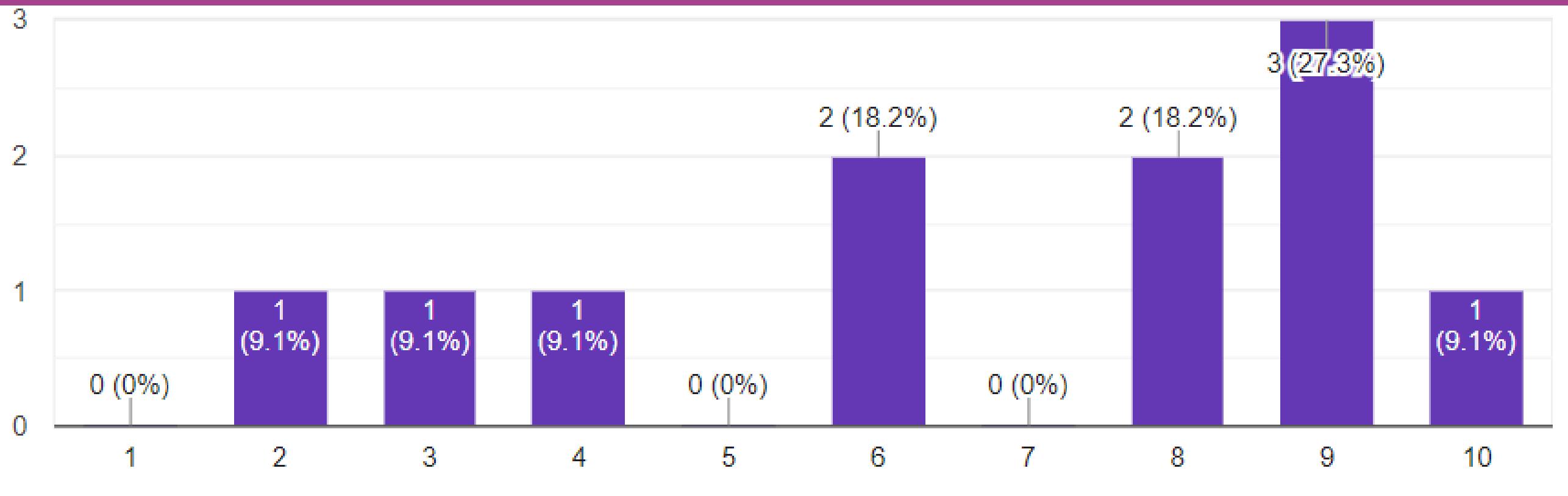
- Provide detailed information about the product in addition to photos of the products.
- Asked to rate the desirability of the product based on what they recall about the product.

Group B

- Just show the pictures of the product.
- Asked to rate the desirability of the product based on what they recall about the product.

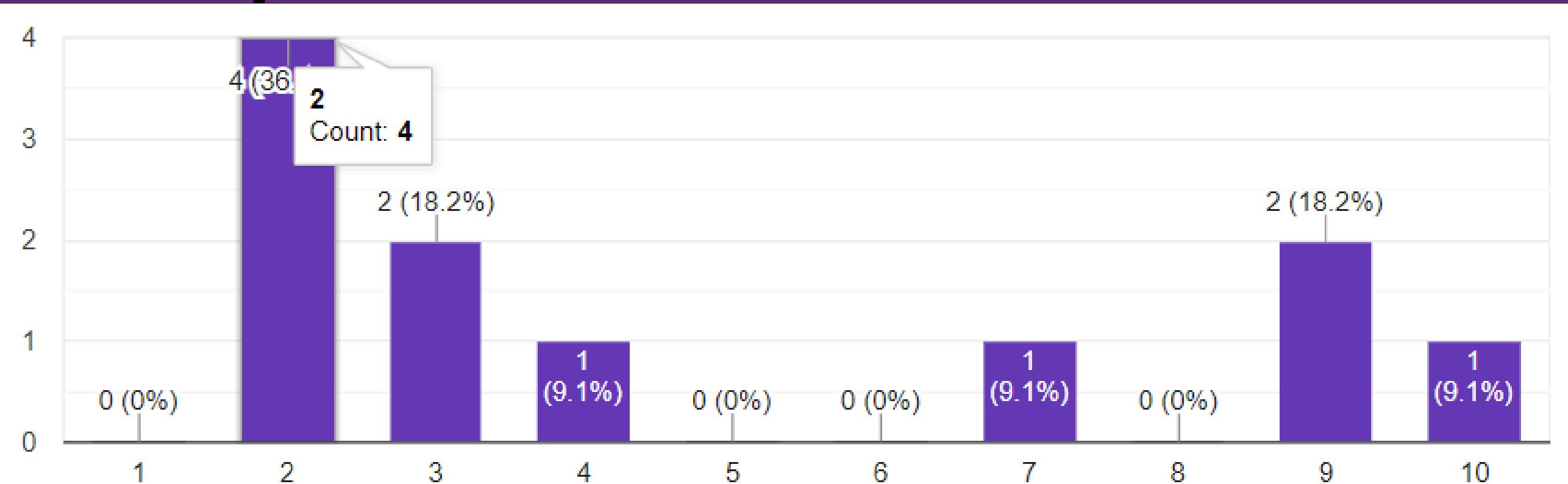
RESULTS

Group A



More than 70% of the respondents rated the products highly.

Group B



More than 60% of the respondents didn't rate the products highly.

Hypothesis

Ho: No difference in ratings of desirability of the products between the two groups.

A1: Participants provided with additional details rated the desirability of the products higher than the ones who had just been shown photos.

MODEL PRODUCT RATING=B₀+B₁(GROUP)+E

REGRESSION RESULTS

```
> model1 <- lm(Desirability ~ Group, data = long_data)
> summary(model1)
```

Call:

```
lm(formula = Desirability ~ Group, data = long_data)
```

Residuals:

Min	1Q	Median	3Q	Max
-5.6545	-2.6545	0.3455	2.3455	4.0091

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	5.9909	0.2607	22.980	< 2e-16 ***
GroupPictures_Features	1.6636	0.3687	4.512	1.05e-05 ***

INTERPRETATIONS

- The intercept B0 represents the average desirability rating for the "Pictures" group (the reference group), which is 5.99.
- B1: The coefficient for the "Pictures + Features" group is 1.66. This indicates that participants in the **"Pictures + Features" group rated the products, on average, 1.66 points higher than those in the "Pictures" group.
- F-statistic of *20.36* and a p-value of *1.049e-05* indicate that the model as a whole is statistically significant.

Descriptive Analysis

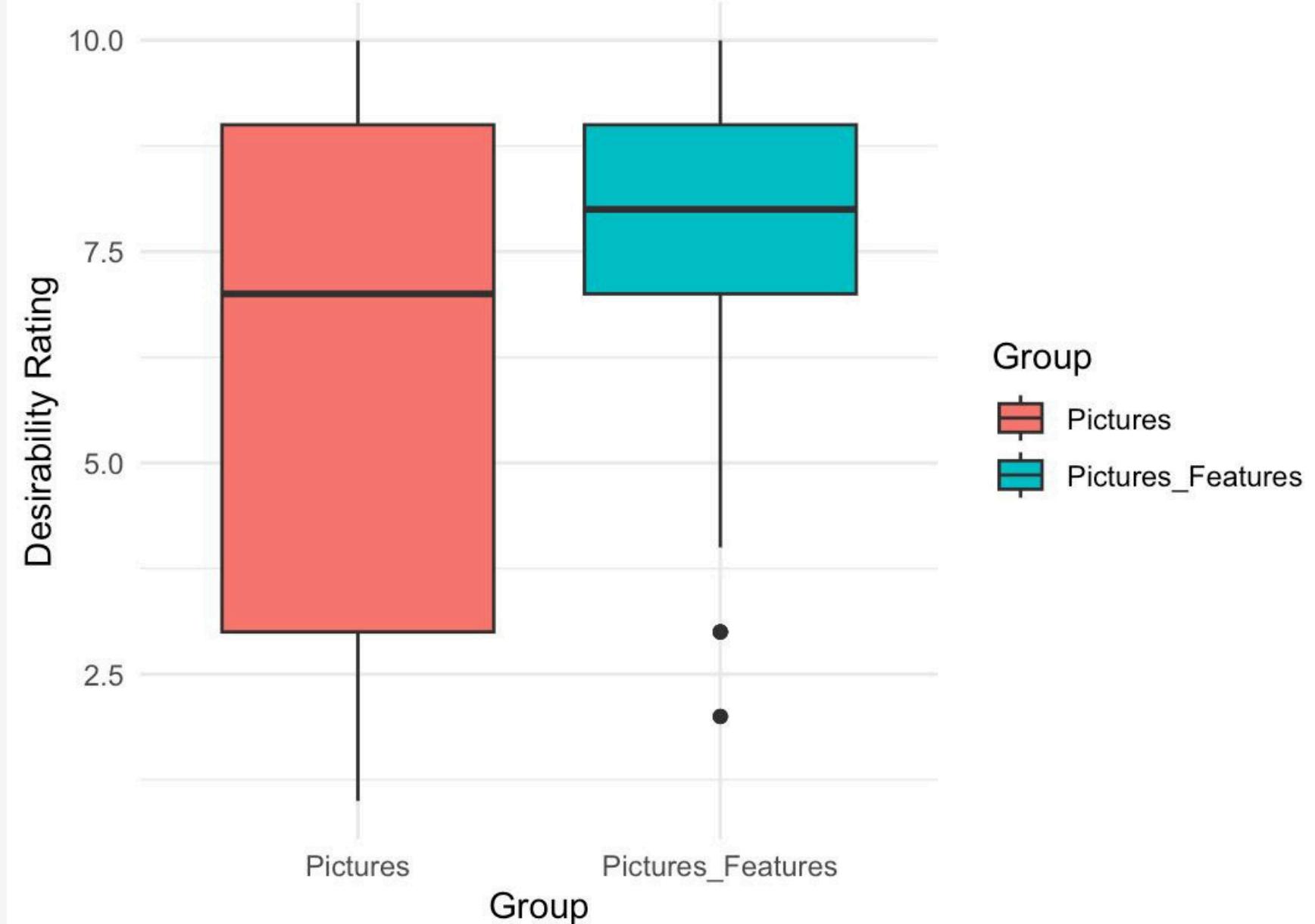
Group A (Information + Pictures)

- Mean desirability rating: 7.65
- Range of ratings: 1 to 10

Group B (Pictures Only)

- Mean desirability rating: 5.99
- Range of ratings: 1 to 10

Boxplot of Desirability Ratings by Group



Continued

- Recall Effect
- Recency Effect
- Availability Heuristic
- Information Processing Depth
- Response Distribution



Research Objective & Hypothesis

Research Objective:

Our objective was to test whether or not the way an influencer reviews a product effects a students' vividness and recency bias i.e. do charisma and neutrality have different effects on a consumer's impression regarding product evaluation.

Hypothesis:

Group B should rate the product higher and remember attributes because of vividness bias.

3. Influencer Affect?

METHODOLOGY

GROUP A

- Provide a short clip where an influencer is silently reviewing a product without any enforcement. Unique product.
- Ask them to rate uniqueness, appeal and likeliness of purchase. Asked to recall attributes and product names.
- https://docs.google.com/forms/d/17gVIJ9MluYWjlsIJJa4_gsKoQh2bOP3wrybfPJjs33g/edit

GROUP B

- Provide a slightly longer clip where another, extremely charismatic influencer is reviewing the same product from a different brand.
- Asked to answer same set of questions.
- <https://docs.google.com/forms/d/1akUn8E7iAJ3wzkfsOIPe-ZVlyYXdDbr2z-WkAC1yANU/edit#responses>

3. Influencer Affect?

METHODOLOGY

Participants: Age 20-22, SDSB students, 29 females, 23 males

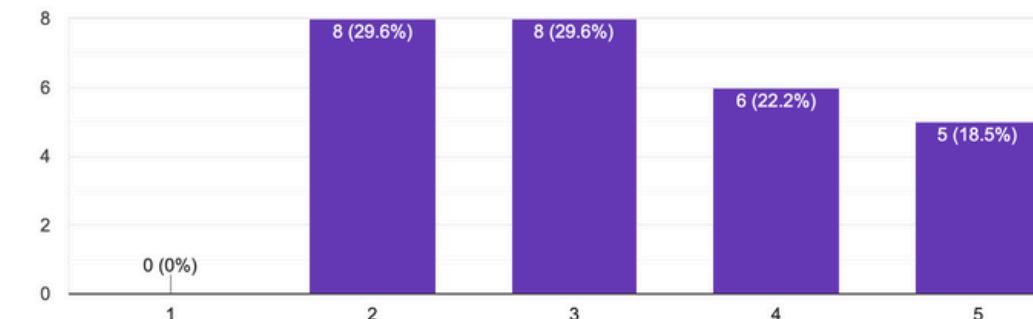
Materials: Two google forms, two YouTube shorts

Procedures: Conducted two surveys side by side, assigning one side of the class as Group A and the other as Group B. Participants were asked to not discuss among themselves and to not rewatch video.

RESULTS

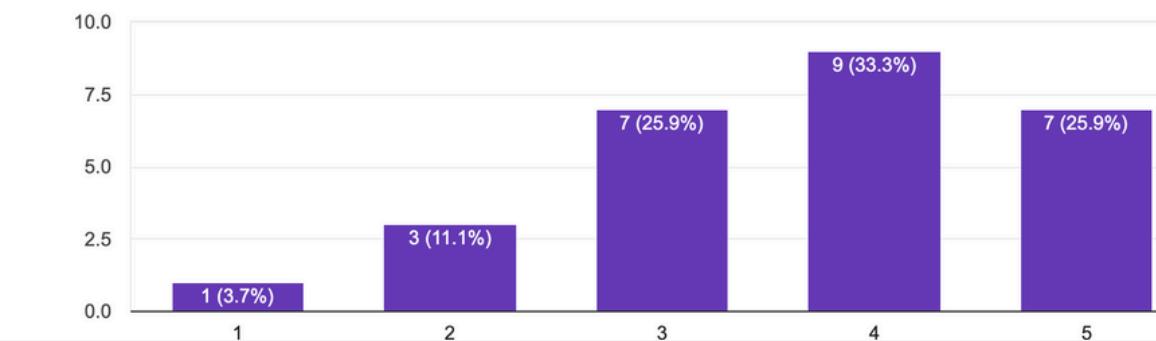
Rate the uniqueness of the product

27 responses



Rate the uniqueness of the product

27 responses



There is a slight increase in the uniqueness rating.

RESULTS

Please list down any product attributes you might remember from the video (If you don't remember any, just say 'None')

27 responses

None
Green color of the gloss
Shiny, glossy, less green than expected
The color green.
None
Green Lipgloss
It's a green lipgloss
it was green and it didn't appear green on lips
Green colour didn't last, seemed red afterwards as well

Please list down any product attributes you might remember from the video (If you don't remember any, just say 'None')

27 responses

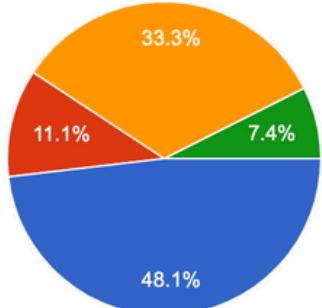
None
Green
Green COLOR
green color
It smells juicy
Bright pink and juicy
Light weight, pinky
It was glossy and light pink
Lightweight

Students who watched the video where the influencer was charismatic, remembered more about the product attributes, compared to those who saw a silent review and remembered a single unique thing i.e. color of the lipgloss

RESULTS

Lastly, could you name the brand of the product?

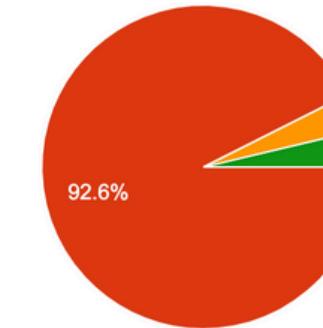
27 responses



[Copy](#)

Lastly, could you name the brand of the product?

27 responses



[Copy](#)

The charismatic video had reinforcement regarding the brand name, so more students were able to remember it in comparison.

ANALYSIS

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.175656811572055							
R Square	0.0308553154516603							
Adjusted R	-0.0323497726710575							
Standard E	0.512770091357234							
Observatio	50							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	3	0.385074336836722	0.128358112278907	0.488177714296549	0.69218500719667			
Residual	46	12.0949256631633	0.262933166590506					
Total	49	12.48						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	1.19736225150772	0.254590618134036	4.7030886695021	0.0000236335298758	0.684897916739542	1.7098265862759	0.684897916739542	1.7098265862759
Rate the ur	0.0623605518924773	0.0710324857398978	0.877915945681884	0.384551868895289	-0.0806204260336701	0.205341529818625	-0.0806204260336701	0.205341529818625
Rate the ap	0.00412921183306693	0.0970098670510161	0.0425648643647294	0.966232630343313	-0.191141522605682	0.199399946271816	-0.191141522605682	0.199399946271816
Rate how li	0.0253409536902794	0.0849960782915817	0.298142622573085	0.766936868834413	-0.145747278228257	0.196429185608816	-0.145747278228257	0.196429185608816

ANALYSIS

P-VALUE = (0.264634) – NOT STATISTICALLY SIGNIFICANT AT THE 0.05 LEVEL.

COEFFICIENT FOR "RATE THE UR" (B1) = (0.073333)

THE COEFFICIENT SUGGESTS A SMALL POSITIVE EFFECT (0.073) ON THE PRODUCT'S APPEAL FOR EACH UNIT INCREASE IN THE RATE VARIABLE.

P-VALUE = (0.264634) – THIS P-VALUE IS GREATER THAN 0.05, INDICATING THAT WE DO NOT HAVE SUFFICIENT EVIDENCE TO REJECT THE NULL HYPOTHESIS.

INTERPRETATION IN HYPOTHESIS CONTEXT

SINCE THE P-VALUE FOR THE COEFFICIENT IS NOT STATISTICALLY SIGNIFICANT, THE DATA DOES NOT PROVIDE STRONG EVIDENCE TO SUPPORT THE ALTERNATIVE HYPOTHESIS. IN THIS CONTEXT, WE FAIL TO REJECT THE NULL HYPOTHESIS. THIS IMPLIES THAT EXPOSURE TO AN INFLUENCER'S ENTHUSIASTIC REVIEW DOES NOT SIGNIFICANTLY INCREASE STUDENTS' RATINGS OF THE PRODUCT'S APPEAL NOR THEIR LIKELIHOOD TO REMEMBER ITS ATTRIBUTES COMPARED TO NEUTRAL REVIEWS.

4. Will you succeed in your career?

RETRIEVABILITY

Group A

- Asked what career they would like to pursue
- Provided them with a dry statistical report relating to their choice
- Then ask how successful they think they are going to be in their career?
- Form:
https://docs.google.com/forms/d/15Ekc9BWZuLkMFxzMi4KrDbxH_XrSbMw0rmr_NK6a53Y/edit

Group B

- Asked what career they would like to pursue
- Asked them to talk about a time they felt academically validated in respect to their career
- Then ask how successful they think they are going to be in their career?
- Form:
https://docs.google.com/forms/d/1aHczlAylHwEdtwI_ouGnwDolH1zq_hCYzkcHdQ0jrHs/edit

Hypothesis

Group B should rate higher because of retrievability bias

This hypothesis is rooted in the concept of availability bias, which suggests that people tend to rely on immediate examples that come to mind when evaluating a specific topic or decision.

Accessibility of Information

Availability bias occurs when individuals base their judgments on information that is more easily retrievable from memory. Personal successes are more memorable than statistical information.

Vividness and Recency

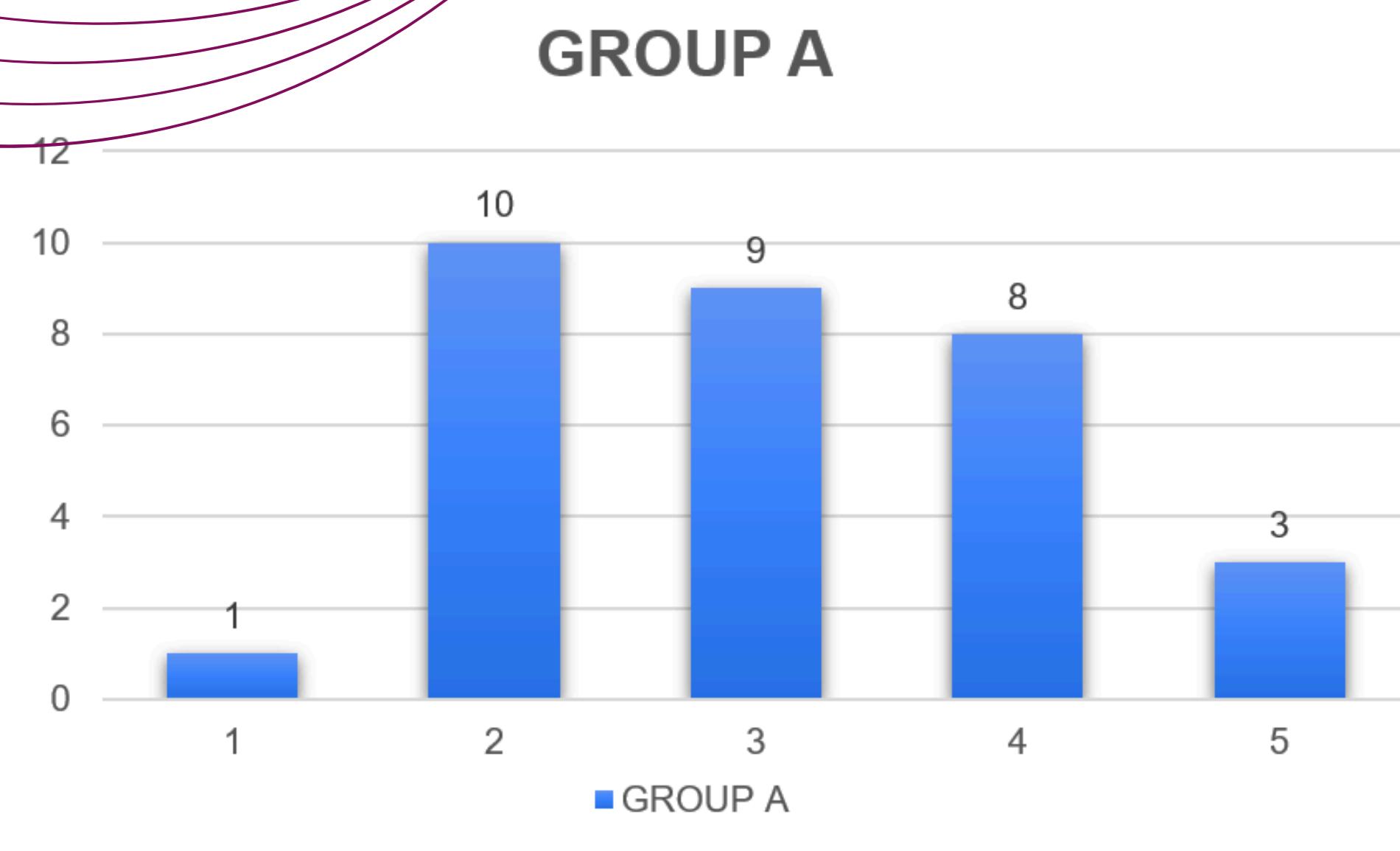
Personal experiences are more vivid and emotionally charged than data. The emotional resonance of recalling a successful moment can amplify a student's confidence.

Misjudgment of Probabilities

Students may misjudge their likelihood of success based on the salience of their experiences, leading to overconfidence. This is a classic example of how availability bias can distort decision-making

RESULTS

GROUP A



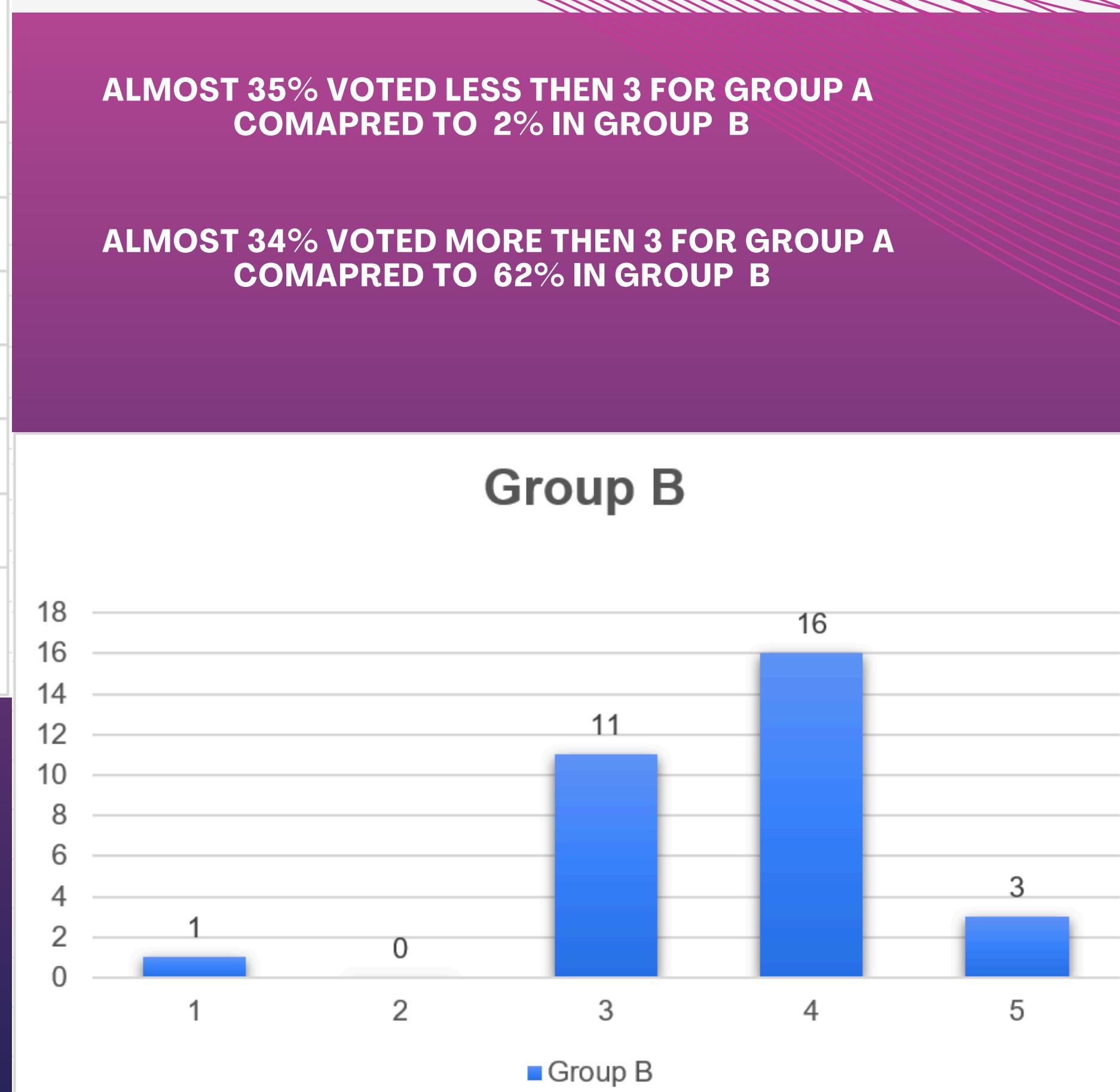
MEAN FOR GROUP A: 3.06

MEAN FOR GROUP B: 3.65

ALMOST 35% VOTED LESS THEN 3 FOR GROUP A
COMAPRED TO 2% IN GROUP B

ALMOST 34% VOTED MORE THEN 3 FOR GROUP A
COMAPRED TO 62% IN GROUP B

Group B



RESULTS

SUMMARY OUTPUT

Regression Statistics

Multiple R	0.299667
R Square	0.0898
Adjusted R	0.07463
Standard E	0.484907
Observation	62

ANOVA

	df	SS	MS	F	Significance F
Regression	1	1.391907	1.391907	5.91961	0.017971
Residual	60	14.10809	0.235135		
Total	61	15.5			

	Coefficients	standard Err	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.981153	0.221966	4.420288	4.2E-05	0.537155	1.425151	0.537155	1.425151
Please rate	0.154656	0.063565	2.433025	0.017971	0.027506	0.281806	0.027506	0.281806

IMPLICATIONS IN REAL LIFE DECISION MAKING

- **Health Communication**
 - Raise awareness about serious health issue
- **Marketing and Advertising**
 - Favourable for Businesses
 - consumer might be tricked to overvalue a product
- **Risk Communication**
 - stronger perceived risks of hazards etc
- **Education and Training**

LIMITATIONS

- Small Sample Size
- Homogeneous Participants (only LUMS)
- Subjective Nature of Responses
- Simplified experiments, may not depict real life complex scenarios

CONCLUSION

- Four experiments
- Demonstrated the impact of Availability Biases
- Availability Biases significantly Influence Decisions
- They have serious implications so should be kept in mind while making decisions.

**OPEN TO QUESTIONS
THANK YOU!**

CREDIT AUTHORSHIP STATEMENT

- **Izzah Waseem(group leader):** Responsible for setting counselling session with sir. finalized and designed all four experiments with help from group. scheduled and attended every group meeting. Ran statistical analysis of experiment 3 and 4. Made slides for experiment 4. Helped conduct experiment 3 in class.
- **Mehtab Ahmad:** Helped in finalizing experiments and designing them. Attended all the group meetings. Made forms for Experiment 1 and conducted Experiment 1. Did statistical analysis of experiment 1 and 2 using R. Made slides for the introduction part of the presentation.
- **Shahbaz Ali.** Helped in finalizing and designing experiments. Attended all group meetings. Conducted experiment 1, 2 and helped in conducting experiment 3. Did Inferencial Analysis for experiment 1 and 2. Made slides for experiment 1
- **Zoya Salman:** Attended most meetings and contributed ideas. Designed Experiment 3 and 4, and research for experiment 2. Conducted experiment 3 and 4. Conducted descriptive analysis of experiment 3 and 4 and slides for experiment 3.
- **Zeeshan Nasir:** Did the descriptive analysis of experiment 1 and 2. Conducted the experiment 2 and helped in finalizing the results.

