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ATTRACTIVENESS OF SYMMETRICAL AND ASYMMETRICAL FACES IN REFERENCE TO THE HALO EFFECT

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ABSTRACT

This study was conducted to find whether symmetrical faces would be rated more attractive than asymmetrical faces. Participants were shown pictures of random actors with symmetrical and asymmetrical faces. They were asked to rate them on a scale from 1-10. Participants were randomly allocated in two different groups; control and experimental. The results of the study stated that participants rated symmetrical faces higher in the terms of attractiveness in comparison to asymmetrical faces , the two conditions did not have a significant difference in asymmetrical ratings and both of them prove the Halo effect.

INTRODUCTION

The Halo effect; a part of Social psychology states that physical attractiveness accounts to how people perceive that particular person. For example if a person is beautiful we simply presume that the person is also smart, friendly and intelligent. The Halo effect was studied by an experiment conducted by Nisbett and Wilson(1977).They aimed at finding the extent to which people are aware of the Halo effect. A sample of college students was taken and they were divided into two groups. The first group watched a recording of a lecturer with a strong Belgium accent, who answered the students questions in a warm and friendly manner and the other group watched a recording of the same lecturer who answered the students in a cold and distant manner. The students of both groups were then asked to rate the lecturer according to mannerisms, accent and appearance. To record the results the students were asked to rate the lecturer on an 8 point scale ranging from “like” to “dislike”. The students were asked how much their liking toward the teacher influenced their rate and the other group of students were asked how much the teacher’s characteristics influenced their liking towards her. The behavior of the teacher did not affect the rate of her physical characteristics and liking towards her had no effect whatsoever on how the participants rated her physical appearance. In conclusion this proved that people are not aware of the Halo effect when they are evaluating someone. The result was that the subjects considered that their evaluation of certain attributes like accent and mannerisms

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didn't have an effect on how likable the teacher was. We replicated and customized the study and our aim was to see if the liking towards a celebrity would affect how subjects rate their physical appearance. As a part of our Diploma programme we studied human relationships and the formation of stereotypes and prejudice. The following study explores the social behavior of people and gives an understanding of how people form notions of what is considered to be beautiful. Research specific terminology involves asymmetrical (having two sides or halves that are not the same)[1] and symmetrical (If something is symmetrical, it has two halves which are exactly the same, except that one half is the mirror image of the other)[2]. The study was conducted by taking pictures of girls and boys with symmetrical and asymmetrical faces. A ten point scale was made and the participants had to rate the women according to their beauty and no other factor should influence their rate, such as their liking towards them. The rate had to be based purely on physical appearance. We started by showing the participants 10 symmetrical faces and then proceeding on to show them 10 asymmetrical faces. We had a small sample of 20 participants and we reversed the order for the next batch (10 participants). We used voluntary sampling and our target population was school going students who were between 17-19 years age. It consisted of both male and female participants. Our data was collected in the ordinal form and our analysis is based on the Wilcoxon signed ranks test. The research was performed with a classmate of mine and the results were recorded accordingly together.

Hypothesis: symmetrical faces would be rated higher than asymmetrical faces.

Null hypothesis: asymmetrical faces would get more rating than symmetrical faces.

Our result was in accordance with our hypothesis, as symmetrical faces were perceived to be more beautiful by the people which is another aspect of the Halo effect.

Independent variable: Symmetrical and Asymmetrical faces of famous celebrities.

Dependent variable: Measuring the perception of beauty by checking their response when asked to rate the two kinds of faces out of 10.

EXPLORATION

We used a repeated measure design where the same set of participants were used in both the experimental and control condition, this was done in order to ensure that no bias takes place and we have the same peoples views in both the conditions.

[1] https://www.merriam-webster.com/dictionary/asymmetrical
[2] https://www.collinsdictionary.com/dictionary/english/symmetrical

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We controlled the ambience of the room, the light intensity was not too strong and we made sure that no people were passing by because they are visible from the window of the class(this was done in order to ensure that the participants don't get distracted),we also made sure that the room was not to silent and eerie because silence sometimes has a negative effect and makes the participants uncomfortable. So, in order to make them comfortable in the silence we made sure we as researchers were warm towards them and had a cheerful vibe to ourselves.

All the possible ethical considerations were looked into and we wrote an informed consent which was read, understood and signed by all the participants, standardized instructions were given in order to inform the participants about what the study was based on and what they were supposed to do. So, they could decide if they were interested and wanted to follow through with it. At the end of the experiment a debriefing letter was read out to let the participants know what the research was and they were informed that the results would be out in 2 days time and if they wanted to know them they could approach us. The participants were not harmed in any way either physically or mentally and all possible factors which could prove to be a risk were looked into. The true aim of the study was not released as that would bias the results but the participants knew what was expected of them during the experiment and hence no deception was used. We had also mentioned in the informed consent that the participants could withdraw from the study at any point of time if they were not satisfied with the developments they had the right to withdraw their data too. We also made sure that confidentiality was maintained as we did take the names of the participants but nowhere in the analysis have their names been used or leaked in any part of the internet or written journal.

My classmate and I conducted the experiment together and the different conditions were worked out simultaneously, while I conducted the symmetrical condition, my partner conducted the asymmetrical condition with the same participant and vice-versa, having two researchers enhanced the used convenience (opportunity) sampling where whoever was present and was agreeing to participate was taken. We used convenience sampling because it was a school environment and it was easier to get samples in this way. The target population were students of 17-18 years. We had two conditions in the study, in the control condition symmetrical faces were shown first and in the experimental condition asymmetrical faces were shown first and the participants were randomly allocated to the 2 groups to avoid any selection bias.

Materials used-

1. Standardized instructions
2. Debriefing letter

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3. Rating sheet
4. Slide consisting of symmetrical faces
5. Slide consisting of asymmetrical faces
6. Informed consent

Procedure-

- We chose a room to conduct our study and arranged 2 desks together in a way that the participant had a clear view of the laptop. There were 2 arrangements of 2 desks at a considerable distance from each other
- Both the control condition and the experimental condition were located in the same room
- All the participants went through both the experimental and the control condition and in total 20 participants were taken
- 10 of them went through the control condition first and 10 of them went through the experimental condition first.
- The participants were given informed consent and the standardized instructions were read out to them.
- Now the participants were shown images of 10 celebrities with symmetrical faces and were asked to rate them out of ten in accordance to their beauty
- They had to rate the faces on a scale of 1 to 10 on a rating sheet provided where 10 was the most attractive and 1 was the least.
- Then they had to rate celebrities with asymmetrical faces again according to how attractive they were
- At the end of the experiment the debriefing letter was read out to them. So that they had a clear idea of what the study was about and the motive behind the experiment
- It was strictly mentioned that any schemas of the celebrities should not affect the participants rate and it should be purely focused on their appearance.

ANALYSIS

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Descriptive statistics-

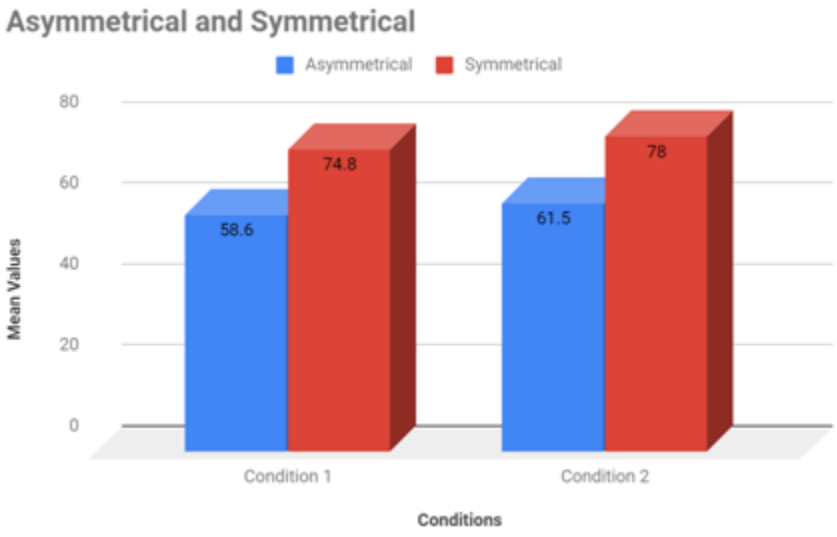
Table 1.1 Mean and Standard Deviation of condition 1

Condition 1	Standard Deviation	Mean
symmetrical	9.064	74.8
asymmetrical	13.3	58.6

Table 1.2 Mean and Standard Deviation of condition 2

Condition 2	Standard Deviation	Mean
asymmetrical	8.96	61.5
symmetrical	16.5	78

Fig. 1: Analysis of the data from the collected rating of symmetrical and asymmetrical faces



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I conducted the Wilcoxon signed ranks test for my study since I had ordinal type data and I chose a two-tailed hypothesis with a significance level of 0.05 to start calculating.

The results of the mean graph clearly portrayed that participants rated symmetrical faces higher in the terms of attractiveness in comparison to asymmetrical faces , the two conditions did not have a significant difference in asymmetrical ratings and both of them prove the Halo effect

Inferential Statistics-

Result 1 - Z-value

The Z-value is -3.9199. The p-value is 8E-05. The result is significant at p≤ .05.

Result 2 - W-value

The W-value is 0. The critical value of W for N = 20 at p≤ .05 is 43. Therefore, the result is significant at p≤ .05. Therefore, the hypothesis that symmetrical ratings will be higher than asymmetrical ratings has been accepted.

EVALUATION

The loosely replicated study of Nisbett and Wilson proved it in their experiment that the people are not aware of the Halo effect when they are making decisions based on a person's appearance and not their personality. Similarly, the results of our study indicate that the perception of beauty is biased because when people are rating the celebrities according to their physical appearance the participants assume that symmetrical faces are more attractive.

The Halo effect is now used as a business model because it helps increase the market value of a product. A simple pair of jeans can be sold off at an exorbitant price if they are associated with a good designer or a revered brand. Research carried out by T.Joel Wade, a professor of psychology states that, "since the face displays secondary sexual characteristics facial symmetry is more sensitive to environmental perturbations" (Grammer and Thornhill 234). "Facial asymmetry is located in various sites in the face" (Kowner 663). "Consequently, facial symmetry functions like a certificate of health with regards to mate potential. Women are seen as more attractive when their faces are symmetrical and close to average" (Baudouin and Tiberghien 314). This was proven in our study as all the 20 participants had higher ratings for symmetrical faces. The results were consistent with the hypothesis and they provided support for the Halo effect where one trait of a person or a thing is used to form an overall judgment of that person or thing, it supports rapid decisions even if biased ones (Halo effect: definition and impact on web user experience). In accordance with the results from the inferential we can see that in both results 1 and 2 the significance value of p was ≤ .05.

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The experiment used a repeated measures design which is subject to order effect in order to overcome the bias we made sure that out of the 20 participants, 10 of them looked at symmetrical faces first and the other 10 looked at asymmetrical faces first, our findings were same in both the orders which displayed that the study had successfully overcome the confounding variable. When presented with the pictures on the powerpoint we put up the first slide as a blank screen so that the participants are not distracted because of the picture when standardized instructions are being given. Participant bias occurs because of participants guessing and on being asked to rate the pictures an initial thought that the study is based on stereotyping and prejudice might have occured, hence demand characteristics because of participants guessing may have occurred. Although the participants were informed that their rate should be based on the appearance of the celebrities solely, we have no way to measure if the participants rate was affected by their liking towards the person. The slide consisted of images of women and no men were included in the slide, gender bias may have affected the results where both men and women were rating only women. The sampling technique used was opportunity sampling which lacks representativeness as all the participants were from the same school and of an age group 17-18, there was no cross cultural validity and the sample's target population was restricted to high school students alone.

For the replication of our study which was conducted along with my classmate, some of the factors need to be further assessed, in the case of the images of the people with symmetrical and asymmetrical faces we need to include males, which will reduce the gender bias in the study and surveys, interviews or observations need to be conducted in order to measure whether the rates given by the people were affected by their liking towards the celebrity or not.

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Appendix 1.

STANDARDIZED INSTRUCTIONS

1) This experiment is being conducted for our psychology IA and you will need to sign an informed consent letter for the same.

2) We should remind you that you are requested not to discuss the experiment with anyone.

3) There are 2 tasks involved in this experiment and in both the conditions you have to look at the 10 pictures, 1 at a time and rate them out of 10 in accordance to their beauty in the rating sheet provided.

4) You are required to rate them solely on appearance and no other factor should influence your rate such as your liking towards them.

Appendix 2.

DEBRIEFING NOTES

Dear participants,

We would like to thank you for participating in our study. This experiment was conducted to see whether people rate symmetrical people as more beautiful than asymmetrical people. We divided you into two groups so that we could show one group symmetrical pictures and the other group asymmetrical pictures.

One group had to rate asymmetrical pictures out of 10 and the other group had to rate symmetrical pictures out of 10. Then we would total your results to see if symmetrical pictures got more points as predicted. This experiment was conducted to prove that people equate symmetry to beauty. So, the more symmetrical the face, the more beautiful the person is. Our findings will be supported by the fact that our independent variable is symmetrical and asymmetrical pictures which have an effect on our dependent variable which is perception of beauty.
Lastly we would like to remind you that your data shall remain confidential and your participation in our study is greatly appreciated. Please don't discuss the experiment with anyone. Your results will be ready in 2 days of time if you wish to know your results please approach us.

Appendix 3.

-Encircle your ratings.

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NAME-
AGE-
PICTURE-1
Ratings: 1 2 3 4 5 6 7 8 9 10

PICTURE-2

Ratings: 1 2 3 4 5 6 7 8 9 10

PICTURE-3
Ratings: 1 2 3 4 5 6 7 8 9 10

PICTURE-4
Ratings: 1 2 3 4 5 6 7 8 9 10

PICTURE-5
Ratings: 1 2 3 4 5 6 7 8 9 10

PICTURE-6
Ratings: 1 2 3 4 5 6 7 8 9 10

PICTURE-7
Ratings: 1 2 3 4 5 6 7 8 9 10

PICTURE-8
Ratings: 1 2 3 4 5 6 7 8 9 10

PICTURE-9
Ratings: 1 2 3 4 5 6 7 8 9 10

PICTURE-10
Ratings: 1 2 3 4 5 6 7 8 9 10

TOTAL-

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Appendix 4. Pictures:

SYMMETRICAL FACES

ASYMMETRICAL FACES

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Appendix 5.

Symmetrical Rating	Asymmetrical Rating
72	70
60	38
75	48
60	56
80	63
85	54
90	79
75	41
78	60
73	77

Asymmetrical Rating	Symmetrical Rating
82	99
57	82
66	77
57	74
52	72
65	35
57	92
49	89
62	76
68	84

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Appendix 6.i

Descriptive statistics

Treatment 1	Treatment 2	Sign	Abs	R	Sign R
80	63	1	17	9	9
60	56	1	4	2.5	2.5
75	48	1	27	15	15
60	38	1	22	13	13
72	70	1	2	1	1
72	52	1	20	12	12
92	57	1	35	19	19
89	49	1	40	20	20
76	62	1	14	6	6
84	68	1	16	7	7
74	57	1	17	9	9
77	66	1	11	4.5	4.5
82	57	1	25	14	14
99	82	1	17	9	9
77	73	1	4	2.5	2.5
65	35	1	30	16	16
78	60	1	18	11	11
75	41	1	34	18	18
90	79	1	11	4.5	4.5
85	54	1	31	17	17

Result Details

W-value: 0
Mean Difference: 22.1
Sum of pos. ranks: 210
Sum of neg. ranks: 0

Z-value: -3.9199
Mean (*W*): 105
Standard Deviation (*W*): 26.79

Sample Size (*N*): 20

