Exploring the Halo Effect by Testing the Effect of a Person's Attractiveness on Their Perceived Kindness

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Introduction

The aim of this investigation is to test whether a person's level of attractiveness has an influence on how kind they are perceived to be. Our expectation is that one's level of attractiveness does influence how kind one is perceived to be. This investigation is relevant because in modern society, many are told lies by social media and television about how they should look in order to be attractive, resulting in many to have plastic surgery to become more beautiful. Through this investigation, we will see if a person's view on an individual's attractiveness does affect how they view the individual's personality.

This investigation is based on the Implicit Personality Theory which was introduced by psychologist Lee Cronbach in the 1950s. This theory states that one forms an impression about another individual by pairing various personality traits and/or human characteristics together ("Implicit Personality Theory", n.d.).

This investigation will be looking at the Halo Effect, a specific Implicit Personality Theory. The Halo Effect states that when making first impressions, if an individual portrays a positive characteristic, one makes the judgement that the individual also possesses multiple other positive characteristics. This investigation will examine whether one does pair traits together when forming a judgment about someone by seeing if an individual will rate a person who is considered to be attractive, a positive characteristic, as kind, a positive personality trait.

We are replicating Nisbett and Wilson's experiment (1977) on the Halo Effect. Their aim was to find how aware people are of the Halo Effect. The subjects were 118 college students who were divided into two groups and were shown different videos of an interview with a teacher. In one video, the teacher was portrayed as likeable while in the other video, he was portrayed as unlikeable. The subjects rated the teacher's appearance, mannerisms, likeability, and accent. The results supported the Halo Effect because the subjects that viewed the teacher as likeable rated him as more attractive ($p<.00001$), his mannerisms as more amiable ($p<.0001$) and his accent as more pleasing ($p<.0002$) than those who viewed him as unlikeable. However, many students strongly believed that their ratings weren't influenced by how much they liked the teacher. This experiment showed that people aren't very aware of the influence that the Halo Effect has on them (Nisbett &Wilson 1977).

We modified the original study by focusing on the effects of the Halo Effect rather than focusing on the subject's awareness of the effect. We also focused only on the traits of kindness and attractiveness rather than likeability, accent, mannerism, and appearance.

For our experiment, we derived the following hypotheses:

Operationalized null hypothesis: When two groups of subjects are shown images of attractive or unattractive people (either images of people before plastic surgery who are unattractive or the same people after plastic surgery who are attractive), the person's unattractiveness or attractiveness (independent variable) will have no influence on how kind they are perceived to be (dependent variable) by the subjects and hence, both groups of subjects will rate the images' kindness on a scale of 1 (lowest level of kindness) to 5 (highest level of kindness) similarly.

Operationalized research hypothesis: When two groups of subjects are shown images of attractive or unattractive people (images of people before plastic surgery who are unattractive or the same people after plastic surgery who are attractive), the group of subjects that view the images of attractive people (independent variable) will associate a higher ranking of kindness (dependent variable) on a scale of 1 (lowest level of kindness) to 5 (highest level of kindness) than the subjects who view the unattractive people.

Exploration:

We used an independent measures design because our experiment required two groups of participants: a control group that viewed images of people before having plastic surgery and an experimental group that viewed images of people after having plastic surgery. Two groups were necessary because if one group of participants were exposed to the images of before and after plastic surgery, it is very likely that the participants will figure out the aim of the experiment since it's apparent that the images are of the same people. We used convenience sampling because it was the easiest and fastest way to obtain participants. Thus, our target population was high school students who volunteered to participate in our experiment. These 5 boys and 15 girls that participated were between 14 to 18 years old, came from the same region, and spoke and comprehended English well.

Procedure of experiment:

1. Divide 20 subjects into two groups (10 for control and 10 for experimental)
2. Bring one group into a separate room
3. While reading script (Appendix 1), pass out consent forms (Appendix 2) and paper for ratings (Appendix 3)
4. Collect consent forms
5. Start experiment by showing images on PowerPoint (specified images for specific group-control or experimental) to subjects, showing each image for 30 seconds (Appendix 4)
6. After all images are shown and subjects have finished their ratings, collect the papers
7. Bring in second group and repeat procedure using the images specified for group (experimental or control)
8. After finding results of experiment, send debriefing email to subjects (Appendix 5)

An extraneous variable that was controlled was the amount of time given to both groups for their ratings. For each image, we set a timer for thirty seconds to make sure that no subject had more time than another subject to rate the image. Additionally, we followed a script when talking so that all the subjects received the same information and no subject had an unfair advantage.

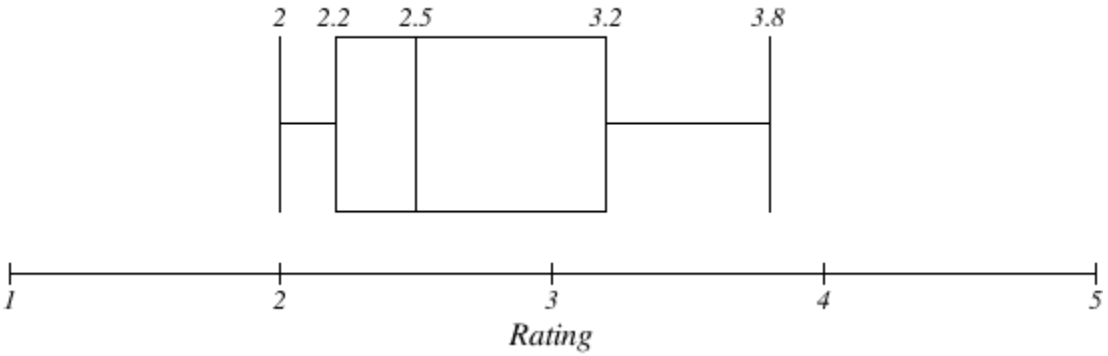
Before conducting our experiment, ethical considerations were accounted for. Subjects had parental consent allowing them to participate in the experiment (Appendix 6). Additionally, no subjects were forced to participate but willingly did so. Before we began our experiment, participants signed a consent form and were told that they can withdraw from the experiment at any time and have their data removed. We ensured confidentiality by having no subjects write their names on the paper with their ratings. Furthermore, after the experiment was conducted, we debriefed the subjects about the aim of our experiment and its results.

Analysis:

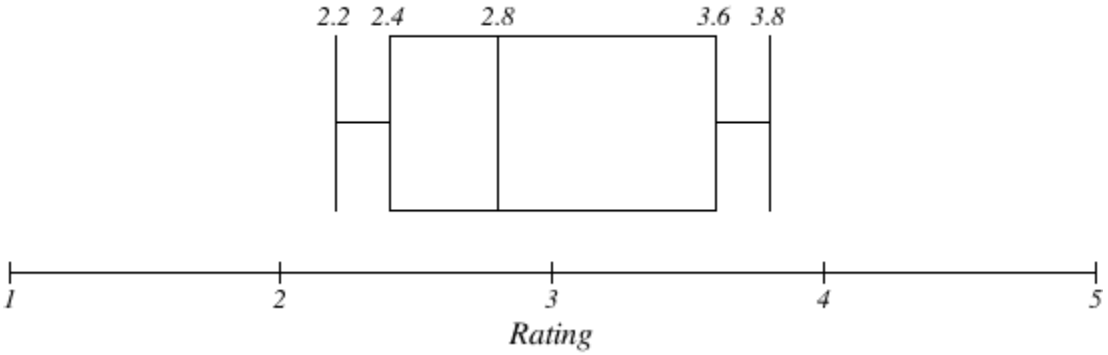
We analyzed the median and the interquartile range of our data. We found the median since it's resistant to outliers in the data, unlike mean. We found the IQR since our data is ordinal and isn't normally distributed. Hence, we were unable to use standard deviation. We took the mean of each participant's ranking of kindness for all five images, giving us a composite rating of kindness (Appendix 7). These averages were our data points. The median of the control group's data is 2.5 and the IQR is 1.0. The median of the experimental group's data is 2.8 and the IQR is 1.2. The higher IQR of the experimental group means that the data points are more spread out around the center of the distribution than they are for the control group. Since the median of the experimental group is higher than that of the control, the results support our research hypothesis. More subjects gave a higher ranking of kindness to the images of attractive people than to the images of unattractive people.

We used the Mann-Whitney U test (Appendix 8) because our experiment used an independent measures design and had ordinal data. We obtained a U value of 37.5 and a critical value for a one-tailed hypothesis at an alpha level of .05 of 27. Since our U value is greater than the critical value, our results aren't statistically significant. Thus, there isn't a highly significant difference in the ratings of kindness given to the images in terms of whether the images were of attractive or unattractive people. We fail to reject our null hypothesis and accept that a person's attractiveness has no influence on how kind they are perceived to be.

Average Ratings of Kindness of Images Before Plastic Surgery



Average Ratings of Kindness of Images After Plastic Surgery



Evaluation:

Our experiment is different from the original study (Nisbett &Wilson 1977) because our aim was to look at the influence of the Halo Effect while the original study's aim was to look at people's awareness of the effect. Also, the original study's results apply only to college students while ours applies to high school students. The procedure and design were also different because the original study's subjects watched videos of an interview and rated several traits, such as the likeability, mannerism, accent, and appearance of a teacher. Our subjects looked at images, and we focused only on the rating of kindness. However, both experiments did have similarities. They both involved the subjects rating traits to a person. Moreover, we found a median ranking of kindness of 2.8 for the images of the attractive people and a median ranking of 2.5 for the unattractive people. Even though a 0.3 difference isn't very significant, the higher median ranking in the experimental group reveals that more people associated the positive trait of kindness with the positive characteristic of attractiveness, as stated by the Halo Effect. Additionally, as described by the Implicit Personality Theory, the experimental group formed an impression about the individuals shown by pairing the trait of kindness with the characteristic of attractiveness. Therefore, the results of both our study and the study by Nisbett and Wilson (1977) support the Implicit Personality Theory and specifically, the Halo Effect

However, after doing a Mann-Whitney U test and getting a U value of 37 which is greater than the critical value of 27, we found that there isn't a significant difference in the results to conclude that being attractive or unattractive affects how kind one is perceived to be. We reject our research hypothesis that an attractive person will be perceived as more kind than an unattractive person and conclude that a person's attractiveness has no influence on how kind they are perceived to be. Therefore, our replication of the Implicit Personality Theory produced different results than what is stated by the theory since our experiment didn't produce significant results to conclude that when an individual portrays a positive trait, such as attractiveness, one makes the judgement that they also possess other positive traits by pairing attractiveness with kindness.

A possible reason for why our results are different than what the Implicit Personality Theory describes is that we looked at the characteristic of attractiveness. A person that we believed to be attractive may not have been seen as attractive by the subjects. Thus, this could explain why our results weren't statistically significant.

A strength of our experiment's sample was that the subjects were fluent English speakers and had a similar level of education. A limitation was the lack of diversity since all our subjects were high school students between 14 to 18 years old. Our results might change if we had included elderly people because an elderly person's perception of attractiveness may be different from a young person's perception since the beauty standards during the lives of elders were different from the modern standards.

A strength of our experiment's design was that our subjects rated several traits, other than kindness. By putting filler traits, we decreased the possibility that subjects would figure out the aim of our experiment. A limitation was our independent variable of attractiveness. Someone considered as attractive by one person may not be the considered in the same way by another.

A strength of our experiment's procedure was that we maintained consistency in the control and experimental groups by using a script and giving both groups 30 seconds to rate each image. By maintaining consistency, neither group had an unfair advantage by knowing more information or by receiving more time. A limitation was the comprehension of the directions. Despite our group thoroughly explaining the directions, there might have been subjects that misunderstood the directions. For example, it's possible for a subject to rate all the traits together for each image rather than rating each trait individually.

A modification that should be done is using subjects from a widespread age range. One group that does the experiment can be elderly people while another group consists of young people. Since beauty standards are constantly evolving, the standard during the lives of the elderly is different from the standard during the lives of the young people. As a result, the perception of beauty may largely differ between the groups. The experiment's aim would be to see if being an elderly person versus a young person has an effect on the ranking of kindness associated with the images of people. Another modification is to use a different independent variable, such as intelligence, by presenting the IQ scores of people. The IQ score isn't dependent on others' beliefs, unlike attractiveness. By presenting two groups the same image of a person but with different IQ scores, the investigation's aim would be to explore how kind a person is perceived to be based on their presented intelligence. Statistically significant results that support the Implicit Personality Theory are expected to be produced.

In conclusion, despite seeing a higher mean ranking of kindness for images of attractive people than for unattractive people, the results aren't significant to reject the null hypothesis. Thus, we conclude that a person's attractiveness has no influence on how kind they are perceived to be.

References

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Appendices

Appendix 1- Script with Instructions of Experiment

Hey guys, my name is _____, I'm _____, and I'm _____. Today you all will be participating in our experiment for our psychology IA. You will receive a consent form, where you will agree or disagree to participate in this experiment. Now we will go over the rules of the experiment.

We will show you five images of different people. On the paper provided to you, you will rate each person (image) for each trait on a scale of 1-5. 5 being the most that the image represents and 1 being the least that the image represents. You will do this for each image, and you will see each picture for approximately 30 seconds.

Once you are finished filling everything out, please flip your paper over and we will collect them once everyone is finished.

Refrain from describing the experiment to others, as we would like everyone to have the same opportunity in participating.

After the results of this experiment are obtained, we will send an email to you explaining the aim of our experiment as well as what we found from the results.

Appendix 2- Consent Form

Consent Release and Confidentiality Notice

I give full consent to participate in this psychology experiment. I acknowledge that any information I provide during the experiment will be used to determine results and help us prove or disprove our hypothesis. Moreover, I have been informed about the nature of this experiment, what will take place, and my part during the experiment. I understand that I may withdraw from the experiment at any point and I can choose to not have my data utilized in the experiment if I don't feel comfortable.

Likewise, I have the right to be informed about the results after I have participated in the experiment. Most importantly, I understand that my name, age, grade, and identity will all remain confidential and not used in any way, shape, or form before, during, or after the experiment. I also will not be subjected to take part in any form of demeaning behavior such as peer pressure or social conformity.

I acknowledge the benefits in participating in this experiment and that the results obtained will help the experimenters collect solid data to write their IA's.

Name: _____

Email: _____

Grade: _____

Date: _____

Signature _____

Appendix 3- Paper for Subjects to Rate the Images

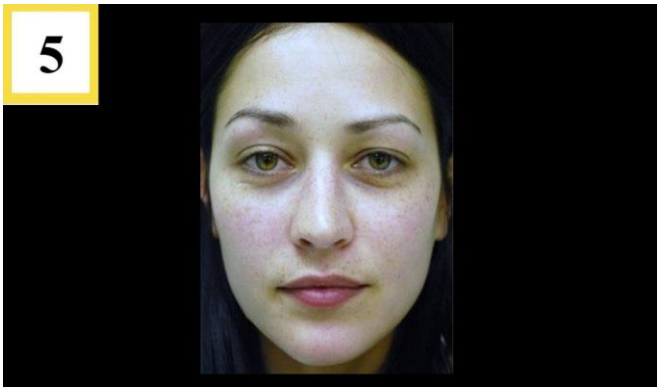
Rate **each trait** for each image from 1-5, according to the pictures of the people displayed throughout the PowerPoint Presentation. 1 being the least of the trait that you think the person possesses, 5 being the most. You do not have to use every number (1-5) for each of the traits. You can repeat numbers or choose to not include a specific number if you wish.

	Image 1	**Image 2**	**Image 3**	**Image 4**	**Image 5**
Timid (1-5)					
Jealous (1-5)					
Sensitive (1-5)					
Kind (1-5)					
Lazy (1-5)					

Appendix 4- PowerPoint of Images of People Before (Group 1) and After (Group 2) Plastic Surgery


3


4

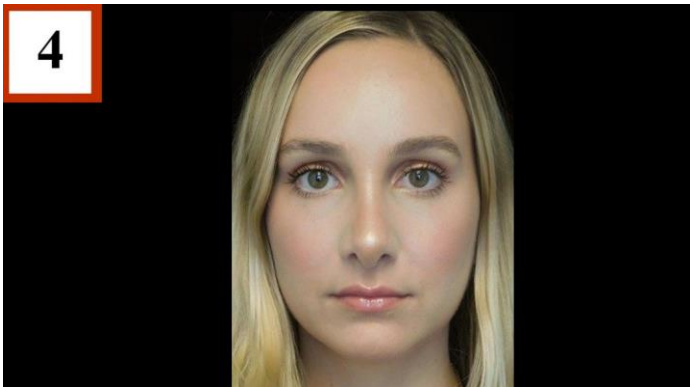

5

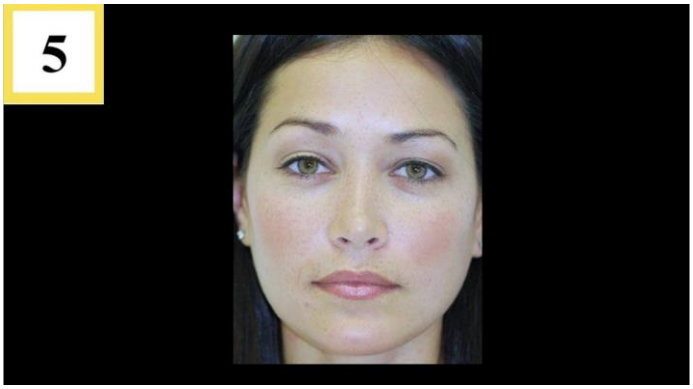
Group 2

1

2

3


4


5

Appendix 5- Debrief

Debrief

In this experiment, you will have participated in an activity to demonstrate a form of the *Halo Effect*: the phenomenon in which people create impressions based on a factor such as physical appearance. You were told to attribute the different characteristic traits of kind, timid, jealous, sensitive, and lazy to the different images of women you were shown. One group of participants were shown images of women before plastic surgery, while the second group were shown images of the same women, but after surgery. The intended goal is to identify if there is a correlation between people's perception of attractiveness and if more positive traits, such as kindness, are attributed to a more attractive person. For each trait, you ranked the images from 1-5; 1 being the least of that trait, and 5 being the most of that trait. However, we as the experimenters were only looking at kindness and seeing if you would connect the positive traits to the most attractive person (after plastic surgery), and the negative traits to the least attractive women. If we had informed you of this, it would take away the intention of the experiment. Based on our results, the group who viewed the images of women after plastic surgery, generally rated a higher number for kindness. However, the ratings of kindness between the control and experimental groups (groups 1 and 2) rated kindness similarly regardless of the person's attractiveness, therefore suggesting that the Halo Effect did not have an impact on you, our participants. If you have any of questions about the results or the experiment, feel free to contact us😊

Appendix 6- Parental Consent

September 2, 2019

Dear Parents,

I am writing this letter to inform you directly about the nature of the Psych IA Experiment Day that will be taking place on Tuesday, October 1st, 2019. All Psychology students need to be there to participate as subjects (Psych I) or as experimenters & subjects (Psych II) from approximately 2:30-4:00pm. This is an IB Psychology requirement. I am asking for volunteers from NHS and Key Club to act as participants (for service hours) in the experiments as well. Ethical guidelines require that parents give consent for their minor children in order to participate in a Psychology IA. If you agree to let your child(ren) participate in Psych IA Day, please write their name(s) below and sign and date on the line. If you have any questions or would like to review the procedural or ethical guidelines, I would be happy to email them to you. Please rest assured that IB Psychology standards are even more stringent than standard ethical requirements and your student will not be in any physical or emotional distress. Thank you for your cooperation and support for this required, albeit inconvenient, IB activity.

Sincerely,

Brian N. Burak

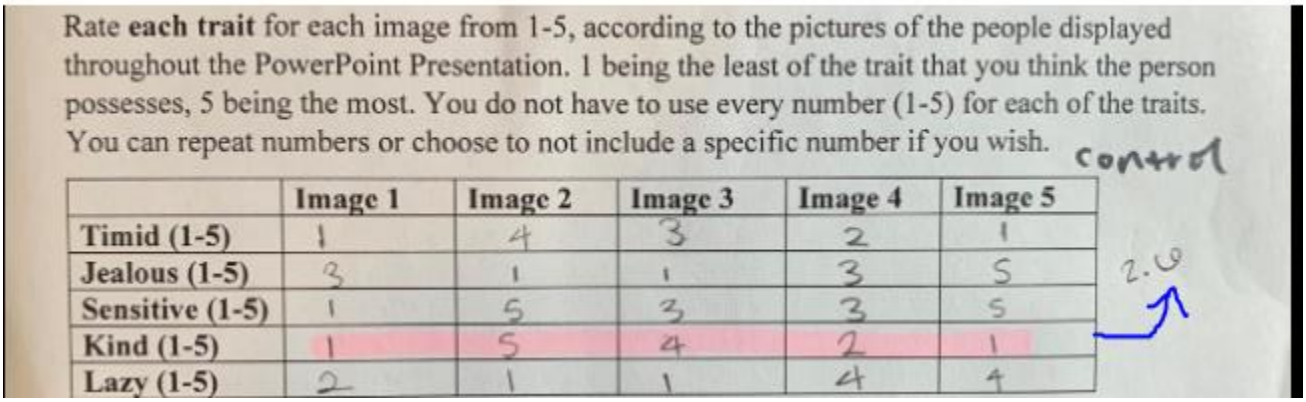
brian.burak@uticak12.org

Please Print Name(s) of Minor Child(ren) Who Will Participate in the Psychology IA Day below:

Student Name(s): _____

Parent Signature: _____ Date: _____

Appendix 7- Raw Data



Rate **each trait** for each image from 1-5, according to the pictures of the people displayed throughout the PowerPoint Presentation. 1 being the least of the trait that you think the person possesses, 5 being the most. You do not have to use every number (1-5) for each of the traits. You can repeat numbers or choose to not include a specific number if you wish. control

	Image 1	Image 2	Image 3	Image 4	Image 5
Timid (1-5)	1	4	3	2	1
Jealous (1-5)	3	1	1	3	5
Sensitive (1-5)	1	5	3	3	5
Kind (1-5)	1	5	4	2	1
Lazy (1-5)	2	1	1	4	4

2.6

*2.6 is the mean rating of kindness

	A	B	C	D	E	F	G
1	Control	Image 1	Image 2	Image 3	Image 4	Image 5	Mean
2	Kind (1-5)	1	4	2	3	1	2.6
3		1	5	1	1	2	2
4		3	4	3	4	3	3.4
5		2	5	4	4	4	3.8
6		2	5	1	2	1	2.2
7		2	5	1	1	5	2.8
8		1	3	4	1	2	2.2
9		1	5	2	3	1	2.4
10		4	5	3	2	2	3.2
11		1	5	4	2	1	2.6
12							
13	Exp	Image 1	Image 2	Image 3	Image 4	Image 5	Mean
14	Kind (1-5)	4	5	3	3	3	3.6
15		2	4	3	2	2	2.6
16		2	5	3	2	3	3
17		2	4	2	1	2	2.2
18		3	3	2	4	4	3.2
19		3	5	4	3	3	3.6
20		1	5	3	2	2	2.6
21		2	5	5	2	5	3.8
22		4	5	3	1	5	3.6
23		2	3	3	1	3	2.4

Appendix 8- Mann-Whitney U Test Calculations

Mann-Whitney U Test

Control Group Data (C)	Experimental Group Data (E)
2.8	2.6
2.4	3.6
2.2	2.4
2	3.8
2.2	3.2
3.8	2.2
2.2	3
2.6	2.6
3.4	3.6
3.2	2.2

	C	C	C	C	E	E	C	E
#	2	2.2	2.2	2.2	2.2	2.2	2.4	2.4
Rank	1	4	4	4	4	4	7.5	7.5

	C	E	E	C	E	C	E	C
#	2.6	2.6	2.6	2.8	3	3.2	3.2	3.4
Rank	10	10	10	12	13	14.5	14.5	16

	E	E	C	E
#	3.6	3.6	3.8	3.8
Rank	17.5	17.5	19.5	19.5

Total Ranks for Control Group (T_1) = 92.5

Total Rank for Experimental Group (T_2) = 117.5

T_x (Larger Rank) = 117.5

n_1 (number of people in control group) = 10

n_2 (number of people in experimental group) = 10

n_x (number of people in group with larger rank total) = 10

$$U = n_1 \times n_2 + n_x \times \frac{(n_x+1)}{2} - T_x$$

$$= 10 \times 10 + 10 \times \frac{(10+1)}{2} - 117.5$$

$$= 37.\overline{5}$$

$37.5 > 27$

↳ critical value at alpha level of 5% one-tailed test

Since U value of $37.\overline{5}$ is greater than critical value of 27, we fail to reject our null hypothesis.

→ There is not a highly significant difference in the ratings of kindness given to the set of images in terms of whether the images were of attractive or unattractive people.