

Linking Perceived Attractiveness and Relationship Status:

Categorization in Mate Selection

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### Abstract

This study was designed to focus on the effect of relationship status on perceived attractiveness. In order to study this effect, facial images, including the area of the models above the neckline, were rated on several factors, including attractiveness, by participants on a Likert scale from one to six. The study presented participants with the images and a short vignette containing relationship status, which was randomly assigned in order to gain ratings of attractiveness for each image when coupled with the statuses of “Single”, “In a relationship of 3 or more months”, and “In a long-term relationship of 2 or more years/engaged”. Data analysis then focused on the effect of each level of relationship status on attractiveness. The researchers predicted that those individuals who were presented as being in a longer-term relationship would have higher ratings of attractiveness than the same individuals when presented as single. Data analysis focused on data collected from female participants due to small numbers of males in some conditions. While there was no significant main effect of relationship condition, there was close to significant evidence suggesting a link between the gender of the presented face and relationship condition [ $F(2, 112) = 3.051, p = .051$ ]. This finding could imply that men and women are rated differently based upon their current relationship status.

## Relationship Status and Perceived Attractiveness

### **Linking Perceived Attractiveness and Relationship Status: Categorization in Mate Selection**

Scottish philosopher David Hume once wrote, “Beauty in things exists in the mind which contemplates them” (Hume, 1757). This statement suggests that beauty is dependent upon perception. In this regard, the perception of beauty, and more specifically attractiveness, comes with a set of assumptions. When perceived as attractive an individual is also perceived as possessing various other qualities such as an overall more positive personality (Dion, Berscheid, & Walster, 1972). In addition, the perceived attractiveness of an individual was found to be associated with other positive factors such as friendliness, enthusiasm, and trustworthiness. It can be expected from these results that there are many benefits to those perceived as attractive in a society. Having established links between attractiveness and other qualities, it is therefore useful to discuss possible benefits for those perceived as attractive as well as the various factors which may influence perceived attractiveness.

#### *Benefits of Attractiveness*

Individuals who are perceived as attractive may also benefit from multiple social advantages as a result of their perceived attractiveness. For example, attractive females have been found to be more likely to secure marriages with financially successful males (Udry & Eckland, 1984). Due to the fact that this correlation does not offer the possibility that the wealth of women increases their attractiveness, women rated to be highly attractive have managed to exchange the value placed on their appearance to obtain benefits within marriage. These findings may suggest the power of attractiveness in gaining aspects of upward mobility, or the idea that it is possible for an attractive female to marry into a higher socioeconomic class because of her attractiveness.

Another benefit to having an attractive appearance involves the role it plays in the job market. Individuals of both sexes who are attractive have been found to have a higher likelihood in obtaining a job than those who are seen as less attractive seeking to obtain the same job. The study that produced this finding maintained two levels of attractiveness and three levels of

scholastic standing. Attractiveness was found to be valued across all levels of scholastic standing. Overall, this study provided an explanation that attractiveness is a determining factor that may unconsciously be used in hiring processes, thus signifying another real-life advantage to those perceived as attractive (Dipboye, Fromkin, & Wiback, 1975).

### *Influences on Perceived Attractiveness*

While “what is beautiful is good” seems to be a well-supported concept, some have worked to examine whether the reverse may also be true (Gross & Crofton, 1977). In this study, participants rated the attractiveness of three photographs which had been pre-rated as attractive, average, or unattractive as more attractive, regardless of attractiveness level, when paired with a favorable personality description than when paired with an average or unfavorable one. These findings have implications for the effect that certain personality qualities and other traits might have on an individual’s perceived attractiveness.

As social beings, humans do not exist in isolation. Interactions on a daily basis may play some role in the perceptions which an individual holds. Findings suggest the influence that others may have on our perceptions (Kenrick & Gutierrez, 1980). After having viewed a television program with three attractive women, participants rated the photo of an average looking woman as less attractive than a control group. This finding supports the significance that context may play when making judgments on attractiveness. The study also found that individuals exposed to a set of high attractiveness yearbook photos rated the women in the photos as less attractive when presented with confederates’ comments about the woman’s supposed lack of attractiveness. In a low attractiveness condition, participants rated photos as more attractive when confederates made comments about the average looking woman being extremely attractive. These findings have implications that perceptions of attractiveness are influenced not only by the things that are seen when judging attractiveness, but also the other information which is gathered during the process.

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Given the broad amount of research conducted on attractiveness, few studies have actually sought to understand the effect of relationship status on attractiveness. Theories of perceptions of attractiveness from various fields of study offer some predictors for the effect relationship status might have on perceived attractiveness. For example, one theory suggests there is worth given to males who are involved with a female (O'Hagen, Johnson, Lardi, & Keenan, 2003). This worth comes from the individual being viewed as a resource for long-term mating. This somewhat evolutionary perspective offers some understanding to why those in a relationship could be viewed as more attractive to someone of the opposite sex than an individual not in a relationship.

There have been some attempts to understand links between relationship status and perceived attractiveness. One of which sought to understand the various factors that individuals in post-WWII Germany used to determine what components compose an attractive male (Baur & Hofmeister, 2006). When rating the importance of several factors in determining what dimensions make a man attractive, bread-winning ability, relationship skill, and physical attractiveness were found to have the greatest influence. These three areas may overlap, and when examining their interactions, the researchers found that 19% of participants considered only relationship skill to be important, while 25% valued a combination of relationship skill and physical attractiveness, and 31% reported valuing all three. Such findings suggest the tendency of individuals to value relationship skill as a possible indicator of attractiveness. Furthermore, if relationship skill factors into ratings of attractiveness, it is possible that those in a relationship may possess such skill and thus be perceived as more attractive.

Based on the research presented, our study will attempt to answer the question of how aspects such as the availability of a facial stimulus as a potential partner may play into an individual's rating of attractiveness as well as further supporting claims that more attractive individuals typically are thought to gain benefits from their attractiveness. Ratings of

attractiveness will be higher for individuals who are presented as being in long-term relationships, based on perceived relationship skill and other factors associated with being in a relationship.

### **Pilot Study**

The pilot study was used in order to gather a wide range of varying attractiveness levels and thus to determine which facial stimuli should be included in the later study. From the results of the pilot study, it was possible to select both a high and low attractiveness set of faces for the final study. This ensured the ability to manipulate attractiveness level between those who are perceived as unattractive and those who are viewed as highly attractive. Faces were selected for use in the final study by finding those with similar means in both a high and low attractiveness condition for each gender from the results of the pilot study. The means in the table below are those for the faces selected at the conclusion of the pilot study to create the high and low attractiveness conditions for the final study.

	Low Attractiveness Face Means			High Attractiveness Face Means		
Female Faces	0.71	0.75	0.81	2.5	3	3.06
Male Faces	0.71	0.75	0.75	2.63	2.76	3.08

### **Method – Pilot Study**

#### *Participants*

This study included 76 individuals of both sexes between the ages of 18 and 60 years of age. Participants were obtained online through various psychological research websites. Any data obtained from Hanover College students was discarded to increase the validity of the results.

#### *Stimuli*

Facial images were obtained by the researchers of 87 Hanover College students for use as the stimuli for this study. To obtain these photographs, the researchers positioned themselves in

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an area with a relatively high flow of students and solicited both men and women of all attractiveness levels. The images included pictures of 45 males and 42 females from the neck up in front of a white background. Facial models were instructed to provide a closed-mouth grin and look directly at the camera. Each image is approximately five megapixels in size.

### *Procedure*

Participants were first presented with an informed consent page, ensuring that their results would remain anonymous. After selecting the “I consent” option and clicking “Submit”, an instruction page appeared. This page contained a description of the task the participants would be completing. After selecting “Continue to Experiment” the participant was presented with a facial image and a Likert scale of 1 to 6, with 1 being “Not at All Attractive” and 6 corresponding with “Highly Attractive”. Following the participant’s selection of a rating, another stimulus would appear. Stimuli were divided into three sets of 22 images and one set of 21 images of the original 87 stimuli. Each participant rated only one of these four sets and the images were presented in a random order to ensure no order effect or fatigue. Each set included photos of both male and female faces. After rating the last stimulus, the participant was presented with a debriefing page which explained the study and thanked each individual for their participation.

## **Method – Relationship Status**

### *Participants*

The sample of this study was collected online through various psychological research sites and was composed of 162 individuals between the ages of 18 and 22. Of these participants, roughly one third was male (N = 50).

### *Stimuli*

The experiment included 12 facial photographs including those of six males and six females with varying facial attractiveness (See Appendix). The average attractiveness of each face was determined through the pilot study to include both a high and low attractiveness

condition. Each image in the experimental conditions is paired with a relationship status of either “Single”, “In a relationship of 3 or more months”, and “In a long-term relationship of 2 or more years/engaged”. Relationship status appeared last in a small vignette composed of a pseudonym, birthday (not date), and birthplace in order to mask this as an independent variable. It is important to note that while each participant rated both a male and female face, they were only presented with one level of attractiveness across the two faces as well as one set relationship status. This design was chosen to minimize participant knowledge of the independent variables of both high or low attractiveness condition and relationship condition.

### *Procedure*

The procedure for the relationship status portion of the study is much the same as the pilot study. Participants were first presented with an informed consent page, ensuring that their results would remain anonymous. The informed consent also contained a brief description of the task the participants would be completing as well as a prompt to disguise the independent and dependent variables. This prompt was as follows: “We are interested in how people make first impressions. We will be asking you to rate two individuals on several factors.” After selecting the “I consent” option and clicking “Submit”, the participant was presented with a facial image. Each participant was randomly assigned either a high or low attractiveness set of two faces which were presented in random order. For each set of faces, each participant would see only one of three possible relationship statuses across the vignettes for both faces. Following viewing the face and reading the vignette for the first facial stimulus, the participant rated the attractiveness of the individual on a Likert scale from 1 to 6, 1 indicating “Not at All Attractive”, and 6 being “Very Attractive”. In order to mask the main dependent variable of perceived attractiveness, participants were also asked to rate nine other factors, including anxiousness, confidence, emotional openness, intelligence, and financial success on a similar six-point Likert scale. Following the participant’s rating of each factor for the first stimulus and selecting “To page 2” at the bottom of

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the page, the second stimulus would appear. After rating both stimuli, the participant was presented with a debriefing page that explained the study and thanked each individual for their participation.

### Results

A 2x3x2 ANOVA included the within-subjects factor of the gender of the face (male and female), as well as the between-subjects factors of relationship status of the presented face, which was split into three levels (not currently in a relationship, in a relationship of at least three months, and in a relationship of two or more years), and attractiveness level (high or low). The dependent variable was the mean attractiveness rating. From this ANOVA, there was a main effect of the gender of the face [ $F(1,162) = 13.953, p = < .001$ ]. There was also a significant main effect of attractiveness condition as shown below [ $F(1, 162) = 32.266, p = < .001$ ]. There was not, however, a significant main effect of relationship condition [ $F(2, 162) = .148, p = .863$ ].

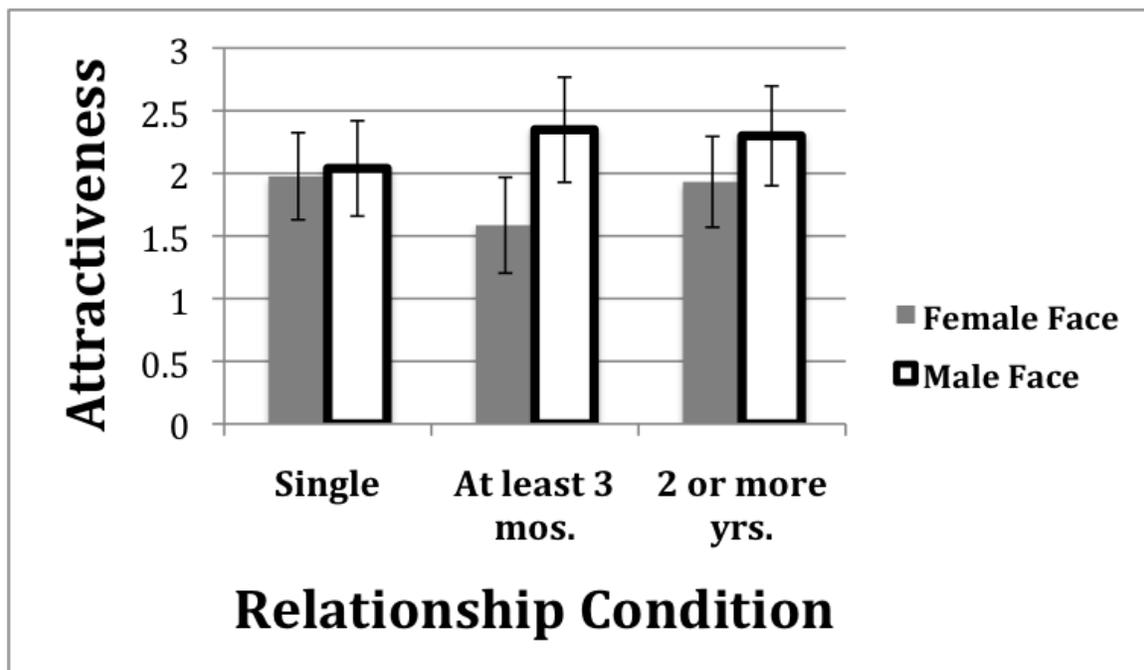
The interaction of gender of the face and attractiveness condition approached significance [ $F(1, 162) = 3.341, p = .069$ ]. The interaction of gender of face and relationship condition was not significant [ $F(2, 162) = 1.157, p = .317$ ]. The interaction of all three independent variables did not prove significant [ $F(2, 162) = 1.430, p = .242$ ]. The interaction of attractiveness condition and relationship condition also failed to reach significance [ $F(2, 162) = .002, p = .998$ ].

When running the above ANOVA and including gender of the participant as another between-subjects factor, there were relatively few males spread across each condition, the lowest being as few as 6 males in some conditions. Due to this realization, data analysis then focused only on the results from female participants.

Running the same mixed 2x3x2 ANOVA from before yet only including data collected from female participants once again resulted in a significant main effect of the gender of the face [ $F(1, 112) = 11.864, p = .001$ ]. Attractiveness condition also produced a significant main effect

[ $F(1, 112) = 25.015, p = .000$ ]. The main effect of relationship condition, however, was not significant [ $F(2, 112) = .204, p = .816$ ]. There was a statistically significant interaction of the gender of the face and the attractiveness condition, as represented in the graph beginning the next page [ $F(1, 112) = 5.458, p = .021$ ].

To provide some context, when analyzing this interaction using data from both male and female participants in the earlier mentioned ANOVA this interaction was marginally significant [ $F(1, 162) = 3.341, p = .069$ ]. There was also another interaction which was approaching significance between that of the gender of the face and relationship condition when only including responses of female participants, as displayed in the graph at the top of the following page [ $F(2, 112) = 3.051, p = .051$ ]. The interaction of the gender of face, relationship condition, and attractiveness condition was not significant [ $F(2, 112) = .902, p = .409$ ]. Lastly, the interaction of attractiveness condition and relationship condition was not significant [ $F(2, 112) = .098, p = .907$ ].



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In order to further understand the effect of the gender of presented face on perceived attractiveness, a mixed ANOVA was run examining the main effects of gender of face, attractiveness level, and relationship condition when only using data from male participants. Gender of face had a main effect which did not reach significance [ $F(1, 44) = 3.370, p = .073$ ]. While most would assume that men would rate women as more attractive than they would rate other men, the trend found in the rest of the data holds true when only looking at data collected from the male portion of the sample. Males were given a higher mean ( $M = 1.954$ ) rating of perceived attractiveness overall than women ( $M = 1.584$ ) within the male sample.

The main effect of attractiveness condition was significant when only including the data collected from male participants [ $F(1, 44) = 6.810, p = .012$ ]. The main effect of relationship condition failed to achieve significance [ $F(2, 44) = .061, p = .941$ ]. The interaction of the gender of face and attractiveness condition was not significant [ $F(1, 44) = .015, p = .904$ ]. The interaction of gender of face and relationship condition also failed to produce significance [ $F(2, 44) = .330, p = .721$ ]. The combination of these two interactions into an interaction of gender of face, attractiveness condition, and relationship condition which was not significant [ $F(2, 44) = 1.312, p = .280$ ]. Lastly, the interaction of attractiveness condition and relationship condition when only including data of male participants was not significant [ $F(2, 44) = .386, p = .682$ ].

### Discussion

Looking at the above results, various conclusions can be made in reference to the hypothesis that a longer relationship status causes individuals to be perceived as more attractive. Most explicitly, the women approached this hypothesis by rating faces of the opposite sex with higher average attractiveness when they were presented as in a relationship as opposed to when they were not. Without statistical significance in this finding, however, we are unable to ultimately support our hypothesis. Further discussion must present details in support of our study's validity and comparison to previous findings.

### *Main Effects*

An examination of the statistically significant main effect of attractiveness condition has implications of construct validity within the study. Looking back to the pilot study, faces were chosen based on their mean attractiveness to separate them into two conditions of attractiveness: high and low. As represented in the graphs above, both the pilot study and experimental study found a wide range of difference between these two conditions of attractiveness. Though the effect was less pronounced in the experimental study, it was still statistically significant. This finding shows an effective manipulation of the independent variable of attractiveness of the presented face.

Reviewing the findings for all participants, the statistically significant difference in mean attractiveness ratings between the genders of the face presented is somewhat surprising. For a basic understanding of this finding, the men were rated on average as being more attractive than the women. Though one might think that this difference could be due to the majority of the sample being females, the males also rated other males as being more attractive than the women.

### *Comparison Study*

In comparison to the findings of a previous study titled *The Effect of Relationship Status on Perceived Attractiveness*, our study produced results in opposition to the understood trend. Among female raters in O'Hagen et al.'s study, men were rated less attractive when presented as being in a relationship as opposed to when they were shown as single. In contrast to this conclusion, women rated men in our study as being more attractive on average when they were in a relationship. The major manipulation between our study and theirs was the change of stimuli from vignettes to photographs. This sole difference in connection to the compared results allows us to assume that people rate visual stimuli differently than verbal stimuli. Whereas their verbal stimuli may convey personality, the visual stimuli more specifically convey physical attractiveness. A speculation can be made that visual stimuli is more applicable to the study of

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attractiveness. As we live in a society that values physical beauty, the use of visual stimuli will more accurately portray one's conceptualization of attractiveness. In addition, visual stimuli duplicate the more common day to day experience of interaction between individuals. Rather than reading or hearing about someone and judging their attractiveness, the odds are more likely that we will log onto a social networking website and view a photo of them. Neither study found a statistically significant difference between the two levels of relationship status that described the stimulus for rating as being in a relationship. Though our study did not produce a statistically significant difference between the single condition and the relationship conditions, it did approach statistical significance.

### *Limitations*

Unfortunately, some limitations may have been responsible for hindering the findings for which we hoped. A major limiting factor was the lack of participants spread throughout each level of all of the independent variables. With 12 separate conditions, it was difficult to obtain a large enough sample to support data analysis. Typical of many studies, this issue was most exemplified by the lack of male participants. We believe that having a larger sample of both genders would have provided statistically significant and conclusive results. Regardless, we feel the results we have among female participants are compelling.

### *Conclusions*

Though the results do not support the hypothesis that those in a relationship are perceived as more attractive than those who are not in a relationship, interactions of gender of face and relationship condition that approach statistical significance suggest the possibility that this hypothesis may hold true specifically for women's perceptions of men. However, the lack of participants across each condition given the between-subjects design and limited sample size may have affected the ability to achieve statistical significance. This limitation also creates some

reservations about making general claims concerning the effect that relationship status might have on perceived attractiveness.

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**Appendix: Facial Stimuli**

