

The Effects of Attractiveness on Popularity; an Observational Study of Social Interaction Among College Students

Samantha Prestia, Jason Silverston, Katie Wood, Lisa Zigarmi

Fifty college women were rated on attractiveness with the top ten and bottom ten being put into groups labeled subjects of high attractiveness and subjects of lower attractiveness. Both groups of subjects were observed by researchers at college bars and parties. The number and type of approaches each subject had with other males and females were recorded with the number of approaches determining a subject's popularity. Women of high attractiveness were found to be more popular because they had a higher total number of approaches than subjects of lower attractiveness. The total number of approaches with just females was found to be significant, suggesting that males have a strong influence on who is popular.

INTRODUCTION

Appearance is not supposed to matter. Society would have us believe that in an ideal world, an individual's physical appearance is a relatively insignificant factor in others' perceptions of him/her. In a meritocracy we are conditioned to believe that an individual's worth is based on his/her skills, abilities, and personal conduct. Yet, according to The American Heritage Dictionary (1994: 54), to attract is "to cause, to draw near, to adhere," or more relevantly, "to arouse the interest, admiration or attention of." Therefore, by definition, attractiveness is a very powerful quality. Furthermore, years of research in the psychological and social sciences have shown that looks count in human affairs. Studies have shown that people who are considered attractive fare better with parents and teachers, make more friends and more money, and have better sex with more people (Cowley, 1996). The interpersonal consequences of physical attractiveness have led thousands of people to spend millions of dollars on beauty products and even cosmetic surgery to improve their looks (Cowley, 1996). The full impact of attractiveness is still unclear, but studies have established that a sense of what is attractive is innate and consistent across age, race, and culture. Its impact is subtle but powerful.

Attractiveness

In a groundbreaking study, psychologist Judith Langlois (1989) concluded that infants share with adults a sense of what is attractive. Three and six month old babies were shown pairs of facial photographs that were previously rated as attractive and unattractive. Langlois found that infants gazed significantly longer at "attractive" faces than at "unattractive" faces. From this study, we can see that while it may be impossible to create a clear definition of what makes a face attractive, we somehow share an innate sense of it even before we are socialized. In a lab study by Berry (2000), children showed more positive affect when interacting with an attractive adult. Therefore, Berry concludes that "attractiveness, at least facial attractiveness, is both discriminated and preferred at a very young age" (Berry, 2000: 278). These studies show that humans share an innate idea of what we like to see, and attractiveness draws us to those who possess it. The inevitable question is, why do we prefer this "attractiveness" in the appearance of others? Two basic theories address this question: the evolutionary perspective and a social conditioning perspective.

The Evolutionary Perspective on Attractiveness

Evolutionary theories of attractiveness propose that our ancestors evolved preferences for features con-

sidered “attractive” because of the reproductive advantages those features ultimately yielded. In particular they hypothesize that attractiveness is a signal of potential “reproductive success.” Attractive features are posited to be “honest advertisements” of reproductive status and genetic fitness (Berry & Miller, 2001). Individuals who valued attractiveness or were attractive themselves are hypothesized to out-reproduce those who do or are not. Therefore, such heritable preferences evolved over time within the population (Berry & Miller, 2001). Although this study will not explore facial ratios, symmetry is a consistently documented indicator of attractiveness within animals and humans. Thornhill and Gangestad (1994), researchers at the University of Michigan, found evidence that facial symmetry is associated with actual health. In their analysis of diaries kept by one hundred students over a two-month period, they found that subjects with the least symmetrical faces had the most physical complaints. These problems ranged from congestion to insomnia. Student subjects with less symmetrical features (i.e. less attractive) also reported more anger and jealousy. Direct knowledge of a woman’s age and health is not always available, but qualities such as symmetry, associated with age and health are readily accessible and tend to correlate with physical attractiveness. Hence, it makes sense that attractiveness is favored in a population, since it is a phenotypic heuristic indicating health and reproductive potential (Cowley, 1996). “Thus, men’s preferences for these attractive features presumably evolved because greater reproductive success accrued to men who preferred and mated with attractive women than to men who preferred and mated with less attractive women,” (Buss, 1989).

Social Conditioning Perspective

The second theory which attempts to explain the importance of attractiveness lies within the vast body of research exploring the socio-cultural effects of appearance on behavior and beliefs. A study by Goldman and Lewis (1977) indicates a relationship between physical attractiveness and social skill. This study asked subjects to talk on the phone with three unknown people of the opposite sex. The subjects were to indicate how much they liked each of the three people with whom they talked and how socially skilled they found each to be. Goldman and Lewis found a “significant tendency for the more attractive subjects to be rated as more skillful in their telephone conversation” (128). This finding illustrates the correlation

between physical attractiveness and social skills. This correlation may begin in childhood. Goldman and Lewis provide an explanation for this by postulating that “it seems possible that attractive children, who receive more favorable reactions from others, will be more comfortable in social settings and, through the operation of the positive expectations and reactions of others, develop better social skills than less attractive children. This can carry into adulthood, thus making them more popular” (126).

Extending Goldman and Lewis's study (1977), Berry and Miller (2001) found that a woman's attractiveness influences the nature of initial opposite-sex interactions. In their study, 51 previously unacquainted opposite sex dyads were videotaped while participating in an initial six-minute interaction. Participants then individually described their feelings about the interaction and their interaction partner. Observers later viewed the interactions and evaluated their quality. Four male and four female judges rated the attractiveness of each of the participants. Attractive women were associated with higher quality interactions than were less attractive women, and attractive women enjoyed their interactions more than did unattractive women. Interpersonal consequences of attractiveness are greater for women than for men within this context of initial opposite sex interactions.

Popularity

With the great emphasis society places on attractiveness, there is no wonder that research psychologists have conducted numerous studies to try to understand its effects better. A common assumption surrounding attractiveness is that it is related to or in some way confounded with an increased social acceptance or popularity. Popularity, as defined by the American Heritage Dictionary, means to be “generally liked or admired.” (1994: 492) In a study by Krantz (1987) the connection between attractiveness and popularity was explored using 24 female and 24 male kindergarten students. Subjects were asked to pick the facial pictures of two classmates of the same sex with whom “they would like to be friends” in the upcoming school year. It was shown that female kindergarten students indicated a desire for friendship with same sex classmates who were previously rated by adults as attractive. In a similar study, 59 preschool children were rated by adults on a physical attractiveness scale. The children were then presented with a board which was filled with pictures of their classmates. They were asked to pick two pictures of children they “especially

liked" (Vaughn & Langlois, 1983:562). It was concluded that "physical attractiveness and popularity are significantly related" (Vaughn & Langlois, 1983, 565). Clearly there is a relationship between facial attractiveness and popularity. In fact, one of the most thoroughly documented findings in social psychology is the "attractiveness halo effect" (Berry, 2001) which predicts that attractive people receive more positive responses from others than do unattractive people. This positive response is complimented by the general perception that attractive people are in some way more successful in social and emotional areas (Goldman & Lewis, 1977). Research on impression formation has found that people attribute socially desirable characteristics to good-looking individuals (Feingold, 1990). According to the attribution theory, individuals attribute more socially desirable personality and social characteristics to attractive than to unattractive target persons (Lee, Adams, & Dobson, 1984). Attractive individuals are perceived to have a myriad of desirable personality (self-esteem, self-concept, emotional stability) and social (occupational success, social skills, higher education) characteristics. Vaughn and Langlois point out that "even preschool age children tend to rate attractive peers as friendlier, smarter, and less likely to start fights than unattractive peers (Dion, 1973)" (Vaughn & Langlois, 1983, 561).

Berscheid and Walster (1974), using a self-report popularity index, found physical attractiveness and popularity to be significantly correlated (.46 for women and .31 for men), indicating that physical attractiveness is more important for a woman's social experience than for a man's. In a related study by Berscheid and Walster (1974), a man with either an attractive or unattractive woman walked into a bar. The individuals at the bar were asked to state their "overall impression" of the man, to indicate how well they thought they would personally like him, and to rate him on a number of personality scales. The response to the man when he was accompanied by an attractive woman was compared with the impression he made when accompanied by an unattractive woman. The study found that when a man was seen with an attractive woman, he received the "most favorable overall" impression from others. When he was accompanied by unattractive women, he was viewed negatively (Berscheid & Walster, 1974). Males gain considerable prestige by associating with *physically attractive* females (Goldman & Lewis, 1977). It is not only better for a male to be associated with a beautiful woman than not, but also being associated with an unattractive

girl tends to detract from the favorableness of the man's overall impression (Berscheid & Walster, 1974).

Since studies on this topic rarely use observational methods and since little exploration of older populations exists, the following study will employ observational methods on college-aged individuals in an attempt to contribute to the evolving body of research on the effects of attractiveness on popularity in naturally occurring social interactions.

We hypothesize that college-aged women of high attractiveness (H's) are more popular than college-aged women of lower attractiveness (L's). We specifically hypothesize that:

1. In social situations at bars or parties, women of high attractiveness will be approached by both male and female students more frequently than will women of lower attractiveness.
2. In social situations at bars or parties, women of high attractiveness will approach both male and female students more frequently than will women of lower attractiveness.
3. Males will approach as well as be approached by women of high attractiveness with more frequent physical behaviors than they will with women of lower attractiveness.
4. Male and female judges will not differ in their ratings of the facial attractiveness of female subjects.

METHOD

Participants

Twenty college-aged female sorority members were chosen as subjects. All were in their junior or senior year of study. The attractiveness of the subjects was determined by a survey of 20 men and 20 women from a neighboring university. Two-inch by two-inch color facial photographs of 50 members of the sorority were pasted on blank, white index cards and handed to volunteer judges. The cards were in no particular order and were shuffled after each sorting. Each judge was given the following instructions: "Please place each individual picture in one box based on your opinion of their attractiveness. The three boxes have been labeled "low attractiveness," "average attractiveness," and "high attractiveness." Researchers assigned each attractiveness level a numerical value (High = 2, Average = 1, Lower = 0). The ten subjects in the High Attractiveness group were those with the highest combined score. The ten with the lowest combined score were labeled as having Lower Attractiveness from the 40 ratings.

Procedure

Each subject was observed for two ten-minute periods at different social gatherings. Observers were unaware of the subject's attractiveness rating until observations were complete. All observations were made in the first hour of the event in an attempt to control for the effects of alcohol. College social gatherings are defined as local bars or parties frequented heavily by college students or Greek off-campus parties.

During the ten-minute observation intervals, the number of times a subject approached another individual was recorded as was the number of times the subject was approached by another. Observers recorded whether the subject approached a male or a female, and whether the subject was approached by a male or female. The types of approach behaviors recorded were: a) verbal communication, b) hugging, c) kissing, d) touching, e) nodding, and f) waving.

Each approach between the subject and another individual was recorded for content and direction using a focal observational style (Martin & Bateson, 1993: 84). A subject was chosen randomly from the pool of attractive and unattractive subjects by picking a name out of a hat. If the subject was not present, another subject was chosen in the same way. This procedure was followed until a subject was found at the event. The start of the ten-minute observation period was determined by picking a place in the room and waiting for the subject to walk past it. Two researchers observed a subject at the same time from different sides of the room in order to control for the subject's movement throughout the bar or party and make sure that all approaches were recorded accurately.

Popularity was defined as the number of approaches a subject had with different individuals within the two ten-minute period. Subsequent approaches with one individual beyond the first encounter were not counted. Those subjects with totals above the median were defined as popular and subjects with totals below the median were defined as unpopular. Therefore, the more approaches a subject was involved in, the more popular she was considered to be.

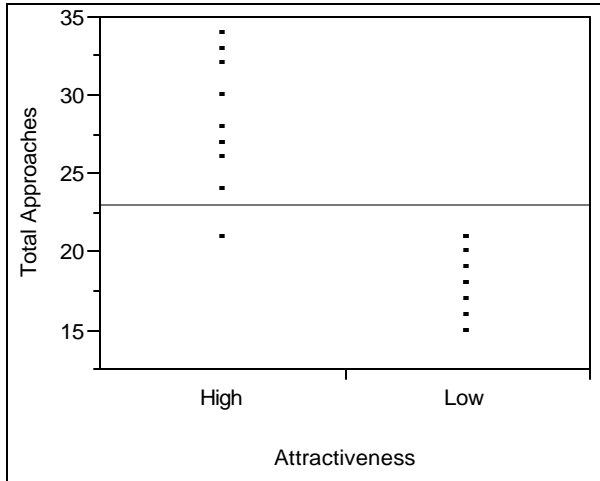
The four research observers simultaneously observed one subject for two ten-minute periods and calculated inter-observer agreement by dividing the total number of observations minus the number of observations that were different, by the total number of observations and then multiplying this number by 100%. The inter-observer agreement was determined to be 92% before data collection began.

RESULTS

Since our data are nominal, cannot be assumed to be normally distributed, and contain a small number of subjects, non-parametric tests of significance have been used (Martin & Bateson, 1993). One such test is the Wilcoxon Rank Sums Test. This test is a more powerful form of the median test because it does not ignore the specific rank-order of subjects. The requirements for a standard median test are: 1) a comparison between two or more samples, 2) ordinal data, and 3) random sampling (Levin & Fox, 2000). Our data fully meet criteria one and two and adequately meet criteria three. In order to see any differences in the rank order of our subjects, a Wilcoxon Rank Sums Test has been used. It was used because it examines the rank ordering of all subjects to determine whether the ranked values for a variable are equally distributed throughout the two samples. However, for sub-hypothesis number four we performed a parametric logistic regression. For all tests a .05 p-value was used to reject the null hypotheses.

To test the general hypothesis that women of high attractiveness are more popular than women of lower attractiveness, we did a Wilcoxon Rank Sums Test to compare the number of subjects of high attractiveness who fall above the median number of total approaches for all subjects to the number of subjects of lower attractiveness who are above the median. We found that there is a chi square of 13.79 which was significant at a p-value of .0002. This shows that women of high attractiveness had a significantly higher frequency of total approaches than women of lower attractiveness [See Figure 1]. We also tested the same hypothesis for the popularity of the subjects by running the same test on total approaches involving only males and total approaches involving only females. We performed these last two tests to determine whether the sex of the individuals the subjects approached and were approached by had an effect. These two tests helped us determine whether males or females contributed equally to the popularity scores of the subjects. We found that for total approaches involving only males there was a chi square of 14.43, which was significant at a p-value of .0001. This showed that women of high attractiveness had a significantly higher frequency of total approaches involving only males than do women of lower attractiveness. We found that in total approaches involving only females there was not a significant chi square of 3.60 at a p-value of .0578. This shows that women of high attractiveness did not have a

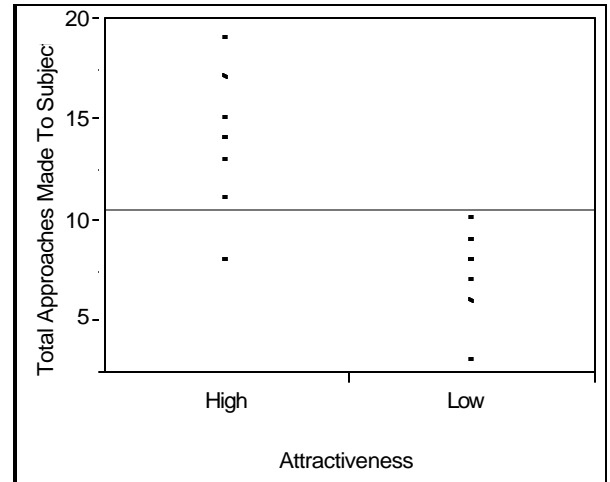
Figure 1: This graph shows women of high attractiveness were involved in significantly more approaches than were women of low attractiveness. Note: each dot may represent more than one subject.



significantly higher frequency of total approaches involving only females than women of lower attractiveness, meaning that women approach and are approached by each other with no significant attention to attractiveness.

To test the first sub-hypothesis, that women of high attractiveness will be approached by males and females with greater frequency than women of lower attractiveness, we used the Wilcoxon Rank Sums Test. There were three ways to test this, and The Wilcoxon Rank Sums Test allowed us to make all three comparisons. We tested to see where high and lower attractiveness subjects fell compared to the median for the total number of times other individuals approached them, where subjects fell compared to the median for the number of times just males approached them, and where subjects fell compared to the median for the number of times just females approached them. We found that for the total number of times subjects were approached by other individuals there was a chi square of 9.78, which is significant at a p-value of .0018. This shows that women of high attractiveness were approached at a significantly higher frequency than women of lower attractiveness [See Figure 2]. We found that for the total number of times subjects were approached by males there was a chi square of 12.81, which was significant at a p-value of .0003. This showed that women of high attractiveness were approached by males at a significantly higher frequency than women of lower attractiveness. We found that for the total number of times subjects were approached by females there was a chi square of 3.97, which was significant at a p value of .0462. This shows that

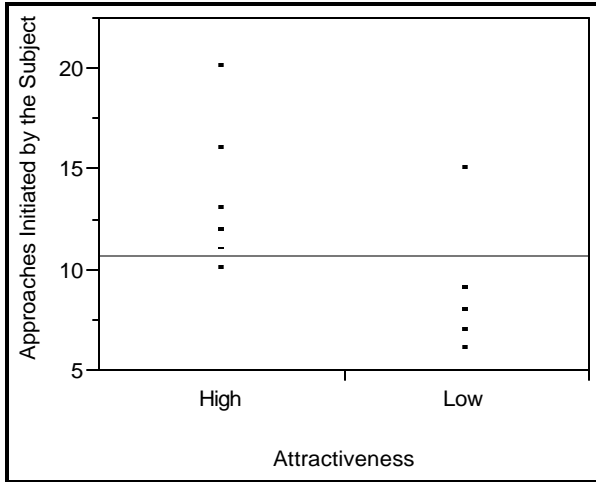
Figure 2: This graph shows that individuals approach women of high attractiveness significantly more than women of low attractiveness. Note: each dot may represent more than one subject.



women of high attractiveness were approached by females at a significantly higher frequency than women of lower attractiveness.

To test the second sub-hypothesis, that women of high attractiveness will approach both male and female students with greater frequency than will women of lower attractiveness, we used the Wilcoxon Rank Sums Test. There were three ways to test this, and the Wilcoxon Rank Sums Test was used for all three. We tested to see where subjects of each group fell compared to the median for the total number of times the subject approached an individual, the median for the number of times the subject approached a male, and the median for the number of times the subject approached a female. The tests for each sex were done to determine if it had an effect on whom our subjects approached. We found that for the total number of times subjects approached an individual there was a chi square of 10.21, which was significant at a p-value of .0014. This showed that women of high attractiveness approached other individuals at a significantly higher frequency than women of lower attractiveness [See Figure 3]. We found that for the total number of times subjects approached a male there was a chi square of 7.84, which was significant at a p-value of .0051. This showed that women of high attractiveness approached males significantly more frequently than do women of lower attractiveness. We found that for the total number of times subjects approached a female there was a chi square of 5.80, which was significant at a p-value of .0160. This showed that women of high attractiveness approached females significantly more frequently than did women of lower attractiveness.

Figure 3: This graph shows that women of high attractiveness approach individuals significantly more than do women of low attractiveness. Note: each dot may represent more than one subject.

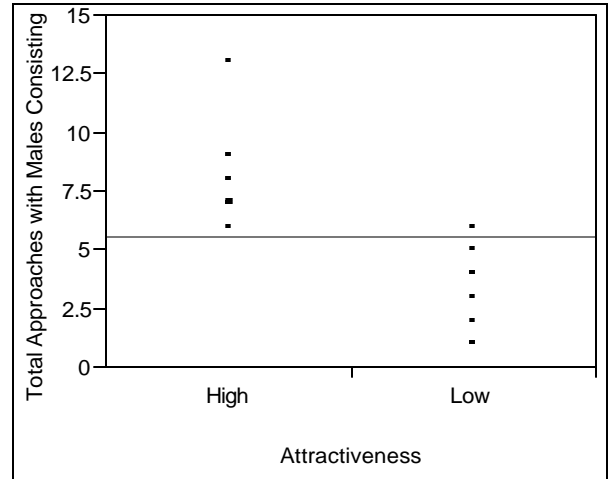


To test the third sub-hypothesis, that males will approach as well as be approached by women of high attractiveness with a higher frequency of physical behaviors than they will with women of lower attractiveness, a Wilcoxon Rank Sums Test was used to compare where both groups of women fell compared to the median for the number of physical behaviors (hugging, kissing and touching) with males. We found that the number of times subjects approached a male with a physical behavior or were approached by a male with a physical behavior there was a chi square of 14.23 which was significant at a p-value of .0002. This showed that women of high attractiveness approach males with physical behaviors and were approached by males with physical behaviors significantly more frequently than did women of lower attractiveness [See Figure 4].

To test the fourth sub-hypothesis, that male and female judges will not differ in their ratings of the attractiveness of female subjects we used a Logistic Regression Test. This test looked at whether gender made a difference in the ratings of attractiveness. An insignificant test supports our sub-hypothesis that males and females rate the attractiveness of subjects similarly. With a p-value of .1628, we accepted the null hypothesis that found that males and females do not differ in their ratings of the attractiveness of female subjects.

We acknowledge that when running our tests, we reanalyzed our data several times which may increase the chances of getting a significant result. After the initial test of total approaches, each subsequent test is not considered independent. Therefore,

Figure 4: This graph shows that women of high attractiveness are involved in significantly more approaches with males that involve physical behavior than are women of low attractiveness. Note: each dot may represent more than one subject.



although nine of the ten Wilcoxon Rank Sums Tests were significant; the fact that nine of these tests were dependent on the tenth may have given us a higher number of significant results than if we had performed fewer analyses. See the Appendix for further data analysis.

DISCUSSION

Could it be true, that in today's society beauty is still rewarded over any other attribute? It would seem that it is, at least it is in the sexually charged context of a college bar or party. In these settings, each individual present agrees on who is attractive and who is not. We found that facial attractiveness is rated relatively consistent by both male and female college students, as results show from a comparison of male and female judges' ratings of the subject pool. Our analysis has revealed that college-aged women, rated high on attractiveness, are more popular overall than are women of lower attractiveness. Women of high attractiveness are not only involved in more approaches, but are approaching significantly more members of both sexes - reflecting greater popularity. Higher rates of socializing behavior (measured by number of approaches) suggests that attractive women may, in fact, be more socially skilled, capable of initiating more interactions and increasing their popularity. Greater social behaviors indicate skill, because it reflects a level of comfort within the environment and with others, which would confirm Goldman & Lewis's (1997), as well as Berry & Miller's (2001) findings. The difference in popularity

between women of high attractiveness and women of lower attractiveness is in their respective total interactions with males. We found that women of high attractiveness not only approached more males in general, but interestingly, they were approached by males significantly more than were women of lower attractiveness. Relative to the data we collected about total approaches with females, where women approach and are approached by each other with no significant attention to attractiveness, the higher frequency of male approaches with women of high attractiveness indicates that males have a larger influence on the popularity of women of high attractiveness than females.

The influence of males on the overall popularity of women is clear yet the rationale behind their influence is murky. One reason males may associate with women of higher attractiveness more than with women of lower attractiveness is that the status of a man may be inflated by the presence of an attractive woman, as found by Berscheid & Walster (1974). This study further found that the presence of an unattractive woman would lead to a negative evaluation of the male by onlookers. Thus, there is significant social motivation for males to associate themselves with highly attractive females since the advantages of her beauty may transfer to him. The "beautiful is good" stereotype indicates just how vast the positive traits associated with attractive people can be; good-looking people are judged by others to be more intelligent, successful, confident, assertive and happy. In addition to elevating a male's status, the presence of an attractive female could simply be inherently rewarding for aesthetic reasons, the same way it is rewarding to view a beautiful work of art. Buss (1989) argues that this intrinsic value of a beautiful face can be seen as a woman's contribution to a relationship. Men, on the other hand, are expected to offer worldly success, while women are rewarded with the fruits of that success in exchange for her beauty. In a study by Buss (1989), large numbers of men and women across cultures were asked to rank order attributes in order of importance when choosing a mate. Good looks were valued more by men while women valued good financial prospect, rendering women, predictably, "sex objects", and men "success objects." This would coincide with the evolutionary perspective which finds there to be a universal tendency for men to seek younger women (those who are most fertile) and women to desire older men (those most likely to have financial resources). Across cultures, Buss (1989) found that on average, men wanted to marry a woman 2.7 years younger, and women want-

ed to marry men who were 3.4 years older (Brehm, Kassin and Fein, 1999).

The present study indicates how males influence the popularity of highly attractive women. What this study has not explored is how the social setting itself sets up a dynamic that influences the popularity of these highly attractive women. It is unclear whether popularity is stable over contexts. Women of high attractiveness may be frequenting the college bars or parties where this study was conducted more often than women of lower attractiveness. If they do spend more time at these bars and college parties, the number of approaches they participate in may reflect an inflated popularity. By law of probability, the more time an individual spends at a bar or party, the more likely she is to meet those who also frequent bars and parties often. In addition, women of high attractiveness may be visiting these venues more because they may get lots of attention there. Women of lower attractiveness, however, may be more popular in other contexts such as class, athletic fields, dining halls or coffee shops. In addition, the higher level of male approaches that women of high attractiveness garner in college bars or parties may be due to the effects of alcohol lessening men's inhibitions and making women of high attractiveness more approachable. Further research dealing with the effects of context on popularity would be useful in determining the effects of these confounding variables.

The context of the present study was that of college bars or off campus Greek parties. A widely held belief about these situations, which the researchers of this study will endorse, is that bars and parties are charged with sexual energy. Young men and women with alcohol and the freedom to act upon their impulses create an environment which can be laden with sexual undertones. This can account for findings of high levels of approaches made with physical behaviors. Women of high attractiveness approach males with physical behaviors (i.e. hugs, touches, kisses, etc.) and are approached by males with physical behaviors at a significantly higher frequency than are women of lower attractiveness. Thus, the popularity of a woman of high attractiveness could be significantly influenced by sexual motives due to the context. Approaches made or received with touches, kisses, or hugs, could be an indication of her sexual desires or appeal rather than her popularity. Research on the sexual nature of popularity would be interesting to pursue in order to determine if popularity has a sexual component.

This study attempted to shed light on one facet

of the relationship between attractiveness and popularity. It is clear that attractive women are more popular in college bars and off campus Greek parties in that they are approached and approach others significantly more than women of lower attractiveness. In order to fully understand the nature of popularity and the implications of attractiveness on it, several more questions need to be answered. As mentioned above, the stability of popularity over context is yet to be determined. It has been suggested by the social conditioning perspective that those who are more attractive through out their lifetimes receive greater positive attention from others making them more socially comfortable, more socially skilled, and more popular. What is unclear is whether attractiveness is stable over time and whether these attractive people have actually been able to develop these social skills.

On another note, this study did not attend to the appearance of the individuals who were approached by the subjects or who approached the subjects. An interesting area of further research would be to look at the attractiveness of these individuals. Does the matching hypothesis hold up? Do people tend to approach people who are equivalent in their physical attractiveness? Does that mean that popularity is relative among levels of attractiveness? It is possible that attractive people are popular only among other attractive people. Finally, since this study examined a rather homogenous sample consisting of only 20- to 22-year-old University of Pennsylvania students who are members of one sorority, further research on a more representative population would be more generalizable.

APPENDIX

Figure 5: This graph shows that women of high attractiveness approach males significantly more than do women of low attractiveness

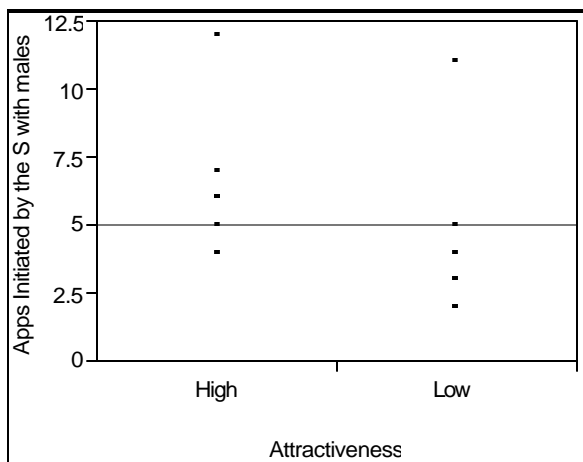


Figure 6: This graph shows that women of high attractiveness approach females significantly more than do women of low attractiveness.

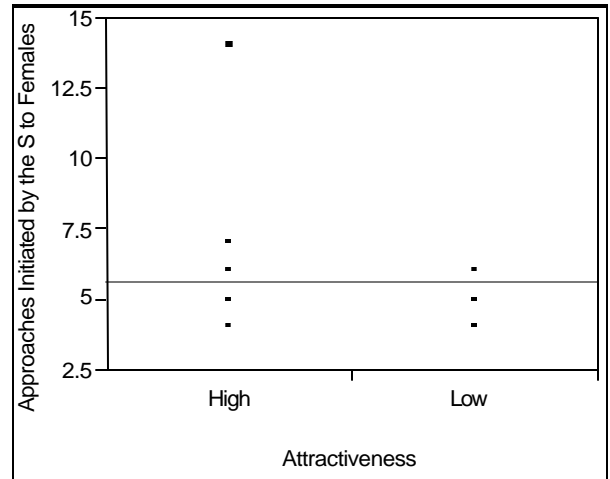


Figure 7: This graph shows that females approach women of high attractiveness significantly more than they approach women of low attractiveness.

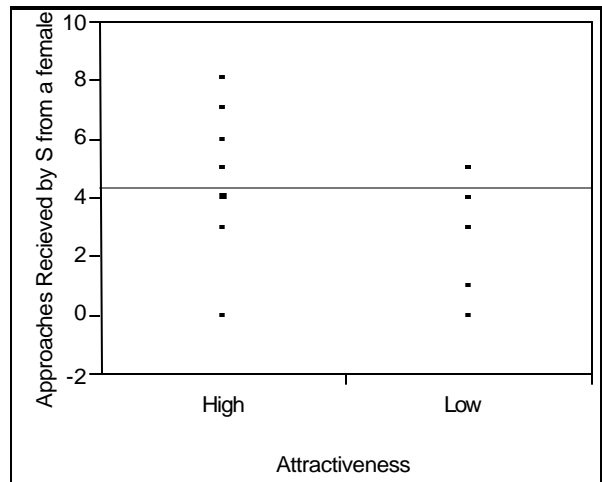


Figure 6: This graph shows that males approach women of high attractiveness significantly more than they approach women of low attractiveness.

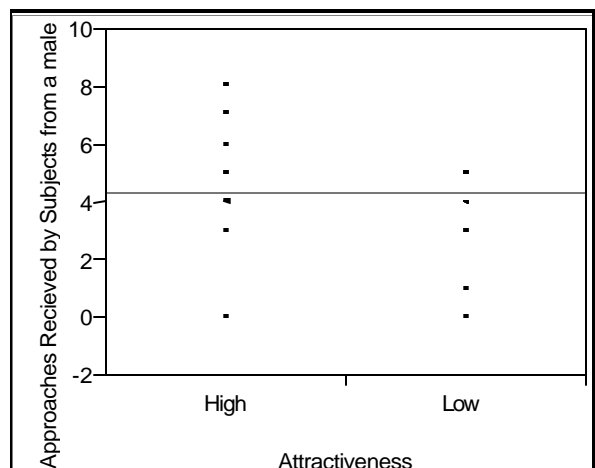


Figure 8: This graph shows that women of high attractiveness are involved in significantly more approaches with males than are women of low attractiveness.

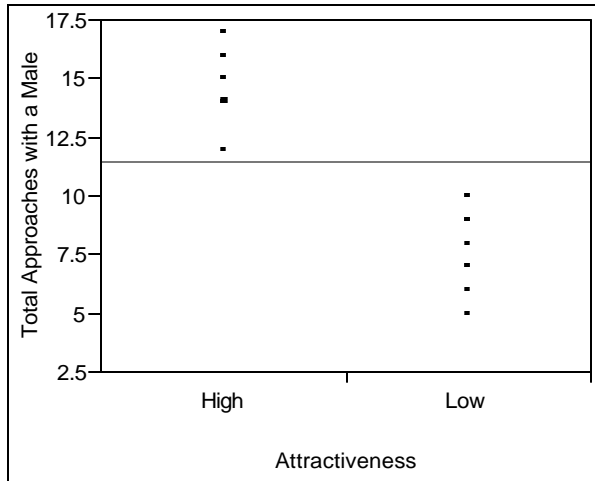
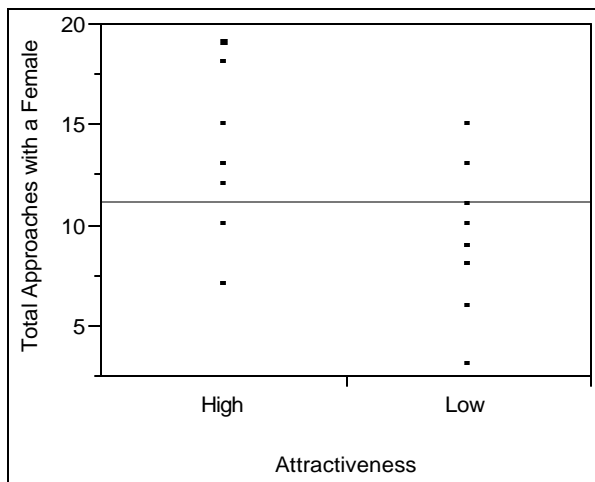


Figure 9: This graph shows that women of high attractiveness are involved in significantly more approaches with females than are women of low attractiveness.



Appendix Note: each dot may represent more than one subject.

REFERENCES

- Barocas, R. & Karoly, P. (1972). "Effects of physical appearance on social responsiveness." *Psychological Reports*, **31**, 495-500.
- Berry, D. S. (2000). "Attractiveness, attraction, and sexual selection: Evolutionary perspectives on the form and function of physical attractiveness." *Advances in Experimental Social Psychology*, **32**, 273-333.
- Berry, D. S. & Miller, K. M. (2001). "When boy meets girl: Attractiveness and the five factor model in opposite-sex interactions." *Journal of Research in Personality*, **35**, 62-77.
- Berscheid, E. & Walster, E. (1974). "Physical attractiveness." *Advances in Experimental Social Psychology*, **7**, 157-215.
- Black, H. K. (1974). "Physical attractiveness and similarity of attitude in interpersonal attraction." *Psychological Reports*, **35**, 403-406.
- Brehm, S., Kassir, S. & Fein, S. (1999). *Social Psychology* (4th ed.). Boston: Houghton Mifflin Company.
- Buss, H. A. (1989). "Sex differences in human mate preferences: evolutionary hypothesis tested in 37 cultures." *Behavioral and Brain Sciences*, **12**, 1-14.
- Cowley, G. (1996). "The biology of beauty" (Cover Story). *Newsweek*, **127**, 60-67.
- Feingold, A. (1990). "Gender differences in effects of physical attractiveness on romantic attraction: A comparison across five research paradigms." *Journal of Personality and Social Psychology*, **59**(5), 981-993.
- Goldman, W. & Lewis, P. (1977). "Beautiful is good: Evidence that the physically attractive are more socially skillful." *Journal of Experimental Social Psychology*, **13**, 125-130.
- Krantz, M. (1987). "Physical attractiveness and popularity: A predictive study." *Psychological Reports*, **60**, 723-726.
- Lee, L., Adams, G. & Dobson, W. (1984). "Male and female attributions and social influence behavior towards a physically attractive female." *Journal of Psychology*, **117**, 97-103.
- Levin, J. & Fox, J. A. (2000). *Elementary Statistics in Social Research* (8th ed.). Boston, MA: Northeastern University Press.
- Martin, P. & Bateson, P. (1993). *Measuring Behavior: An Introductory Guide* (2nd ed.). Cambridge, UK: Cambridge University Press.
- Pollard, J. & Shepherd, J. (1999). "Average faces are average faces." *Current Psychology*, **18**, 98-103.
- "Popularity." *The American Heritage Dictionary*. 3rd ed. 1994.
- Reis, H. T., Wheeler, L. & Nezlek, J. (1980). "Physical attractiveness in social interaction: I." *Journal of Personality and Social Psychology*, **38**(4), 604-617.
- Reis, H. T., Wheeler, L., Spiegel, N. & Kernis, M. H. (1982). "Physical attractiveness in social interaction: II. Why does appearance affect social experience?" *Journal of Personality and Social Psychology*, **43**, 979-996.
- Vaughn, B. E. & Langlois, J. H. (1983). "Physical Attractiveness as a correlate of peer status and social competence in preschool children." *Developmental Psychology*, **19**(4), 561-567.