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## The Sense of Smell and its Effect on Attraction

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**The Sense of Smell and its Effect on Attraction**Grant Perkins<sup>3</sup>

*The effect of cologne/perfume on attractiveness was examined, as well as the differences between the effect of cologne/perfume and sex. Twenty-seven participants ranging from 18-22 years of age were recruited for the experiment. The purpose of this study was to determine if putting cologne/perfume on an individual will make that person more attractive to the opposite sex than if he/she did not put on cologne/perfume. The rationale behind this is that there are a lot of advertisements about cologne and perfume that portray the people in the advertisements as more desirable after he/she sprays cologne on their skin. The hypothesis for this experiment is that the presence of cologne/perfume will increase an individual's attractiveness. There was a significant difference between no fragrance and fragrance and the effect it had on attractiveness, as well as the perfume having a higher influence on men than the cologne had on women. Together, these findings suggest that cologne and perfume have an influence on the attractiveness of the person who has the fragrance on.*

It seems that commercials and advertisements for cologne or perfume are seen every day. The advertisements usually depict some suggestive themes, trying to entice consumers to purchase their product. The manufacturers also add extracts from fruit and flowers to their product, pheromones, and some even add musk, which is a natural

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chemical found in animals and plants. According to Rimkus (2004) musk is a naturally and synthetic substance and it produces a very distinct smell.

So what exactly are pheromones? According to Woronczuk, Medwid, Neumann, and Eshelman (2009), “[p. 1]heromones are odorless chemicals that can signal an individual's identity, arousal or sexual receptivity,”. Humans are typically considered visual beings because our sense of smell is not as dominant as our sight; however, since human reproductive biology has an effect on human behavior, recent studies show that our sense of smell is more important than previously known (Kohl, Atzmueller, Fink & Grammer, 2001). Is the inclusion of these chemicals worth the increase of the price of the cologne/perfume? Will a person who puts cologne or perfume on his/her skin be more attractive to the opposite sex than if he or she did not put any cologne or perfume on their skin?

A common theme to boost sales in the fragrance business is the addition of male pheromones in cologne. Some advertisements have very suggestive themes regarding this addition to the cologne, making it appear that purchasing the cologne will attract women. According to Fox (2009) male pheromones are not all attractive to the sense of smell. The problem with this is that the cologne manufacturers who do add male pheromones to their product could be adding non-attractive pheromones without explaining which pheromone it is. Fox (2009) further explains that there could be confusion with the names of two similarly spelled pheromones, androstenone and androstenol. “*Androstenol* is the scent produced by *fresh* male sweat, and is attractive to females. *Androstenone* is produced by male sweat after exposure to oxygen,” (Fox, 2009, p. 14). The spelling of each

pheromone is critical in determining the correct substance, and to the uneducated consumer it could be very confusing in recognizing the difference.

From the definition of pheromones it seems obvious why fragrance companies add pheromones. Mercola (2008) states that studies have found that cologne and perfume scents make you more appealing to the opposite sex. This statement supports the hypothesis for this study; putting on cologne/perfume will make that person more attractive to the opposite sex. Rimkus (2004) states that musk has been used as fragrance material for centuries. Since the musk deer (the animal where the musk fragrance was originally derived from) has been placed on the endangered species list, chemists have had to make synthetic musk; the synthetic musk is what is found in colognes and perfumes nowadays (Rimkus, 2004, p. 14).

In this study, instead of a person putting cologne or perfume on their skin, the cologne/perfume will be sprayed in the room where the female participants in the experimental condition will rate the photographs of five actors on separate scales and the male participants will rate five actresses on separate scales; additionally, a control group will be given the same scales, but will not have a cologne or perfume sprayed into the room they are in. The idea is that so long as the fragrance is detected, the pictures the participant is rating will increase in attractiveness. This study will hopefully determine, on a small scale, if purchasing and wearing cologne or perfume will increase the wearers' attractiveness to the opposite sex.

## Method

### Participants

The participants in this study were students from Lindenwood University. The participants were recruited by phone call and by word of mouth. The experimenter knew most of the participants, so access to his/her phone number was already known. Each participant was asked if he/she would be interested in taking a survey about his/her view of celebrity's attractiveness. The mean age of the participants ranged from 18-22 and the average age of the participants was 20.37; 37% of the students were seniors. Thirteen men and 14 women participated in the study. The students were all undergraduate students.

### Materials

There were two different scales used; each scale had five different rating sections used for rating the celebrities (see Appendices A and B). Each rating ranged from one to five, one represented "not attractive" and five represented "very attractive". There were five sheets of paper with different actor's pictures on it and five sheets of paper with different actresses on it. Each picture contained a number distinguishing each actor (see Appendices C-L). The papers containing the celebrity's picture were to be used during the rating process. The male participants rated each actress' (Keira Knightley, Sandra Bernhard, Joan Cusack, Emma Stone, & Beyonce Knowles) attractiveness and marked it on the rating sheet. The female participants rated each actor (Keanu Reaves, Common, Willem Dafoe, Danny Devito, John C. Reilly) on the rating sheet. In addition to the rating scales and pictures, the perfume Very Sexy by Victoria's Secret was used in the room for every other male participant before he rated the actresses, and the cologne Very Sexy for

Men by Victoria's Secret was used for every other female participant before she rated the actors. The cologne and perfume choice was made because the products are from the same company to reduce confounds and both contain musk and fruit and flower extracts.

The experimenter used three different rooms, two had a door, in the experimenters' house so the smell of the fragrances would not mix, and the control group would not be able to detect any smell. Additionally, a small desk fan was placed in each room to clear out any additional fragrance left over from the previous experiment. The fan also helped in diluting the smell, as to not overpower the sense of smell or irritate the nose. Two Informed Consent Forms were also used; one to be signed and returned to the experimenter and one for the participant to keep for their records. The Informed Consent forms contained information about the study and warned the participants of any potential dangers in the study; it also allowed the participants to opt out of the study without penalty. After taking the study, the participants were handed a Feedback Letter informing the participants about the true nature of the study; the Feedback Letter also contained the experimenters' contact information if the participants would like to inquire about the results after the study had been completed. Also, fruit (bananas, oranges, and apples) and candy (an assortment of Hersey's chocolate and Wonka brand treats) were used to compensate the participants for partaking in the study.

### **Procedure**

Prior to the participant entering the room, the experimenter decided that every other male participant would be in the experimental group and every other female would be in the experimental group. The experimenter guided each participant into the respective room; the men in the experimental group went in one room, the women in the

experimental group went in a separate room, and the men and women in the control group went in a third room. For the participants in the experimental group, the corresponding fragrance was sprayed into the room prior to their entry into their room. The participants in the control group did not have any fragrance in their room.

As the participant entered the room, he/she was handed the Informed Consent Form to be read, understood, and signed. Next, the participant was handed a rating scale to be used for selecting the celebrity's attractiveness. The men were handed five separate pictures of actresses, and each actress had a different number. The same procedure was done with the women; however the women received pictures of actors. Each participant received the pictures in a different order to help prevent confounds. In total, each participant was handed six sheets: one rating scale, and five pictures.

After the experiment each participant was debriefed. The participants were told what the experiment was created to discover and they were told which group they were placed in. The participants in the experimental group were also asked if they could detect the fragrance in the room. Finally, the participants were handed the Feedback Letter containing information about the study and the experimenter's information so they could contact the experimenter if they wanted to know the final results of the experiment.

### **Results**

Analyses focused on the ratings given by the 27 participants of the celebrities. There were four different categories: actors' pictures without a fragrance, actors' pictures with a fragrance present, actresses' pictures without a fragrance, and actresses' pictures with a fragrance present. The differences in the ratings of the attractiveness of the actors and actresses in the scented and unscented rooms were examined with a 2 (sex) x 2

(scent) analysis of variance (ANOVA). This ANOVA revealed significant main effects of sex,  $F(1,23) = 50.563$ ,  $p < .05$ , and scent  $F(1,23) = 14.735$ ,  $p < .05$ . Additionally, the men were influenced more than the women; the men had a mean total rating of 17.61 while the women had a mean total rating of 13.64. The results described above suggested that the fragrance was an influence on the attractiveness of the celebrities and also, there was a sex difference with the amount of influence the fragrance had.

### **Discussion**

The results of the study rejected the null hypothesis that the presence of a fragrance would have no effect on the participants. The findings agree with the earlier statement that human reproductive biology has an effect on human behavior and that recent studies show that our sense of smell is more important than previously known (Kohl, Atzmueller, Fink & Grammer, 2001).

Since men showed to be influenced more by the presence of the fragrance, it shows that the target of perfume commercials and advertisements is not just women, but men as well. Men may be more inclined to purchase a certain perfume for their significant other if they prefer the smell. This statement can also be reversed to say that cologne commercials and advertisements also target women so they will buy that specific cologne for their significant other.

The results of the study also agree with Mercola (2008, p. 1) that “some studies have actually found that people wearing these [cologne and perfume] scents are more interesting to the opposite sex.”

Although further work is required to show more significance, the small amount of participants has shown that there is a significant difference between having a fragrance



present and no fragrance. If participants were recruited through the Lindenwood Participant Pool (LPP), there would be more participants in this study. Additionally, if there was a third, unpleasant, smell there could be more evidence of the effect of the sense of smell on attraction. This study relied heavily on having three separate rooms with doors that could be closed so fragrances could not mix and also could not be detected by the control (no fragrance group). If this experiment was done differently, pictures of non-celebrities should have been used since the participants could have very easily detected who the celebrity was and could have potentially skewed the data or even made the fragrance insignificant. If all of the celebrity's pictures were black and white (or all in color) the results may have been different as well. Additionally, each celebrity had a different facial expression and some pictures were taken during a photo shoot while other pictures were taken from a Red Carpet event, so the clothes the celebrities in the Red Carpet event pictures are more formal than others. The participants may also be considered a biased sample because most of the participants knew the experimenter.

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### Appendix A

On a scale of 1-5 (1 the lowest; 5 the highest), rate the following actors' attractiveness.

**Circle the ranking under the corresponding actors' number.**

Actor 1

1-----2-----3-----4-----5

Actor 2

1-----2-----3-----4-----5

Actor 3

1-----2-----3-----4-----5

Actor 4

1-----2-----3-----4-----5

Actor 5

1-----2-----3-----4-----5

### Appendix B

On a scale of 1-5 (1 the lowest; 5 the highest), rate the following actresses' attractiveness.

Circle the ranking under the corresponding actress' number.

Actress 1

1-----2-----3-----4-----5

Actress 2

1-----2-----3-----4-----5

Actress 3

1-----2-----3-----4-----5

Actress 4

1-----2-----3-----4-----5

Actress 5

1-----2-----3-----4-----5

## Appendix C

ACTOR 1



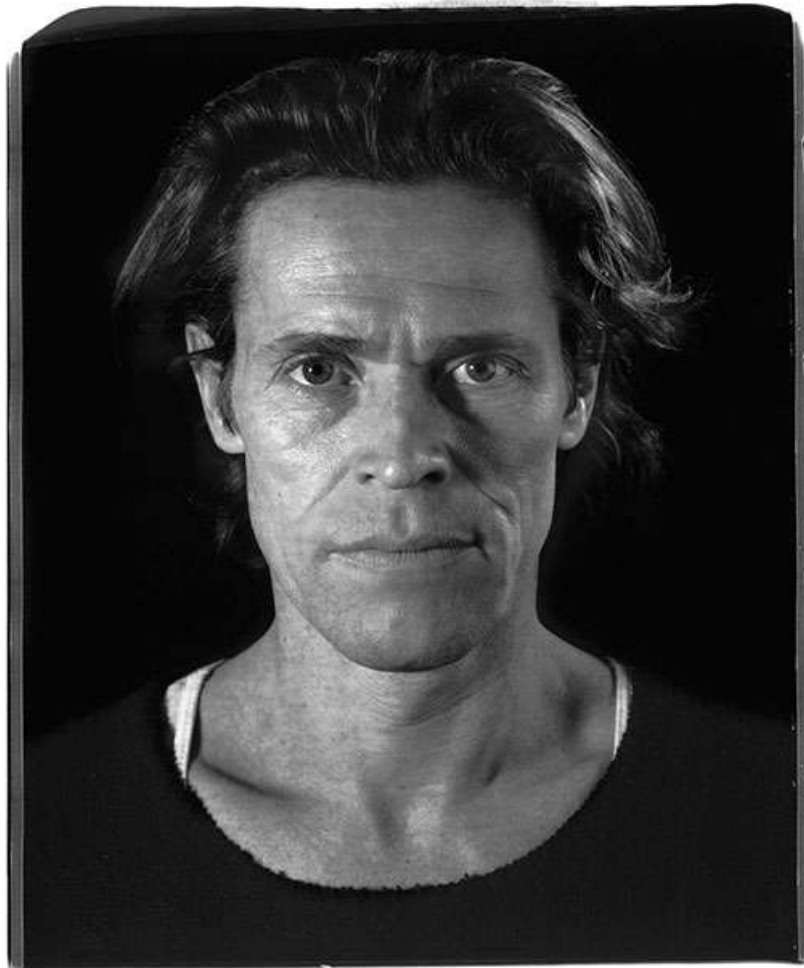
## Appendix D

ACTOR 2



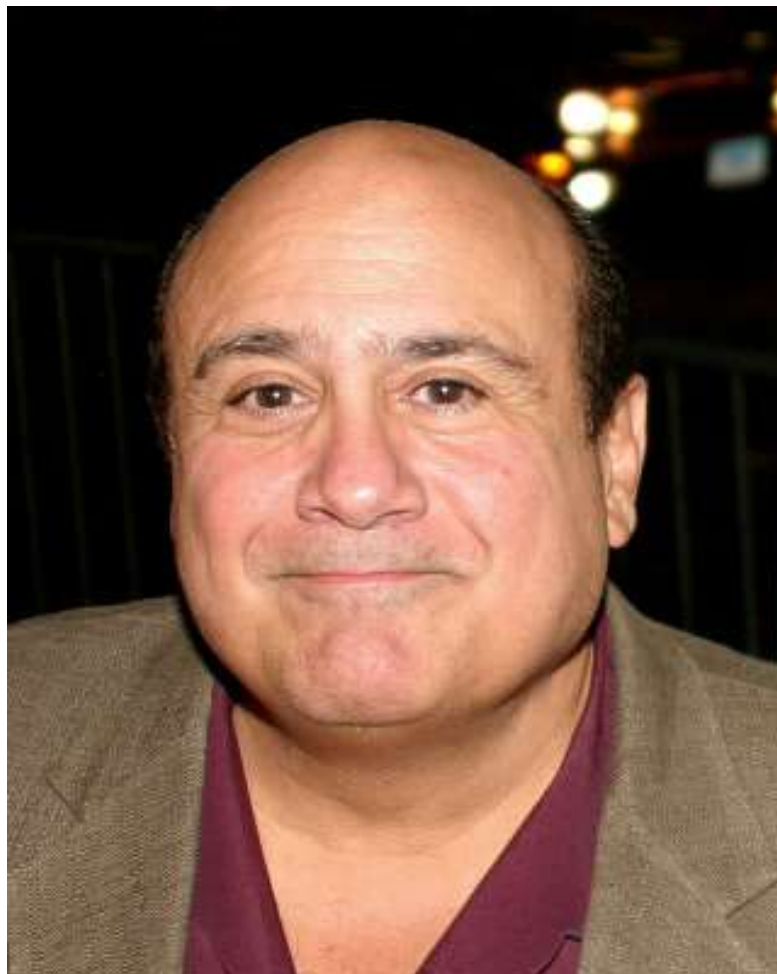
**Appendix E**

ACTOR 3



**Appendix F**

ACTOR 4





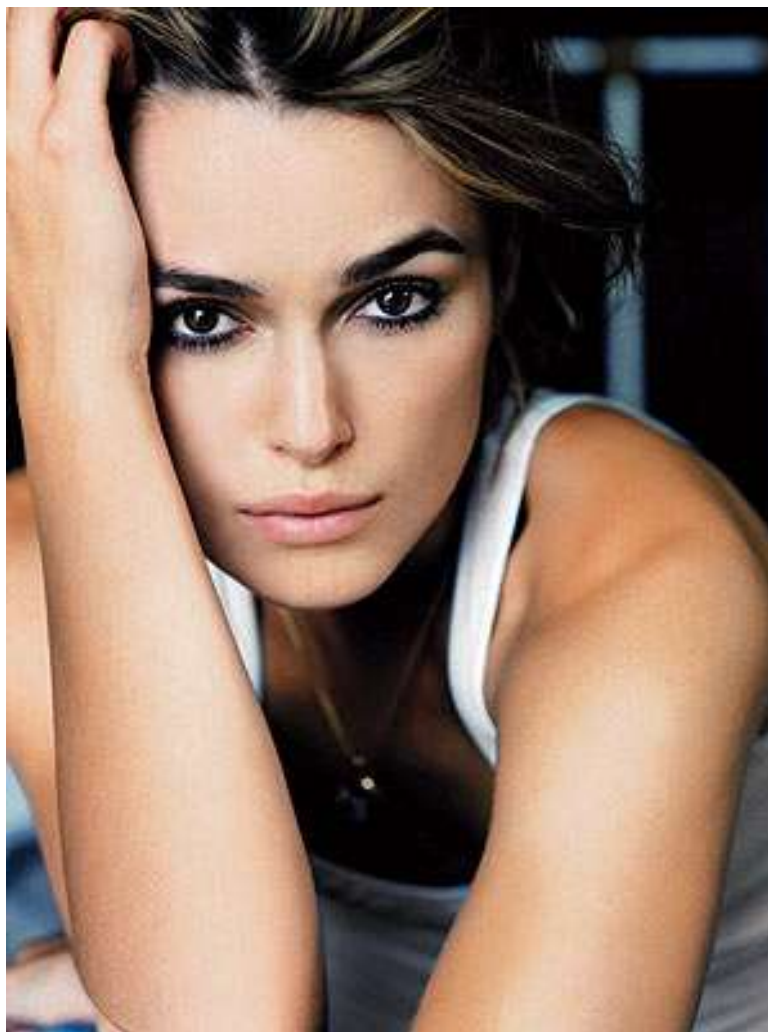
## Appendix G

ACTOR 5



## Appendix H

ACTRESS 1



**Appendix I**

ACTRESS 2



Appendix J

ACTRESS 3



**Appendix K**

**ACTRESS 4**



**Appendix L**

ACTRESS 5

