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## Battle of the Sexes

## Andria M. Musso

The purpose of the experiment was to see which sex pays better attention to a speaker present a story. A video was shown of two detailed passages read by both a woman and man. The speakers were as equally attractive in the researcher's opinion, dressed nicely, and videotaped from the neck line up. If the speaker was a woman it was hypothesized that men would remember more details about the story whereas women would remember more about the appearance of the female speaker but that no sex differences would be found for either measure when the speaker was a man. The results of a 2 (sex) $X 4$ (content) X 2 (appearance) ANOVA revealed only significant main effects but no interaction.

Stereotypes are viewed as the unsweetened versions of many dispositional traits that have shaped all human beings' behaviors. Many sweet stereotypes also exist but the bitter ones stand out far more. Being judged from the outside in would not be an ideal summary of one human being as a whole. Many of us have been judged, whether we were aware of it or not. We may have been judged by our sexual orientation, age, appearance, and more commonly, our race. Price (2002) reported that White American children performed superior to other races in academics starting as early as kindergarten. Although there were many social reasons why Price found these results, many people were quick to interpret these findings to mean that AfricanAmerican students were not as academically advanced as their non-African American peers. Some individuals come to such conclusions in part because of the stereotypical views they have harbored about race.

The mainstream beliefs about racial differences should not control the views individuals have toward groups of people; in many ways stereotypes are created opinions. Chesler, Guskin, Sanchez, Shaevitz, and Smith (1974) stated that teachers' stereotyping is unprofessional but natural and commonly goes unnoticed by the teachers themselves. Understanding general beliefs about different cultures has helped teachers to identify individual students' backgrounds and where they may have came from. This in turn allowed teachers and principals to grasp the potential side effects stereotyped views created toward the child. By self-evaluating the place where the stereotype originated from, the individual may realize they are at fault. If individuals believed all humans were equal, then their mindset should be focused on equality of the human race entirely.

Sometimes similar assumptions are made about women's capabilities compared to men's. A person is labeled male or female from the moment they are born, but the labeling does not stop there. In many cultures including American culture, men and boys are traditionally valued more than women and girls and therefore, women and girls are faced with a life-long fight for equality when compared to their counterparts. In a project designed by Smith (2004), achievement goals were compared with the expectancy of women's success on math skills to men's testing achievement. Half of the women in the study were told about the common stereotype that men excel above women in mathematics, and then all were asked to perform computational questions in front of the male observer. The women in the experimental group, made aware of the stereotype, performed poorly compared to the women in the control group, who had no knowledge of such an idea (Smith, 2004).

Although certain studies may portray that women perform more poorly than men at certain tasks, other studies have contradicted these findings. For example, positive stereotypes exist for women as well, such as the belief that women pay more attention to putting pieces together in a detailed manner. Secretaries, interior designers, and wedding planners are a handful of occupations typically held by women. Women have, in all eras, been worshipped for their unique, mysterious physiques. So, in many ways women have more going for them than they may think. Another example is that many children would rather listen to adult women because of their biological connection with their own mothers. Evers and Walberg (2004) revealed that in elementary age classrooms the Japanese run daily sessions by videotape along with an additional instructor. This allowed the children to hear the concepts of mathematical equations taught by a man, while simultaneously a teacher, also a man, answered individual questions asked by the students. The study showed many downfalls, one being that the man's voice was hard to understand and it did not appeal to the children's interest in the concepts of the course. Another problem was that no control group existed in the study. In order to conclude that the children really didn't learn well from the man's voice, the researchers needed to compare it with a female condition.

The current study examined sex differences in the ability to remember visual details about a male and female speaker compared to audio details presented by these speakers. The researcher predicted that the stereotype exemplifying women's natural behavior to judge other women is true, and that women would remember more about a female speaker's appearance. However, it was hypothesized that men in this study would remember more about the information provided by the female speaker. Since the speaker's image was only a head shot
there were limited distractions present, encouraging the participants to pay more attention to the content of the message. The female's voice may or may not have been naturally more attractive to both the men and women who participated. Women may already believe they cannot compare to men in most cases, because of socially reared ideologies.

Method

## Participants

Fifty-four university students took part in this study. Twenty-one of the students who participated were men, and the other 33 were women. These participants were recruited from Lindenwood University's Human Subject Pool (HSP). The break down of participants by grade level is as follows: 39 freshman, 10 sophomores, four juniors, and one senior. Thirty-two of the participants spoke English as their native language. A sign-up sheet was posted along with a short description of the Experimenter's procedures. The participants who signed up for the experiment picked the time that best worked for them and were ensured that the session would only take ten minutes, which was posted on the experiment description sheet posted on the HSP bulletin board. The sign-up sheet was located on the fourth floor of Young Hall, located on campus. The only compensation granted to the volunteer students was the opportunity for extra credits. The participants recruited through the HSP were enrolled in one of the following classes: Cultural Anthropology, Principles of Psychology, Interactive Psychology, The Family, and Basic Concepts of Sociology. Participants were treated in accordance with the guidelines stated by the IRB.

## Materials

A Maxwell Standard Grade T-120 video tape stored the four different video recordings. The tape was recorded with a Sony Handycam Camcorder which stood on a tripod. The four recordings showed both speakers in which they were reading different passages from the same story. The four videos all neared two minutes of play back a piece. Each speaker, the male and female, were both equally attractive and wearing bright solid colors. Their attractiveness was based on the experimenter's sole judgment consisting of a pretty smile, nice complexion, fashionable clothes, and clear voices. The female speaker Alyssa was the experimenter's roommate; the male speaker Michael was the experimenter's brother. This was a homemade videotape recorded from the same location, therefore ensuring that all of the videos had a consistent background throughout the taping. Both speakers were sitting and taped from the shoulders up, with a cream colored wall paper in the background. The speakers were the main focus of the video, and the camera was zoomed in on them to emphasize the visual details of their appearance. One of the passages read in all of the videos, labeled "Trip," (see Appendix A) and is the opening page (p. 3) of the novel Twilight, by Stephenie Meyer (2005). The other passage in the videos was labeled "School," (see Appendix B) from the same novel (p. 13). Both passages were of similar length and had a wide variety of details. The two passages combined in time showed from 2 minutes, and were consistent amongst all four videos. The survey used in the study to collect data was created by the experimenter based on the passages and appearances of both speakers. An example question from the survey (see Appendix C) regarding the details of the female speaker is stated as, "What color hair did the female speaker have"? An example question from the survey regarding the content of one of the passages is stated as, "In the passage
titled Trip, what was the temperature in the town"? The survey consisted of 20 questions, all of which are divided evenly between the two passages, and the two appearances of the speakers.

Additional materials used in this study were paper and pens to record data, a stapler to attach both pages of the survey together, multiple copies of the survey for the participants to fill out, a demographic survey (see Appendix D) that was created by the experimenter and consisted of 5 personal questions, and all of the necessary paperwork including: informed consent forms (see Appendix E) 2 per participant, extra credit receipts, the experimenter's list of participants, and a feedback letter (see Appendix F). The extra credit receipts were given to the participants after they completed the survey. It was explained to the participants that they were to complete the top portion of the receipt and turn it in for extra credit to the HSP office. The experimenter explained the location of the office and where to place the receipt. The study was conducted in rooms Y404 and Y100, in Young Hall, where there were chairs, a table, a projector screen, a television (TV) labeled Toshiba CV27d48 and videotape player (VCR) labeled as JVC DR-MV 99, borrowed from the university, to show the videos. The other room used to run the experiment was also located in Young Hall in room Y111, which was an elevated theatre style classroom. It consisted of desks, a large table at the front of the room and the same TV and VCR brand which was used to play the video on a large projector screen. The last room used in this study was Y105 lab room A, which was a much smaller room with one large desk, a computer, a small desk in which the participants sat in and a different model TV, labeled as Sony V-61.

## Procedure

Each participant met the experimenter in Young Hall in the room indicated on the sign-up sheet at their designated time. The experimenter introduced herself and the experiment to each
participant. The participants were asked to sign two copies of the informed consent form explaining their duties in the study, along with their extra credit slip which was given to them after they finished the exercise. They were asked to pay attention to the short video clips presented by both a male and female speaker. They viewed one video as a whole that was broken up into two parts: the man reading a passage, and the woman reading the other passage. The experimenter explained that one of the passages presented was labeled "Trip", and the other passage presented was labeled "School". This methodology was used to maintain consistency in the presentation of the passages. With a video recording of the story passages, all participants were exposed to the exact same controls in the experiment. For example: the speed that the passages were presented, the time frame in which the participant saw the speaker's appearance, the background behind the speaker were all consistent. The experimenter chose these two passages because they have simple story lines, along with many details, both offering plenty of opportunities for questions on the survey regarding the passages. This was explained to the participants so they could identify which questions on the survey applied to which passage. When the video was finished, showing both the speakers present their passage, the experimenter had the participant answer a detailed list of 20 questions total, 10 questions regarding the two passages, and five questions regarding each speaker's appearance. The experimenter collected the participant's answers, thanked them for their participation, and presented them with a feedback letter. Each participant was debriefed on the purpose of the study and was given the researcher's contact information for the results of the study, and if he or she had any further questions to ask the researcher.

Each participant in the study viewed two clips - one of a man and one of a woman, and did not view the same passage twice. The order was counterbalanced in which each participant viewed the tapes. There were four possibilities: 1) Male speaker reading the passage titled "Trip" followed by the female speaker reading the passage titled "School", 2) Male speaker reading the passage titled "School" followed by the female speaker reading the passage titled "Trip", 3) Female speaker reading the passage titled "Trip" followed by the male speaker reading the passage titled "School", 4) Female speaker reading the passage titled "School" followed by the male speaker reading the passage titled "Trip". The two passages titled "Trip" were identical, but read by both the man and woman speaker, with the same applying for the two passages labeled "School". The experimenter repeated the four-option sequence of video clips for every four participants.

## Results

The hypothesis being tested, using a mixed Analysis of Variance (ANOVA) was that females would remember more about another female's appearance while watching an audio video, while a man would remember more about the content of the video, and not the speaker's appearance. Data were analyzed using a 2 (Sex) x 2 (Appearance) $\times 2$ (Content) mixed ANOVA. Sex was a between-subjects factor, while the two types of questions: speaker appearance and passage content were within-subjects factors; each with two levels corresponding to the male and female speakers was a within-subjects factorial design. The results were yielded using this mixed ANOVA, comparing sex differences in ability to remember details of the female speaker. A significant main effect $F(1,52)=31.905, p=.001$ of appearance was found. Also using the mixed ANOVA, testing of between- subjects effects compared men and women
participant's ability to answer correctly on the survey. A significant main effect was shown of sex, $F(1,52)=6.743, p=.012$. Approaching significance $F(1,52)=3.722, p=.059$ was also shown about the details of the speaker's appearance. Approaching significance $F(1,52)=$ $3.226, p=.077$ was found among content memory and sex. No significant interaction $F(1,52)$ $=.135, p>.05$ was found between sex and content. No significant interaction between sex and appearance was found $F(1,52)=.648, p>.05$.

An independent t -test was conducted to analyze the scores of those participants who were familiar with the book the story passages came from versus those who weren't familiar. A participant was marked as being familiar with the Novel or not familiar with it at all. Overall for those who were familiar $(M=7.8065)$ scored slightly higher than those who were not familiar $(M=6.7391), t(52)=2.044, p=.046$.

A second independent t -test was conducted to analyze the difference in scores compared to those who said they pay more attention to visual details versus audio information. Participants who stated they paid more attention to details ( $M=5.4839$ ) had a mean score ( $M=$ 7.0323) on the total correct answers about the passages than those who stated they paid more attention to information $(M=5.5652)$, in which they had a higher mean test score ( $M=7.7826$ ) when answering questions concerning the passages. For the total amount of questions right about each speakers appearance, out of ten possible questions $t(52)=-.186, p=.853$ and for the total correct questions about both of the passages out of ten possible questions $t(52)=-1.408, p$ $=.165$.

## Discussion

The hypothesis of the current research was if the speaker is a woman, then men would remember more details about the story whereas women would remember more about her appearance. If the speaker is a man, then women and men will retain relatively equal amounts of information, both on content presented and the man's appearance. The analysis that is relevant to the hypothesis stated was the mixed ANOVA. The experimenter anticipated a significant interaction between sex and appearance, as well as sex and content; neither of which the experimenter found, the independent samples $t$-test that was conducted showed a difference in content question accuracy but not in appearance question accuracy. There was a significant finding shown through another independent samples t-test that the total correct answers about the passages were better for native English speaking participants. Within the 32 women participating in the study, 23 of them spoke English as their native language. This is over twice the amount of overall female participants. Of the 22 men who participated in this study, nine of them spoke English as their native language. Therefore, more English speaking women participated than English speaking men. A Pearson Chi-Square test was analyzed a significance was found amongst sex of participants and their native language $x 2(1)=3.829, p=.05$. This makes sense contrary to the belief that those participants whose native language was one other than English would not score as well on questions regarding content of the passages, but excelled just as well in questions about appearance.

That there was no finding of statistical significance in this study may be the result of defects in the methodology. The male speaker in the videos mumbled his speech and made it very unclear as to what he was saying. Another flaw about the male speaker was that the
questions about his appearance were not nearly as difficult as the questions were about the female. The experimenter was more concerned about the questions about the female's appearance since she essentially was studying the relationship between females judging another female. Once the experimenter added a control group, the male speaker, the questions were not developed to be as difficult as the original questions modeled for the female speaker. If this research were conducted again it would be very important to have specific questions about both sex speaker's appearance distributed evenly, and even so the male speakers could have been wearing pieces of clothing with more detail. A sample question from the survey asks "what color scarf was the female speaker wearing," versus a sample question about the male "what did the hat the male speaker was wearing say," when in bold across the front of the hat it read "yeah boy".

Another critique that would need to be made if running this experiment again would be to have the experimenter sit through each session behind the participant. The experimenter noticed that more often than not when they glanced up during the video the participant's attention was on them rather then the video. If the experimenter would have been seated behind those participants instead of standing in the front of the room they may have been able to pay more attention to the details in the video. Along with the faults of the experimenter is the inconsistency in giving the directions to the participants. In some instances the experimenter gave out more information in the directions than needed and this wasn't consistent for every individual participant. In the reproduction of this experiment an audio recording of the directions would be best in order to keep a control in the experiment throughout the duration of the study. Being that each
participant viewed a video as a part of the study; the directions could have been given from the experimenter recorded at the beginning of the two speaker's passage readings.

If more time were allotted to the experimenter and many more participants were present a study could be conducted with those who had never heard of the novel Twilight, making the results of the surveys more valid since none of the participants would have an advantage over the others. Also, the experimenter could make up two passages in which they both share the same amount of details and involve the same characters. This way each participant would have no more of an advantage in answering the survey questions because they would have no chance of knowing background information on the passages. The last main concern about the faults in this study concerns the visual format of the video showings. The experimenter was unaware of the negative effects a large projector screen would have on the viewing of both speakers'
appearance. On a small screen like the one the experimenter used to key the video the details of both speakers were very obvious. Once the video was shown on the big screen in the classrooms in Young Hall, it was much harder to make out the details and color shown in the videos. Some participants mentioned this flaw along with the mumbling of the male speaker. All of these complications should be revised if further interest develops in the reproduction of this study.

The results found in this study can not compare with Price (2002), who stated that white American children score better academically, than their non American classmates, due to natural reared beliefs in academic inability. If there were a significant variation in race between the participants in this study it could have possibly been compared with the findings from Price's study. The outcome of differences between races of those who participated was non existent between White American and African American students. Chesler, et al. (1974) found that
those in an administrative position, like teachers, have already established a stereotype or first impression of each student before getting to know them. This coincides with this study because the experimenter agrees that stereotypical thoughts were aligned for each participant about how well they would perform based on their ethnicity. This shows no meaning in statistical data but is an example of how one's appearance can affect future situations, just merely because of their image. Evers and Walberg (2004) were the most consistent with the results in this study. They compared visual learning with hands on learning and if it made a difference for elementary school aged children. There was no significance found between the man teaching in the video and with the man present teaching in the classroom. This experiment also, unexpectedly, shows no significance with a desired speaker having more of an effect on viewers. Kizilgunes et al. (2009) combined the effects of self-efficacy of children to epistemological beliefs about gender differences. The differences found are similar to those in this study, and those were that gender differences occur differently across the board. Many men are more intrigued by women speakers because of the biological connecting bond they share with their mothers. Women aren't necessarily judging other women when observing homogenous accounts. They could simply be just as attracted to a male speaker as a female speaker. All of these possibilities need to be kept in mind with the reproduction of this study, with more time and materials this study could help prove the stereotypical norms held by members of the opposite sex.

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## Appendix A

## Passage titled "Trip"

(read by both the male and female speaker)
"My mother drove me to the airport with the windows rolled down. It was seventy-five degrees in Phoenix, the sky a perfect, cloudless blue. I was wearing my favorite shirt---sleeveless, white eyelet lace; I was wearing it as a farewell gesture. My carry-on item was a parka.

In the Olympic Peninsula of northwest Washington State, a small town named Forks exists under a near-constant cover of clouds. It rains on this inconsequential town more than any other place in the United States of America. It was from this town and its gloomy, omnipresent shade that my mother escaped with me then I was only a few months old. It was in this town that I'd been compelled to spend a month every summer until I was fourteen" (Meyer, 2005, p. 3).

Meyer, S (2005). Twilight. New York, NJ: Little, Brown and Company.

## Appendix B

Passage titled "School"
(read by both the male and female speaker)
"I parked in front of the first building, which had a small sign over the door reading FRONT OFFICE. No one else was parked there, so I was sure it was off limits, but I decided I would get directions inside of circling around in the rain like an idiot. I stepped unwillingly out of the toasty truck cab and walked down a little stone path lined with dark hedges. I took a deep breath before opening the door.

Inside, it was brightly lit, and warmer than I'd hoped. The office was small; a little waiting area with padded folding chairs, orange-flecked commercial carpet, notices and awards cluttering the walls, a big clock ticking loudly. Plants grew everywhere in large plastic pots, as if there wasn't enough greenery outside. The room was cut in half by a long counter, cluttered with wire baskets full of papers and brightly colored flyers taped to its front. There were three desks behind the counter, one of which was manned by a large, red-haired woman wearing glasses. She was wearing a purple $t$-shirt, which immediately made me feel overdressed" (Meyer, 2005, p. 18).

Meyer, S (2005). Twilight. New York, NJ: Little, Brown and Company.

Appendix C
SURVEY

Directions: Circle the best fit answer for each question, the order of the questions are not matched up with the order of the videos shown.

1) What sex was the character speaking in both story passages?

Male Female
2) In the passage titled "Trip", who drove the character to the airport?

Dad Aunt Mom
3) In the passage titled "Trip", what was the temperature in the town?
$6085 \quad 75$
4) In the passage titled "Trip", what town was the character going to?

Seattle Forks Birmingham
5) In the passage titled "Trip", what was the characters carry-on item?

Bag Parka Pillow
6) What color was the female speaker in the video wearing?

Blue Yellow Red
7) What color hair did the female speaker in the video have?

Brown Blonde Red
8) What kind of jewelry, if any, was the female speaker wearing?

Earrings Necklace None
9) What best describes the scarf the female was wearing?

Cheetah Zebra Yellow
10) What color jacket was the female speaker wearing?

Tan Black Purple
11) What color shirt was the male speaker wearing?

Blue Red Black
12) What style of hair did the male speaker have?

Long Curly Short
13) What color jacket was the male speaker wearing?

Tan White Black
14) What jewelry, if any, was the male speaker wearing?

Earring Necklace None
15) What did the male speaker's hat say?
"Yeah Boy" "Just Do It" Nothing
16) In the passage titled "School", what did the sign in the parking lot read?

Front Office No Entry Gym
17) In the passage titled "School", how many desks were behind the counter?

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18) In the passage titled "School", what was making noise in the office?

Students Bell Clock
19) In the passage titled "School", what color shirt was the secretary wearing?

Yellow Purple White
20) Which passage did the female speaker read?
"School" "Trip"

Appendix D

## DEMOGRAPHIC SURVEY

-What is your sex?
Male Female
-What year in school are you?
Freshman Sophomore Junior Senior Other:
-Have you read the book, or seen the movie, titled Twilight?
Yes No
-What is your native language?
-Which area do you feel you pay more attention to in any given situation?
Details Information

[^0]Informed Consent Form

I, $\qquad$ (print name), understand that I will be taking part in a research project that requires me to complete two surveys, one regarding the information I obtained from two short videos, along with details about the speakers appearances. The other survey is a demographic questionnaire asking details about you as an individual. I understand that I should be able to complete this project within 15 minutes. I am aware that my participation in this study is strictly voluntary and that I may choose to withdraw from the study at any time without any penalty or prejudice. I should not incur any penalty or prejudice because I cannot complete the study. I understand that the information obtained from my responses will be analyzed only as part of aggregate data and that all identifying information will be absent from the data in order to ensure anonymity. I am also aware that my responses will be kept confidential and that data obtained from this study will only be available for research and educational purposes. I understand that any questions I may have regarding this study shall be answered by the researcher(s) involved to my satisfaction. Finally, I verify that I am at least 18 years of age and am legally able to give consent or that I am under the age of 18 but have on file with the HSP office, a completed parental consent form that allows me to give consent as a minor.
(Signature of participant)
Date: $\qquad$

Date: $\qquad$
(Signature of researcher obtaining consent)

Dr. Michiko Nohara-LeClair Course Instructor
(636)-949-4371/mnohara-leclair@lindenwood.edu

## Appendix F

## Feedback Letter

Thank you for participating in my study. The surveys were used in order to determine if women pay more attention to other women's appearance or the information presented by the woman speaking. The questions were split evenly asking details from the story passages, and details about the speaker's appearances.

Please note that I'm not interested in your individual results; rather, I'm only interested in the results of a large group of participants, of which you are now a part of. No identifying information about you will be associated with any of the findings.

If you have any questions or concerns regarding any portion of this study, please do not hesitate to bring them up now or in the future. My contact information is found at the bottom of this letter. If you are interested in obtaining a summary of the findings of this study at a later date, please contact me and we will make it available to you at the completion of this project. Thank you again for your valuable contribution to this study.

Sincerely,
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Supervisor:
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[^0]:    Appendix E

