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How Preference Plays a Role in Gender and Details

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How preference plays a role in gender and details was examined and evaluated in this experiment. We used Lindenwood University's Human Subject Pool to recruit 30 participants, 16 females and 14 males. Our purpose was to see whether the participants found more differences between the pairs of pictures they preferred over the less preferred pictures. We used gender stereotypical pictures with the hope that participants would prefer the picture that best fits their gender. We did not find statistical significance, $F(2,58)=2.126$, $p=.129(p<.05)$, in that the participants discovered more differences in their preferred picture. However, we did find statistical significance between picture type and number correct, and the order the pictures were given and the number correct in each picture.

The main purpose of our experiment was to determine whether men or women pay more attention to details depending on the subject matter. The rationale of the proposed project was that the investigators believed people pay more attention to things they are interested in based on gender differences. This is important to investigate to determine whether men and women should be separated in classrooms because of their different interests. Thiers (2006) stated in her article that in 2005, the U.S. Department of Education released information about the effects of single-sexed classrooms. The study could have been investigated because of the differences in men and women's preferences in details. Kelley

and Michael (2006) support the concept that men and women learn differently in the classroom. They explain how men and women's brains are different in educational settings.

Baker-Sperry, Behringer, and Grauerholz, (1999) stated that when gender is less exaggerated in gender specific activities, it is less noticed by the public. The stereotypical perceptions of the public begin to become less defined as stereotypical when these pictures are not exaggerated. In the present study, exaggerated pictures were used such as: a male associated picture is in a workshop performing what is perceived as a male stereotypical activity and the female is in a perceived female environment while the neutral picture only consists of animals with no gender based activities.

Cann and Newbern(1984) concluded that when men and women were given pictures of the opposite sex they had more difficulty remembering details of those pictures. If men and women were placed in single sexed schools, the pictures and information given could be directed toward their particular gender. It was shown that men and women remember details differently and having single sexed classrooms could potentially enhance their academic achievement due to this finding. Bauer and Coyne's (1997) experiment also coincides with Cann and Newbern's experiment. They also distributed pictures to children in hopes to find whether the children are consistent between genders when defining stereotypes of a specific sex. In contrast to Cann and Newbern's experiment they did find that when the targets were labeled with the common nouns such as "girl and boy" the findings differed and were reliable.

We believed that due to the gender identification in the pictures, the females would choose the more feminine picture and would perform better by finding more differences in that picture. We also believed that the males would perform better on the masculine picture.

We believed the men and women would perform equally well on the neutral picture. We believe people pay more attention to details when the subject matter is gender specific.

Method

Participants

The participants were recruited from the Human Subject Pool of Lindenwood University, Missouri. There were 30 undergraduate students, 19 female and 11 male that participated in our study. The participants' ages ranged from 18-25. Each participant received and signed a consent form before participating in the study; they also received compensation of extra credit toward their respective social sciences courses at Lindenwood University for participating in this study. They were also given another extra credit opportunity if they chose not to participate in Human Subject Pool study.

Materials

The study was conducted in the psychology lab at Lindenwood University. There were three chairs, one for the participant and one for each of the researchers, along with a table to place the papers. A questionnaire was given to the participants after giving them the consent form along with a form that explained the experiment in detail and their compensation form. The questionnaire was for them to fill out before engaging in our three "spot the difference pictures." The questionnaire asked questions such as if they had ever had an experience with spot the difference puzzles, it also included some demographic information about the participants and a short vision test for the participants. This was given to determine whether or not they had any problems with seeing pictures like the ones that were used in our experiment, none of the participants had problems seeing the object that was asked to be pointed to.

The participants were asked to rank the three "spot the difference" pictures that were chosen from www.comparrot.com. The participants ranked the pictures from one to three, one being their favorite and three being their least favorite. The pictures consisted of one neutral scenario (Appendix A) one male (Appendix B) and one female (Appendix C) scenario based on the stereotypes in our society. The pictures were distributed in a counterbalanced order based on their preference. Each participant was given one minute to find the differences in each picture; this was timed by a watch. Once the participants' time was up, we then checked the circled differences the participants chose against an answer key. All of our findings were recorded on a computer.

Procedure

Once the participants entered the room they were asked to read and sign the informed consent form (Appendix D). Next, the participant's receipt was completed and signed so that participants would receive their extra credit. After this was complete, we also explained to the participants the procedure of the experiment and what they would be doing. Each participant was asked to fill out a questionnaire (Appendix E) concerning his or her age, gender, class level, and whether they are visually impaired or not. Each participant was shown the left picture of each pair of pictures at the same time and they were asked to rank them from 1-3, based on their interest in the picture. A rating of one was of most interest to the participants and three was the least. After the participants ranked the order of the pictures, they were given the pictures in a predetermined order. Each person was given a pair of pictures for one minute and told to circle as many differences as they could fine on the sheet of paper. We then checked and recorded their correct answers on the computer. Each participant repeated this task for two other pairs of pictures. The pictures were

counterbalanced as shown in Table 1. Once the experiment was over we debriefed the participants and thanked them for participating in our study after they were given the feedback letter with our contact information (Appendix F).

Results

This experiment looked at whether people found more differences in pairs of pictures based on their preference of the pictures. We thought that they would do best on their favorite picture, second best on their second favorite picture, and worst on their least favorite picture. When we conducted the one-way analysis variance (ANOVA), we did not find any statistical significance between participants' preference in the pictures and the amount of differences they found between the pictures. A total of 30 people were tested and the results showed that the mean number of differences found in the person's favorite picture was 5.47 with a standard deviation of 1.502. The number of differences found in the person's second favorite picture was 5.50 with a standard deviation of 1.614. The mean number of differences found on the person's least favorite picture was 4.77 with a standard deviation of 2.254.

We found no statistical significance in our analysis of picture preference, $F(2,58)=2.126$, $p=.129$. Based on our results, 2 girls and 0 boys chose the girl picture as their favorite, 1 girl and 4 boys chose the boy picture as their favorite picture, and 16 girls and 7 boys chose the neutral picture as their favorite. This differs from our hypothesis that girls would prefer the girl picture and boys would prefer the boy picture. There was no statistical significance in this analysis.

However, we did find statistical significance in practice effect, $F(2,58)=4.479$, $p=.016$ ($p<.05$). People found the most differences in the third picture which shows that they got better with practice. Also, when analyzing picture type (choosing one picture more often than

the others, not based on gender) we found statistical significance $F(2, 58)=28.711$, $p<.001$ ($p<.01$). There was statistical significance found when comparing the means of each picture. The mean score for the number correct on the boy picture was 6.33, which was statistically higher than the mean for the neutral picture which was 5.30. The mean for the neutral picture was statistically higher than the mean of the girl picture which was 4.10.

Discussion

After analyzing the results, we decided that if we were to conduct this experiment again we would make a couple of changes since statistical significance was not found when we believed significance would be found. Our first change would be the pictures chosen. We chose the male and female picture with an actual human conducting an activity and the neutral picture which consisted of animals. Since the participants chose the neutral picture most often as their favorite, we concluded that we would choose all humans or all animals in the next set of pictures. Perhaps we could choose a more feminine animal for the female (kitten) and a more masculine animal for the males (lion) along with a neutral animal for our neutral picture (giraffe).

We would also choose pictures with the same amount of action taking place, unlike the pictures that were chosen. For example, our female picture had more surrounding items compared to our male picture, which made it a more cluttered, distracting picture. The participants found the least amount of differences in the girl picture which we feel was the most cluttered.

Also, since we did find statistical significance in practice effect we decided that we would have more than three pictures for the participants to complete. We would give them around five pictures and only use the last two or three. We would still counterbalance the

way the pictures were given. Overall we would keep the experiment the same and just change what was stated above.

For further research we feel that it would be convenient to conduct an experiment to determine whether single sexed classrooms have an effect on socialization with the opposite gender. As stated above, Cann and Newbern supported the idea, with their research, that due to the differences between boys and girls in learning and details single sexed classrooms would better their academic achievement. However, this experiment did not discuss how single sexed classrooms would affect the socialization of the children. It is important to determine the positive and negative effects of single sexed schools.

References

Baker-Sperry L., Behringer, A., & Grauerholz, L. (1999). Bringing gender to life in the classroom: Recommended videos that teach about gender. *Teaching Sociology, 27, 2,* 193-207.

Bauer, P., & Coyne, M. (1997). When the name says it all: Preschoolers' recognition and use of the gendered nature of common proper names. *Social Development, 6, 3,* 271-291.

Cann, A., & Newber, S.R. (1984). Sex stereotype effects in children's picture recognition. *Child Development, 55, 3,* 1085-1090.

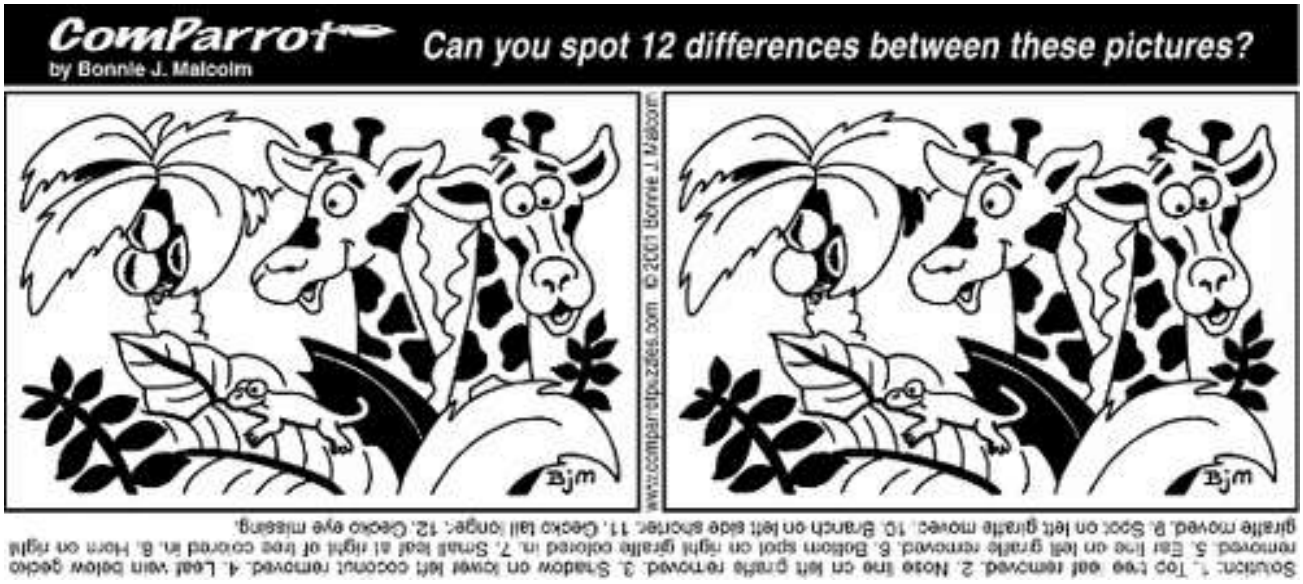
King, K., &Gurian, M. (2006). The brain-his and hers. *Educational Leadership, 64, 1,* 59.

Thiers, N. (2006). Do single-sex classes raise academic achievement. *Educational Leadership, 63, 7,* 70.

Table 1

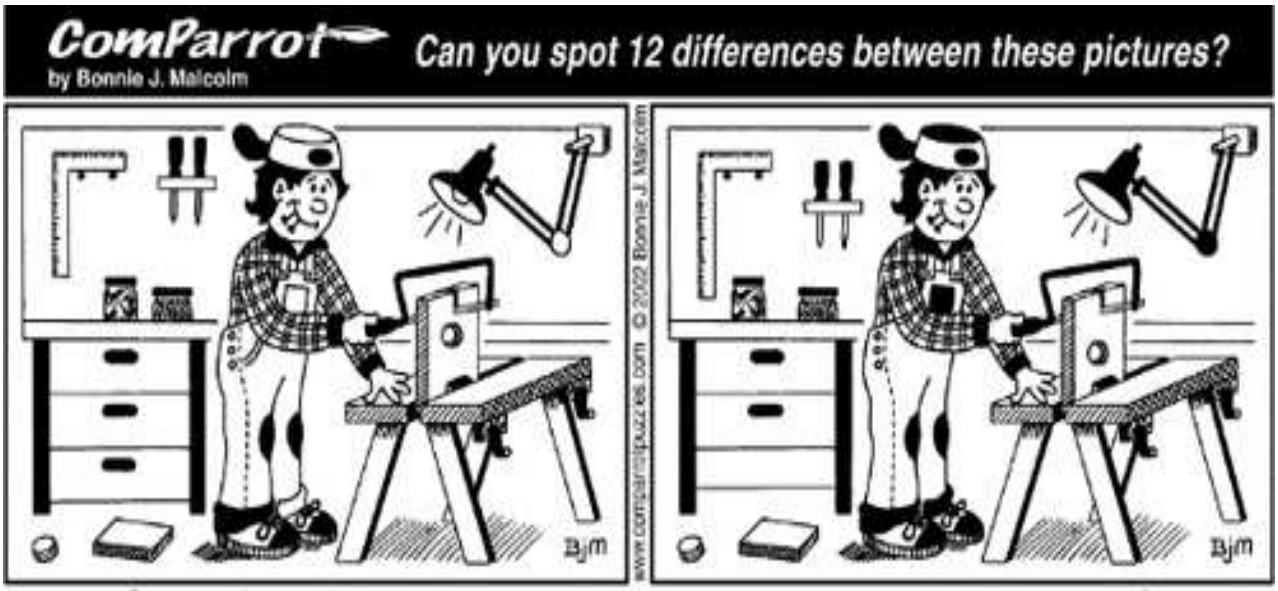
	Trial 1	Trial 2	Trial 3
Participant 1	Favorite	Second	Third
Participant 2	Second	Third	Favorite
Participant 3	Third	Favorite	Second
Participant 4	Favorite	Third	Second
Participant 5	Second	Favorite	Third
Participant 6	Third	Second	Favorite
Repeat up to 24			

Appendix A



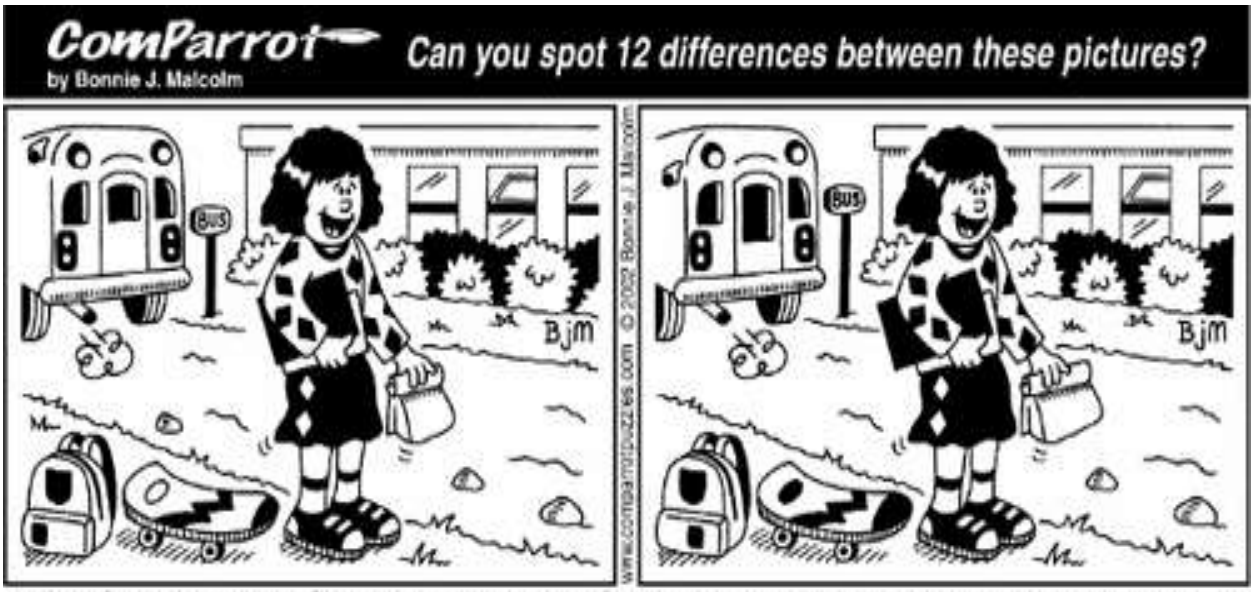
Solution: 1. Top tree leaf removed. 2. Nose line on left giraffe removed. 3. Shadow on lower left coconut removed. 4. Leaf vein below gecko removed. 5. Ear line on left giraffe removed. 6. Bottom spot on right giraffe colored in. 7. Small leaf at right of tree colored in. 8. Horn on right giraffe moved. 9. Spot on left giraffe moved. 10. Branch on left side shorter. 11. Gecko tail longer. 12. Gecko eye missing.

Appendix B



Solution: 1. Carpenter's side pocket is missing. 2. Light bulb in lamp is missing. 3. Drawer handle is missing. 4. Chest pocket is colored in. 5. Top of hat is colored in. 6. Elbow on lamp arm is colored in. 7. Pant cuff is colored in. 8. Hole in board has moved down. 9. Tall jar has moved. 10. Screwdrivers have moved. 11. Bottom drawer is narrower. 12. Carpenter square is longer.

Appendix C



Solution: 1. Tuft of grass by backpack is missing. 2. Rock behind skateboard is missing. 3. Label on skateboard is colored in. 4. Bush on right is colored in. 5. Crest on backpack has moved. 6. Light on bus has moved. 7. Exhaust from bus has moved. 8. Rear window on bus is taller. 9. Pattern on skateboard nose is wider. 10. Folder under girl's arm is wider. 11. Lunch bag is wider. 12. "BUS" sign is taller.

Appendix D

Informed Consent Form

I, _____ (print name), understand that I will be taking part in a research project that requires me to complete a short questionnaire asking about my age, gender, grade level and visual ability and participate in a test involving six pictures. 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.

_____ Date: _____

(Signature of participant)

_____ Date: _____

(Signature of researcher obtaining consent)

Student Researcher's Name and Number:

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Brittni Martin (618)841-9222

Supervisor:

Dr. Michiko Nohara-LeClair
Course Instructor
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Appendix E

QUESTIONNAIRE

SUBJECT ID NUMBER: _____ (Assigned by Researcher)

1) Are you: MALE FEMALE?

2) How old are you? _____ years

3) What class are you in?

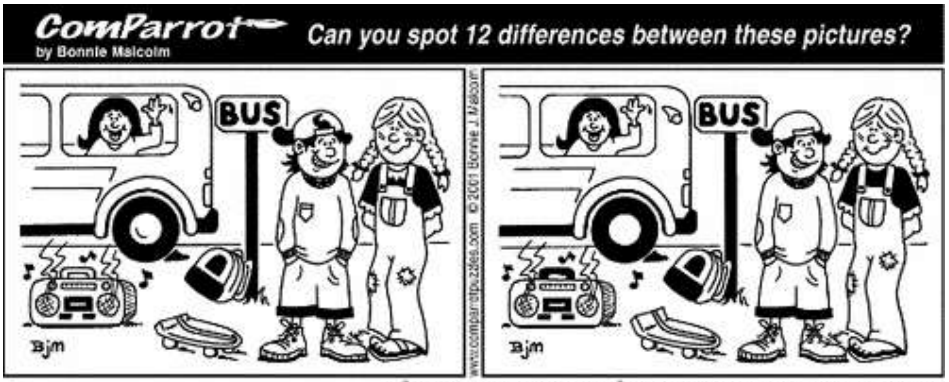
   Freshman Sophomore Junior Senior Other

4) Are you visually impaired in any way that would prevent you from seeing details in pictures like the one below?

   Yes No

5) Have you ever done a "Spot the Difference" puzzle?

   Yes No



Solution: 1. Line on boy's pocket missing. 2. Strap on sandal missing. 3. Hair at back of ball cap missing. 4. Elbow patch missing. 5. Back of seat by girl's arm missing. 6. Hub cap missing. 7. Collar on girl's top colored in. 8. Boom box handle colored in. 9. Patch on pants moved up. 10. Light on bus moved down. 11. Musical note moved to right. 12. Back of skateboard is longer.

Appendix F

Feedback Letter

Thank you for participating in our study. The questionnaire was used in order to determine people's gender, age, visual ability and class level. Picture test was used to determine whether men or women pay more attention to details. We believe people pay more attention to detail when interested in the subject matter.

Please note that we are not interested in your individual results; rather, we are only interested in the results of a large group, 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. Our 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 either of us 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,

Principal Investigators:
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