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Dear Readers,

We are proud to present the Fall 2011 edition of the *Walt Whitman Journal of Psychology*.

The Journal is the only student-run high school psychology publication in the country. We promote student psychological experimentation by reviewing student submissions from across the nation.

In this issue, we have explored topics ranging from virtual reality to meditation to social cycles across different cultures.

We would like to extend a special gratification to our teacher supervisor, whose hard work and dedication to *the Journal* will be missed.

For more information about *the Journal*, visit our website at www.whitmanpsych.com.

Best Regards,

Piya Chandramani	Corinne Osnos	Hannah Storey
Associate Editor	Associate Editor	Associate Editor

The Whitman Journal of Psychology
7100 Whittier Blvd., Bethesda, MD 20817

Dear Readers,

Over the past seven years, I have had the privilege of working with the students who bring you the *Whitman Journal of Psychology*. The *Journal* has been a wonderful resource for students and teachers, enabling them to extend their knowledge of various topics and trends in the field of psychology. Since taking over as Advisor to the *Journal*, the publication has evolved due to the changing needs of our readers. We have added an online edition with archived issues on www.whitmanpsych.com, and we have broadened the topics of submissions that we accept.

When I started working with the *Journal*, it was my goal to continue to create an avenue for future psychologists to gain valuable practice with the research process, and to keep the high school community abreast of trends and changes in the field. I have been immensely impressed with the quality and breadth of topics explored by students who may be starting their careers in psychology. The *Journal* is a valuable teaching tool and will continue to inspire original research and exploration.

Along with growth comes change. The current issue of the *Journal* will be my last serving as Advisor. My esteemed colleague, Marisa Del Savio, will be taking over and continuing the tradition of providing an excellent avenue for high school students to explore their passions in psychology. I am highly confident that the *Journal* will continue to grow and prosper under her leadership.

I am very grateful to have been a part of such a great publication and a wonderful group of students whose commitment to the *Journal* is inspiring. I would like to thank the administration under Dr. Alan Goodwin at Walt Whitman High School for their ongoing support. Most importantly, I would like to thank the students with whom I have worked over the past seven years, who have made the end of the school day the favorite part of my day.

Thank you for your support of our publication, and I hope that you continue to encourage student research in a fascinating and ever-changing field.

Sincerely,

Sheryl Freedman
Walt Whitman High School
Advisor – *The Whitman Journal of Psychology*

The Whitman Journal of Psychology
7100 Whittier Blvd., Bethesda, MD 20817

Call for Submissions

All research articles completed by high school students are welcome. Please be sure that articles are submitted in APA format with complete references. Full submission details are on page 5.

Table of Contents

Content

The Whitman Journal of Psychology a forum in which student-conducted research in the field of psychology may be recognized. *The Journal* contains research from many subject matters and is not limited to any specific type of study.

Manuscript Preparation

Authors should prepare manuscripts according to guidelines established in the Publication Manual of the American Psychology Association (5th ed.). *The Journal* reserves the right to modify APA style. Manuscripts should be no longer than 15 pages and should include an abstract. Additionally, all manuscripts must include a list of references as well as parenthetical documentation in accordance with APA style. It is suggested that manuscripts include the following sections: introduction, methods, results and discussion. Manuscripts are not limited to these sections.

All manuscripts submitted for consideration may be mask (blind) reviewed at the request of the author. Clear notification must be given on the title page of a manuscript in order for it to be mask reviewed. It is the author's responsibility to ensure that identification is omitted from the manuscript. All manuscripts submitted are subject to editing on the basis of style as well as context. It is the author's responsibility to ensure clarity of expression.

Manuscript Submissions

Submissions should include a cover letter in which the author's name, school affiliation, advisor's name, address, phone number and e-mail address are given. Authors should keep a copy of their manuscript to guard against loss. Please e-mail a copy of your file along with a cover letter with the requirements listed above to whitmanpsych@gmail.com. You will get a confirmation e-mail once we have received your submission and are able to open the file(s).

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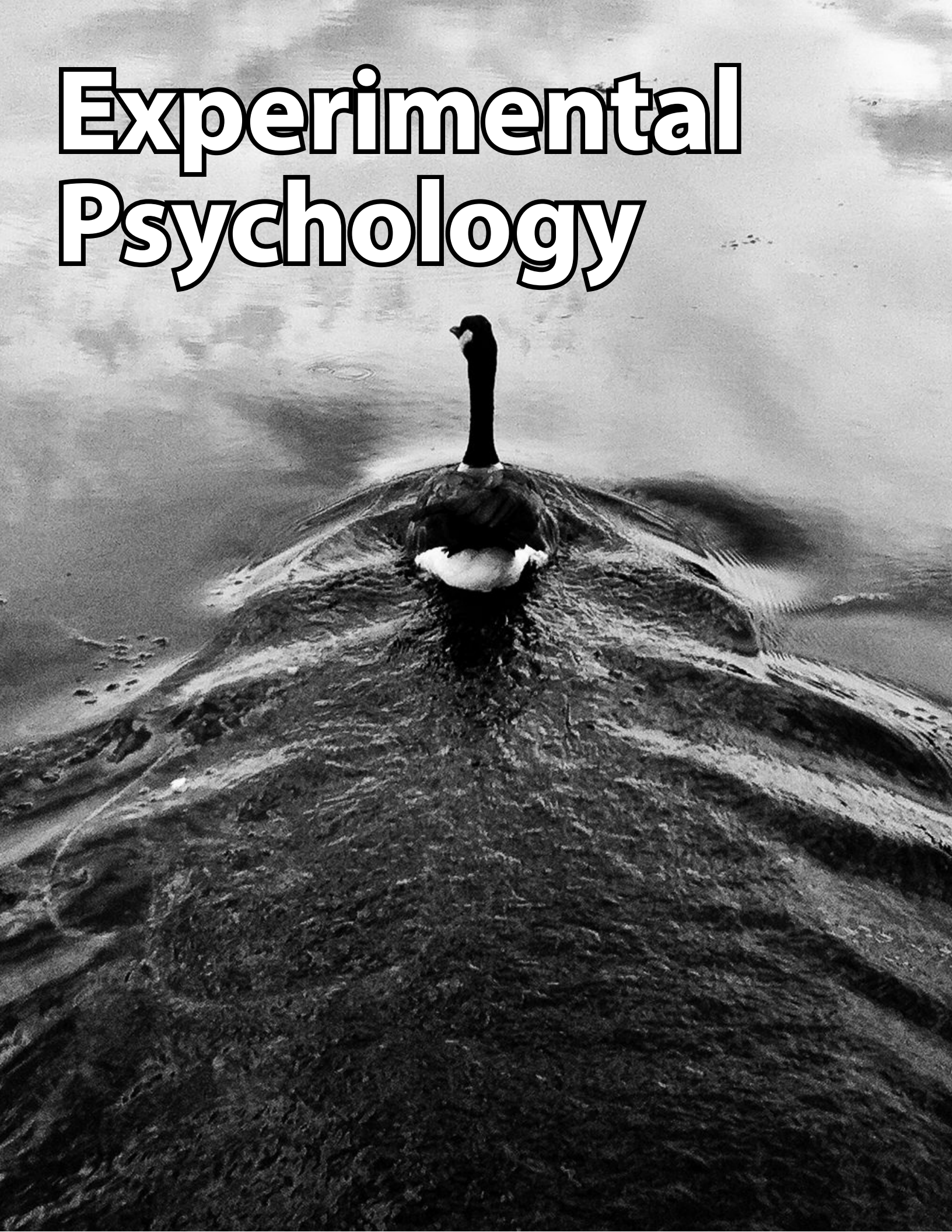
Experimental Psychology



Effects of Positive Stereotypes on Students' Performance

Ana Garcia
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Northwest High School

Abstract

The purpose of this experiment was to determine the effect that gender-based positive stereotypes have on students' test scores. During the experiment, participants were shown a PowerPoint presentation containing positive gender stereotypes. Two groups of participants were presented with the PowerPoint and then given an Advanced Placement Psychology test. The test content was pertinent to subjects that students learned in class that week. The control and experimental groups consisted of the same participants, so scores were compared to a baseline average of their previous scores. The experimenters hypothesized that the positive stereotypes would increase the students' scores from their initial baseline results. Interestingly, and consistently, participants were greatly affected by the way they perceived the effect of positive stereotypes on their abilities.

Literature Review

Steele and Aronson (1995) were first to coin the term "stereotype threat." They defined it as what happens if a person in a particular situation feels that their performance may confirm a negative stereotype of a group with which they identify themselves. It is important to stress that stereotype threat does not come from within an individual; rather, it arises from a particular situation (Conaway, 2005). Steele, Aronson and their colleagues performed an experiment in which African-American and Caucasian participants from Stanford University took an SAT reasoning test. During the first trial, participants were told that the test would measure their ability to solve the problems and that the test was difficult. As hypothesized by Steele and Aronson (1995), African-American participants did significantly worse than Caucasian participants. But when African-American participants were told that the test would not be a reflection of their abilities, their scores increased and matched those of the Caucasian participants.

A reduction in performance level can be seen when members of negatively stereotyped groups worry that their individual results may confirm the negative stereotypes of the group to which they belong (Steele, 1997). In trying to avoid confirming a negative stereotype, individuals may feel stress and self-doubt, which may inhibit their performance.

Other studies have shown that women tend to earn lower scores on tests containing mathematical and scientific material when they are primed to believe that the test results will demonstrate gender differences in mathematic and scientific abilities (Conaway, 2005). A study conducted by Spencer, Steele and Quinn (1998) found that when mathematically talented women were informed that a math test was gender biased, the women earned lower scores than when they were told that the test was gender neutral. Another study developed by Inzlicht and Ben-zeev (2000) revealed that the perception of stereotype threat is heightened when the proportion of men to women is increased; their findings showed a negative correlation between women's performance and the number of men in the room.

Having discussed the detrimental effects negative stereotypes have on people's test scores, can it be assumed that positive stereotypes will increase an individual's performance? In an experiment conducted by Shih, Ambady, Richeson, Fijita, and Gray (2002), Asian-American students completed a survey stating their entertainment preferences; these students served as the control group. Another group's survey focused on their own ethnic identities without directly conjuring the stereotypes; this was the subtle activation of the positive stereotypes. The last group completed a survey asking about their beliefs concerning the commonality and validity of stereotypes that are associated with Asian-Americans. Asking questions about their beliefs and thoughts served as blatant activation. After testing the participants' math skills, researchers found that par-

ticipants in the subtle activation category earned higher scores than participants in the control group and blatant stereotype category. The study suggested that blatant activation of positive stereotypes caused the participants to experience higher pressure to meet the positive expectations. This, in turn, negatively interfered with their overall performance (Shih, et al., 2002).

Method

Participants

To gather participants for the experiment, a signup sheet was provided along with a small summary of the experiment. Participants were required to be enrolled in an AP Psychology class and have a grade of above 60 percent. All selected participants were between the ages of 16 and 18. Fifty-four students signed up to be part of the experiment; 35 were female and 19 were male. Their previous test scores were averaged to obtain a baseline. By having the same participants serve as both the control and experimental group, any differences in test-taking behavior were eradicated.

Materials

The following materials were used to conduct the experiment: a laptop, an AP Psychology unit test, PowerPoint presentations and surveys. Participants were shown the presentations during the week, and at the end of the week took a chapter test. Female participants were given a chapter 12 test and male participants were given a chapter 13 test. The test material differed because it was assigned based on chapter. However, the difficulty levels of both were the same, and the same approximate amount of time was given to teach the materials. When the experiment concluded, participants were debriefed and provided with further explanations about each aspect of the experiment.

Variables

The independent variable for this experiment is the exposure of male and female participants to positive stereotypes. The dependent variable is the final test scores. A confounding variable could be that students may have already been exposed to the positive stereotypes that they observed during the experiment. Another confounding variable could be that females and males were not in separate groups while taking the test. If participants were to be separated during the test, stereotype threat might decrease. If participants are separated, however, new testing conditions would be introduced that might skew the data. Separating participants by gender may give women an advantage, because the proportion of men to women would dramatically decrease (Zeev, 200). Nonetheless, this confounding variable would have little effect, because high school participants have adapted to being part of a coed environment. The length of the presentations may also be a confounding variable. Had students watched longer presentations, they may have developed a stronger understanding of the content. Participants who took the test right after the presentations may have had more trouble earning high scores because they did not have as much time to process the information.

Procedure

After determining a list of participants, students were divided by gender and female participants were split into two groups due to the large number of members. All groups attended the presentations every other day over a period of seven days. At the end of the week, participants took a chapter test on the material they covered in class. Participants also were assigned an identification number to maintain their confidentiality. A list of the IDs and scores of each participant was given to their teachers. Once a baseline was obtained from two previous test scores, which were the same two tests for both males and females, the score differences on the tests were compared and analyzed. Participants were also asked to fill out a questionnaire detailing their thoughts and views regarding the presentation. After the experiment and data were gathered, students were debriefed.

Results

In Table 1, participants' baseline test scores are shown with the scores they received after the experiment concluded. Researchers determined the experimental scores by taking the average of the female and male scores from the testing after the experiment. Participants

were asked to score the effects that the presentation had on them using a scale of one to five, one meaning that the stereotypes had minimal effects on them and five meaning highly affecting them. Approximately 76.2 percent of female and 55.5 percent of male participants rated the effect as a three or higher. After performing a one-way ANOVA test on the difference between the baseline and after scores, a p-value of 0.91 was obtained with degrees of freedom at 52. The p-value was greater than the accepted p-value of .05, but the hypothesis was rejected. With an unpaired t test, the standard deviation for the all participants was 16.2. For females alone it was 17.2 percent, and for males it was 14 percent.

Discussion

Both males and females had similar baseline scores, with a variation of .5 percent (see Table 1). When the experiment concluded, however, the variation between the two increased to seven percent (see Table 1). The experiment showed an increase in scores. Female participants increased nine percent from their baseline, while males only increased three percent. As mentioned, the data was not statistically significant, despite the fact that the data showed a strong trend toward 'significance.' Based on the surveys, many participants thought that they were affected by the positive stereotypes.

Most of the participants stated that they felt more confident and "wanted to prove the positive stereotypes correct" when asked if their thinking changed when taking the test after the presentations. In surveys given to female participants, the following answers were provided to researchers' questions:

Q: "Did you feel satisfied with the information provided about your genders' capabilities?"

A1: "Yes...Females are better in different ways."

A2: "Yes, I felt more confident, felt smarter."

Male participants gave the following responses to the same question:

A3: "Yes, It reassured me that I'm superior to women"

A4: "I was very satisfied with my superiority."

A5: "Yes, I felt like the superior gender."

A6: "It confirmed my superiority."

A7: "Yes, it made me feel better about my gender."

As mentioned earlier, 55.5 percent of male participants rated the effect of the positive stereotypes as a three or higher. According to male participants, this was not substantial because they were already aware of the positive stereotype. When asked if they thought information about their gender improved their score, they said that it had, because the presentations had simply restated the fact that males were the superior gender and therefore should feel more confident about their performance. That being said, male participants showed only a three percent increase. Could it be that the males experienced stereotype threat and attempted to prove the stereotypes? Female participants mostly thought that they felt more "confident" when taking the test; however, most did not think their score would increase either way. In the end, females experienced an overall nine percent increase.

Longer presentation times would have allowed participants to find stronger connections between the material and certain domains in their life. If the experiment's allotted time had been increased, more trials could have been allowed, which may have increased participant's scores. Including trials that tested the significance of a participant's liking of a domain and the effect of stereotype threat could have confirmed previous studies' findings, as well as provided a more solid basis for further studies to be conducted.

Expanding the kinds of participants beyond AP Psychology students could have provided more generalized results within which psychologists could understand stereotype threat and the effects of positive stereotypes on people of all ages and ethnic backgrounds.

In conclusion, the way participants perceived stereotypes played a role in their overall improvement, but the results were not statistically significant. That being said, participants seeking to prove what they already believed to be true, males who felt superior to females, showed a lower average increase. On the other hand, females stated their confidence levels but were not convinced that they were the superior gender, or that

the presentation had affected their scores. They saw an increase of several percentage points. This could indicate that perception does play a role in the way positive stereotypes affect individuals. It could be possible that positive stereotypes themselves do not affect a person; instead simply the way an individual believes they are being affected.

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Table 1 *Participant Scores*

Gender	Baseline	After Score
Female	68.5 percent	78 percent
Male	68 percent	71 percent

Aggression on Gender

Jon Washburn and Shaun Gerber
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Lakeland High School

Abstract

Men are perceived as being more aggressive than women, but is this actually true? This study was designed to test the preceding assumption in an everyday scenario of driving. In the study, researchers sat at three stoplights for an hour during the same time frame for three consecutive days. This method was used to eliminate confounding variables that could disrupt the validity of the test. Over the course of the experiment, we discovered that our hypothesis was indeed correct. Men were more likely to commit aggressive behaviors while driving. In the study, sixty four percent of the participants were male and thirty five percent were female.

Literature Review

Aggression's role on gender is an extremely important topic of study. Knowledge of this topic can help people implement better laws, which reduces accidents.

Arnold Nerenburg, author of "Overcoming Road Rage," says that it is important to realize what spurs aggressive driving in order to overcome it. In 1996, the American Automobile Association conducted a study that showed an increase in the number of road accidents due to aggressive driving. They concluded that the rate has risen 51 percent since 1990.

AAA conducted a survey in Washington that investigated whether aggressive drivers posed more of a threat than drunk drivers. Forty percent of those surveyed said that aggressive driving was more dangerous, while 33 percent said drunk drivers were more dangerous to the community. AAA also published an account of cases of road rage and the outcome of more severe cases. In February 1994, a 54 year old bookkeeper in Massachusetts got involved in a heated traffic dispute with a 42 year old man. After the two motorists antagonized one another for several miles on the Interstate, they pulled over to an access road and got out of their cars. The bookkeeper retrieved a crossbow from his trunk and killed Blodgett with a 29-inch arrow (AAA Foundation for Traffic Safety). In another incident, a 23-year-old college student killed a maintenance worker after a dispute over where the student had parked his car.

The National Highway and Traffic Safety Administration also conducted a study on aggressive driving that recorded over 2000 aggressive driving incidents within 72 hours in six different sites. The aggressive behaviors included honking, cutting across one or more lanes in front of other vehicles and passing on the shoulders. The study revealed that men are more likely to show aggressive driving behaviors than women and people over the age of 45 are less likely to display aggressive driving behavior. The National Highway and Traffic Safety Administration concluded that heavier traffic congestion increases the likelihood of aggressive driving incidents.

Which gender, male or female, will demonstrate a higher degree of aggressive driving at a traffic light? This study hypothesizes that males will demonstrate more aggressive driving behavior than females.

Method

To gather data on the relationship between aggressive driving and gender, an observational study was conducted. Researchers gathered data by sitting at a traffic light and observing aggressive driving actions such as running a red light or speeding up to get through a yellow light.

Participants

The participants in this study were the drivers who passed through the designated traffic light. This method of selection was completely random because the drivers were unknown and unsuspecting. The number of people who were observed depended on the amount of traffic and the number of cars that passed through the given traffic light in an hour. The focus of the study was to compare genders, so gender was also noted.

Design

The study of gender on aggression will consist of multiple variables, including gender. The dependent variable will be aggression; tallies will be kept of aggressive driving behaviors. These behaviors include speeding, running red and/or yellow lights, changing lanes aggressively, and tailgating other cars. Subjects will be randomly sampled by time. At the time the experiment was conducted, anyone who drove by automatically became part of the correlational study. To control the study, data will be gathered at the same time for multiple days of the week.

Procedure

Researchers in this study chose three locations and a specific time to position themselves at a traffic light for three days in a row. A chart was made with two columns; one labeled male, the other female. At the first location, researchers sat at the street corner. When the light turned yellow, researchers noted the gender of anyone that sped up or ran the red light. This was done at three different locations at the same time each day during the same week. Weekends or holidays were not considered valid days to perform this study. Researchers stayed at each light for one hour, keeping variables in check.

Results

Over three days of research, the number of males who exhibited aggressive driving behaviors was greater than that of female drivers. At location "A," seven males and four females exhibited aggressive driving behaviors. At location "B," seven males and six females exhibited aggressive driving behaviors. At location "C," nine males and three females exhibited aggressive driving behaviors. Altogether, 64 percent of the recorded aggressive driving incidents were committed by male drivers, while 35 percent were committed by women. Results are shown in Table A.

Discussion

Other studies have proven that men are more aggressive drivers than women, and aggressive driving has been proven to have potentially deadly consequences. In the literature review, evidence was found that age may play a significant role in aggressive driving. So, gender may not be the only reason that males are more aggressive drivers. That being said, the data collected supported the original hypothesis. After conducting the study, it was found that men are more consistently aggressive drivers at traffic lights

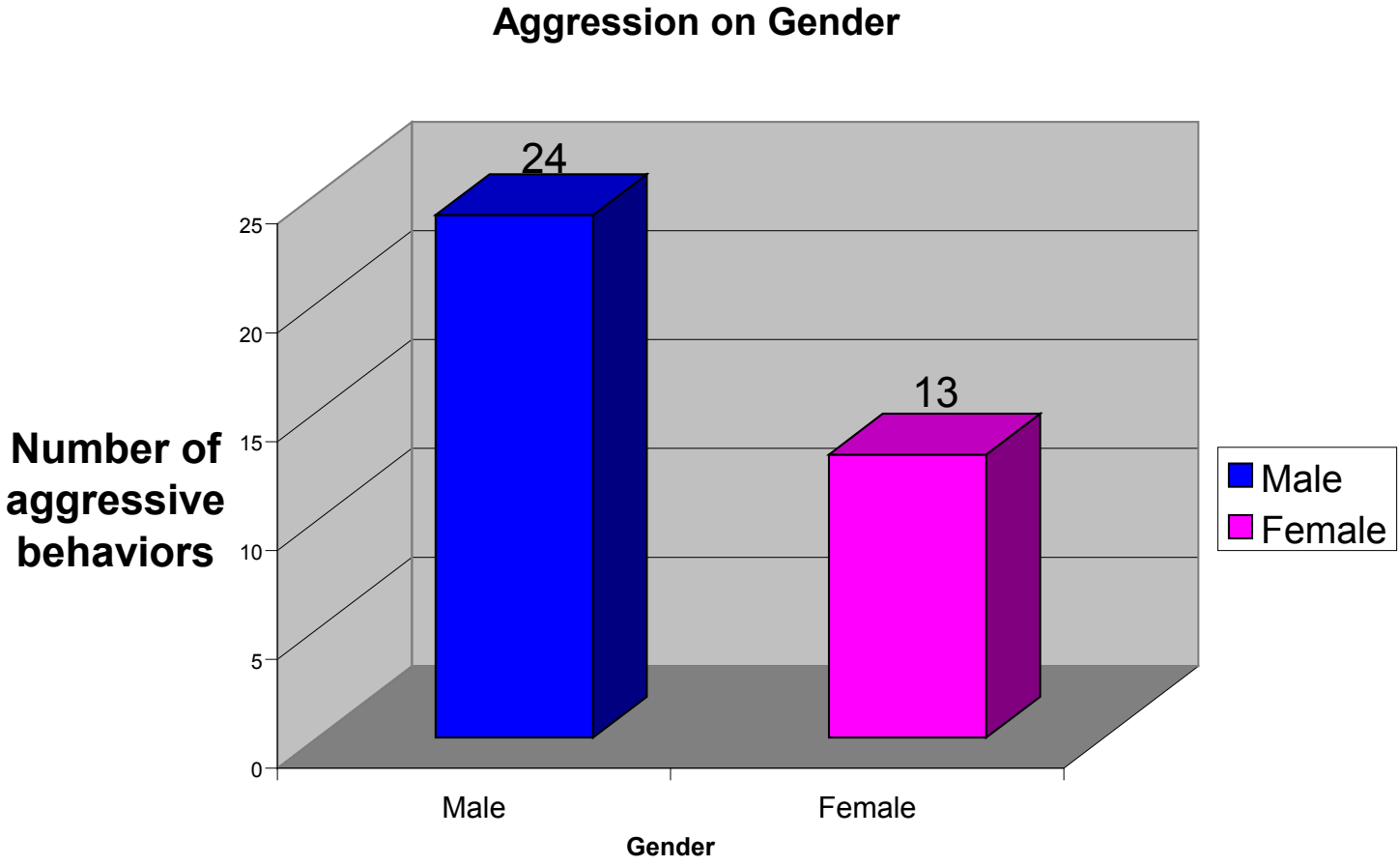
Confounding variables in this study were age and weather. Age may be a factor in determining the level of aggressive driving. However, it is hard to determine how large of an impact age had on our results. Previous studies have shown that the younger a person is, the more likely they are to exhibit aggressive driving behaviors. Weather was also a confounding variable, as the study was conducted over multiple days. People tend to drive more cautiously in bad weather. A future experiment should include a wider range of locations and places where aggressive driving can occur.

It is not completely fair to judge people based on what they do at traffic lights, however. Examples of other aggressive behaviors exhibited at stop signs that could be tested are: rolling stop signs, speeding and rapid lane changes. Age could also be included as an observable variable.

In the future, researchers should study aggressive driving by conducting a case study to find out the direct cause. This way, researchers can learn how to combat aggressive driving. A more detailed approach to aggressive driving could make the roads a safer place.

In conclusion, gender does have an impact on aggressive driving. The hypothesis of the study supports the claim that men are more likely to demonstrate aggressive driving behaviors at a traffic light than women.

Table A



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The Great Debate

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Abstract

The Great Debate was a study about the concept of group polarization. The participants in the study were a class of students at a local high school. With a teacher supervising, students debated current event topics while recording their scores before and after the discussion. With a wide variety of students in the class, the discussion was expected to be a bit tense, but when things began to get more intense than anticipated, the students' true feelings were revealed, and polarized in what came to be known as The Great Debate.

Literature Review

Teenagers attending high school are exposed to social situations every day of the year. Out of all the units covered in psychology, social psychology is arguably the most relevant to teenagers as well as adults. More specifically, a concept pertaining to social psychology that often occurs is group polarization. While many studies on this concept have been conducted on college students, few have been conducted on teenagers.

Group polarization is the strengthening of pre-existing feelings through discussions with a group of people with similar opinions. It is a common occurrence, especially with regard to personal interest. For instance, a study conducted showed that girls not only talk more intimately and fantasize less aggressively than boys, but the gender difference widens over time when boys and girls only interact with their own gender (Maccoby, 2002). This supports the idea that when girls are surrounded solely by members of their own gender their feelings about intimacy and aggression strengthen. The boys' feelings about intimacy and aggression also strengthened in the study, furthering its validity.

A similar study was conducted where conservatism was tested on those who take part in Greek systems (Wilson, 1975). Wilson found that students who join fraternities and sororities hold stronger conservative views than those who are not part of Greek life; this is the result of group polarization. The students who were not involved in Greek systems were less conservative when they graduated.

Both of these studies show the effects of group polarization effectively. Yet, there is one disparaging factor in both studies: the two groups tested were separated. The studies emphasize that if a person only associates himself with a group that agrees with his views, then that person will feel stronger about his ideologies. In both studies, however, the students of dissimilar views did not interact with each other. Another flaw with these studies is that the two groups were created, which invoked an ingroup bias amongst those involved. If the theory of group polarization is valid, then the group as a whole should feel stronger about their views. Also, the use of high school students, and not college students, shows that high school students have strong views before even going off to college. This study shows the effects of direct exposure of groups with opposing views.

Method

Participants

The participants in this study were students enrolled in Lakeland High School's only Intro to Debate class. Before the study could begin, permission had to be granted by the teacher. The class consisted of three different grades: freshmen, sophomores, and seniors. The freshmen, however, attended International Academy West, which is located inside Lakeland High School, and are required to take the course as a part of their curriculum. Surprisingly, out of the 34 students in the class, there were no juniors. The students were not informed of the nature of the study until after the research was completed.

Design

A survey was used to test group polarization within the class. The survey consisted of two sections: one for before the discussion, and one for after. Both consisted of the same three ques-

tions:

1. How strong are your feelings on the drinking age?
2. How strong are your feelings on global warming?
3. How strong are your feelings on the mosque at Ground Zero?

These topics were not new to the students, but had never been talked about in a class-wide discussion. The Intro to Debate class was selected as appropriate for this study. There were no control procedures used, and under the careful watch of the teacher, the students were free to share any opinion that they had about each question. The study was conducted to observe how emotions polarized as the students delved deeper into discussion. The operational definition was how much the students' feelings strengthened as each question was discussed as measured by survey results.

Procedure

Before school started on the day of the survey, 34 surveys were brought to the teacher's classroom. Each topic was discussed for approximately 10-12 minutes. Once all the questions were discussed thoroughly, the students filled out the post-discussion section of their survey. The results were graphed with the goal of a true hypothesis.

Drinking Age Survey Scores Average

	9th	10th	12th
Before	4.8	7	7
After	6.1	7.5	6.9

Global Warming Survey Scores Average

	9th	10th	12th
Before	5	6.4	5.1
After	6.7	7.1	5.6

Ground Zero Mosque Survey Scores Average

	9th	10th	12th
Before	6.5	6	5.5
After	9.8	9.2	7.1

Discussion

The hypothesis was proven true; overall, the students' feelings polarized as the discussion progressed. This proves the hypothesis, which stated that viewpoints could be strengthened if two opposing groups interacted with each other. Even students who did not actively participate in the discussion expressed intensified opinions.

There were confounding variables within the study. Each topic was discussed for only ten minutes, so not all participants had the chance to express their opinions. This caused some students to continually interrupt each other. The intensity of the Ground Zero discussion was an unexpected issue. In many instances, the teacher had to stop the discussion in order to calm students down.

Many people within the class had previously held strong opinions. Hopefully, research can be done where students are given hypothetical scenarios. This way, there will be no pre-existing views on actual topics to hinder the results of the study.

Figure 1

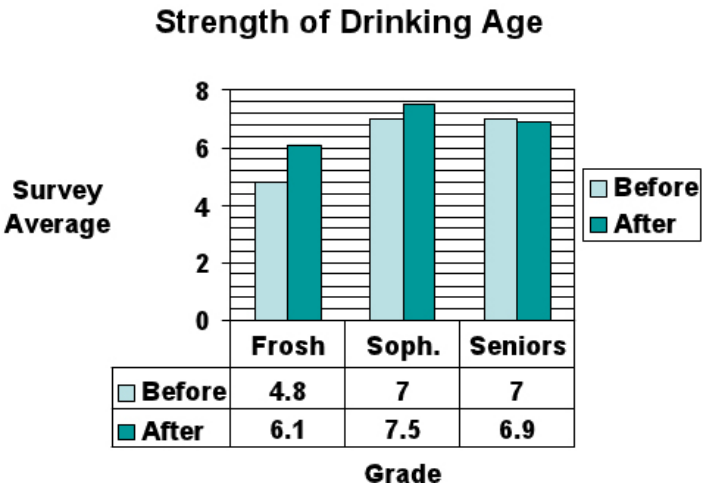


Figure 2

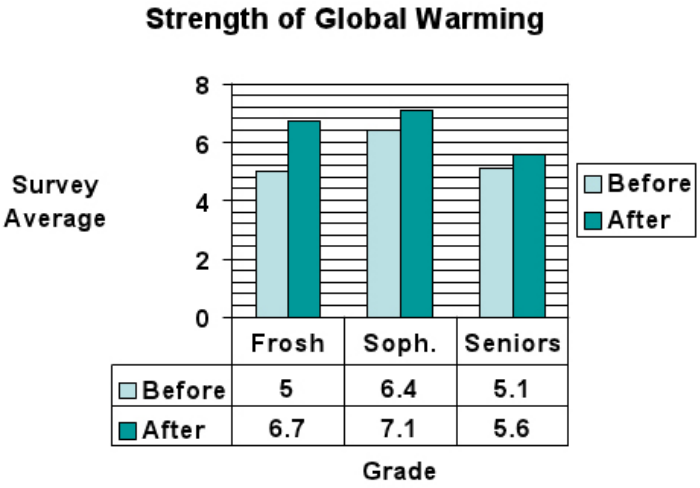
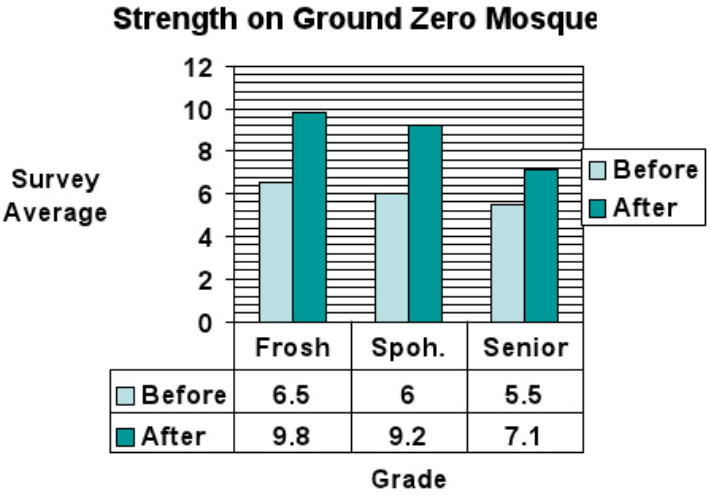


Figure 3



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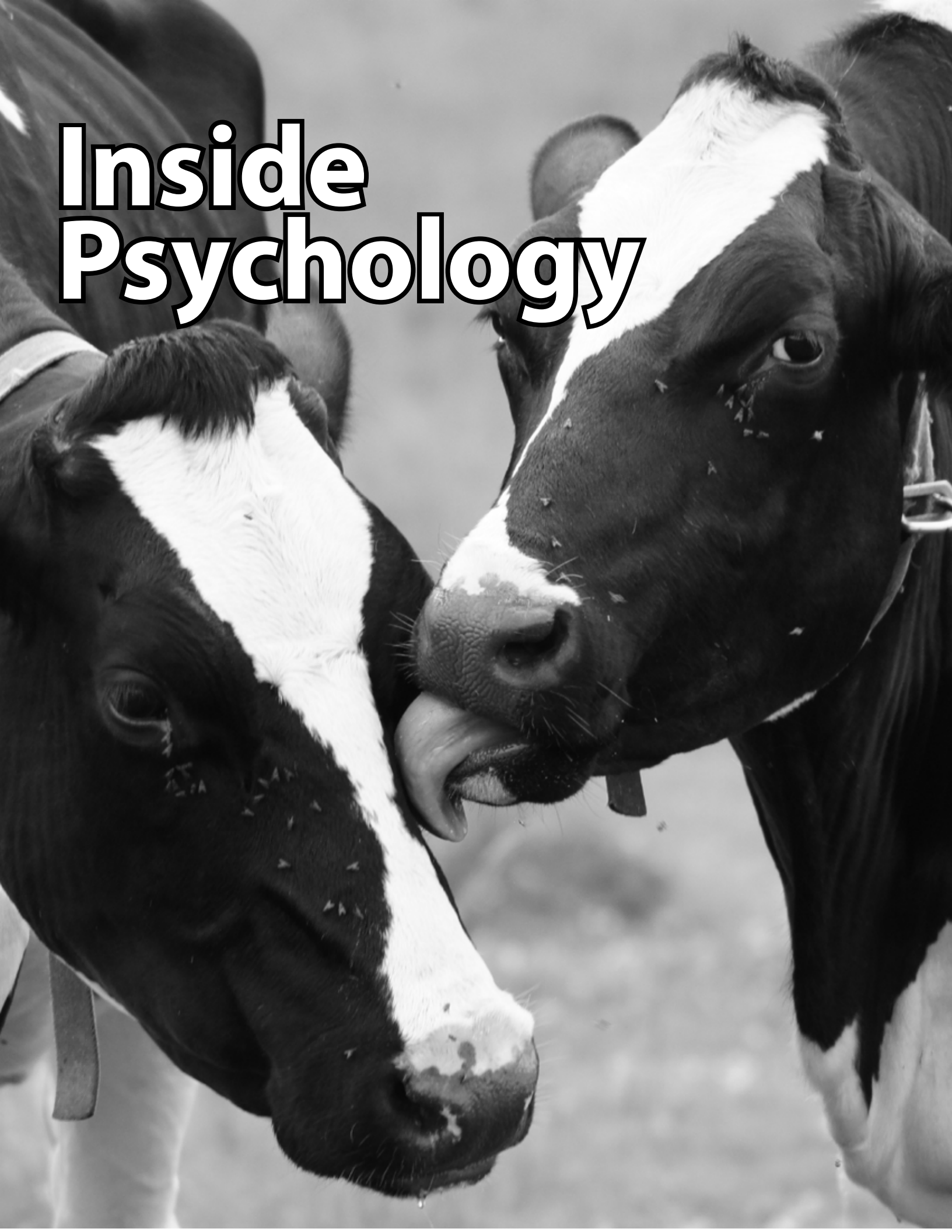
Inside Psychology



Meditation: A Path to Wellness

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Over the years, the practice of meditation, an intensely personal technique meant to focus one's mind and harness its positive energy, has become increasingly popular. It is a skill that is being actively taught and adopted all over the world for the beneficial effects it invokes in a person. Meditation, which originated in Asian countries such as Japan, China and India, is a process which alters the state of one's mind. It allows the individual to achieve a state of consciousness that is serene, blissful and balanced. Dr.Vernon Barnes, a physiologist at the Medical College of Georgia has noted that "the benefits [of meditation] cut across a range of areas—mind, body, behavior, and environment," some of which include "fewer cardiovascular problems, improved interpersonal and social relationships, improved sports performance, better concentration" (Rondon, 2006). People take up meditation for a variety of reasons; some for its ability to induce introspection, some for the expansiveness of mind and free flow of thought that result, some for inner peace, and others simply to 'de-clutter' their minds.

One of the most widely practiced forms of meditation is Transcendental Meditation; a form embraced by those who desire the "restful alertness" that it produces ("Developing the total," 2011). This form of meditation uses repetition of short words or phrases that help focus the mind, allowing entrance into a deeper level of consciousness. Transcendental meditation is a seven step process that has several physiological impacts: decreased respiratory rate, increased frontal and occipital lobe blood flow and increased alpha-wave activity (Adams). According to the Transcendental Meditation Program (2011), stress has damaging effects on the brain; it is detrimental to neural connections between the brain's prefrontal cortex and the rest of the brain ("Developing the total," 2011). This form of meditation, however, can replenish positive energy by boosting neural connections and communication between different divisions of the brain, thus enhancing the brain's overall performance. Practitioners of this method claim to achieve great relaxation, inner peace, enhanced vitality, and creativity (Rondon, 2006). Those traits which facilitate the decision-making process by promoting a more rational and focused mind.

Zen Meditation, another very popular form of meditation, promotes a sitting, still posture. As with the other forms, Zen Meditation is also recognized for its ability to induce calmness and open up paths to finding inner peace. In a study conducted at Emory University concerning Zen Meditation and its effect on academic performance, skilled practitioners of Zen Meditation demonstrated that "[…] after being interrupted by a word-recognition task [they] returned faster to their pre-interruption condition" than those who do not meditate (Ann, 2011). This reaffirms the effectiveness of this form of meditation, emphasizing the way in which its practice can help maintain concentration even in the face of disturbances. Zen Meditation has also served as a treatment for drug addicts. Those who practiced this meditation slowly began to recall the "indulgences they hitherto enjoyed, before addiction," setting them on the path to recovery (Ann, 2011).

Another practice, Yoga Meditation, has become widespread for its ability to improve ones overall being by targeting both the physical and mental state. It is not unusual for the stresses and pressures of our daily lives to accumulate and negatively impact our minds and bodies. It is during these stressful times that yoga allows the practitioner to "unite your mind with your body, get you in touch with your emotions, and help you stretch away the tensions of daily life" (Globus, 2000). Yoga Meditation works as a release to allow the practitioner to channel negative energy from both the physical body and the mental being into a positive force for creativity. Although yoga and meditation are perceived as two independent practices, they actually work together to elicit tranquility, serenity and blissfulness. This form of meditation requires a person to stretch his or her limbs, thereby increasing flexibility, reducing pressure from parts of the body, increasing blood flow and promoting a more healthy body weight (Meditation, 2011). As the physical body feels the

relief, the mind experiences a similar sensation that promotes lifestyles less susceptible to mental disorders such as depression, while also encouraging an elevated sense of happiness. Those who practice Yoga Meditation become more integrated with their minds and bodies; this allows the mental and physical processes to function in a coordinated manner towards achieving greater health and happiness (Meditation, 2011).

Sufi Meditation, which originated in the Middle East during the eighth century, promotes introspection, opening the door to self-awareness and the opportunity to greater understand the world at large. In essence, Sufi Meditation seeks to escape from the duality of the universe, hence attaining a better idea of the whole (Cramer, 2011). Sufi Meditation is based on reflection and rumination; it allows one to marinate on his or her thoughts by allowing the gaze to turn inwards, and the brain to be disconnected from the outward senses (Cramer, 2011), which results in greater clarity of thought and a more stress-free mind.

In recent years, hospitals and medical centers have begun to integrate meditation into their patient care systems. It has been incorporated into the recovery and rehabilitation services provided to patients to supplement medical treatment. Health care professionals are urging patients to take advantage of the benefits of meditation. The hospital at the University of California at San Diego, for example, "provides mindfulness-based stress relief for cancer patients," whereas Northwestern Memorial Hospital, "provides meditation services for those with insomnia" ("Hospitals, medical centers," 2011). The practice of meditation is becoming much more widespread, and it is being used to treat an ever broadening array of medical conditions. It is also being integrated into the daily lives of those who want to reap its benefits, whether at home or in hospitals.

Therefore, even though many different forms of meditation have become popular over the years, all seek to achieve mental peace and serenity, which also appears to result in spiritual and physical benefits. While medical research has clearly demonstrated that it is the brain that controls and therefore affects every other part of the body, modern scientific studies also suggest a positive correlation between meditation and physical healing that is broadly in line with ancient theories of meditation. Even as research is continuing to try to gain a better understanding of the therapeutic processes linking meditation to physical well being, many people are not waiting; they are integrating the practice of meditation into their daily lives. It is as author Remez Sasson says, "plant the seed of meditation and reap the fruit of peace of mind" ("Quotes on meditation," 2011).

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A Virtual World to Come

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The Sims, a well-known gaming phenomenon of the early 21st century, strategically embodies the ideas of virtual reality. The game attempts to make people come alive on the web, a concept that is not new. In the game, people are created and given personality traits, feelings, and companions; they live in houses, hold jobs, and react to everyday situations. Virtual reality technology, like that seen in the Sims, allows people to be whoever they want to be in the privacy of their own electronic world. Defined by The Association for Educational Communications and Technology (2001) as "a class of computer-controlled multisensory communication technologies that allow more intuitive interactions with data and involve human senses in new ways," virtual reality technology extends far beyond strategic computer games; its possibilities are seemingly boundless as technology continuously evolves and becomes more complex. The central idea behind virtual reality is that with computer technology, a simulated, three-dimensional world can be created, in which users can feel immersed in a real environment. Users can manipulate and explore this world; everything feels first-hand. An effective virtual reality experience causes partial dissociation with real surroundings, as users focus solely on the virtual environment. This active engagement with the virtual environment is called interactivity, and is what virtual reality engineers strive to create. If the user is aware of being in an artificial environment, the sense of immersion is disrupted.

The history of virtual reality is complicated and hard to trace. It has been continuously spurred by developments in "computer graphics, simulation, and human-computer interfaces" ("Virtual Realities," 2001). One of the first VR programs was created in the 1960s by Ivan Sutherland. Although primitive, Sutherland's work inspired research on virtual reality and provided a foundation for its rapid emergence in the 1980s. The predecessor to the 3D movie, Sensorama, was crafted in 1961 by filmmaker Morton Heilig. Sensorama was a totally mechanical virtual reality device that included three-dimensional, full color film together with sounds, smells, and the feeling of motion, as well as the sensation of wind on the viewer's face; it was essentially a "one person theatre" ("Virtual Realities," 2001). The military also played a strategic role in the development of virtual reality technology. In the 1960s and 1970s, the Air Force established a laboratory at Wright-Patterson Air Force Base in Ohio, which was meant to develop flight simulators and head-mounted displays that could facilitate learning and performance in an advanced aircraft. Since this initiative, the military has continuously used virtual reality technology as a training source and have found it to be effective and beneficial. The military continues to promote the use of virtual reality technology in our world.

Virtual technology can be used to solve real world problems. It has many uses that go unnoticed; virtual reality technology is already used in medicine, clinical psychology, education, entertainment, government, and the workforce ("Virtual Realities," 2001). Virtual environments are commonly used as training programs for the military and space program. The programs have been found as accurate preparation for real-world situations and combat; they are a safe and efficient alternative to other training programs. New advancements in VR technology have enabled architects to create virtual models of building plans. In these models, clients can walk through the structure before any expenses are incurred, and get a sense of the building. The automobile industry has also found uses for virtual reality. By building virtual prototypes of proposed vehicles, the companies can test them prior to production (Strickland, 2011). The process has been found to be more cost-effective and efficient when modifications can be made and tested virtually. The area where virtual reality technology could have the largest potential impact is medicine. The use of VR technology in the medical field was spurred by developments in the 1990s, notably by research teams at the University of North Carolina and the US Department of Defense (McCloy & Stone,

2001). Research conducted fostered the idea that surgeons could use VR technology to rehearse procedures and view the outcome before the patient undergoes surgery. In regard to medical training, virtual environments could be used to train interns in a uniform manner, reducing the pressure on doctors and enabling a safe environment for practice. The future of virtual technology in the medical realm is uncertain, however, as it is still considered dangerous by many surgeons.

Posttraumatic Stress Disorder (PTSD) is an anxiety disorder that develops after a traumatic event involving the threat of injury or death. According to the Virtual Reality Medical Institute (2010), PTSD manifests itself differently in each patient, and for this reason, treatment is complicated and varies for each patient. Common treatments of PTSD are medication, cognitive behavioral therapy, and exposure therapy. The most effective type of exposure therapy hopes to force the patient to come to terms with the event, through the repeated visualization and depiction of the trauma. Recent developments have shown that virtual reality technology could be a more effective manner of exposure. Virtual technology would combat the lack of good imagery abilities that thwarts progress for many patients. By engaging multiple senses, the patient should find the visualization process easier and more realistic ("Treatment," 2010). With virtual reality treatments being tested on soldiers returning from Iraq and Afghanistan, this approach to treating PTSD may eventually become clinical protocol.

In recent years, research has also been conducted on the potential effects of virtual reality to cure phobias. Millions of people are plagued by phobias, the psychiatric definition of which is "an abnormal, intense and irrational fear of a given situation, organism, or object" (Phobia, n.d.) Virtual environments can be used as a form of exposure therapy, where patients are put into contact with the fear-causing object in a controlled setting. Like with traditional therapy, virtual therapy involves repeated exposure to the feared stimuli, with the expectation that the response will be gradually alleviated. When compared with real exposure theory, virtual treatment of phobias is much more convenient; no travel or extra resources are needed, and scheduling treatment is made easier (Strickland, 2011). Also, patients tend to be more inclined to test exposure in the form of virtual therapy, as they know in advance that the situation is not real. Virtual reality exposure treatments are conducted with advanced computer technology, where the "sights and sounds of the fear-provoking situation" are presented to the patient, who wears headgear typical to VR. In most situations, all that takes place in the virtual situation is subject to the therapist, who uses a computer keyboard to control what patients see, hear, and encounter. In the example of Pteromechanophobia, the scientific name for fear of flying, a patient will experience the various activities that relate to flying: boarding the plane, travelling down the runway, taking off, flying in adverse weather conditions, landing, and emergency responses ("Phobia Treatment." 2004-2011).With each exposure, the therapist works to replace the anxiety that is associated with the stimulus with a more positive response. Repeated exposure through virtual reality has been shown to be highly effective and have lasting results.

New research supports that virtual reality technology can also be used to combat addiction. An Internet-based virtual reality game has been developed by The Virtual Reality Medical Center to help teens stop smoking. The program uses cue-exposure therapy as a means of treatment. The program employs treatment techniques of general therapy, as the user's first act of the game is to choose a quit date. In the game, users are exposed to two primary environments: school and home. The user's ultimate goal is to stay smoke-free in both settings for as long as possible. In both environments, users are confronted with triggers, objects that tempt the user to smoke, and forced to react to the situation. Each time that a trigger is presented, an avoidance mechanism is also offered, some examples of which include exercise or calling a friend. In the school environment, for example, users face peer pressure. The user makes a decision to smoke or not, and based on this decision, a game is randomly selected for the user to play. Winning the game means overcoming the craving to smoke, whereas losing means the user has given in. Each time that the user smokes, a lung icon on the screen darkens and the user's overall stamina decreases. Studies performed on the game have found it an effective means to help adolescents quit smok-

ing in a safe and controllable environment. In the real world, where acquiescing to cravings can end progress and be a serious setback, being confronted with triggers can be risky and smokers may choose to avoid trigger situations altogether. In the virtual world, users can develop a plan for these scenarios without the risk. According to participants in the study, "the virtual reality setting is a realistic environment and brings about no negative side effects" ("Treatment," 2010).

Controversy over virtual reality technology stems from its relationship to escapism: "the avoidance of reality by absorption of the mind in entertainment or in an imaginative situation, activity, etc (Escapism n.d.)" For people whose reality is less than ideal, the virtual world can become a haven of seemingly boundless possibilities. Dr. Castronova, author of Exodus to the Virtual World, addresses the issue with a simple question: "Would you rather be a Starbucks worker or a starship captain?" ("Exodus," 2007). All technology, to a certain degree, can be considered a form of escapism. Television, for example, shifts the focus from one's own life to that of the characters. However, because most virtual worlds have a social component, interaction with others still occurs. Critics nonetheless condemn the technology for the avoidance responses it evokes, instead of encouraging people to face and deal with reality. They argue that the importance of living consciously cannot be stressed enough. Virtual reality technology can be detrimental to society, because it takes escapism to the next level and reinforces technological dependence.

Creating a virtual world is complex. It can take immense amounts of research, trials, and funding to craft an effective virtual environment. The Association for Educational Communications and Technology (2001) predicts that advancements in virtual reality technology in the future will likely include the development of more effective tracking systems, and a decrease in the amount of time it takes to build virtual spaces. Some programmers believe that "the Internet is developing into a three-dimensional virtual space," where users navigate virtual landscapes and explore information in a more literal manner than ever before ("Virtual Realities," 2001). Opponents of VR fear the implication of increased virtual technology on an already technologically dependent society. Addiction to virtual worlds and dissociation from reality, they fear, is a definite possibility. It must be considered that virtual technology is still in an embryonic stage, and "the agenda for needed research is quite broad in scope" ("Virtual Realities," 2001). In the future, virtual technology may just become a reality.

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Keeping up with the Social Clock

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A typical seventeen-year-old girl in Bethesda, Maryland knows what the next few years of her life will entail. She hopes to go to a good university and get a job to support herself. Later, she will find a spouse, get married and perhaps have children. A typical seventeen-year-old girl in Korhogo, Ivory Coast also knows what the next few years of her life will entail. At seventeen, she has probably been married for at least five years. She likely has had two or three children, and knows that she will spend the rest of her life caring for her family. From a young age, these girls have known what their role is and what an "acceptable" time to get married or have children is, depending what society dictates (Buckley, 1997). The "social clock" psychological theory explains these expectations. The theory describes how major life steps are expected to happen at a certain point in a person's life, depending on the society in question (Rook, Catalano & Dooley, 1989). No tangible clock exists, but the idea of the clock gives a person context in determining a good time to make life-changing decisions. One could argue that the clock dictates the socially acceptable time for an individual to make these decisions. Just as there is no physical clock to consult, the definition of the social clock's "deadlines" are not set in stone (Rook et. al., 1989). They change with any changes in society. This paper will examine what drives individuals to keep up with the social clock, what happens to those who do not meet the social clock's "deadlines" (whether by choice or not) and how differing societal expectations across cultures have affected gender roles.

In 1954, Abraham Maslow created a "Hierarchy of Needs" that ranked the desires humans try to fulfill throughout their lives (Huitt, 2007). Embedded in the five generalized needs are ones that depend on the social conditions a person experiences. These include the establishment of romantic love, a family and friendships, avoiding loneliness, and developing a successful career (Huitt, 2007). In a survey conducted by researchers at the University of Queensland, Australia, a vast majority of those surveyed said that "descriptive age norms still exist for both family transitions (marriage, parenthood, grandparenthood) and career transitions (leaving school, retirement)" (Peterson, 1996). These norms cannot be traced to a specific source; they are formed with history, and change with it too. In America, during the 1930's and 40's, women were not expected to go to a prestigious college or get a well-paying job; they could marry a man who would do that and support them. Now, more women achieve levels of higher education and are in the workplace than ever before, and the idea that the man of the family must be the "breadwinner" has changed (Cauchon, 2009). This resulted in an overall change in societal expectations. This particular change raised the bar for women as they joined the workforce. People are therefore driven to keep up with the social clock based on society's changing expectation so they can feel included and like they are "complying" with the commonly held rules (Rook et. al., 1989). The idea of social expectations is like conformity; if everyone is doing something, an individual may feel anxious or inept if they are unable to accomplish the same things at the scheduled time. It is these inner drives to succeed and be like everyone else that cause an individual to adhere to the social clock.

Some members of society may not feel the need to totally conform. People have different comfort levels and may be more or less likely to conform to social norms than others. Those who choose not to adhere to the social clock are less likely to feel socially inadequate because they had maximum control over their decision-making (Zarzour, 1987). In some cases, though, circumstances will arise causing people to not meet the social clock deadlines. Whether this be the result of an accident, like an unexpected death of a loved one, a miscarriage, or personal issues and insecurities, the individual is at risk of feeling separation from his or her peers. In a study conducted by researchers at the University of California at Irvine, participants widely agreed that a social clock exists, and that "experiencing life events either earlier or later than one's peers presumably

reduces opportunities for social support and may also invite social disapproval" (Rook et. al. 1989). Some individuals have no problem with being single all their lives, and some couples choose not to have any children. It can be concluded, though, that those who choose to separate themselves will be more well-adjusted individuals than those who have no say in the matter.

The social clock exists in every country in the world; men and women are expected to have accomplished certain things by a certain age. What is interesting, however, is when the specific societal expectations these countries have are placed next to each other and compared. By doing this, differences in social clocks become very apparent. Assume that in the United States, the social clock dictates the expected time by which young people need to go to college, get a job, start a family and retire. This is not without variation, of course, but when comparing these very basic, generalized goals to those of citizens of the same age in India, the differences in culture become more defined. Culture is changing in India, but many young girls still have arranged marriages at a young age (Menon, 2009). In Indian culture, the girl will have lots of children in the early years of her marriage because a large family is both a desire and a social expectation (Menon, 2009). Traditionally, for families living on farms, the male is expected to marry and cultivate a large family while keeping up the family business. If a male is not able to work to support his family, he is not respected in society (Young, 2006). Both men and women in the lower classes are expected to work that much harder to support themselves and their families with less money. These requirements exist due to long standing societal beliefs. While the amount of labor required to keep up a family business in India has decreased in the last century as a result of advancements in technology, the work ethic and expectations remain (Menon, 2009).

Gender roles are not assigned; they cannot be confirmed or denied, but persist nonetheless. In countries like India or the Ivory Coast, girls are seen one way, usually as mothers or housekeepers, and men are usually viewed as the "alpha male" or leader of a family unit. This is not to say that in more developed countries, such as the United States, gender roles do not exist. The differences between the way each gender is viewed in the aforementioned cultures lie in the levels of exposure people have to the ways in which others live. The United States, one of the most developed countries in the world, has experienced "revolutions" of different kinds in the past century, ranging from technological to women's rights to civil rights. India is developing too, but many of its old gender-specific traditions and values have endured, the most prominent of which include arranged marriages and the positions of men and women in the family. The Ivory Coast, being the least developed of the three countries mentioned, still holds onto traditional beliefs and values such as marriage at an extremely young age and in a partiarchal system. In the Ivory Coast and in some parts of India, villages exist with perhaps less than 300 or 400 people, allowing little to no knowledge of the changes going on in the developing world, thereby preserving the rigid, old traditions that still dictate male and female roles in society. If gender roles persist, the social clock does too, but the times by which individuals feel they need to accomplish universal goals like marriage, childbirth, and retirement, will be unique to the society and culture in question.

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