**“I Drew a Woman Doctor, She is a Nurse”: An Investigation of Young Children’s Perceptions of Gender and Occupation**

**Alexis Parks & Mara Scarbrough**

**Senior Research**

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Abstract

Inspired by the United Kingdom’s #RedrawTheBalance campaign, we set out to find if implicit and explicit gender bias effected students perceptions of gender and careers. The study was conducted at Bush Hills Academy in Birmingham, Alabama and set to unpack the thinking of the first grade students. They were asked to create paper-dolls of a teacher, doctor, and a firefighter. Our study aimed to find if student’s paper dolls would reflect gender bias in culture, or something else.

Introduction

In the summer of 2016, the United Kingdom’s #RedrawTheBalance campaign released a video of students drawing pictures of different careers. The students were unaware that their pictures were being analyzed for gender bias, and the researchers found that the students overwhelmingly drew pictures of men for the jobs. At the end of the video they brought in a woman for each field and left the viewer with a challenge to think about their implicit gender bias.

We were inspired and wanted to see if this study could be replicated in the United States and produce similar results right here in our community. The recent presidential election called into question the gender bias that is still present in the United States. We were curious to see if students were more, or less progressive than the rest of the country. The careers we have selected for our study were intentional, with two male dominated careers and one female dominated career. Our study was replicated at Bush Hills Academy, working with both of the first grade classrooms. We set out to find if Bush Hills first grader’s understanding of job roles are shaped by the cultural understanding of gender roles, or some other motivating factor.

Literature Review

Gender bias is a universal constant, reflecting the attitudes and perceptions of each individual culture. America was founded with documentation cementing the idea that men and women were unequal. The rights of the constitution were created to protect the “life, liberty, and happiness” of white men. As time progressed equality has grown to encompass more than one segment of the American population, and the differences between men and women have become less pronounced. One frontier that gender bias is still alive, present, and quantifiable is in the American workplace.

Traditionally men and women have strict gender roles in the workplace. Men are traditionally identified with jobs that require physically demanding labor or positions of power, such as a doctor or a politician. Women are generally associated with “soft” jobs such as a caregiving or subordinate role. (Barth) The shift of gender roles in the workplace began in the early 1960’s. Women began to challenge the idea that men were somehow more qualified for a job solely due to their masculinity. (White)

The resulting shift in public opinion, via the feminist movement, help to garner victories for women in the workplace. In 1964 the Civil Rights Act helped to further their mission. Title VII states that it is unlawful for an employer to discriminate “based on race, color, religion, sex, or national origin”. (Civil Rights Act of 1964) This legislation helped to pave the way for gradual change, but inequality still exists. For every dollar a man is paid, women make eighty-cents. (AAUW) This translates into traditionally male roles, such as lawyer or CEO, making exponentially higher salaries than traditionally female roles, such a teacher or a nurse. The increase in women pursuing non-traditional roles has helped to shift these negative attitudes, cementing the idea that gender theory is a subjective creation by society. (Garnham)

Gender bias is present in children starting at the age of two. “From the moment of their birth, children are placed into either a ‘boy’ or ‘girl’ category”. (Wilbourn) Children tend to be more rigid in their need for gender conformity and cling to the idea of role knowledge. As students grow and develop, they are less married to the idea of gender-norms, but are still shown to treat others who vary too far from the path of conformity with disdain. Gender restrictions tend to be less harsh on female students, rather than male students. (Siyanova) When girls are seen as “tom-boys," exhibiting masculinity is socially rewarded. On the contrary, the term “sissies," a slur that is used to discourage femininity in males.

Stereotypes are learned ideas. In order for them to perpetuate in a society they must be communicated both implicitly and explicitly to members of the group. (White) Students are currently exposed to roughly 6.1 hours of media per day. (Henry) This is a powerful influence on children’s perceptions of reality. The media they are exposed to on a daily basis helps to shape a student’s understanding of the world and the place they fill in the world. Representation in the media has recently been highlighted by powerful companies such as Google and IBM. Interested in recruiting more women for STEM careers, the companies have teamed up with The Geena Davis Institute on Gender in the Media to further research on gender depiction in children’s programing.

Currently, in popular programing in the US, 26 of the 120 speaking roles for characters in the STEM programs were played by women. (Forbes) This same study found that women are severely under-represented outside of STEM careers as well. In family feature films, men play 99.6 percent of politics, 100 percent of chief-justices and editors-in-chiefs, and 78.1 percent of doctors.

When googling the word “firefighter,” the first fifteen images are male, while the female represented in the sixteenth image is dressed in a “sexy-fire woman” Halloween costume. The first photograph of a woman firefighter is 43 pictures in. Programs such as the Geena Davis Institute and Inspiring the Future, are trying to challenge current perceptions of gender roles and call for more representation of women in the media engaged in a diverse variety of occupations.

We were curious to see if the legislation and social programs made headway with the current generation of scholars embarking on their educational journey. Inspired by a study done by the UK’s #ReDrawtheBalance campaign, we wanted to see if students in the United States produced similar results, or were less restricted by gender bias. Working with a local elementary school, we conducted our experiment.

Methods

1. Participants

The participants in the study included two-first grade classrooms at Bush Hills Academy. Bush Hills Academy is nestled in the Bush Hills neighborhood of Birmingham, Alabama. The school is a Kindergarten through 8th grade institution, with 487 students currently enrolled. The student population is made up of 97 percent African-American with a free and reduced lunch discount rate of 70.2 percent (SchoolDigger). The first grade at Bush Hills Academy is composed of two classrooms with a total of 32 students. 17 of these students are boys, and 15 are girls.

1. The Study

The study at Bush Hills Academy was intentionally designed to be as authentic as possible and accurately capture student thinking. We designed the “Community Helper” lesson to allow us to have a natural way of activating the student’s schema before we jumped into the lesson while also allowing time for us to record the first grader’s thoughts and comments at the end of the activity.

In the United Kingdom’s #RedrawTheBalance campaign with which we replicated our study from, the researchers asked the students to draw a fighter-pilot, a surgeon, and a firefighter. When trying to decide what we wanted our study to look like. We took some liberties with changing the questions to make the study more applicable and revenant to the students who attend Bush Hills Academy. We wanted to keep the number of careers at three due to time restraints, which were limited to one semester of research. We changed the title of “surgeon," to “doctor,” since we felt that the first graders would be more familiar with the latter term. Fighter-Pilot is not a common career in America; and rather than have all male dominated careers, we were curious to see the result of including a female dominated career in our community helper lesson. We chose to keep the firefighter included our research, as it is known to be a heavily male dominated field. We were curious to see if the student’s paper doll gender identification choices would reflect the gender statistic reality.

Before the lesson began, we handed out the previously made and pre-cut paper dolls to the first grade students. In the original study the students were asked to draw each career, but since we were working with first grade students, who are typically only 6 years old, we felt as if we could get more valuable and significant data by keeping the project age appropriate for the students.

We had three gender ambiguous cut-outs for each student: one teacher, one firefighter, and one doctor. There were four heads to choose from, two male and two female. Each of the paper doll heads included a unique feature, be it glasses or a different hairstyle, to give the students a choice in what they wanted or identified the most with. It was important that there was a variety of options included for the students to choose from. If students did not like the look of the male with glasses, they had another choice for a male head to prevent the students from alternatively choosing a female head instead.

The Community Lesson began with the question, “Who knows what a community leader is?” and evolved from there. We spent the first few minutes of our lesson discussing community leaders that they are familiar with in their community and how community helpers serve us. Kids named examples of community leaders, such as their principal, the garbage man, and even the President of the United States with the election freshly on their minds.

After laying the foundation and getting the first graders thinking about community leaders that they were familiar with and what community leaders look like and their roles in the community around them, the paper dolls were presented. Each paper doll was held up and students would guess what career the paper doll represented. After each was correctly guessed, students would throw out descriptions of the career and adjectives that personified the people that staff the job. Their responses were recorded.

The next step involved the passing out of the paper dolls to each student. With the first classroom, we passed out one of each paper doll to the students and presented each table with a handful of the four heads. We were intentional about giving them a variety of options so each student was able to pick what they wanted. For the second group we had students help us pass the heads out. This added a level of chaos to the project’s completion, as the students passing the heads out took the three paper doll limit to heart and began to pass out only one head for each paper doll. We caught on to this quickly and compensated by passing out extra heads to each table. We made sure that each student’s personal choice of gender identification for each career doll was still available. We gave the students time to color the paper dolls, while also recording statements that they made as they related to gender bias and career.

When they finished designing their paper dolls, we debriefed the lesson to give the first grade students closure to the activity. We also used this opportunity of discussion with the students to record any final nuggets of wisdom that the students had to share.

III. Analysis

After completing the study at Bush Hills Academy, we returned to campus with the ninety-six paper dolls to analyze and sort out the data that we had just collected. We had the students write their names on each of their drawings, and the first thing we did was sort each student’s drawing into three separate piles for the teacher, doctor, and firefighter. Next, we recorded the gender breakdown for each student and started to unpack the results of the genders which were identified for each of the three careers.

Results

The Data

1. The Doctor

The doctor was selected as one of our career examples due to the fact that medicine is a historically male dominated field. Nationally, 67 percent of doctors are male and 33 percent of doctors are female (Wells). Of the three careers, medicine had the smallest national gap, but ended up displaying the largest gap when students completed the paper doll lesson.

When the students were identifying their paper dolls, 8 of the 32 doctors were male, with the other 25 students identifying their doctor as a female. The majority of both male and female students created their paper doll as a female doctor. The breakdown of male students included 14 female paper dolls and only 3 males identified their paper doll as a male doctor. The female first grade students recorded a similar percentage with only 2 identifying their paper doll as male, while the other 11 females identified their paper dolls as female.

1. The Teacher

The national gender breakdown of teachers in the USA states that 76 percent of educators are women and 24 percent of educators are men (Larisa). We selected the teacher to include equal representation of cultural gender bias present for both men and women. We were interested to see if students would automatically place female heads on the body of the teacher paper dolls. The other two careers that we selected were predominately male, and we wanted to have a predominantly female career. This was done to help us compare the results of students who were going along with perception for careers, or instinctively making paper dolls of themselves.

The student’s creation of the teacher paper doll was the most surprising result for us. The students had a higher percentage of male paper dolls with 20 students selecting to make a male, and 12 of the students creating female paper dolls. We found that the male students in these first grade classrooms at Bush Hills were more likely to create a male paper doll with 13 students identifying with a male teacher doll, and 5 identifying their teacher with a female head. The female students were fifty-fifty, with 7 students creating a male teacher paper doll and 7 students creating a female teacher doll.

1. The Firefighter

The firefighter was the only prediction of careers that aligned with the student’s predictions. With 79.6 percent of firefighters being of the male gender, this makes the firefighter the heaviest male dominated field with women only composing 20.4 percent of firefighters in the United States (Firefighting).

The student’s breakdown of the firefighters reflected the trend of male domination in the career field, but the gap between men and women was not as high as it would be in a real life situation. 18 of the students created male firefighters, while 13 drew female firefighters. The boys were more likely to select a male firefighter. Of the male first graders, 11 created a male firefighter, and 5 of them created a female firefighter. The female first graders were closer in comparison when looking at the genders of firefighters that were produced. 7 of the firefighters were identified as male and 8 of the firefighter paper dolls were female.

*The Analysis*

The results found at Bush Hills were surprising, exempting the firefighter due to none of our findings matching up with our expectations.

1. The Doctor: “I drew a woman doctor, she is a nurse.”

We found that the results of the doctor, which we collected and analyzed, were unexpected. We thought that the students, both male and female, would predominantly select male doctors. When working with the students in the classroom, we first began to notice the disproportionate number of female doctor paper dolls that the students were producing.

During the debriefing part of our lesson, we were intentional in asking questions to the students in order to unpack their thoughts so we could better understand the surprisingly high number of female doctors. We asked the students about the experiences that they have had with a doctor. The students were then asked to raise their hand if they had identified their paper doll as a female, or a male. Students were then asked to raise their hand if they knew a doctor that was either a male or a female. Interestingly enough, we discovered in our findings that the student’s paper dolls unilaterally reflected the gender of the doctor their primary care physician.

Once we had this tidbit of information, the surprise dissipated as we investigated further. We discovered that pediatricians are more likely to be women (Cull). The students based their perception of career gender off of their personal life experience. It was logical that they would be influenced by what they had seen. The rise of women doctors in the media may have also played a role in their decision of gender identification. When listening to the students speak, many of them referenced the popular children’s television character, Doc Mcstuffins, while creating their paper dolls. Representation of genders in careers in the media matters, and this finding is a prime example of that. The first-grader’s reality and expectations are shaped by what they have seen and experienced in their short six years of life.

1. The Teacher: “Look, Mrs. \_\_\_, I drew you!”

When analyzing the results, we collected of the teacher we were really surprised. Our expectations at the start of the experiment were that the students would follow the “social norm” of identifying their teacher as a female, but we were proven wrong. When faced with the results that an overwhelming amount of students had selected male teachers, we wanted to figure out the reason behind their choice of gender identification for the teacher.

In our research, we found that the paper doll’s drawing that we handed out to the students, may have influenced the student’s selection as well. The teacher, like the other dolls, was designed to be gender ambiguous, wearing pants. This plan may have not worked as well as we hoped, because unlike for the doctor and firefighter, the teacher does not have a recognizable costume. The teacher paper doll may have inadvertently influenced student’s thinking with the slacks and polo.

The first grade students have only had female classroom teachers up until this point in Bush Hills, the pre-k, kindergarten, and first grade teachers are all female. Contrary to this, the student’s gym coaches, music teacher, and a majority of their custodial staff members are male.

When looking at the presence of males in the Bush Hills community, we found that a number of the older student’s teachers were male. So, we decided to investigate even further. We found that the male presence at Bush Hills is higher than the national average. 31 percent of the staff at Bush Hills is male, compared to the national average being 24 percent.

Our assumption is that for the teacher, much like with the doctor, students are basing their paper dolls off of their experiences. Their paper dolls reflect their reality of what they see and experience everyday in school. The first graders were also just in from the gym, where they have male coaches, when we came in to teach the lesson, so we found that this may have influenced the student’s thinking.

1. The Firefighter: “My fireman isn’t a man, it’s a woman. It’s a fire woman!”

The gender breakdown of the firefighter was mostly expected. The gender gap reflected in reality, is much larger than the 58 percent shown by the Bush Hills first graders that we found from this experiment. We were interested in what the students were thinking when they identified their firefighter as male or female.

Not many of the students had experience with firefighters in the same way that they had experiences with teachers and doctors. They interact with their teachers daily, and most students have a primary care physician that they visit regularly which can be named and described to us. The firefighter paper doll gave the first graders the most trouble since they had little to no interactions with people in the profession. We found that students were more likely to create a paper doll which reflected themselves when they had no personal context for the career.

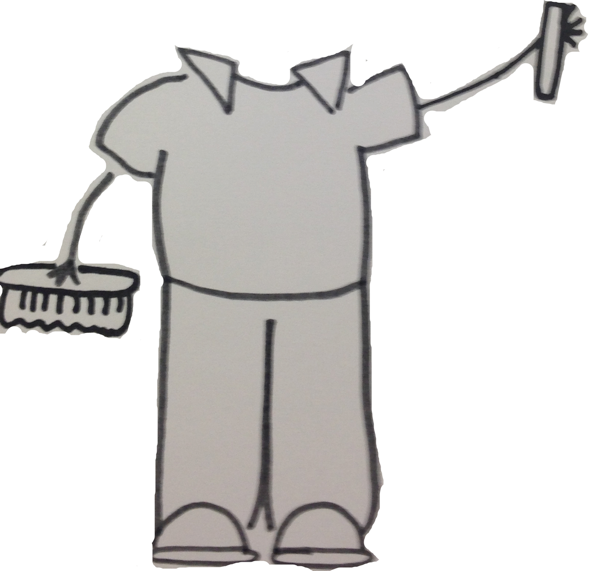
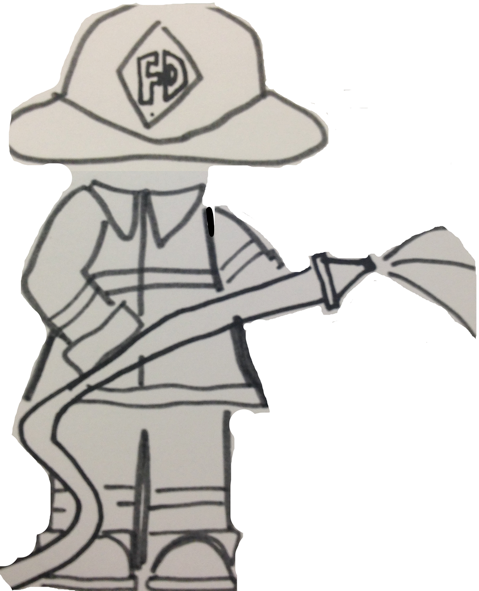
Conclusion

The firefighter was the only career that reflected the national pattern. Even with this finding, the gap between the firefighters being identified as male or female was a much smaller reflection than the gender gap in reality. We were surprised to find that students were not particularly influenced by societal expectations for gender bias in careers. We found that student thinking is still very egocentric and is reflected in their own experiences rather than reality.

Our research is a sign that representation matters and adds support to the recent push in the media for increased diversity in films.

Appendix



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