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In today's age of political correctness, stereotypes may enter young impressionable minds from the least likely sources.  This study analyzed photographs from high school textbooks and categorized them according to the model's ethnicity, gender and type of activity performed.  Results indicated that although the numbers of the different types of models gave a true reflection of the U.S. population, there were still some subtle biases as to how different demographics were depicted.

Headings:

      Sexism in Textbooks

      Racism in Textbooks

      Stereotyping

DO PICTURES IN HIGH SCHOOL TEXTBOOKS PERPETUATE STEREOTYPES?

by
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# 1. The Problem

Academic schools are universally thought to be the place where individuals go to learn skills, concepts, techniques and alternate ways of thinking in order to improve their way of life (Harrison, 2004). It is the most common place for youth to interact with each other and more importantly, exchange various forms of information. This is where stereotypes, or generalizations about others, may be discovered, exchanged and even reinforced. On the other hand, the diversity that schools tend to have could also provide the necessary interaction to dispel stereotypes that were introduced from home.

Although most of the knowledge transfer at schools comes from lesson plans and direct interaction with the instructors, sometimes messages can be transmitted unintentionally. Taboo or frowned upon notions, such as stereotypes, are more likely to be inadvertently transmitted to students.

Image selection is fertile ground for unintended negative connotations to occur. *"Race Coded"* pictures are those that portray stereotypical images and these can be used by the author without even realizing it (Clawson, 2000). It is important to note that the pictures themselves are not the only influencing factor as their captions as well placement on the page may also influence people's perceptions.

This problem has been recognized and attempts have been made to try and address it. For instance, The National Science Foundation (NSF) has in the past held

workshops to help instructors incorporate minority issues and perspectives into their lesson plans (Robson, 2001). However, the problem does not rest on the classroom instructor alone.

The mass media is what usually gets blamed for perpetuating stereotypes because of its enormous popularity (Dionne and Albanese, 2005). However, because the average citizen attends school at some point in his or her life and considers it a place of learning, textbooks used can have an equally strong influence.

These books are perhaps the most common educational material and the information that they contain is generally held to be true by the reader. Textbooks are a reflection of society and therefore, it is highly imperative that they do not improperly influence the audience in any way (Byrne, 2001). Unfortunately, authors or publishers have the power to unintentionally submit messages by their choice of words or pictures.

In today's society, which stresses being politically correct, it appears that authors have made it a point to not only include minorities within their textbooks but to have them interact with other types of people as well. Unfortunately, it is not enough just to represent minorities, one also has to represent them fairly. In other words, portraying them in a negative light or in a stereotypical fashion can be just as bad, if not worse, than not portraying them at all.

Stereotypes have many negative effects that can be detrimental to the minds of adolescents. To begin with, they can bias people's beliefs as to what kind of roles and activities certain demographics should be. They can give individuals stereotypical perceptions, which are defined as *"socially constructed notions, often*

*based on fallacious or limited information that can possibly have detrimental consequences or reproduce maladaptive stereotypical behavior"* (Harrison, 2004).

Social Constructivist Theory states that an individual's sense of self is nurtured through both cultural and social factors (Hollins, 1996). How a person sees his or her gender or ethnicity portrayed can influence how he or she feels about him or herself and how he or she behaves. Self-stereotyping occurs when one identifies with a particular group and believes that whatever is true for said group, is also true for her/him (Oakes, 1994).

Stereotypical messages have a strong social context in the way that it can influence young minds (Harrison, Azzarito and Burden, 2004). Whether they are implicit or explicit, when mediums such as images consistently engrain into society's consciousness who is more dominant, or what one should be doing or should be good at, it is very hard to undo the damage. Stereotyping also helps maintain and even justify discrimination against minorities and helps to keep those in power to stay in power. For instance, African American students may be steered towards a career in athletics whereas their European American counterparts may be urged to pursue something academic (Harrison, 2004).

Even when there is nothing directly relating to minorities themselves, disparaging messages can still be transmitted in subtle ways. For instance, Eurocentrism, also known as Eurocentric Bias, occurs when the points of view of whites who came to America from Europe are stressed over others (Byrne, 2001).

Making textbook authors and publishers aware of any racial or gender bias should improve the educational system and make it fairer for all members of society.

Therefore, this study hopes to investigate how minorities are depicted in textbook images and how their representations differ from those of the white males who have held the largest portion of the U.S. population. Historically, they have also held the most power in major sectors such as business and politics, for instance, all presidents have been white males.

2. **Background**

Past research on the mass media's influence has found that women are not fairly represented because of the stereotypical way that they are usually depicted and that their accomplishments can be trivialized (Jones, Murrell and Jackson, 1999). Other research has shown that minorities were not only underrepresented in media articles but the majority of those articles that they were featured in focused on their race/ethnicity (Dionne and Albanese, 2005). In other words, they were chosen because of their race/ethnicity and a big deal was made about it instead of their just being another model in a picture.

Looking at how race was used in Sport Psychology textbooks, Christopher J. Hallinan concluded in 1994 that many authors of that genre were biased. Thirty-two textbooks were used in his study. Use of racial terms was categorized into three sections:

- *Mentioned* – used as an organismic or classifying variable whose purpose is directed to biophysical differences such as physiques;

- *Refuted/Questions;* and

- *Not Mentioned*.

Ultimately, the author decided that using race to classify subjects can be pervasive and thus make the reader believe that it is a rational schema of biological factors. In other words, differences between races are all based upon biology and therefore are natural and cannot be changed. He believed that the practice should be stopped so that society will not start to stereotype based upon this information.

Sometimes good intentions can go wrong especially when people go beyond the call of duty. This was the case in 1994 when John Leo scanned history books and found that white males were actually underrepresented. The pursuit of affirmative action and political correctness swung the pendulum too far in the other direction and still caused a biased portrayal of the world.

Studies have not been limited to just high schools, in 2000 Rosalee A. Clawson and Elizabeth R. Kegler wanted to discover if American Government college textbooks relegated poverty as a problem for African Americans and whether or not they perpetuated stereotypical images of lower economic status citizens. Believing that factors such as the mass media was race coding poverty and intersecting it with race, fifteen textbooks were chosen to have their pictures analyzed. Models in the pictures were coded based upon their ethnicity, gender and age group.

They discovered that the images would lead the audience to believe that 50% of the U.S. population was African American even though the U.S. Census Bureau found the number to be 27%. European Americans made up 23% of the models but in reality, they constituted 45%. Asian Americans were overrepresented by showing up 7% of the time instead of the 4% in reality. Hispanics were also overrepresented at 24% instead of 15%. Furthermore, the study found men to be unfairly represented more than women as being in poverty. Males were depicted as being lazy whereas women and children were seen as needing help.

Using a cross-disciplinary approach, this study hoped to augment the knowledge of stereotyping in academic textbooks.

Michelle M. Byrne conducted research in 2001 to determine whether racial bias in fundamental nursing textbooks exists. She defined six categories of bias as follows:

I.  **Invisibility** – when a demographic is omitted or not represented in the text and/or illustrations; teaches minority audience that they are not only less important but also less significant in society;

II.  **Stereotyping** – false belief or oversimplification of traits and behaviors common to a group;

III.  **Imbalance and Selectivity** – how to define the truth? Perspective taken from only the majority can lead to an imbalanced account of a situation;

IV.  **Unreality** – ignoring facts that are negative or unpleasant which leads to the audience's lack of information to identify, recognize and/or change circumstances;

V.  **Fragmentation and Isolation** – minority information is segregated out such as in the margins of pages; and

VI.  **Linguistic Bias** – using language and metaphors common only to the majority.

Results found that there was an elite group of individuals that was labeled *"Important Persons"*. People used to represent this group were mostly white. When minorities made an appearance, she also reported seven reoccurring themes regarding their use as examples:

I.      Cultural

II.     Minority and Dominant Groups

III.    Origins and Immigration

IV.     Health Practices

V.      Biologic Variations

VI.     Differences

VII.    Social Organization, Family and Matriarchy

Believing that the recognition of racism was the important first step to improving education, this study focused mostly on text but also photographs. It became evident to the author that there was a Eurocentric slant in the message the books were portraying, mostly in the word selection of the text. For instance, *"normal"* hair was defined as *"silky"* and *"resilient"* which would apply more to the hair of Whites than Blacks.

Byrne recommended several courses of actions to counteract the problem:

- Adding minority perspectives

- Supplemental material that counter balances stereotypes

- Alter choice of words and page placements

- Text, photographs and illustrations need to be culturally diverse

- Include information about racism and oppression

Economics textbooks were used by Denis Robson in 2001 to determine whether or not women and minorities were being represented fairly in comparison to two previous studies. The pages from twelve economics textbooks that had any

minority references were counted. The numbers show that there were not huge differences from the past studies but there was an increase in minority representation.

In 2004, Louis Harrison, Jr., Laura Azzarito and Joe Burden, Jr. decided to look into the *"Hidden Curriculum"* phenomenon in the world of physical education. This refers to when stereotypes are transferred to students unintentionally. More specifically, they were curious about sports related stereotypes that may be used in physical education classes since those types of classes are generally taught by athletic coaches. His study took a slightly different approach: from the angle of a European American instead of a minority.

The study consisted of interviewing white university students that had been athletes in high school. Sample questions that were asked include:

- *Were you ever in a situation in which you perceived that there was racial discrimination while participating in high school sports? Explain.*

- *Were there any people in your life that appeared to steer you away from aspiring to participate in collegiate/professional sports? Who? How did they do this?*

- *What did you think about this situation? How did this influence the way you felt about sports participation?*

- *How has this experience affected your life?*

- *Explain if and how race influences sports performance.*

Results showed that the subjects felt that they were steered away from pursuing specific sports by their parents and/or coaches. The second finding was that

the participant's racial stereotypes had an impact on their participation in athletic activities.  The author hoped to influence physical education teachers to include the topic of racial stereotypes in their lessons to help reduce the negative consequences that they can have.

Michelle M. Dionne and Patrizia Albanese performed a very similar study to this one in 2005 but they focused only on sport psychology textbooks.  The two felt that the issues of sex and race were behind the times in the world of exercise science in comparison to other academic areas.  Using sixteen sport psychology textbooks, they observed 396 models and categorized them as either *"athlete"* or *"official"* based upon their actions and/or the information provided by the picture's caption. Models were then identified by their gender and ethnicity.  Sexism was shown by not only the men out numbering the women but also how only men were shown participating in wrestling, baseball and football.  In cases of gymnastics, softball and volleyball, only women models were used.  Results also showed that Whites comprised 90% of head coaches and 80% of assistant coaches in the NCAA and almost none were women.

## 3. Methodology

### 3.1 Textbooks

In America, high school is a time when children are going through puberty and starting to develop into young adults; it is during this critical timeframe that they are heavily influenced by outside forces such as peer pressure. Also, a greater percentage of the population attends high school as it is for the most part mandated by law whereas college is optional. According to the 2000 US Census, 80% of adults over the age of 25 had their High School Degrees. These are reasons why textbooks from this level of education were chosen for the study instead of college.

High school textbooks were collected from the Education Library at the University of North Carolina at Chapel Hill. In order to have a fair representation of what students are exposed to, a variety of books were chosen from different academic fields: biology, business, health, math, psychology, social studies and technology. For consistency's sake, only books chosen from Glencoe Publishing Company were chosen.

### 3.2 Model Classification

For each textbook, every picture was observed and three pieces of information were collected about the models being used: their gender, ethnicity and what activity they were engaged in. Pictures of models merely posing were disregarded unless their purpose was clearly stated with the accompanying text. For instance, if there was a model smiling at the beginning of a chapter with no real caption, that picture would be ignored. However, if there was a model crying next to text about eating disorders, that image would be logged.

This was done to focus the research on stereotypical behaviors of minorities even though their presence, or lack thereof, could still be deemed a form of discrimination. The number of times a minority demographic appears in a textbook could also have some influencing factors on the audience, such as an Asian child never seeing another Asian in any textbook may begin to feel as though his or her ethnicity plays no major role in society. However, it is possible that constantly seeing a fellow Asian in a negative situation could have even worse affects than not seeing one at all. For instance, instead of not seeing any Asians, he or she may see them multiple times serving white males and begin to formulate the thought that this form of servitude is the norm and is expected. It is this belief that drives this study to focus on model behavior over just mere appearance.

Gender was recorded as either male or female. If the subject's gender was not known, usually due to the angle of the camera, the picture was not tallied.

Ethnicity was recorded as Asian, Black, Hispanic (which like the U.S. Census, includes Latinos), Native American or White. A final category was used called *"Undetermined"* in which the subject's ethnicity was hard to distinguish or if he or she seemed bi/multi-racial.

Both of the above classifications were determined mostly by using visual cues. Body shape, skin tone and other physical features were used by the subject audience to decide what gender or ethnicity each pictured model was. Even though this method is highly subjective and rests solely upon the knowledge and biases of the observer, the tactic was necessary since the research is supposed to apply to the audience at an individual level. Whether or not the subject of the study was correct in

guessing the models' ethnicity is not that important. What is important, is how he or she processes information about the different minorities that they perceive to be seeing. In other words, if the subject audience interprets pictures of blacks as always playing sports and not studying, it is not that critical if the models are actually black. In the mind of the subject, they are black and that is how they are going to classify the stereotypical information. How individuals classify others on physical appearances is another study on stereotypes that could be conducted but was not factored in here as it is considered irrelevant for this particular research.

In some instances, the audience did not have to figure out what gender or ethnicity a model was because the accompanying text provided the information. In these situations, the author's data was used in lieu of personal assumptions.

Superficial means were also used to help determine characteristics. These were normally stereotypical forms of dress among an ethnic group. This tactic was employed mostly with the Native Americans who can physically resemble Hispanics. In fact, all models categorized as Native Americans were used in Race Coded pictures where their ethnicity was implicitly stated or implied.

**3.3 Activity Classification**

The actions of each of the subject models were given a brief description in addition to what relation it had with others in the picture. For instance, if a teacher was helping a student, the information about the relationship was noted in both of their records.

In addition to the pictures themselves, other sources were used to identify the purpose or activity of the image. These included captions, accompanying text, and

the title of the book's section. Once all of the data were recorded, major categories were created in order to make sorting easier and patterns easier to spot. The most common were:

- **Academics** – participating in scholastic activities such as attending class, reading or lab experiments;

- **Helper/Helpee** – occurs when one subject is aiding another; common instances include teaching another how to do something or providing professional services such as a doctor or nurse;

- **Labor** – when the model is performing a blue collar type of job such as construction or mover;

- **Leisure** – engaging in recreational activities such as shopping or talking on the phone;

- **Professional** – when the model is performing a white collar job such as accountant or manager; and

- **Sports** – participating in any form of physical activity such as football or exercising.

Other categories happened less often or were used primarily only in one book. Some of these include:

- **Disorder/Abnormality** – the subject was used as an example of some type of mental illness (found only in the psychology book);

- **Political Office** – when the model held some form of political office (usually found in the social studies textbook);

- **Protest** – models were seen taking a stand against an issue (usually found in the social studies textbook);

- **Race Coded** – term was used when the model was chosen specifically because of their ethnicity or was doing something very stereotypical (examples would include Asians working a rice field and when the text specifically pointed out the model's ethnicity/gender making it standout such as the first Black governor of a town); and

- **Vote** – refers to any instance when a model is associated with voting of any kind (usually found in the social studies textbook).

Divisions were then made among the data in order to compare the results. All ethnicities were separated and then they were dissected even further into the separate genders. All instances for each demographic were totaled and then percentages of each division were recorded to make a clearer picture of any biases in the data.

## 4. Results and Discussion

### 4.1 Overview

A summary of all data depicted by ethnicity may be found in Appendix A. The data depicted by gender may be found in Appendix B.

The majority of the models used in the textbooks were White; in fact, they were over half of the total population at 60%. Blacks came in at a distant second with 19%. The remainders were: 11% Asian, 7% Hispanic, 2% undetermined and 1% Native American.

Overall, the number of women seemed to be equal to the number of men, who had only a five percent lead. No matter what the activity, whites tended to be in the majority although in some categories such as Disorders/Abnormalities, they were proportionally too high (see Table 1).

**Table 1. Disorder & Abnormality Functions Depicted by Ethnicity**

|  | Disorder & Abnormality |  |
|---|---|---|
| Asian | 00 | 00% |
| Black | 00 | 00% |
| Hispanic | 00 | 00% |
| Native American | 00 | 00% |
| Undetermined | 01 | 11% |
| White | 08 | 89% |
| TOTAL | 09 |  |

When looking at each ethnicity as a whole, it stands out that Whites are the only ethnic group that is represented in all fifteen major categories (see Tables 1 – 13). In contrast, all others are missing from at least two of them. Asians were mostly concentrated in the Academic field (17%) (see Table 2) and the Race Coded field (21%) (see Table 3).

**Table 2. Academic Functions Depicted by Ethnicity**

|  | Academic |  |
|---|---|---|
| Asian | 30 | 19% |
| Black | 38 | 24% |
| Hispanic | 18 | 11% |
| Native American | 01 | 01% |
| Undetermined | 07 | 04% |
| White | 65 | 41% |
| TOTAL | 159 |  |

**Table 3. Race Coded Functions Depicted by Ethnicity**

|  | Race Coded |  |
|---|---|---|
| Asian | 37 | 49% |
| Black | 28 | 37% |
| Hispanic | 08 | 11% |
| Native American | 00 | 00% |
| Undetermined | 00 | 00% |
| White | 02 | 03% |
| TOTAL | 75 |  |

Blacks were found most often in the Academic (17%) (see Table 2) and Sport

categories (20%) (see Table 4).

**Table 4. Sport Functions Depicted by Ethnicity**

|  | Sport |  |
|---|---|---|
| Asian | 023 | 09% |
| Black | 044 | 17% |
| Hispanic | 017 | 06% |
| Native American | 000 | 00% |
| Undetermined | 006 | 02% |
| White | 172 | 66% |
| TOTAL | 262 |  |

Hispanics were displayed as needing help most of the time (22%) (see Table

10) but were also featured in the Academic (see Table 2) and Sport (see table 4)

categories as well (18% and 15% respectively).

Undetermined models were overwhelmingly portrayed in Academics (28%) in comparison to their appearances elsewhere.

Native Americans were equally divided among the Academic (see Table 2), Art (see Table 5) and Professional (see Table 6) categories the few times that they were used.

**Table 5. Art Functions Depicted by Ethnicity**

|  | Art |  |
| --- | --- | --- |
| Asian | 04 | 11% |
| Black | 10 | 28% |
| Hispanic | 01 | 03% |
| Native American | 01 | 03% |
| Undetermined | 00 | 00% |
| White | 20 | 55% |
| TOTAL | 36 |  |

**Table 6. Professional Office Functions Depicted by Ethnicity**

|  | Professional |  |
| --- | --- | --- |
| Asian | 024 | 11% |
| Black | 020 | 09% |
| Hispanic | 009 | 04% |
| Native American | 001 | 00% |
| Undetermined | 002 | 01% |
| White | 170 | 75% |
| TOTAL | 226 |  |

Whites proved strongest in the Professional (see Table 6) and Sport (see Table 4) categories (21%). They also had a good portion of their population in Labor (17%) (see Table 7).

**Table 7. Labor Functions Depicted by Ethnicity**

|  | Labor |  |
|---|---|---|
| Asian | 013 | 07% |
| Black | 027 | 14% |
| Hispanic | 013 | 07% |
| Native American | 000 | 00% |
| Undetermined | 001 | 01% |
| White | 138 | 71% |
| TOTAL | 192 |  |

**4.2 Reality Check**

The population numbers compared to the 2000 census were a pretty fair representation of what American society is like. Surprisingly, Whites were underrepresented in the textbooks as they composed 75% of the US population but only 60% of the sample pool. Blacks and Asians were slightly overrepresented in the textbooks: 19% versus 12% in the textbooks and 7% versus 4% in the population respectively.

More accurately, both sources had Native Americans at 1% and females at slightly more than 50%.

**4.3 Categories**

**4.3.1 White Dominance**

As Whites make up the majority of the population at 60%, it is not surprising that they compose most of the models used in any of the different categories of activities displayed in the pictures. However, percentages among certain demographics that stray too far from this number could mean that other factors are at play.

The biggest difference was when portraying psychological disorders: Whites were used eight out of the nine times or 89% (see Table 1). However, with such a low sample pool to begin with (nine), this could be due to lack of recognition of minorities as opposed to desire to portray Whites as having more mental problems.

Eighty-six percent of the people shown in some form of government or political office were white (see Table 8). A very lopsided slant especially when one considers that on the rare times that a minority was displayed, the caption often mentioned a historical fact such as they were the first ever Black mayor for a town. In other words, certain minorities were used for specific reasons in Race Coded pictures while when a general model was needed, whites were heavily favored. Whites were predominant in any form of professional as opposed to blue collar work.

**Table 8. Political Office Functions Depicted by Ethnicity**

|  | Political Office |  |
|---|---|---|
| Asian | 04 | 04% |
| Black | 09 | 09% |
| Hispanic | 00 | 00% |
| Native American | 00 | 00% |
| Undetermined | 00 | 00% |
| White | 83 | 86% |
| TOTAL | 96 |  |

The most telling of all the categories would be Helper/Helpee where whites were shown helping others 68% of the time whereas only forty-three percent of the time they were being helped (see Table 9). Hispanics were never portrayed in a helper role but composed 22% of the Helpee section, which is the highest amount of any minority. Blacks were portrayed twice as often in the Helpee role as opposed to that of the helper.

**Table 9. Depictions of Helper and Helpee by Ethnicity**

|  | Helpee |  | Helper |  |
|---|---|---|---|---|
| Asian | 12 | 12% | 06 | 19% |
| Black | 21 | 21% | 04 | 13% |
| Hispanic | 22 | 22% | 00 | 00% |
| Native American | 00 | 00% | 00 | 00% |
| Undetermined | 01 | 01% | 00 | 00% |
| White | 42 | 43% | 22 | 68% |
| TOTAL | 98 |  | 32 |  |

When females are viewed as a minority compared to the males, differences tend to stand out more. They were somewhat more often found to be participating in leisurely activities but what is important to note is that the main activity depicted was shopping. Even when men were shown in the process of shopping, they were shown looking for more masculine items such as athletic footwear and computers but on the

other hand, women were often seen looking for clothes and casual shoes. They were also more likely to be used as an example of having a mental disorder.

Men were found to be used more often as examples as criminals, usually in context of prison (see Table 10). They were three times more likely to be seen in some sort of labor activity. On a more positive note, they had the vast majority of pictures where they held some type of important office such as president or governor.

**Table 10. Criminal Functions by Gender**

|  | Criminal |  |
| --- | --- | --- |
| Male | 10 | 71% |
| Female | 04 | 29% |
|  | 14 |  |

White males were the examples most often used for important or historical figures; in the psychology textbooks they were most of the spotlighted psychologists and in the social studies textbook, they held most of the important offices shown such as President of the United States. In all fairness, all U.S. Presidents have been white males so the authors had no choice of demographic to pick for this model, however, they could have used an image of the President less often in order to incorporate more variety.

When performing labor, their tasks seemed more physical in comparison to their female counterparts who were doing things such as working in a salon cutting hair.

**4.3.2 Asians**

The highest category of representation was that of Race Coded pictures where 21% of the Asian models could be found (see Table 3). For instance, the social studies textbook used pictures of Japanese in concentration camps during World War

II. They were also used in the psychology book to specifically demonstrate an Indian wedding. Finally, the math textbook had both sexes working in rice fields. The only other notable category was where 17% of all Asians were shown in some sort of academic setting (see Table 11).

**Table 11: Asians by Function and Gender**

|  | Male | Female | Total | % of Total Population |
|---|---|---|---|---|
| Academic | 09 | 21 | 30 | 17% |
| Art | 01 | 03 | 04 | 02% |
| Criminal | 03 |  | 03 | 02% |
| Disorder & Abnormality |  |  |  |  |
| Grooming |  |  |  |  |
| Helpee | 05 | 07 | 12 | 07% |
| Helper |  | 06 | 06 | 03% |
| Labor | 07 | 06 | 13 | 07% |
| Leisure | 03 | 10 | 13 | 07% |
| Political Office | 04 |  | 04 | 02% |
| Professional | 03 | 21 | 24 | 21% |
| Protest | 05 |  | 05 | 03% |
| Race Coded | 13 | 24 | 37 | 21% |
| Sport | 10 | 13 | 23 | 13$ |
| Vote | 01 | 02 | 03 | 02% |

Males were almost always shown doing some kind of scientific work in academics. These usually centered around some form of lab experiment. They were also shown often at a computer. When performing labor, they were depicted in rice fields and fish markets. When relegated to the Helpee situation, they were often aided by whites, most particularly in the biology book where that was the only ethnicity seen to help them, perhaps showing a form of superiority or dependence relationship.

Females tended to be in the same situation: scholastically bound to science and computer situations. Academically, females were also depicted over twice as many times as the males; in the Leisure category, they were featured three times more often. They were also found working in rice fields, which actually made three quarters of their representation in the math textbook. Twenty-one females were shown in professional roles as opposed to only three of the men.

### 4.3.3 Blacks

Sports was the category Blacks were found in most often (20%) followed closely by Academics (17%) (see Table 4 and 2 respectively). Black males were often depicted engaging in sports and the most common was basketball. Most notably, in the math textbook, they were only playing basketball in their photos. They were also used in stereotypical situations such as a sit-in during the Civil Rights movement.

Watching others of different ethnicities and gender perform activities was common for the black female. For instance, they were mere observers at computer stations while black males, white and Asian females did work. Even in a game of chess, a black male was seen providing assistance. In the math textbook, the model was shown watching a white male and female do math. Typical among the females in the textbooks, they were shown talking on the phone and shopping. Sports wise, there were multiple pictures of basketball as well as track and field.

As for Race Coded pictures, blacks were shown in pictures relating to celebrating Martin Luther King, Jr. Day and no other ethnicities could be found with them.

### **4.3.4** **Hispanics**

When engaging in sports, soccer was the predominant one for Hispanic males and baseball was also used more than once. They were also shown in need of help and in situations such as using a cigarette patch. Labor activities were shown more than professional occupations; there was even one where they were doing yard work for a white male. In fact, they always assumed the role of Helpee and never Helper (see Table 9).

Stereotypical situations also appeared often in this demographic: Mexican dancing performances, Mexican weddings and burial rights. The population in each category was fairly even between the genders. The biggest gap was in the Race Coded photos (there were seven) where women were portrayed over twice as often as the men.

### **4.3.5** **Undetermined**

Undetermined models are hard to gauge stereotypes based upon ethnicity because it was not always clear. In an analysis of gender for this category, there was a slightly higher number of females in the Sport category.

### **4.3.6** **Native Americans**

Native Americans were used so little that it is hard to make any type of assessment about their representation, other than it was almost nonexistent. They have been found to be very poorly represented in all textbooks. In fact, some text books had no such models at all. Their numbers are almost negligible in this study as the only time there were multiple models used in the same picture, their only activity was eating together as a family.

Native Americans were almost completely ignored. Nine models out of 1,634, or a mere 1%, were from this demographic.

### 4.3.7 Males vs Females

The difference between males and females in each category stayed mostly within twenty percent (60% - 40%) of each other with a few exceptions. The largest difference came with those in Political Office: males comprised 85% while females made up the other 15% (see Table 12). When performing labor, males took 75% and then when being portrayed as criminals, the models were 71% males (see Tables 13 and 10, respectively).

**Table 12. Political Office Functions by Gender**

|  | Political Office |  |
|---|---|---|
| Male | 82 | 85% |
| Female | 15 | 15% |
|  | 97 |  |

**Table 13. Labor Functions by Gender**

|  | Labor |  |
|---|---|---|
| Male | 144 | 75% |
| Female | 048 | 25% |
|  | 192 |  |

White males dominated at 36% of the entire population pool; they were followed closely by their female counterparts at 25%. In general, the men of any ethnic group outnumbered the women except Asians, where the men made up 42% of that population and the women had the other 58%. Native American women also outnumbered the men but the numbers were so low overall that the difference seems negligible.

4.4 **Textbooks**

### **4.4.1** Biology

At the end of each chapter are special little sections highlighted in the margins of the page. One of these is entitled *"Cultural Diversity"* highlighting people like black chemist George Washington Carver, but no pictures are used. In contrast, historical scientists were prominently featured throughout the textbook with short biographies and pictures. All six of the featured scientists were white males.

*"Careers in Biology"* is a prominent feature that reoccurs regularly throughout the book, the purpose being to introduce different types of jobs that entail biology. The descriptions always included a picture as an example of the profession. Out of the ten examples, eight were female leaving two men. This seems to be an effort to help promote females in the science professions as they are commonly believed to be lacking there. On the racial side however, only three were minorities (Asian, black or Hispanic) and all of them were women.

Though the margin (6%) was small, it is interesting that there were more females than males considering that the sciences are stereotypically believed to be a male dominated field. Perhaps the authors were aware of this and made a conscious effort to include more females.

### **4.4.2** Business

Out of 35 pictures depicting people in a professional environment, which would seem most appropriate for a business book, whites were disproportionately featured at 60%.

### 4.4.3 Health

The majority of pictures had the models participating in some sort of sport activity. No black female was used in any of these. In fact, in all ethnicities, the men outnumbered the women in the sport category.

In terms of white domination, there was a picture of black male losing a race to a white male. A white male was also depicted as mediating a confrontation between an Asian male and a black male. Women were depicted in the more historically feminine or graceful activities such as cheerleading and gymnastics.

For the Helpee/Helper section, ethnic minorities were always found to be Helpees. White men made up over half of the Helper category and the rest were white females.

### 4.4.4 Math

The math textbook was perhaps the place where the most biased depictions took place. Although the amount of photos used were comparatively small, they still were very skewed in favor of the white population. Out of the mere six Asian models used, four were working in rice fields.

Black males were shown playing basketball in two thirds of their photos as their female counterparts were only shown twice: once as a receptionist and once watching a white male do math problems.

Whites made up the majority of the models and most of the Males were in professional activities such as engineers or statisticians. Females were the second most used group overall, however, they were depicted mostly in leisurely activities such as talking on the phone.

Based upon the pictures found in the studied textbooks, one would be led to believe many things about society even if they were not blatantly displayed. For instance, it is clear that there are many more whites than any other race and Native Americans hardly exist. Women are more likely to perform leisurely activities, especially shopping and talking on the phone. Men on the other hand, are more inclined to hold higher positions in the workforce.

### 4.4.5 Psychology

All historical psychiatrists profiled were white and most of them were male. The closest the minorities came to this representation was when a Hispanic male was used as an example of a Holistic Healer.

### 4.4.6 Social Studies

White males dominated this textbook especially in the Political Office category. They not only held the majority but some demographics were not even represented: Asian females, Hispanic females and none from the undetermined group. When minorities were chosen to be depicted, the accompanying text made it clear that there was a reason, such as their historical significance or what foreign country they hailed from.

Pictures where the model's ethnicity was one of the main focal points were often employed. For instance, 30 Asians were depicted in such situations as the World War II concentration camps. Twenty-four black models were depicted in situations such as civil rights protest sit-ins and campaigning for the right to vote. Hispanic females only surfaced to illustrate a national performance at an international folk festival.

### **4.4.7** **Technology**

Very few pictures were used so there were no glaringly obvious trends. One thing to note was that black females were only displayed in the Helpee situation in which member of different ethnic groups were helping them; also, they were the only demographic to seen talking on the phone.

5. **Conclusion**

In an age of political correctness, racist beliefs are not as prevalent or at least not as blatantly obvious as they once were, however, they are still present in society in more subtle manners (Clawson, 2000). Schools are a place where universal truths are to be taught but this study has shown that textbooks may not always facilitate such a cause. Instead of helping educate minors and free their minds of stereotypes, they may be subtly adding to and/or reinforcing them. If authors are not careful with the material they use in their textbooks, they could possibly cause adverse reactions in their intended audience. Long after high school, the stereotypical beliefs forged by textbooks may still exist and be carried out into society thus further damaging the image of minorities.

Studying only the photographs does open the door to the possibility that perhaps the text in the chapter countered any biased images. However, psychological research suggests that visual data can have a longer lasting impression than text (Fischhoff and Bar-Hillel, 1984). Therefore, it is just as important if not more to study the effects textbooks images have on students.

The results of this research suggest that there are still stereotypical information in the school system that can influence today's youth at the high school level. Stereotypes that could be formed based upon these results include thinking that only white males hold political offices, Native Americans are rare and Hispanics were more often than others to need aid from others. Students need to learn to question their textbooks and not take these examples as truths.

Further research could examine the same effects at the elementary school level. This is a time when not only young minds are impressionable but also a time when children are first really interacting with society. A study here could show just how early stereotypes are engrained into the minds of the population.

To avoid personal stereotypes, multiple testers could be utilized to evaluate the textbooks. That way, any discrepancies among the classifications can be identified and addressed. If an agreement cannot be reached on the model's gender, ethnicity or type of activity performed, that image could be discarded or placed into the undetermined category.

Images used in the classroom are portrayed in more than just textbooks and studies could be done in any one of them in order to better understand the scope of stereotypes. Examples include, but are not limited to, magazines, films, and other visual aids.

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**Appendix A**
**Data by Ethnicity**

**Table A1. Depictions of Helper and Helpee by Ethnicity**

|  | Helpee |  | Helper |  |
|---|---|---|---|---|
| Asian | 12 | 12% | 06 | 19% |
| Black | 21 | 21% | 04 | 13% |
| Hispanic | 22 | 22% | 00 | 00% |
| Native American | 00 | 00% | 00 | 00% |
| Undetermined | 01 | 01% | 00 | 00% |
| White | 42 | 43% | 22 | 68% |
| TOTAL | 98 |  | 32 |  |

**Table A2. Academic Functions Depicted by Ethnicity**

|  | Academic |  |
|---|---|---|
| Asian | 30 | 19% |
| Black | 38 | 24% |
| Hispanic | 18 | 11% |
| Native American | 01 | 01% |
| Undetermined | 07 | 04% |
| White | 65 | 41% |
| TOTAL | 159 |  |

**Table A3. Art Functions Depicted by Ethnicity**

|  | Art |  |
|---|---|---|
| Asian | 04 | 11% |
| Black | 10 | 28% |
| Hispanic | 01 | 03% |
| Native American | 01 | 03% |
| Undetermined | 00 | 00% |
| White | 20 | 55% |
| TOTAL | 36 |  |

**Table A4. Criminal Functions Depicted by Ethnicity**

|  | Criminal |  |
|---|---|---|
| Asian | 03 | 21% |
| Black | 01 | 07% |
| Hispanic | 01 | 07% |
| Native American | 00 | 00% |
| Undetermined | 01 | 07% |
| White | 08 | 57% |
| TOTAL | 14 |  |

**Table A5. Disorder & Abnormality Functions Depicted by Ethnicity**

|  | Disorder & Abnormality |  |
|---|---|---|
| Asian | 00 | 00% |
| Black | 00 | 00% |
| Hispanic | 00 | 00% |
| Native American | 00 | 00% |
| Undetermined | 01 | 11% |
| White | 08 | 89% |
| TOTAL | 09 |  |

**Table A6. Grooming Functions Depicted by Ethnicity**

|  | Grooming |  |
|---|---|---|
| Asian | 00 | 00% |
| Black | 01 | 11% |
| Hispanic | 00 | 00% |
| Native American | 00 | 00% |
| Undetermined | 02 | 22% |
| White | 06 | 67% |
| TOTAL | 09 |  |

**Table A7. Labor Functions Depicted by Ethnicity**

|  | Labor |  |
|---|---|---|
| Asian | 013 | 07% |
| Black | 027 | 14% |
| Hispanic | 013 | 07% |
| Native American | 000 | 00% |
| Undetermined | 001 | 01% |
| White | 138 | 71% |
| TOTAL | 192 |  |

**Table A8. Leisure Functions Depicted by Ethnicity**

|  | Leisure |  |
|---|---|---|
| Asian | 13 | 16% |
| Black | 15 | 18% |
| Hispanic | 10 | 12% |
| Native American | 00 | 00% |
| Undetermined | 02 | 02% |
| White | 44 | 52% |
| TOTAL | 84 |  |

**Table A9. Political Office Functions Depicted by Ethnicity**

|  | Political Office |  |
|---|---|---|
| Asian | 04 | 04% |
| Black | 09 | 09% |
| Hispanic | 00 | 00% |
| Native American | 00 | 00% |
| Undetermined | 00 | 00% |
| White | 83 | 86% |
| TOTAL | 96 |  |

**Table A10. Professional Functions Depicted by Ethnicity**

|  | Professional |  |
|---|---|---|
| Asian | 024 | 11% |
| Black | 020 | 09% |
| Hispanic | 009 | 04% |
| Native American | 001 | 00% |
| Undetermined | 002 | 01% |
| White | 170 | 75% |
| TOTAL | 226 |  |

**Table A11. Protest Functions Depicted by Ethnicity**

|  | Protest |  |
|---|---|---|
| Asian | 05 | 22% |
| Black | 02 | 09% |
| Hispanic | 00 | 00% |
| Undetermined | 00 | 00% |
| Native American | 00 | 00% |
| White | 16 | 69% |
| TOTAL | 23 |  |

**Table A12. Race Coded Functions Depicted by Ethnicity**

|  | Race Coded |  |
|---|---|---|
| Asian | 37 | 49% |
| Black | 28 | 37% |
| Hispanic | 08 | 11% |
| Native American | 00 | 00% |
| Undetermined | 00 | 00% |
| White | 02 | 03% |
| TOTAL | 75 |  |

**Table A13. Sport Functions Depicted by Ethnicity**

|  | Sport |  |
|---|---|---|
| Asian | 023 | 09% |
| Black | 044 | 17% |
| Hispanic | 017 | 06% |
| Native American | 000 | 00% |
| Undetermined | 006 | 02% |
| White | 172 | 66% |
| TOTAL | 262 |  |

**Table A14. Vote Functions Depicted by Ethnicity**

|  | Vote |  |
|---|---|---|
| Asian | 03 | 14% |
| Black | 03 | 14% |
| Hispanic | 01 | 04% |
| Native American | 00 | 00% |
| Undetermined | 01 | 04% |
| White | 14 | 64% |
| TOTAL | 22 |  |

**Appendix B**
**Data by Gender**

**Table B15. Academic Functions by Gender**

|  | Academic |  |
|---|---|---|
| Male | 057 | 39% |
| Female | 088 | 61% |
|  | 145 |  |

**Table B16. Art Functions by Gender**

|  | Art |  |
|---|---|---|
| Male | 20 | 56% |
| Female | 16 | 44% |
|  | 36 |  |

**Table B17. Criminal Functions by Gender**

|  | Criminal |  |
|---|---|---|
| Male | 10 | 71% |
| Female | 04 | 29% |
|  | 14 |  |

**Table B18. Disorder & Abnormality Functions by Gender**

|  | Disorder & Abnormality |  |
|---|---|---|
| Male | 02 | 22% |
| Female | 07 | 78% |
|  | 09 |  |

**Table B19. Grooming Functions by Gender**

|  | Grooming |  |
|---|---|---|
| Male | 04 | 50% |
| Female | 04 | 50% |
|  | 08 |  |

**Table B20. Helpee and Helper Functions by Gender**

|  | Helpee |  | Helper |  |
|---|---|---|---|---|
| Male | 45 | 46% | 15 | 47% |
| Female | 53 | 54% | 17 | 53% |
|  | 98 |  | 32 |  |

**Table B21. Labor Functions by Gender**

|  | Labor |  |
|---|---|---|
| Male | 144 | 75% |
| Female | 048 | 25% |
|  | 192 |  |

**Table B22. Leisure Functions by Gender**

|  | Leisure |  |
|---|---|---|
| Male | 27 | 32% |
| Female | 57 | 68% |
|  | 84 |  |

**Table B23. Political Office Functions by Gender**

|  | Political Office |  |
|---|---|---|
| Male | 82 | 85% |
| Female | 15 | 15% |
|  | 97 |  |

**Table B24. Professional Functions by Gender**

|  | Professional |  |
|---|---|---|
| Male | 136 | 60% |
| Female | 092 | 40% |
|  | 228 |  |

**Table B25. Protest Functions by Gender**

|  | Protest |  |
|---|---|---|
| Male | 14 | 61% |
| Female | 09 | 39% |
|  | 23 |  |

**Table B26. Race Coded Functions by Gender**

|  | Race Coded |  |
|---|---|---|
| Male | 40 | 53% |
| Female | 35 | 47% |
|  | 75 |  |

**Table B27. Sport Functions by Gender**

|  | Sport |  |
|---|---|---|
| Male | 132 | 50% |
| Female | 130 | 50% |
|  | 262 |  |

**Table B28. Vote Functions by Gender**

|  | Vote |  |
|---|---|---|
| Male | 12 | 55% |
| Female | 10 | 45% |
|  | 22 |  |