How The Camera Distorts Images and the Psychological Effect it has on Young Adults

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INTRODUCTION

Poor angles, bad lighting, or even a bad photographer can all trick someone into believing that they are unattractive. However, this is NOT the case. Unfortunately, I fell victim to this at a young age and have since then made it one of my personal goals to convince myself, and other people, that camera distortion is not all that complicated and is more in your head than you think. Mental health has become a popular topic over the last couple decades and has therefore prompted many discussions based on depression seen in teenagers. In fact, PewResearch offers some eye opening statistics about growing depression rates by stating that: "The total number of teenagers who recently experienced depression increased 59% between 2007 and 2017. The rate of growth was faster for teen girls (66%) than for boys (44%)." We cannot risk staying ignorant to factors such as camera distortion that may contribute to these negative feelings. Selfies, different sources of social media, and algorithms can all affect self-perception as we subconsciously predispose ourselves to information that we may have a poor reaction to.

This project will be focused on discovering how the iphone camera can elevate, distort, and affect images and the psychological effect this has on young adults. There is an obvious correlation between social media and teenage mental health as "Almost 25% of teens view social media as having a negative effect." (on their mental health). I want to find out if camera distortion and other variants involving the iphone camera contributes to this problem surrounding teenage mental health.
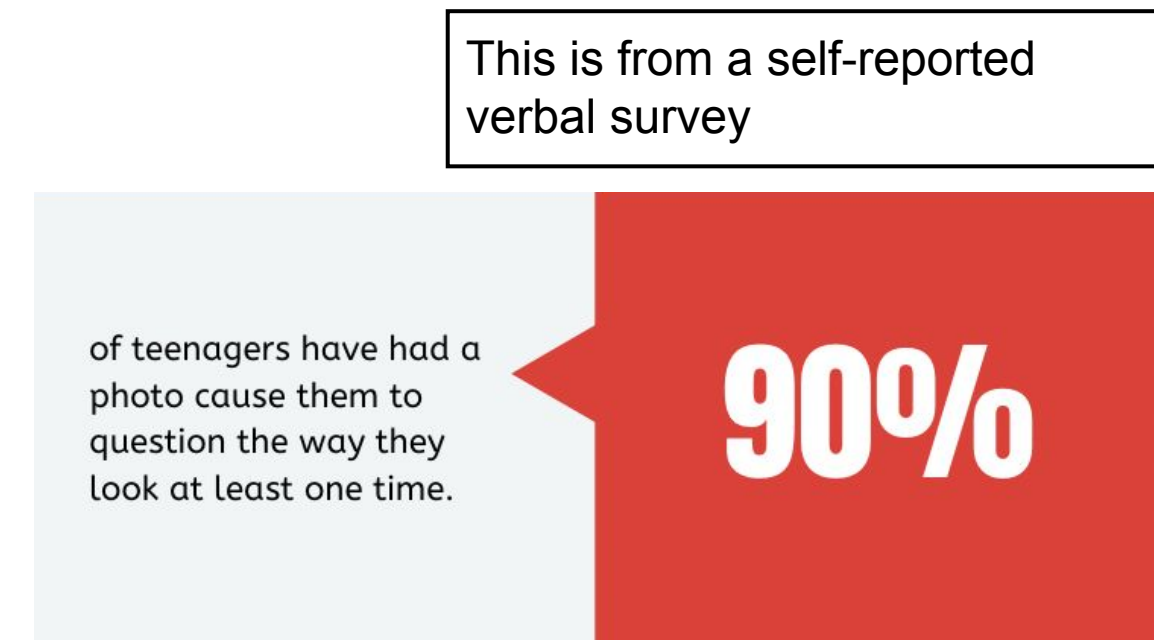
RESEARCH METHODOLOGIES

In terms of the data collection for this project, I conducted two separate surveys. The first survey correlates with the two graphs on the top. For this portion of my research, I took four photos of 11th and 12th grade girls and boys. The questions I asked had them rank the photos. The first photo was taken three feet away, the second was the inverted version of that photo. For the third photo, I was six feet away from the student, and the fourth was the inverted version of that photo. After these four photos were taken, I numbered the photos 1-4 and inverted a copy of the first photo and a copy of the first photo. Following this, I had the students fill out a google form that asked questions such as: "If you were to pick a photo for a resume which one would you pick?" and "If you were only able to choose three photos for a dating profile, which one would you leave out?". The purpose of wording the questions in such a way was to ensure that students would remain comfortable and not leave the survey with lower self-esteem.

I took a much different approach for the second survey, which can be seen on the bottom left. I was conducting a confidence survey to gain insight on teenage confidence and certain preferences regarding photos of oneself. For this reason, I decided to conduct random survey with teenagers from all around Orange County.

Prior to asking the participants my questions I made sure they were between the ages of 16-18 so that both data sets would match. I decided to host a random survey because I wanted to obtain the most honest answers possible. I asked three questions throughout this survey, them being:
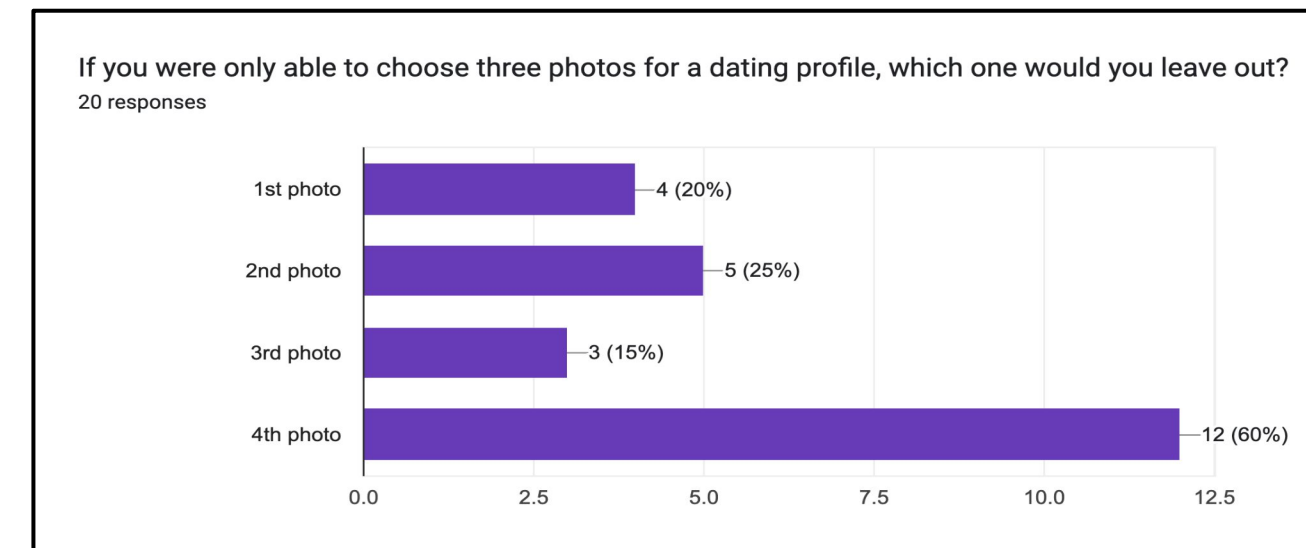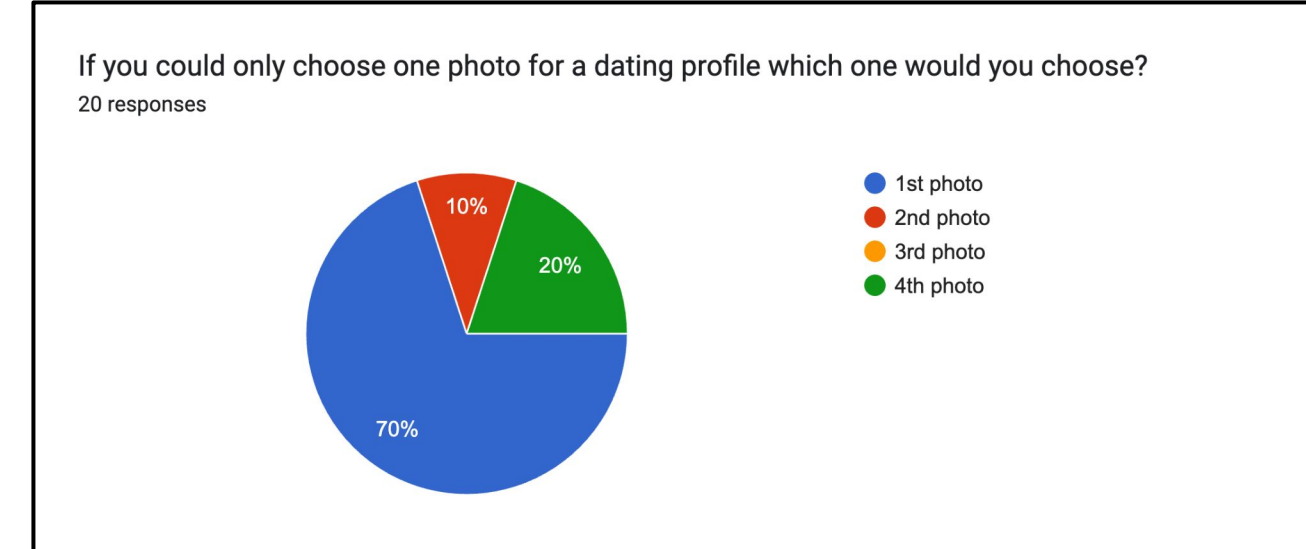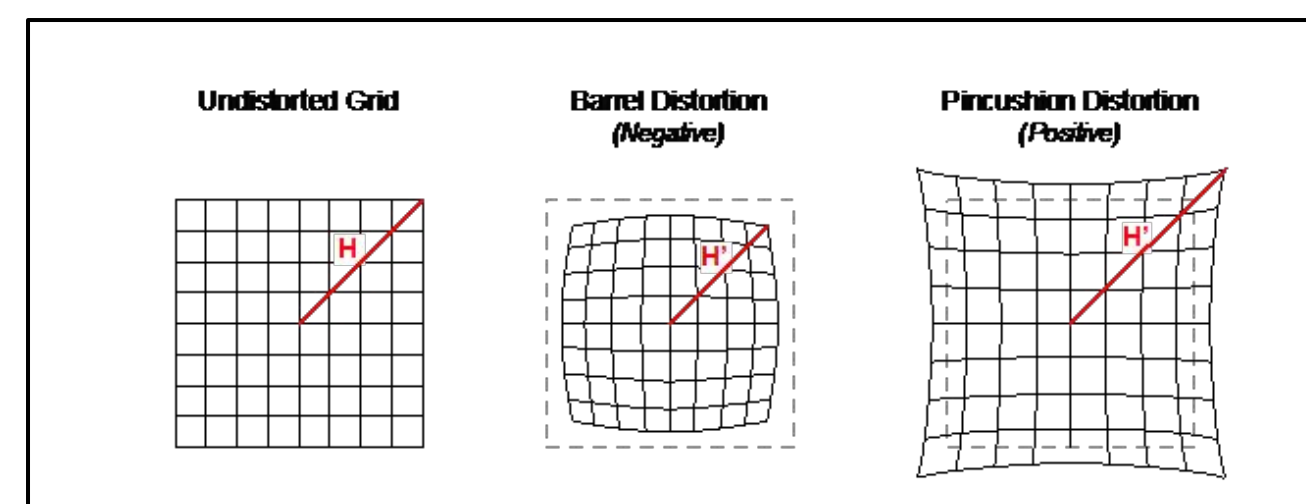
1. Do you typically prefer how you appear in the mirror or in a photo taken by an iPhone camera?
2. Would you consider yourself someone that enjoys having their photo taken?
3. Have you ever seen a photo of yourself that made you question the way you look at least one time?
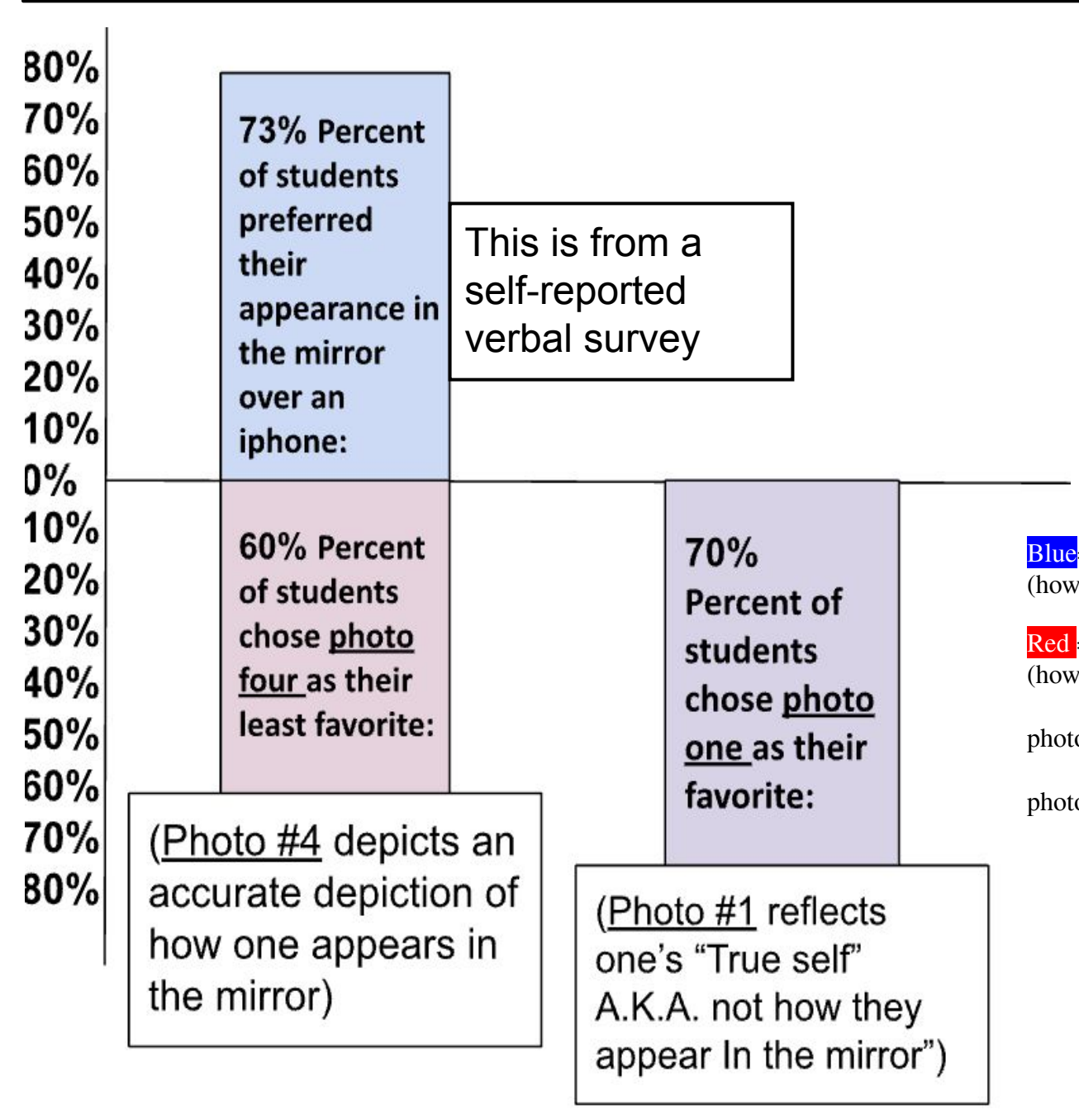
DATA AND FINDINGS

This is from a self-reported verbal survey

90% of teenagers have had a photo cause them to question the way they look at least one time.
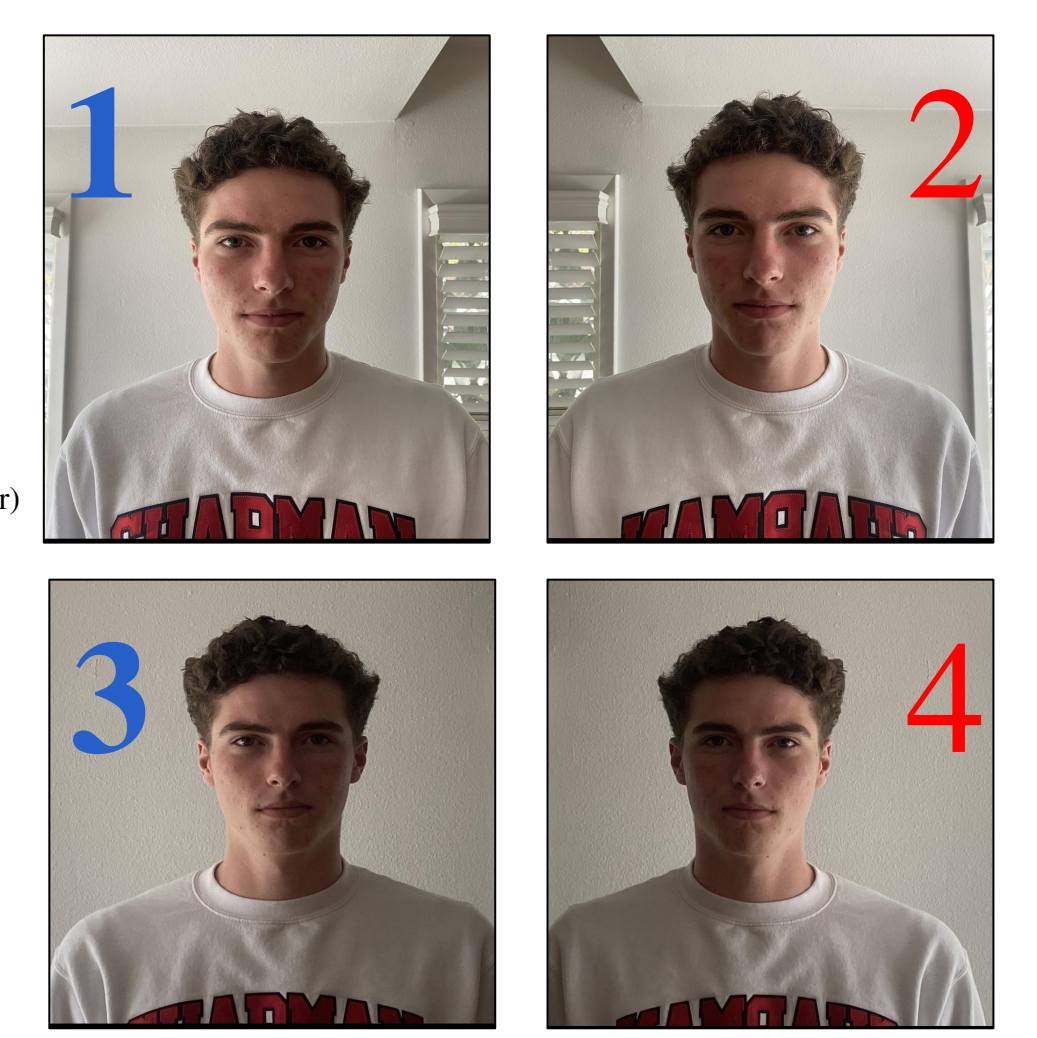
Do you typically prefer how you appear in the mirror or in a photo taken by an iPhone camera?

Claim: "73% of the group prefers themselves in the mirror rather than in an iPhone photo."

Would you consider yourself someone that enjoys having their photo taken?

Claim: "63% of the group states they do not enjoy having their photos taken:"

Have you ever seen a photo of yourself that made you question the way you look at least one time?

Claim: "90% of the group have had a photo cause them to question the way they look at least one time."

73% Percent of students preferred their appearance in the mirror over an iphone.

(Photo #4 depicts an accurate depiction of how one appears in the mirror)

60% Percent of students chose photo four as their least favorite:

70% Percent of students chose photo one as their favorite:

(Photo #1 reflects one's "True self" A.K.A. not how they appear In the mirror")

This is from a self-reported verbal survey

"true reflection"/"true self":
- Inverted version of how one appears in mirror
- How one appears to others

Undistorted Grid / Barrel Distortion (Negative) / Pincushion Distortion (Positive)

If you could only choose one photo for a dating profile which one would you choose?
20 responses

- 1st photo 70%
- 2nd photo 10%
- 3rd photo 20%
- 4th photo

If you were only able to choose three photos for a dating profile, which one would you leave out?
20 responses

- 1st photo — 4 (20%)
- 2nd photo — 5 (25%)
- 3rd photo — 3 (15%)
- 4th photo — 12 (60%)

Blue = True Reflection (how the subject appears to others)
Red = Mirror Reflection (how the subject appears in the mirror)
photos 1 & 3 were taken 3 ft away
photos 1 & 4 were taken 6 ft away

DISCUSSION, ANALYSIS, AND EVALUATION

The three graphs I chose all offer insight into the teenage mind. The "Confidence Survey" presents eye opening statistics about how teenagers 16-18 feel about having their photos taken by the iphone camera. The first question asks the group of thirty if they prefer their appearance in the mirror, or in photos taken by the iphone. Over 73% of the group stated that they prefer themselves in the mirror rather than in an iPhone photo. The second question asked if they enjoy having their photo taken, where 63% of the group stated that they do not enjoy having their photo taken. The third and last question in the "Confidence Survey" asked the group if they ever saw a photo of themselves that made them question their appearance at least one time. 90% of the group answered that they have, many stating that it lowered their self esteem. I wanted to show people who have gone through similar experiences that it is 1. Normal & 2. In their head. After conducting my other survey where I took four photos of students and had them rank them, shocking discoveries were made. Over 70% of students choose the first photo as their favorite. This photo was both taken on the iphone, and is not the way they appear in the mirror. In terms of the least favorite photo seen in the top right graph, the fourth photo was actually an inverted photo. In Simpler terms, this is how students would appear in the mirror. So, the sample group representing all teenagers proves that people actually preffer their "true appearance" or how they appear to others, despite thinking the contrary.

CONCLUSIONS, IMPLICATIONS, AND NEXT STEPS

One reason I believe people are so influenced and confused by their inverted self is that people are incredibly used to seeing their reflection in a mirror or any other reflective surface. It wasn't until the past couple decades that people had the ability to see their "true reflection" or view themselves how others see them. It makes sense that people would have a negative reaction to seeing a slightly altered version of themselves for the first time as they are not used to it. Of course, classic cameras have been around for decades, but the technology iphones hold is much more advanced with features such as the invert filter. Change can be hard for anyone, but especially for teenagers in this day and age where appearance and expectations are higher than they've ever been. I think that 70% of the people chose their "true self" because it appeared the most normal contrary to their primary beliefs. This just goes to show that much of this insecurity lies in the eyes of the beholder. Moving forward, I would like to spread awareness about this subject because in the grand scheme of things it can be broken down very easily, and is not something that a teenager should worry about. I would like to interview more people, and talk about this taboo topic to prove that the camera can distort people on various levels, despite it being a great tool for humanity. One problem I experienced throughout the year was getting people to understand why I began looking into this subject in the first place.

We often trick our brains into believing things about ourselves that don't stand up to real world tests or situations, which is also a real life psychological phenomenon The main obstacle I had to overcome this year was getting my survey questions approved by the district for my data collection. I had to be very careful with my diction which was the maine reason I chose to conduct my Confidence Survey outside of the school.

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