Student 2: High Merit

NZQA Intended for teacher use only

My experiment is about guessing the age of a person by looking at the picture of a person. I will investigate whether wearing make-up has an effect on how people guess the age. In my research I have found that celebrities wear makeup aimed at making them look very much younger than their real age and making it harder to guess their age. From the information/ideas found from research for this experiment, it shows that comparing two photos, one with makeup on and another one without make up, can vary the estimated age of a person. The photos of a person with makeup and another without make up can lead people toward an answer which is different, because makeup affects the look of a person by covering dark and red spots, wrinkle, discoloration area, breakouts and any other undesirable spots or areas on their face. These things make photos of a person with and without makeup guide people into different estimates of the real age. I'm not sure if wearing makeup will always make people look younger, because often people wear makeup to look older (like teenagers), so my problem for this investigation is "Does changing the picture of a person wearing makeup and without makeup have an effect on the guesses of the celebrity's real age?"

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I will investigate this problem by using Kim Kardashian photos that will be found from Internet for students to estimate; by the way her real age is 38. There are two treatment groups in this experiment: one is the photo of Kim with her makeup on and another one is the photo of Kim without her makeup, to see if there is a difference of the estimation of her age between the two photos/groups. These photos have a question "How old is the person in the photo? " underneath.

How old is the person in the photo?

How old is the person in the photo?

They will be printed and cut individually. There are 50 photos of Kim altogether, 25 identical photos with makeup and 25 identical photos without makeup. The experimental group will be year 13 students a total 50 of because there where two maths classes on at the same time that had a total of 50 people. On the combined class list I randomly assigned each student a 1 or a 2 using my calculator. If the student was a one they were going to be given a picture of Kim without make up. I had to stop giving students ones when a got to a total of 25. A two meant they were going to getgiven a photo of Kim with makeup.

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At the start of class the teachers helped me tell the students which room to go to.

The students were sent to the two classrooms. All the students with a 1 went into one class and all the students with a 2 went into another class. I then went into the first class and carried out the experiment giving out the picture without makeup. None of the students were told it was Kim Kardashian in the photo. When they had finished I asked them to raise their hand and I collected the photos with the answer to the question back. I then went into the second class and repeated the process with one exception that the photo this group saw was one of Kim Kardashian with make-up. I will record the data from the collected answers on to a spreadsheet. The response variable of this experiment will be the estimated age of Kim Kardashian in years.

The variables I could control in this experiment were

- Each class answered the question in the same test condition, on the same date.
- The students who were ones and twos got the same photos of Kim Kardashian, which was separated into two treatment groups of with makeup and without makeup.
- I didn't tell either group who was in the picture.
- The photos that the students got, had the same question "How old is person in the photo?" underneath.
- I was the one handing out the photos to the students and collecting them and I was the person who recorded the data.

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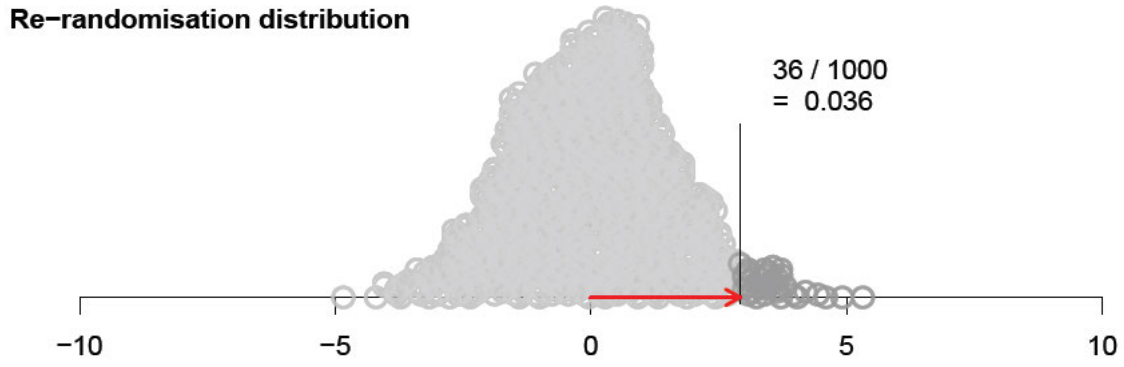
The variables that I could not control are:
- The personal knowledge of the students because some students could have recognised the person in the picture and might know the age of Kim Kardashian from magazine, Internet or TV shows.
- Some of them might have just guessed random answers because they weren't being serious.

From my analysis I discovered that the difference in the mean ages estimated by each group was 2.92 years and the group given the photos with makeup on guessed a lower mean age.
I then looked for evidence to answer my investigative question. I need to find out if it is likely to get a difference as big or bigger than 2.92 by chance alone. I used the randomisation test 1000 times to produce just by chance 1000 differences between the group means. The graph and results produced from this method are shown below:



My observed difference of 2.92 years only came up 36 times out of 1000.

As the estimates produced by random allocation of 3.6% are at least as far from zero as the observed estimate, then the data provide some evidence of a link between the two variables. This means that because the probability is low, it would be unlikely that a difference of 2.92 years could happen by chance alone, so something else must be working with chance to explain the effect. I can therefore make a call that Kim Kardashian wearing make-up did cause the students to guess Kardashians age.to be lower than it actually is.

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My results are also important in terms of how old make-up can make you look.
If I had a chance to do this experiment again I would use photos of an ordinary person when wearing make-up and without wearing make-up for students to estimate, to control the variable of personal knowledge because using Kim Kardashian who is a celebrity, most of people might already have some knowledge about her, making this knowledge a variable that we cannot control. So therefore using someone so well known such as Kim Kardashian, where teenagers are more than likely to know her actual age may have an affect on the outcome of the experiment.

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