A Study on the Reliability of Eyewitness Testimony

Mika Kliewer

Elphinstone Secondary School

Gibsons, BC, Canada[1]

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[1] This study was conducted in 2020 when the author was a high school student.

Abstract

An experiment on the reliability of eyewitness testimony was conducted. Three separate studies took place, each with approximately 20 students between the ages of thirteen and fourteen. The participants completed a survey testing their observational skills after witnessing a confederate disrupting their class for 30 seconds. One studied class answered the survey individually, another class was allowed to converse with each other, and the last class was asked leading questions in an attempt to alter their belief on what they saw. It was concluded that on average, females scored higher on the survey than males. As well, the students who answered individually without contamination or false information scored higher than either of the other groups.

Background

An eyewitness is someone who has seen an event happen and can therefore give a first hand description of it. Eyewitness testimony is the account the eyewitness gives in a courtroom, describing what they witnessed. An eyewitness can be a bystander or victim of an event or incident. In history, eyewitness testimony has been one of the most convincing forms of evidence in criminal trials. It's easy to believe an eyewitness's account of what happened because we can be persuasive and confident as we tend to believe our own perception and experience. However, being convincing doesn't mean you are accurate. Since DNA testing was first introduced in the 1990s, it has been proved that 71% of the 360 wrongful convictions in the United States were mistaken eyewitness identifications. I am doing a study on the reliability of eyewitness testimony, to see how accurate a first-hand eyewitness's account is. I will test this theory on three different grade eight classes during the same block, so as not to allow contamination with someone who has already undergone the experiment. I plan to set up an experiment where I send an unknown person into each class and have them make interaction with the teacher and then leave. I will then ask each class to fill out a survey based on what they had just witnessed, and observe how much they remember and what they believe is true. With one group, each student will take the survey independently, another will be allowed to discuss with one another what they observed, and the last group I will be asking them leading questions to try to alter their belief on what they saw. I hope to get a somewhat accurate reading on how trustworthy an eyewitness's account is, and back up my experiment with results from other studies I can compare with.

Review of the Related Research Topics

Recently, studies done on eyewitness accounts have been high, as psychologists are making many discoveries and applying them to the legal system. In early 2019, Loftus studied misinformation on eyewitnesses and the role of witness confidence. Participants watched a video clip of a bank robbery and were later asked to recall the duration of the event. It was 30 seconds long, however participants usually stated it being around 150 seconds, and some participants said it lasted five minutes or longer. The correct answer, or very close to it, was only given 3% of the time. It was found that the more stressful the event witnessed was, the longer the video seemed. If taken to court and the witness claimed to have seen five minutes of the robbery, it might be suspicious that the witness doesn't recall what the robber looked like having been watching for five minutes, (but was in fact 30 seconds.) Despite the growing knowledge we are gaining on the topic, people are still being wrongfully convicted for crimes quite regularly. Mothers, fathers, friends and neighbors have been falsely accused of crimes, and why is that? One of the reasons for this is faulty memory, this is why recent studies are being done to gather as much information on the topic as we can.

In 2003, Todd Riniolo and Myriah Koledin conducted a study on eyewitness memory of the Titanic's final plunge published in the *Journal of General Psychology.* Most eyewitness studies found that people can accurately recall central details, which is the general gist of what is happening, more often than peripheral details, which are specific details of an event. In the study done by Riniolo and Koledin, eyewitnesses of the Titanic's plunge gave their account of how the

ship sunk. A total of 91 Titanic survivors gave their account and testified at the British and American hearing and answered various questions, such as the state of the ship when it took its final plunge. The results were these; out of the 20 eyewitnesses who had been identified, 75% stated that the Titanic was indeed breaking apart as it was sinking, and 15% did not testify to this.

In 2016, a study was done on the reliability of eyewitness skills on people with intellectual disabilities, such as down syndrome. Down syndrome is one of the most common genetic causes of intellectual disability, and authors D. Collins and L. Henry studied the accuracy of eyewitness testimony of young people with DS. For the experiment, a group of young people with DS and a group of children who were typically developing (TD) individuals (who were at the same mental age level) watched a non-violent crime video. After, the participants were asked to recall the event freely, and were then asked specific questions, some of which were misleading. Collins and Henry concluded that people with down syndrome provided just as much information and were just as accurate as TD children of the same mental age.

After reading through the three full studies briefly summarized above, I have concluded that although eyewitness testimony and statements often play an important role in trial and investigations, not many studies have been done on the accuracy of it. I have found that most sources believe eyewitness testimony to be unreliable, as more often than not it has been proven to be inaccurate. I am planning on testing this theory and discovering for myself whether is

should be a reliable source and if asking leading questions of the witnesses distorts or contaminates the results.

Methods

I have collected my data on the reliability of eyewitness testimony by conducting a survey to be completed after a specific event took place. All three of my experiments were held in different classrooms of the same highschool in the lower mainland of British Columbia. The class in which I conducted my first study consisted of 22 students in the eighth grade, 12 of which were female and 10 of which were male, all between the ages of 12 and 14. I had a confederate working with me for each study, and I had them walk into the classroom and talk with the teacher about missing homework for around 30 seconds. The confederate, a girl in grade 10 at the same school, acted and dressed like a student as to not raise suspicion. After the brief exchange between the confederate and the teacher, the class resumed as before and students carried on class activity. Five minutes later, I came into the classroom and held the attention of the students as I told them I was looking for a grade 10 student who recently came and went from their classroom. I said I needed eyewitnesses who could give me detail on physical description and behaviour of the grade 10 student. I handed out a single-paged short answer survey which I instructed the participants to complete as best they could individually. I gave them five minutes and monitored the participants to make sure they didn't confide in each other and share answers. I collected the surveys after the allotted time and left the classroom. Within the same class period of one hour and seventeen minutes, I underwent this experiment, or close

to it, three times. They all had to take place within the same period as to not allow contamination with students who could have already been in a previous class. The first experiment was as described above, as for the others, I will now explain. The second experiment took place within another grade 8 class of 24 students, 14 of which were female and 10 were males. With this class, I underwent the same process with the confederate entering the room up until the five minutes after they left. When I came into the room with the surveys, I asked this class to discuss with one another and compare answers and gave them strictly five minutes, the same as before. I then collected the papers and left. As for the third experiment, I followed the rules until the survey hand out time, and then mixed things up a bit. I asked the students leading questions which were false, as an attempt to alter their belief on what they thought they saw. The questions I asked are listed below. After asking the class the pre-written questions, I gave them five minutes to independently write down their thoughts. I collected the papers and left, ending my three experiments.

Leading Questions the Confederate (myself) asked of the Participants (the grade 8 class)

1) If you noticed the jacket they were wearing, what color was it?
2) Did you notice their hat, their glasses?
3) Tell me if their hair was braided or in a ponytail
4) Tell me if they had brown hair, or curly hair
5) Did they look anxious? In a hurry?

Eyewitness Testimony Investigation Questions

Please fill in the questions with your personal opinion on what you believe you witnessed

Your Gender

- ❏ Male
- ❏ Female
- ❏ Prefer not to say

Describe all clothing items the suspect was wearing

Your answer

Describe hair color, style, length, etc.

Your answer

Please list approximate age, grade, height, etc.

Your answer

Describe in detail what you noticed about the suspects face and facial expressions

Your answer

Any additional information

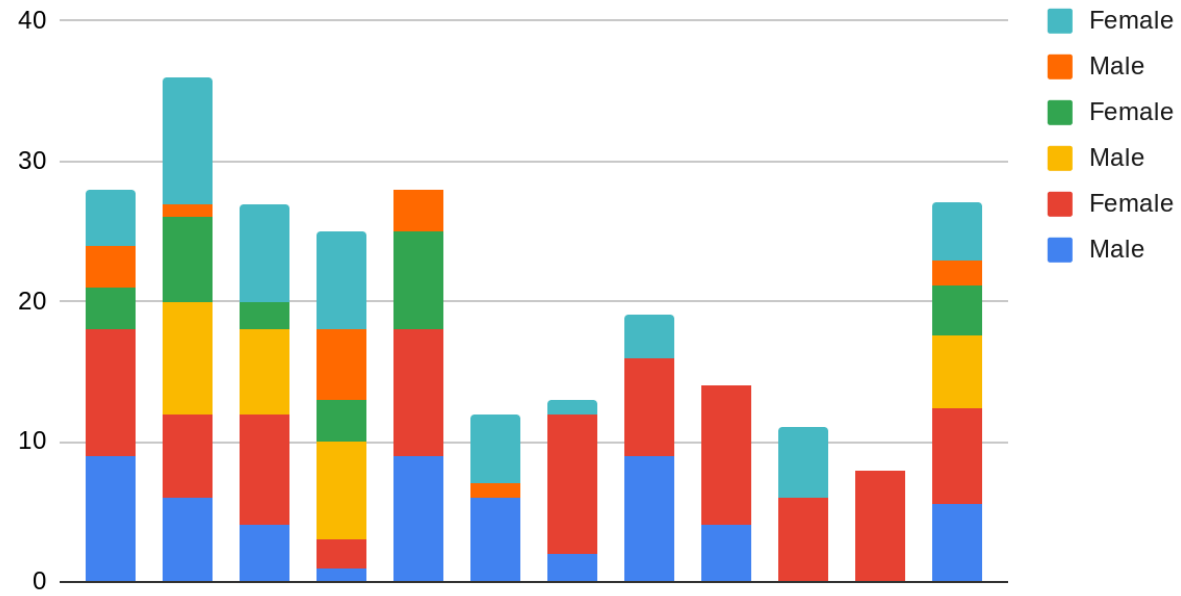
Your answer

Data

The data is presented in the table below.

Individual Answers		**Answered with Others**		**Leading Questions**	
Male	Female	Male	Female	Male	Female
9	9	0	3	3	4
6	6	8	6	1	9

4	8	6	2	0	7
1	2	7	3	5	7
9	9		7	3	0
6	0		0	1	5
2	10			0	1
9	7				3
4	10				0
	6				5
	8				
5.555555556	6.818181818	5.25	3.5	1.857142857	4.1


Individual Answers: female 1, male 2. Answered with Others: female 3, male 4. Leading Questions: female 5, male 6.
40
30
20
10
0
Female
Male
Female
Male
Female
Male

Discussion

Above I have displayed my data from my experiments in multiple tables and a chart to accommodate the three individual classes I tested on. Each participants outcome was marked out of 10, with an average tallied up at the bottom for all male and female answers in a particular group. It appears that the most observant eyewitness group with the most correct answers were the females who answered individually, with a score of 6.82. This could partly be because this group had the most participants, although studies do show that females pay more attention to detail. The males who answered individually scored the second highest with 5.55, which proves that the Individually Answered group, without contamination or leading questions, holds the highest results for correct eyewitness testimony. This is what I suspected as it's how real eyewitnesses are questioned, but I wanted to test my theory. In the second group, where conversing with others was supported, the males scored the highest, coming in third place overall with 5.25. I didn't expect this as they had ⅓ less participants than the females. The females had a score of 3.5. In the last group, the survey was answered individually but was addressed with leading questions in an attempt to alter the participants belief on what they saw. The average score of males and females combined in this group was the lowest out of the three groups. This is what I was hoping to achieve. The males scored the lowest yet, with 1.86. The females, though the second largest group, had a score of 4.1. If I had the chance to make some changes, I would have made sure each group had the same number of participants to ensure correct data was collected. I would have also made sure that each class was paying attention when the confederate came in, because the classes I studied were electives, and the majority of students in the second group didn't even look up. Because of the setbacks and minor errors described above, the results

for this experiment may not be completely trustworthy, although much of it does coincide with previous research and studies done on the topic.

Conclusion

I studied the reliability of eyewitness testimony on grade 8 students. The most reliable source was discovered to be the participants who answered individually, with females placing before males. The second most reliable source appears to be the group of students who were encouraged to converse with one another when answering the survey. The group that scored the lowest were the participants who were asked leading questions to confuse them when answering the survey. I have concluded a theory after having tested my experiment, which is as follows. Unless made obvious that it is an event worth paying attention to, most people don't bother to look out for details when they have their own things to do. However I did find, in my study, that females were more observant than males when it comes to details. I also found that when being told to pay attention, most participants did.

References

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