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the Faculty of Alfred University

The Effect of Misleading Co-Witness Information and Self-Esteem on the Accuracy of Eyewitness Memory

By

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Abstract

The aim of this study was to examine the effect of social influence and misleading information on the accuracy of memory of a crime, and the role of self-esteem on conformity. Previous research has shown that memory is changeable (Loftus & Palmer, 1974), and Asch (1951) demonstrated the power of social pressure. While self-esteem can be threatened by social groups (Pool, Wood, & Leck, 1998) there is limited information about the role of self-esteem on conformity. This research area has major implications for the validity of eyewitness testimony. In this study, groups of participants completed a self-esteem scale, watched two videos of crimes and answered questions about them. For one of the crimes, all participants watched an identical video. For the other crime, one participant viewed an alternate video with different features (e.g., purse color). All participants verbally responded to questions about the video, ending with the target participant. The accuracy of this participant's responses was recorded. I hypothesized that accuracy would be lower when participants watched the alternate video and received misleading information from the majority group, especially for participants. I used a repeated measures ANCOVA analysis to examine the relationship between misleading information and accuracy of recall with self-esteem as a covariate. There was no significant main effect of misleading information on accuracy, indicating that misleading information did not cause a reduction in accuracy. There was no significant interaction between misleading information and self-esteem, indicating that self-esteem did not have an effect on accuracy in either condition.

The Effect of Misleading Co-Witness Information and Self-Esteem on the Accuracy of Eyewitness Memory

The judicial system in America places a great deal of weight on eyewitness testimony. However, memory is not always reliable and is changeable. Witnesses who discuss an event with others often incorporate misinformation encountered during the discussion into their memory of the event (Cochran, Greenspan, Bogart, & Loftus, 2016). Incorrect responses may also be the result of conforming behaviors due to *normative influence*, in which people want to gain social approval or avoid alienation, or *informational influence*, in which people agree with majority because they want to provide accurate information (Goodwin, Kukucka, & Hawks, 2013). There are many factors to account for the misinformation effect. This study explores the effect of social influence from a majority group on the accuracy of participants' memory of a crime event. This study investigated whether a co-witness majority could lead participants to incorporate inaccurate information into their post-event recall of a criminal event, causing their accuracy to be lower than when they did not receive inaccurate information from co-witnesses.

Post-event information can influence memory reports, which is sometimes referred to as *memory conformity* (Gabbert, Memon, & Allan, 2003; Wright, Self, & Justice, 2000) or *social contagion of memory* (Roediger, Meade, & Bergman, 2001). Although the power of the situation can override an individual's personality, some individuals may be more susceptible to accepting misinformation and reporting errors than others due to specific personality traits. Doughty, Paterson, MacCann, and Monds (2017) found that individual personality differences such as openness, conscientiousness, extraversion, agreeableness, and neuroticism are associated with memory conformity. Personality traits such as self-esteem can play a role in conformity. Tainaka, Miyoshi, and Mori (2014) found that participants with low levels of self-esteem tended

to conform to their co-witness more often than those with high self-esteem scores. In the present study, I examined whether the lower self-esteem correlates with lower accuracy when given misleading information from a co-witness majority.

Asch's (1951) work on influencing responses on perceptual judgment tasks demonstrated the power of social pressure from a majority group. When seven confederates provided blatantly incorrect responses about the length of a line during a mock perception task, the majority of participants conformed at least once by agreeing with the confederates incorrect answers. Participants responded correctly when questioned individually. Research following this classic study provides further evidence that people will yield to social pressure to fit in with a majority group. Ost, Ghonouie, Cook, and Vrij (2008) found that people conform more when influenced by larger group compared to being influenced by just one person. After one participant watched a video of a staged crime, one or three confederates gave the same incorrect responses to four out of the eight questions. Participants had significantly fewer accurate responses in the presence of three confederates, as opposed to when there was just one confederate. When confederates gave high confidence scores about their answers, participants also reported higher confidence despite not being more accurate. This indicates that the desire to gain social approval, not to be accurate, was the motivation for conformity. These studies suggest the difference between seeking approval versus accuracy is important to the understanding of conformity and memory.

Research about the malleability of memory has shaped our understanding of eyewitness testimony. The phrasing of a question can influence memory of an event (Loftus & Palmer, 1974). In one such study, participants viewed a video of a car accident. When asked "About how fast were the cars going when they *smashed* into each other?" participants gave higher estimates of speed than when asked questions which used the verbs *collided, bumped, contacted,* or *hit* in

place of *smashed.* A week later, those who had heard smashed responded "yes" more often when asked if they saw any broken glass in the video, which is associated with accidents occurring at high speeds. This happened because participants integrated the words used by the researcher into their memory of the event.

Wright, Self, and Justice (2000) provide support for Loftus and Palmer's (1974) findings that misleading post-event information can influence memory reports of witnesses. Participants viewed images of cars and were then tested on their memory with a partner. The partner had either viewed the same images or viewed thirty of the same images and ten different images. Participants who were provided misleading information from their partner had lower accuracy. Accuracy was higher when participants were given correct information by partners who had viewed the same images. In a second experiment, half of the participants saw an accomplice with the thief and the other half did not. Other than this, the crimes were identical. When participants recalled the scene individually, their responses were accurate, indicating that private recall was not affected. However, when discussion pairs were formed with one participant who had seen the video depicting an accomplice and one who had not seen an accomplice, the majority of participants conformed to say they had seen the same number of people as their partner.

Gabbert, Memon, and Allan (2003) also used this methodology of showing participants two different videos. Participants watched a video that had two versions shot from different perspectives. There were a few differences between the videos, including a view of a minor crime. Those in the co-witness condition were led to believe they were watching the same video as another witness, but one watched perspective A and the other watched perspective B. Participants in the individual condition then completed a questionnaire about the event on their own while those in the co-witness condition completed it in a dyad with the other witness. After

a delay, participants completed memory tests individually. A significant proportion of witnesses who had discussed the event in their dyad mistakenly recalled items brought up by their partner. The present study uses similar methodology, because having participants watch different videos eliminates the need to train confederates to provide misinformation. However, the present study does not include a discussion period.

Although conformity research is fairly well established, the understanding of the individual factors that affect susceptibility to social influence is still incomplete. Asch (1951) noticed extreme individual differences among participants. In contrast to those who yielded to the majority response due to distortion of judgment or distortion of action, some participants were independent. These participants remained confident throughout the trials and did not yield to group pressure. The present study investigated whether people who have higher self-esteem, and are likely more confident, are protected from conforming behaviors. People with lower self-esteem may be more likely to conform since they may want to fit in with the majority group more and may be afraid of standing out.

Social psychologists have long recognized that valued reference groups influence people's attitudes and interpretations of events. Self-esteem can be threatened by positions of self-relevant social groups (Pool, Wood, & Leck, 1998). Participants changed their interpretations of issues in order to either align with the majority or distance themselves from the minority. Participants who wished to align themselves with a majority group and who learned that the group held an opposing attitude to them experienced reduced self-esteem. Those who wished to distance themselves from the minority who learned the group held similar attitudes also suffered from reduced self-esteem. The threat from the group's attitude was evident only among participants for whom the group was highly self-relevant. Although Pool et al. (1998)

provided valuable evidence for the ways in which self-esteem is influenced by social groups, they did not directly address the differences in conformity between people with low or high self-esteem.

A linear relationship between self-esteem and susceptibility to social influence has often been found among men (Gergen & Bauer, 1976). In men, as self-esteem increases, conformity decreases. In women, a curvilinear relationship between self-esteem and conformity was found in both low and moderately-difficult conditions. This indicates that women with average self-esteem conform more than those with low or high self-esteem. Women participants were told to make judgments on a series of paintings. They judged paintings on several qualities like color, creativity, and aesthetic goodness. Some of the judgments were simple, like color, and others were complex, like aesthetic goodness. After demonstrating their initial judgment to the researcher by pressing a button, the participant saw the response of another *participant*, who they were told was an art major. The experimenter explained their ability to see the response as a glitch in the system. The participant then gave their judgment again and the researcher recorded whether the participant changed their response to be more similar to the response of the other *participant*. Gergen and Bauer (1976) found that while the high- and low-self-esteem subjects did not differ from each other in conforming behavior, the medium-self-esteem subjects were most conforming. As self-esteem increases, so does conformity, but only to a certain point.

The results of these studies have major implications for the validity of eyewitness testimony. It is important to understand the effects of co-witness information on memory because eyewitnesses frequently discuss the criminal events they have seen with other witnesses. While there is an abundance of research regarding conformity and eyewitness testimony, the individual factors that make people more or less likely to conform have not yet been thoroughly explored.

The present study addressed this gap in the literature by investigating the link between self-esteem and conforming behaviors.

In the present study, I aimed to investigate the following questions: Do people conform to the response of a majority group of co-witnesses after viewing a crime scene? I aimed to provide support for previous research. I also examined the role of self-esteem in the likelihood to conform. Does having low self-esteem lead to a higher degree of conformity? In contrast, does having an average or high self-esteem protect people from conforming?

The aim of the present study was to compare the responses of participants when they hear misleading post-event information to when they do not hear misleading information. I predicted that when target participants view a crime event video that is different from the majority video, their accuracy on post-event questions would be lower than their responses when watching the same video. Concerning self-esteem, I predicted that lower self-esteem will correlate with lower accuracy for the participant when viewing the different video and receiving misinformation from co-witnesses. I predicted this would happen because people with lower self-esteem may seek approval from the majority group. They might also want to avoid standing out, and may question the accuracy of their own memory more than those with higher self-esteem.

The present study aimed to provide support for previous research about conformity (Asch, 1951) and the suggestibility of memory (Loftus & Palmer, 1974; Cochran et al., 2016) while analyzing an individual factor that has not been studied in-depth, especially in current literature. This study will expand our current understanding of the role of self-esteem in social influence.

Method

Design

The experiment used a within-groups design to examine the effect of the independent variables misleading information and self-esteem on the dependent variable accuracy of recall. I used a one-way repeated measures ANCOVA to analyze the relationship between misleading information and participants' accuracy of recall, with self-esteem as a covariate.

Participants

Eight participants (4 women, 4 men, *M*age = 20 years, age range: 18-24 years) were recruited from a small liberal arts college in Western New York. Those enrolled in an Introduction to Psychology class received research credits for participating in the study. There were no specific requirements for participation.

Materials

Memory stimulus. The eyewitness stimuli used in this study were 18 to 24 second videos depicting either the theft of a purse or a drug deal. Two slightly different versions of each video, Version 1 and Version 2, were recorded. Table 1 summarizes all of the differences between the videos in the purse stealing videos and Table 2 summarizes the differences in the drug deal videos (see Appendix C). Each participant was randomly assigned to see just one version of the video in the misleading information condition. All participants watched the same version of the video in the no misleading information condition.

Self-esteem. The variable self-esteem was measured by the participants' scores on the Rosenberg Self-Esteem Scale (RSES), which is considered a reliable and valid quantitative tool for self-esteem assessment (Blascovich&Tomaka, 1991). The scale generally has high reliability:

test-retest correlations are typically in the range of .82 to .88, and Cronbach's alpha for various samples are in the range of .77 to .88. The RSES is a ten-item Likert-type scale. Items were answered on a four-point scale ranging from 0 (*strongly disagree*) to 3 (*strongly agree*).Five of the items have positively worded statements (e.g., I feel that I have a number of good qualities) and five have negatively worded ones (e.g., I feel I do not have much to be proud of). A score of less than 15 indicates low self-esteem and a score between 15 and 30 is considered average or high self-esteem (Huang & Dong, 2012). Since I expected to have few participants scoring very high or low, self-esteem was measured by the score out of 30 points rather than separated into categories of low, average, and high self-esteem.

Procedure

Participants were recruited from a small liberal arts college in Western New York. I posted signup sheets on the board for the psychology floor. Students enrolled in an Introduction to Psychology class received two research credits for participating in the study since each session took about 20 minutes. Students in upper level psychology classes who had recently learned about research by Asch (1951) and Loftus and Palmer (1974) were prohibited from being target participants but were allowed to be a part of the co-witness majority. These students received extra credit.

Three to five people attended each session. The minimum attendance requirement was three so that there would always be a majority group to influence the target participant. I did not instruct the majority on how to act during the sessions and they had very little knowledge of the experiment, so I will refer to anyone other than the target participant as *co-witnesses*. In each session there was one target participant and two to four co-witnesses. Target participants and co-

witnesses sat at individual computers in the Herrick Memorial Library computer lab. The lab had two rows of computers facing outward, so people on one side could not see the screens on the other side. Videos were pre-loaded on six screens that were spaced out in the lab so that no one could see each other's screens without visibly turning their heads. One computer seat was assigned to be for the target and the rest of the computers were for the two to four other members who made up the co-witness majority. Target participants were not aware of the distinction between target and co-witnesses.

As part of the informed consent, I explained that everyone would be filling out a self-esteem inventory and then watching two videos of staged crimes. Participants and co-witnesses were told that they would answer questions about the crime following each video. Minimal deception involving focusing on the events of the video was used to give a rationale for viewing the videos on separate screens.

Participants and co-witnesses then filled out the Rosenberg Self-Esteem Scale (Rosenberg, 1965) (Appendix B). After collecting the scales, I instructed everyone to focus on their own screens because each video would only be 19 to 24 seconds long and would only be played once. If they looked away, they would miss important details. I explained that they needed to use individual screens rather than one large projector screen so that no one had a spatial advantage. I did not provide an incentive to pay attention. I instructed everyone to speak only during questioning in order to avoid distracting the other participants.

I instructed everyone to open a video file which was minimized on the toolbar. The video depicted the same crime (either the theft of a purse or a drug deal). In the experimental condition, the target video had different characteristics than the majority video (e.g., a purse was green for

the target and black for the majority). The different characteristics corresponded to the questions afterward. For comparison, all participants and co-witnesses viewed another video depicting the other crime. In the control condition, the same target and the co-witness majority watched an identical video. The order of the videos was counterbalanced so that in half of the sessions, the drug deal was first and in the other half, the purse theft was first. The order of the control condition and experimental condition was also counterbalanced. In half of the sessions, the video that was different for the target was first. In the other half, the video that was the same for both the co-witnesses and target was first.

I then asked eight questions (Appendix C), one question at a time. The questioning started with the all of the co-witnesses and ended with the target so that the target always responded last to each question. The first question had the same correct answer for both versions of the video to establish credibility of the majority participants. I recorded the responses to the last seven questions for the target participant using a scoring sheet to measure accuracy (Appendix D).

I recorded responses from participants and co-witnesses to the last seven questions in both the misleading information and no misleading information (control) conditions. This allowed me to observe whether the co-witnesses were actually providing misinformation. The accuracy (i.e., number of correct responses out of seven) of the target participant in the experimental and control group was used to compare the accuracy in each condition. The variable self-esteem was measured by the participants' scores on the Rosenberg Self-Esteem Scale (Rosenberg, 1965).

Following the last series of questions, participants took a demographic survey (Appendix E) to record their gender, race/ethnicity, and age. I then handed out the debriefing statement (Appendix F) and explained the purpose of the study. I reminded participants that it is normal to feel uncomfortable in situations in which they may express a dissenting view or feel pressure to agree with a majority view.

Results

I was investigating the following questions: Do people conform to the response of a majority group of co-witnesses after viewing a crime event? Does having lower self-esteem lead to lower accuracy due to conformity? In contrast, does having higher self-esteem protect people from conforming to the responses of the majority group? I conducted a one-way repeated measures ANCOVA to analyze the relationship between misleading information and participants' accuracy of recall, with self-esteem as a covariate. The analysis revealed no significant main effect of misleading information on the dependent variable, accuracy of memory (F (1, 2) = 1.96, p = .296). This finding does not support my hypothesis that the independent variable, misleading information, would cause a decrease in accuracy of memory. On average, when participants heard misleading information their number of accurate responses out of seven (M = 6.0, SD = 0.926) was not significantly different from when they did not hear misleading information (M = 6.63, SD = 0.518). There was no difference in accuracy when participants watched a different video than the co-witnesses compared to when they watched the same video.

The scores on the RSES ranged from 20 to 30 points out of 30 (M = 23.5, SD = 3.162). There was no significant interaction between misleading information and the independent variable, self-esteem (F (5, 2) = .540, p = .750). This finding does not support the second hypothesis that participants with lower self-esteem would have lower accuracy when receiving

misleading information compared to participants with higher self-esteem. The participant's self-esteem score on the Rosenberg Self-esteem Scale (RSES) did not affect the accuracy of memory when hearing misleading information provided by co-witnesses. Due to the low sample size (n = 8), the present study had low statistical power (misleading information = .137, misleading information x self-esteem = .076), meaning the analysis had a reduced chance of detecting a true effect.

Discussion

In this study, when participants watched a different video and co-witnesses provided misleading information based on the video before the participant responded, the participant did not conform by agreeing with the majority. For this reason, the data does not support the first hypothesis that misleading information would cause a decrease in accuracy of memory. The second hypothesis, that participants with lower self-esteem would have lower accuracy when receiving misleading information compared to those with higher self-esteem, was also rejected. In this study, low self-esteem did not lead to conformity and high self-esteem did not protect participants from conforming.

This research has implications for the weight the judicial system places on eyewitness testimony. If there had been a high enough power, this study would demonstrate that hearing misleading information from co-witnesses does not negatively affect memory. This would mean that law enforcement officials do not need to prevent conversations between witnesses. However, because there was a low sample size in the present study, I cannot draw this conclusion. These findings do not support classic research that shows that misleading post-event information, wording choice, and questions containing pre-suppositions can influence memory reports after

witnessing an event (Loftus & Palmer, 1974). These findings also do not support current research regarding *social contagion of memory*, a phenomenon that can increase recall of incorrect information, especially when suggestion is consistent with the scene shown (Roediger, Meade, & Bergman, 2001).

Because there is a lack of research relating to the role of self-esteem in conformity, the present study contributes to the understanding of self-esteem. Pool, Wood, and Leck (1998) found that self-esteem can be threatened by the positions taken by self-relevant social groups. However, the present study did not investigate a change in self-esteem, but rather self-esteem as an individual factor that may affect the likelihood to display conforming behaviors. In the present study, self-esteem did not have an effect on accuracy. Concerning the relationship between self-esteem and susceptibility to social influence, a linear relationship has been found among men and a curvilinear relationship has been found among women (Gergen & Bauer, 1967). In women, conformity increases with self-esteem, but only to a certain point. The present study did not address gender differences and did not find support for either of these relationships. Asch (1951) found evidence of extreme individual differences. Asch explained that some participants yielded to the majority response due to *distortion of judgment*, in which they genuinely believed the majority was correct and doubted their own judgment and others yielded due to *distortion of action*, in which the participant believed they were correct but agreed with the majority to avoid discomfort. In contrast, some participants were *independent*; these participants remained confident throughout the trials and did not yield to group pressure. These confident individuals may have had higher self-esteem. The present study may not have included enough participants who had self-esteem on the very high and very low end of the spectrum, which could have resulted in fewer *lone wolves* and yielding participants.

Although no participants in the present study completely yielded to the majority, I noticed similar individual differences to Asch (1951). During the questioning periods after the participant watched a different video than the co-witnesses, everyone seemed to notice that this participant was providing different responses. Some target participants appeared embarrassed or spoke quietly while others remained confident despite the discrepancy in their responses. Many participants and co-witnesses laughed or appeared confused as a response to the uncomfortable social situation in which they were unsure of how to act.

One explanation for the discrepancy with existing research is that the current study had a small sample size, leading to low statistical power. This meant that there was a lower chance of finding an effect. In future research, a population with greater differences in self-esteem could provide a better understanding of the role of low or high self-esteem in the context of social influence.

Another limitation was that I created the stimulus videos of staged crimes. They have not been used in previous studies and were not tested for validity. In addition to this, many co-witnesses provided incorrect responses due to not remembering the videos accurately since they had not been instructed on how to respond. This may have resulted in the introduction of different misleading information and more confusion for the target participant and co-witnesses. In some cases, accuracy may have been lower due to the distraction of hearing other responses or participants may have not actually seen or remembered all of the details of each video.

Most importantly, if results had been significant, it would be difficult to interpret whether participants conformed or their memories were altered. Of the six participants who were privately asked “What do you think this study is about/what do you think really happened?” on

the demographic survey, only one participant pointed out that the co-witnesses were providing different responses. This participant responded "The effect other's responses have on eyewitness testimony." This may indicate that the majority of target participants believed they simply recalled the events differently than others.

Even if the participant truly believed the co-witnesses' response was correct, this would likely be due to *distortion of judgment* (Asch, 1951), which is now referred to as *informational influence*. The goal in informational influence is to provide an accurate recollection. In contrast, the goal in *normative influence* is to gain social approval and avoid alienation (Goodwin et al., 2013). Because seven out of eight of the correct responses were completely different than the video watched by the majority, the participant would likely need to make a choice to go against the majority or not, which lends itself to conformity rather than memory reconstruction.

In order to focus more on memory reconstruction, future research could use videos with fewer, more subtle differences. For example, if the only difference between the videos was purse color, more participants may rely on the responses of the co-witnesses and question their own memory after the co-witnesses had already established credibility by providing correct answers. Instead of untrained co-witnesses, future research could use actual confederates who are trained to respond with pre-set answers. Future research could also focus on the interaction between self-esteem and the presence of a true partner, which has been found to decrease conformity (Asch, 1951). Individuals with low self-esteem may benefit from having someone in their corner who agrees with them. Although this study did not find an effect of self-esteem, future research should further investigate this individual difference and others.

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Appendix A

Consent Form

Accuracy of Eyewitness Reports

You are invited to be in a research study of the accuracy of eyewitness reports. We ask that you read this form before agreeing to be in this study. This study is being conducted by Grace Beekman, Alfred University, Alfred, NY 14802.

Background Information

The current study will investigate the accuracy of memory in eyewitness reports after viewing a crime.

Procedures

If you agree to participate in this study, we ask that you fill out a self-esteem inventory, watch two videos of staged crimes, answer questions about the crimes, and fill out a demographics survey. Completion of this study is estimated to take approximately 15-20 minutes.

Risks and Benefits of Being in the Study

It is possible that you may feel discomfort during this study. You are free to discontinue your participation at any time during the study. In the event that this experiment causes mild distress, the researcher suggests that you consult with the Alfred University Wellness Center (607-871-2300) or another mental health service provider in your immediate vicinity. Participation in this study may provide you with some additional knowledge about research related to eyewitness accounts and your participation will hopefully add to this knowledge base.

Confidentiality

The records of this study will be kept private. In any sort of report we might publish, we will not include any information that will make it possible to identify a participant. Only the researcher and faculty advisors will have access to the records. Records will be kept for at least three years after completion of the study, after which records may be destroyed at the discretion of the researcher.

Voluntary Nature of the Study

Your decision whether or not to participate will not affect your current or future relations with Alfred University. If you decide to participate, you are free to withdraw at any time without penalty.

Contacts and Questions

The researcher conducting this study is Grace Beekman. If you have questions about your participation in this study please contact the researcher electronically at geb2@alfred.edu. If you have any questions now, or later, related to the integrity of the research, (the rights of research

subjects or research-related injuries, where applicable), you are encouraged to contact Dr. Danielle D. Gagne, Chair of the Alfred University Human Subjects Research Committee, at (607) 871-2213 or at HSRC@alfred.edu.

Statement of Consent

I have read the above information. I consent to participate in the study.

_____ _____

Signature Date

Appendix B
Rosenberg Self-esteem Scale

Below is a list of statements dealing with your general feelings about yourself. Please indicate how strongly you agree or disagree with each statement.

0 = Strongly disagree 1 = Disagree 2 = Agree 3 = Strongly agree

1) I feel that I am a person of worth, at least on an equal plane with others.

2) I feel that I have a number of good qualities.

3) All in all, I am inclined to feel that I am a failure.

4) I am able to do things as well as most people.

5) I feel I do not have much to be proud of.

6) I take a positive attitude toward myself.

7) On the whole, I am satisfied with myself.

8) I wish I could have more respect for myself.

9) I certainly feel useless at times.

10) At times I think that I am no good at all.

Appendix C
Eyewitness Questions

Summary of Differences between Video 1 and Video 2 in Purse Theft Video

Question	Version 1 (majority)	Version 2 (target)
What gender was the thief?	Male	Male
What color shirt was the thief wearing?	Blue	Pink
Where was the purse before it was stolen?	On the sofa/couch	On the floor
What color shirt was the victim wearing?	Purple	Gray
What color was the bag that was stolen?	Black	Green
What was the victim doing?	Reading a book	Talking on the phone
Was the victim with anyone?	Yes	No
Did the thief walk or run from the scene?	Run	Walk

Summary of Differences between Video 1 and Video 2 in Drug Deal Video

Question	Version 1 (majority)	Version 2 (target)
What was the location of the crime?	Library	Library (same)
Who was at the scene first; the dealer or buyer?	Dealer	Buyer
What color shirt was the dealer wearing?	Gray/White/Tan	Black
What color shirt was the buyer wearing?	Black	Gray/White
Was the dealer wearing a hat?	Yes	No
What gender was the dealer?	Male	Female
Were there any other witnesses?	Yes	No
Did you see the bag of drugs?	Yes	No

Appendix D
Response Recording Sheet

PURSE THEFT		
Question	**Response**	**Accuracy (1 point/response)**
What color shirt was the thief wearing?		
Where was the purse before it was stolen?		
What color shirt was the victim wearing?		
What color was the bag that was stolen?		
What was the victim doing?		
Was the victim with anyone?		
Did the thief walk or run from the scene?		
		Total:

DRUG DEAL		
Question	**Response**	**Accuracy (1 point/response)**
Who was at the scene first; the dealer or buyer?		
What color shirt was the dealer wearing?		
What color shirt was the buyer wearing?		
Was the dealer wearing a hat?		
What gender was the dealer?		
Were there any other witnesses?		
Did you see the bag of drugs?		
		Total:

Appendix E
Demographic Survey

1) What is your gender? _____
2) What is your age? _____
3) What is your race/ethnicity? _____
4) What do you think this study is about/what do you think really happened?

   _____

Appendix F
Debriefing Statement

This study was conducted to examine the effect of social influence from a majority group on the accuracy of participants' memory of a crime event. The researcher is also investigating the role of self-esteem in conformity and suggestibility. For one of the crimes witnessed, one participant viewed a different video from the rest of the group (e.g., a purse was green in version 1 and black in version 2). This misleading information was provided by co-witnesses who had watched the alternate video. For each video, all responses were recorded, but the responses of only one participant will be included in analyses. The researcher is measuring the accuracy of this participant's response in order to see if their response was influenced by the misleading information provided by the majority of participants. Minimal deception was needed to study the effects of social influence without hinting at the real purpose of the study. You earned 2 research credits by participating in this study.

There are minimal risks associated with your agreement to participate in this research; you only experienced situations and completed tasks that carry the same level of risk you can expect in daily life. The researcher understands that participants may have experienced some discomfort or doubt during the questioning period after watching different videos. It is normal to feel uncomfortable in situations in which you may express a dissenting view or feel pressure to agree with a majority view. If you experience any emotional distress as the result of participating in this study, psychological treatment is available through Alfred University Counseling Services (607) 871-2300, which is part of the free health services in the Wellness Center.

This study will be completed by the end of April 2018 and will be presented at the Alfred University Undergraduate Research forum on April 19, 2018.

The primary researcher for this study is Grace Beekman, and you may contact her at geb2@alfred.edu for answers to questions about the study. Dr. Beth Johnson is the chairperson of the researcher's University Honors Committee. You may also contact Dr. Johnson via email at JohnsonBC@alfred.edu or by phone (607) 871-2854 with questions or concerns about the study. You may also contact faculty advisor Dr. Amy Button at button@alfred.edu. If you have questions about research participants' rights, you may contact the Human Subjects Research Committee chairperson, Dr. Danielle Gagne, at (607) 871-2873 or hsrc@alfred.edu.

Please do not discuss the details of this study with any of your classmates or friends.