

The Influence of Social Media on Eyewitness Accounts

by

Torrian M. Pace

Submitted in Partial Fulfillment of the Requirements

for the Degree of

Master of Science

in the

Criminal Justice

Program

YOUNGSTOWN STATE UNIVERSITY

May, 2015

The Influence of Social Media on Eyewitness Accounts

Torrian M. Pace

I hereby release this thesis to the public. I understand that this thesis will be made available from the OhioLINK ETD Center and the Maag Library Circulation Desk for public access. I also authorize the University or other individuals to make copies of this thesis as needed for scholarly research.

Signature:

---

*Torrian M. Pace*, Student

Date

Approvals:

---

*Dr. Gordon G. Frissora*, Thesis Advisor

Date

---

*Dr. Richard L. Rogers*, Committee Member

Date

---

*Dr. Adam C. Earnhardt*, Committee Member

Date

---

Dr. Salvatore A. Sanders, Associate Dean of Graduate Studies

Date

## **ABSTRACT**

The purpose of this study is to see if the description of a suspect by a witness is affected by the witness' use of social media. Using data from the surveys that were administered to two classes, a Pearson's  $r$  correlation analysis was used to predict that the accuracy of the description is inversely proportional to the time spent on social media.

The statistics show that the use of social media, emailing, and text messaging is steadily rising. The dependent variable is the accuracy of respondent's description of the individual. The independent variable is an ordinal scale constructed from time spent on the use of social media and membership. One of the main benefits of this study is how relatively new it is to the criminal justice and human behavioral fields.

Results indicated that the null hypothesis could not be rejected. However seven items comprising the dependent variable were found to be statistically significant predictors of the hypothesis.

## **ACKNOWLEDGEMENTS**

First and foremost I would like to thank my Lord and Savior Jesus Christ for making the ultimate sacrifice, demonstrating His love for us, and giving me the strength each day.

Special recognitions to Dr. Gordon Frissora for his hard work, assistance, motivation, and commitment. It was truly a team effort and I appreciate all that he taught me throughout this study. I would also like to thank Dr. Richard Rogers and Dr. Adam Earnhardt for contributing to the team effort. They provided me with extraordinary incite, knowledge and were very supportive during the process. A notable appreciation to Josh Hall and Josh Copeland for volunteering their time out of their busy schedule for their assistance with this research study.

I would like to give a special acknowledgement to Dr. John Hazy for his respected assistance as a graduate coordinator, professor, and mentor. As a graduate/teacher assistant, I have had an amazing experience learning from different faculty members and their diverse backgrounds. I have had the pleasure of assisting Dr. Christopher Bellas, Atty. Patricia Wagner, and Professor Phil Dyer during my two year term. I sincerely appreciate them all for the time I had assisting them.

Lastly, I thank God for blessing me with great parents and a younger brother for loving, encouraging, and supporting me. Alongside my immediate family, my grandparents, aunts, and uncles have been a great support team as well. I am continually

reminded by my parents to do the best I can in whatever I am in and that my attitude determines my altitude.

## Table of Contents

Abstract.....	iii
Acknowledgments.....	v
Table of Contents.....	vi
List of Tables and Graphs.....	vii
List of Figures.....	vii
Chapters	
1. Introduction.....	1
a. Overview on Eyewitness Accounts .....	1
b. Overview on Social Media.....	2
2. Literature Review.....	4
a. Cognition.....	5
b. Attention and Accuracy .....	7
c. Social/Informational Data on Social Media.....	9
d. Instant Messaging Language.....	9
e. Multitasking is Multi-Distraction to GPA .....	11
f. Visual Processing.....	14
g. Emotions: Stress & Distress.....	15
h. Visual Discrimination on Memory .....	17
3. Methodology.....	20
4. Results and Findings.....	24

a.	Description of the Sample.....	24
b.	Correlational Analysis .....	28
5.	Conclusion .....	33
a.	Contributions.....	33
b.	Future Research .....	34
6.	References.....	37
7.	Appendix.....	41
a.	Appendix A.....	41
b.	Appendix B.....	45
c.	Appendix C.....	48

#### List of Tables

Table 1 – Pairings of Hypotheses Statements.....	22
Table 2 – Code Sheet for Description of Distractor .....	23
Table 3 – Social Media Account Percentage and Frequency Usage .....	25
Table 4 – Variables and Significant Items.....	29
Table 5 – Statistically Significant Predictor Variables.....	30

#### List of Figures

Figure 1– Age Respondents First Reported Using Social Media .....	45
Figure 2 – Respondent’s Age.....	46
Figure 3 – Ethnicity of Respondents.....	47

## **Chapter 1: INTRODUCTION**

In this research, I investigated the relationship between social media use and eyewitness testimonies. Eyewitness testimony is an account that the bystander, victim, or other witness gives in the courtroom describing a specific incident that occurred. Sometimes the recollected events are detailed, but that is not always the case. I chose to deal with the influence of digital/instant messaging because social media, texting, and e-mailing have had a strong influence on our society and the younger generation. There are no signs of the progression of the adoption of new technologies slowing down; it is continually growing in diverse and sophisticated ways. Understanding what communication is and the different types of communication are essential for this study. It is very important to recognize various components of the communication process and how each affects the meaning of the messages delivered.

### **Overview on Eyewitness Accounts**

The three components to eyewitness memory; encoding, storage, and retrieval are also components in the communication process. Encoding focuses on if the witness can interpret the act as a crime or draw details from the event. Storage is when a witness must successfully hold the information for later recall, but sometimes it is not all stored correctly. Retrieval is when the witness must access the information that has been encoded and stored. When judging the validity of an eyewitness description five factors are taken into account: opportunity to view (everybody in the classroom), level of attention (expect that participants are attentive), accuracy of previous description, degree of certainty displayed, and amount of time between crime and identification (stimulus



within 5-10 mins) (Neil v. Biggers, 1972). Biggers was convicted of rape and sentenced to 20 years' imprisonment. The ruling was based on the victim's visual and voice identification of respondent at a police station "show-up" (soon after the apparent contract of a crime, a witness or victim will be presented with a potential suspect for them to identify).

The important question being examined is the following: What type of influence does the use of social media or instant/digital messaging have on an individual's eyewitness account?

### **Overview on Social Media**

Social media and instant messaging have become very prevalent within most aspects of our lives. Smartphones have shifted the landscape of how teens communicate and access information. "Almost three-quarters of teens own or have access to a smartphone and 30% have a basic phone, while just 12% of teens 13 to 17 say they have no cell phone of any type" (Pew Research Center, 2015).

Internet is constantly used by teens when aided by the convenience and regular access provided by their smartphones. About 91% of teens go online from their mobile devices at least occasionally and 94% go online daily or more often. Over 90% of teens who have a cell phone use text messaging with females exchanging messages at a higher rate than males. Three-quarters of teens use social media [in my sample 90.7% said they used social media with mean age of the respondents being 22 years old (See Figure 1)]. Older teens use 81% of the sites, compared with 68% of teens 13 to 14 (Pew Research

Center, 2015). There are about 71% of teens that report using more than one social networking site out of the seven options they were asked to choose from. Females particularly use the visually-oriented social media sites for sharing more than males do [in my sample females used Instagram more than their male counterparts].

In this research project, my goal was to see if social media and instant/digital messaging had an influence on eyewitness accounts. What type of inaccuracies can stem from the amount of social media usage? What role will it play in the recall of the events that the eyewitnesses have to playback?

The question answered with this research project is: Does social media use (instant/digital messaging) influence eyewitness accounts?

## Chapter 2: LITERATURE REVIEW

With respect to this Thesis, what falls under the category of social networking does not just include Facebook, Twitter, Instagram, etc., but texting or instant messaging as well. It was found that there are different studies that have focused on one particular direction relating to this topic, but no one has conclusively researched the correlation of social media's influence on eyewitness accounts together.

Cognition is an important path because it is the set of all mental abilities and processes (Sparrow, Liu, and Wegner, 2011). There are seven critical cognitive skills: attention, working memory, processing speed, long-term memory, visual processing, auditory processing, and logic and reasoning (Gibson, 2007). The cognitive skill of attention deals with staying on task for a length of time. Selective attention is staying on task with a distraction occurring. Finally, divided attention is handling two or more tasks at a single time. Working memory is retaining information while processing it or consuming it in a limited period. Processing speed is how fast the brain processes the information. Long term memory is storing and recalling information for later use. Visual processing is being able to distinguish, examine, and reason in visual images. This also includes seeing differences in color, size, shape, distance, and positioning of objects. Constructing mental images is also vital in visual processing. Auditory processing is having the ability to distinguish, examine, and to develop a thought on what is being heard. It is essential to understand the alterations in sounds such as volume, pitch, duration, and phoneme. Lastly, logic and reasoning is the capability to plan, formulate,

and reason information.

When a certain amount of social networking is consumed by an individual will it strengthen or weaken the memory and the ability to recall accounts? What impact does it have on cognitive skills in terms of the recollection of events?

## **Cognition**

Sparrow, Liu, and Wegner (2011) looked at a study that dealt with the cognitive consequences of having information at our fingertips focusing on Google's effect on the memory of individuals. Internet search engines have increasingly helped people more when it comes to locating and defining information. It is causing some researchers to voice their concerns of the impact it is having on crutching our human thought.

Individuals today are seldom offline unless they make the choice to stay offline. Finding of information has changed since the Internet began. Today it is the primary method of garnering information. Studies that were conducted found that individuals are primed to think about computers. Access to information was correlated with lower rates of recalling the information found, however; there were higher rates of where to find the information.

Carr (2010) examines how the Internet is shattering our focus and rewiring our brains. Carr states that, "When we go online, we enter an environment that promotes cursory reading, hurried and distracted thinking, and superficial learning" (Carr, 2010, p. 2). This is analogous to muscle memory (Yeager, 2010). Information flowing into working memory is known as cognitive load. When that weight exceeds our mind's ability to process and store that information, we cannot preserve the information and/or

draw connections with other memories. Carr mentions that the Internet is an interruption system seizing and scrambling our attention. The shifting of attention causes the brain to reorient itself. A plethora of studies have shown that just by switching between two tasks can affect the cognitive load impeding our thinking process. This causes the likelihood for an individual to overlook or misinterpret important information.

Alloway and Alloway (2012) investigated the impact of social networking site engagement on cognitive and social skills. They tested the working memory, attention skills, and levels of social connectedness in a group of young adults. Working memory encompasses a higher-order skill related to the ability to distribute attention resources despite distraction or intrusion. Updating information, shifting between mental sets, and deterring no-longer relevant information involve working memory. The competence of attention control can be conceded by multiple demands. Attention can only be assigned to one task at a time. Engaging in multiple tasks at the same time impairs cognitive performance; this is known as the bottleneck view. Data from the study suggested active social networking site users did not prioritize information and gave equal weight to all incoming incitements in the Sustained Attention test.

Clarke, Prescott and Milne (2013) examined how cognitive interviews increase correct memory recall with individuals in a variety of age groups, but rarely with the use of adults with intellectual disability. The study compared the memory recall of 21 adults with a mild intellectual disability and 21 adults from the general population. The cognitive interview compared to the structured interview enhanced the recall of the film of the staged distraction theft that adults watched. The authors concluded that the use of

the cognitive interview could help adults with learning disabilities to recall good detail. They believed that this would have implications for reliability of information provided in a wide range of contexts.

### **Attention and Accuracy**

Mueller (2014) examined the impact of post-identification feedback on witness confidence. Witness statements often play a powerful role in criminal trials, especially when a witness is confident. Mueller mentioned that the strong influence of eyewitness confidence may be problematic for three reasons: First, jurors are particularly influenced by witnesses who appear confident. Second, it is possible for law enforcement investigators to influence the confidence of a witness, regardless of whether information given from that witness is accurate. Third this research area has yet to examine the impact of question type on recall. What can be examined are the effects and interactions between post-recall feedback and question type. Post-recall feedback has been assessed in the investigative interviewing arena in a limited capacity. It would benefit investigative interviewing researchers to examine the perceptions of witness accuracy and confidence after feedback has been given.

To further discuss the accuracy of eyewitnesses, a research study by Pawlenko, Wise, Safer and Holfeld (2013) examined the Interview-Identification-Eyewitness Factor (I-I-Eye Method) which helps identify and organize the many different types of eyewitness factors that affect accuracy. Most importantly, it provided a framework for applying the relevant eyewitness factors to the facts of a case. The scientific test of the method put participants in groups. The first group received one of three aids: jury duty,

Neil v. Biggers (1972) aid, or the II-Eye aid. The second group received a trial transcript with either a strong eyewitness testimony or weak eyewitness testimony. The I-I-Eye aid, unlike the control aids, appeared to intensify the participants to the eyewitness factors in the case.

Deitchman (2010) examined the relationship between social media use and attention. She discusses how the Facebook platform is designed in such a way where many things are occurring simultaneously. Although the brain can manage or perceive two stimuli in parallel timeframes, the brain's ability to process multiple stimuli is limited. The psychological refractory period is that spare time that is essential to respond to a stimulus when adjoined with an additional stimulus. This is also known as the bottleneck process and occurs at the retrieval or action planning segment. More research needs to be assessed, but it can be concluded that a certain relationship does exist between social networking usage and attention.

Paul, Baker, and Cochran (2012) are studying the effect of online social networking (ONS) on student academic performance. Academic institutions and faculty are increasingly using social networking sites to connect with current and potential students and to deliver instructional content. Questions have risen about the impact of online social networks in relation to academic performance and surveys were conducted of business students attempting to answer those questions. Results revealed a negative correlation between time spent on online social networks and their academic performance, but it was found that the attention span was heavily influenced by the time spent on social media. It was determined that the higher the attention span, the less time spent on online social networks.

## **Social/Informational Data on Social Media**

Social media has created ensuing factors in the majority of government investigations or criminal litigation (Fontecilla, 2013). Fontecilla addressed the amount of social media evidence available for litigators to use in court. Hundreds of social networking websites and their users are constantly creating massive amounts of data. Government agencies regularly seek social media evidence because the effort can yield large volumes of damaging statements or incriminating photos, among other evidence.

Hughes, Rowe, Batey, and Lee (2012) examine personality predictors of social media usage focusing more on Facebook and Twitter. Many human exertions are influenced by the Internet from the operation of organizations to the way people spend their leisure time. Their study furthered the investigation of the relationship between personality and social networking by examining the correlation between personality of social and informational use of Facebook and twitter. It was shown that personality was correlated to online socializing as well as seeking and exchanging information. Variance relationships were found between personality and Facebook/Twitter usage. Essentially, it is important to understand who is using the sites and for what reasons.

## **Instant Messaging Language**

Kluger (2012) examined the problem of text messaging and how the younger generation does not talk anymore. Americans age 18-29 send an average of almost 88 texts per day, compared to 17 phone calls. MIT psychologist Turkle (Turkle in Kluger, 2012) indicated that having a conversation with another person teaches children, in effect,



to have a conversation with themselves to think and reason and self-reflect. Habitual texters may not only cheat their existing relationships, they can also limit their ability to form future relationships since they don't get to practice the art of interpreting nonverbal visual cues. Kluger (2012) states that the most zealous phone partisans don't recommend avoiding it entirely, but mixing it up.

McWhorter (2013) examined if texting is killing the English language. There are some critics that claim texting is the downfall of the written word also known as the penmanship for illiterates. Texting is developing its own kind of grammar and conventions with there being little interest in capitalization or punctuation. Years ago, there wasn't much writing the way you spoke because there was no mechanism to reproduce the speed of conversation. The meaning of words or expressions has drifted with the meanings of those words changing without anyone having a conscious thought of the shift. People typing away on their smartphones are fluently talking with their fingers. A code that is quick, casual and only intended to be read once separate from the one they use in actual writing.

A study done in 2014 revealed there's inverse relationship between digital media use and social skills (UCLA). In the study it says, "Many people are looking at the benefits of digital media in education, and not many are looking at the costs" (UCLA, 2014). Dislodgment of in-person social interaction by screen interaction seems to be reducing social skills. The study reported that students watch television, play video games, and text for an average of four-and-a-half hours on a typical school day. Though people use digital media for social interaction, less time is spent developing social skills.

Senior researcher Yalda Uhls states, “Emoticons are a poor substitute for face-to-face communication; we are social creatures and need device-free time” (UCLA, 2014).

Essig (Turkle in Essig, 2014) examined Turkle’s solution to the downside of screen relations focusing on conversations. He mentions that understanding what our tools are doing to us is of the utmost importance, but it is impossible to verbalize decisive responses because of the rapid growth of technology which has overwhelmed the growth of social science knowledge. There is an elusive divide between those who mostly see gains from “screen relations” and those who see the losses. Essig indicates Turkle’s research states that our involvement with screen relations may be eroding skills for direct in-person conversation. Connection devices help us avoid the risk, anxieties, and messy emotions of a direct encounter. Essig emphasizes that Turkle expressed the need for individuals to develop the skills to deal with the messy intricacies and the challenge of arranging the dance between your own words, gestures, and feelings of those of someone else.

### **Multitasking is a Multi-Distraction to GPA**

Wihbey (2013) reviewed research on how humans are coping in this digital technology environment and assessing how our capacity to function effectively may be diminishing due to chronic multitasking. People try to squeeze more activities into their busy lives which have raised concerns about multitasking and distractions. Scholars are designing studies of many different types to assess of how our mental habits may be changing. In a 2009 Stanford University study it was found that people who chronically multi-task show an enormous range of deficits. Research experts on multitasking know that this subject matter is going to continually be argued and polished.

Mills (2014) looked at the effects of Internet use on adolescent brain development. Although an open question, it is a noteworthy concern about the effect the technological revolution is having on adolescent minds. Teachers are concerned about the cognitive abilities of students growing up with access to the Internet. The function and structure of the human brain experiences thorough changes during the adolescent period. This period of development is based on relationships being kept and strengthened through the experiences teenagers go through. Some critics and scholars are concerned that the use of the internet is rewiring the brains of the younger generation who have grown up online. However there is still no clear evidence establishing if the internet has a monumental effect on brain development, but we are growing closer to concrete answers.

A university study that is playing a respective piece to the cause of finding those concrete answers, done by the College of Education, Health and Human Services (2015), has been investigating the negative relationship between smartphone use and performance in the classroom in college students. In their original study, the team discovered that as the use of mobile devices went up, GPA's decreased. They thought about what could be the cause of this relationship whether it is meager study habits or lack of tenacity in abilities in the classroom. The new study addressed new questions dealing confidence in their academic performance and study behavior. The data gave researchers the ability to compare daily smartphone use and GPA with those who had similar abilities. The results showed that the higher the smartphone use the lower the college GPA and the research team believes that smartphone use is a learning distraction for students.

Junco and Cotten (2011) examined the perceived academic effects of instant messaging use. In this study, they use a web-based survey of communication technology use of college students to see how instant messaging and multitasking affect perceived educational outcomes. College students use instant messaging at high levels while multitasking and over half reported it had a damaging effect on their school work. They found that students in the sample seem to be aware that divided attention is damaging to their academic achievement, but they continue to engage in the behavior. Students learned less when they were instant messaging and trying to follow a conversation while working on homework. The effect is greater for individuals who cannot regulate their IM use while attempting to participate in the learning process.

Junco (2012) solely examined the frequency at which students multitask during class and looking at the correlation of multitasking to academic performance. The digital generation of students today has adopted and uses new technologies at a high rate creating many opportunities to multitask. It has been found that performance takes a hit with accuracy and reaction time when switching between two auditory incentives. Participants answered at a slower pace and were less precise with dual task trials compared to single task trials. Processing more than one task at a time overloads the capacity of the information processing system. In this study, students reported frequently text messaging during class but multitasking with other communication technologies to a lesser extent.

### **Visual Processing**

Brown (2012) examined evidentiary relevance of Facebook photographs. She suspected that social networking sites in general have changed the way individuals

communicate and express themselves, but she particularly focuses on Facebook. Facebook shares a multitude of personal information, especially through photographs. Social scientists have examined whether Facebook users present themselves as they are, or as they wish others to perceive them. Brown stresses the need for litigants to educate themselves and advocates further study on the website for the purposes of courts to focus more on critically analyzing the relevance of such photographs.

Photographs or snap shots are influential when talking about eyewitness accounts because of the memory. General impairment factors play a large role for witnesses when identifying a suspect. Cutler and Bull (2010) discuss six factors. The first factor was Own-Race Bias. Witnesses were more accurate at recognizing perpetrators of their race. Second, they examined the influence of Weapon Focus: the visual presence of a weapon tends to draw the attention of the witness. When a weapon is present and we turn our attention toward it, we have less attention to deploy toward a perpetrator's physical and facial characteristics. The chances are lower now for the victim to accurately identify the perpetrator. The third factor examined was Disguises. Wearing a disguise whether it be subtle or not can impair identification accuracy. Changes in glasses, hairstyle, facial hair and age-related changes can as well impair identification accuracy. The fourth factor examined was Exposure Time. This is referred to as the time that the witness is able to view the perpetrator's facial and physical characteristics. The more time the witness has viewing the perpetrator, increases the encoding process thus having a greater effect when it comes to accurately identifying the perpetrator's physical and facial characteristics. It was also discovered that mistaken identification was unrelated. The fifth factor examined was Alcohol Intoxication. Crimes usually take place in environments in which alcohol

consumption occurs and one or more witnesses are under the influence. The sixth factor examined was Retention Interval. It is the time period that passes between a crime and eyewitness identification. False identifications from customer-absent photo arrays were far more prevalent after 24 hour (52%) than after 2 hour (15%).

### **Emotions: Stress & Distress**

The above impairment factors as an entirety drastically affects a witness' emotions recall of the event and/or recognizing the perpetrator. Houston, Memon, Clifford and Phillips (2013) examined the effects of emotion on eyewitness recall. The central argument that has developed from this research is that individuals who witness a negative emotional event may have enhanced memory for the gist or central details of the event but impaired memory for peripheral details. Central details are details near a center or constituting a center and peripheral details constitute an outer boundary. Little is known about the effects of emotion on eyewitness memory; in particular, the way that the experience of emotion affects memory for the perpetrator of a crime. The research indicated that though the emotional witnesses recalled more information describing a protagonist, they were less likely to recognize him in a subsequent lineup. The emotional witnesses also recalled fewer details about the crime itself.

Paz-Alonso, Goodman, and Ibabe (2013) examined the negative post-event misinformation on adult eyewitness memory. Post-event misinformation can lead adults to report information never actually witnessed. Although memory factors undoubtedly play a vital role, social factors are also likely to be important in producing misinformation effects. Misinformation that is socially introduced by means of a

confederate or a co-witness during collaborative recall can be incorporated into witnesses' reports. There was a significant correlation between subjective distress and correct responses to specific questions. People who indicated greater distress evinced better eyewitness memory. Memory was better for central than for peripheral information, especially for eyewitnesses who were more distressed.

Levitin (2015) looks at why the modern world is bad for your brain and expounds how society's addiction to technology is making us less efficient. He compares the smart phone to a Swiss army knife-like appliance because of the variety of the things you can do on it. A 21<sup>st</sup> century craze is cramming everything we do into every single spare moment of downtime. Levitin states that thinking we are multitasking is a powerful illusion. People are not multitasking; they're in actuality switching from one task to another very rapidly. The level of stress hormones, as well as the fight-or-flight hormone adrenaline increases as a result of multitasking. This can cause the brain to overstimulate causing a mental fog or scrambled thinking. The prefrontal cortex has a novelty bias, meaning that its attention can be easily hijacked by something new. The constant Facebook and Twitter checking by social media users triggers the novelty-seeking portion of the brain constituting a neural addiction in the limbic system.

Richtel (2010) examines how being attached to technology is costing us. Heavy multitaskers experience more stress because they have more trouble focusing and shutting out irrelevant information. Research has shown that computer users at work change their windows, check e-mail, or other programs nearly 37 times an hour. Our brains are being asked to do things and are exposed to an environment that it necessarily wasn't equipped to do. One study indicates that the Pavlovian response to the chime of

incoming emails can usurp the plans of individuals (Richtel, 2010). This indicates that people interrupted by email reported significantly increased stress levels compared with those who were not interrupted. The study also indicated that increased stress levels reduce short term memory. Multitasking of technology may be proving to be more of a distraction than a benefit.

### **Visual Discrimination on Memory**

Bergen, Horselenberg, Merckelbach, Jelicic, and Beckers (2009) examined memory distrust and acceptance of misinformation. A substantial number of studies have shown that people's memories can easily be distorted when incorrect post-event information or feedback is presented. Exposure to misleading post-event information may affect people's memory reports in either of two ways: First, people may have failed to attend to the event and, therefore, may have poor memories. Secondly, post-event information might suggest a more accurate or complete version of the event than one's own memory, resulting in an increased willingness to accept the misinformation. There are some researchers that dispute to the second argument about whether the original material is completely and permanently lost. Eyewitnesses who distrust their memory are often considered to be more susceptible to memory distortions so they are treated as less credible than people without memory complaints.

One study indicated multitaskers who thought they could successfully divide their attention between the program on their television set and the information on their computer screen were actually distracted by the two devices (Boston College, 2011). Researchers and parents have long speculated media multitasking was a distraction and it



is beginning to be proven a fact. The level of comprehension among people who switched their eyes from one media source to the next is raising questions as the physical behavior of multi-media multitaskers is gaining a better understanding. Researchers note that society's assumptions about how people are using media need to be updated because the era of the mono-media environment is over.

Vredeveltdt and Penrod (2013) examined eye-closure improving memory for a witnessed event under naturalistic conditions. A number of interview procedures have been developed with the goal of helping witnesses remember more, notably the cognitive interview. Eye-closure may help episodic recall of past public events, and recall of both live and videotaped mundane events. Closing the eyes during investigative interview may also improve both adults' and children's memory for videotaped emotional events. It is possible that eye-closure improves recall by reducing the interference caused by distractions in the environment. The study varied the amount of auditory distraction to which witnesses were exposed during the interview, and found support for both general and modality-specific interference caused by environmental distractions (Vredeveltdt and Penrod, 2013). The eye-closure instruction was more effective for witnesses interviewed inside than for witnesses interviewed outside.

Generally, these days social media is being viewed as a multi-dimensional task because of the accessories the smartphone possesses. Society believes that it is necessary to multitask between one account to the next. What kind of an effect is this new social norm having on human beings with regards to eyewitness recall? The next chapter will review the techniques and procedures that were used to gather first hand data for this study.

### **Chapter 3: Methodology**

The population from which my sample was being drawn consists of college students enrolled at a major Midwestern university. Approximately 80 students were selected. The student sample was selected by putting the CRN numbers of the upper division Criminal Justice courses in one hat and the CRN numbers of the lower division Criminal Justice courses in another hat. One course from each of the hats was pulled. The purpose of having a lower division class and an upper division class was an attempt at gaining a variety of social media usage, i.e., younger students using more frequently than older students as well as age differentiation. My next step was to approach the professors in each of those two classes that were selected and ask for their permission to administer surveys in their class. If one or more of the classes picked are instructed by the researchers, the survey would have been administered without their presence by an assistant. This would have prevented any undue influence upon the respondents.

Surveys were administered after approval of the IRB for the purposes of collecting data for this research study and the format was explained of how they should be conducted. The person administering the survey did read the Consent Statement that was at the top of each of the survey before passing out the survey. Those choosing not to participate were asked to return the surveys unmarked.

This was an anonymous survey; participants were instructed not to put their names or any identifying marks on the instrument. While respondents were completing the instruments, the independent variable was administered. This was in the form of a “distraction” which consisted of a Graduate Assistant wearing ordinary clothes walking

to the front of the classroom and handing a note to the instructor or Teacher Assistant who was covering the class. The note was from a member of the Criminal Justice and Forensic Sciences staff. As the Graduate Assistant delivered the note, they said to the person whom they hand the note: “Patty wanted me to deliver you this message; make sure you touch base with her after class.” The respondents continued completing the survey, if they were not yet finished. Then the person administering the survey announced to the respondents: “Did you look or take a glance at the person who walked in?” “Could you please write a description of the person who walked into the classroom on the back of your survey?”

After the participants were done with the survey and describing the “distraction”/stimulus, the surveys were placed into an envelope and then they were sealed. If the room surveyed was one of the researcher’s rooms; the envelope would have been handed to the researcher who was not instructing that class. Otherwise, it would have been given to one of the researchers.

The dependent variable of this study consisted of the summation of items used to describe the distraction. These items included things such as did the respondents identify the Gender, Race, Age, Height, and so on of the distraction (see Table 2, *infra*). The independent variable consisted of a summation of items used to measure the use of social media by the respondents (see Table 3, *infra*). The analysis of the data was done using SPSS and a Pearson’s *r* correlation analysis. All data was analyzed and the results have been reported in aggregate fashion so a particular respondent cannot be identified. The following Hypotheses were tested:

Table 1

Hypotheses Statement

---

Pairing of Statements

---

Ho: Social media use does not affect the accuracy of the eyewitness.

Ha: Social media use affects the accuracy of the eyewitness.

Ho: Time spent using social media does not affect the accuracy of the description.

Ha: There is an inverse relationship between time spent on social media and accuracy of identification.

---

The goal is to test if there was any relationship between the independent and dependent variables. The independent variable is an ordinal scale constructed from time spent on social media and membership. My dependent variable is the accuracy of respondent's description of the individual who will be the so called distraction/stimulus. SPSS was used to analyze the data. When it comes to measuring the accuracy of the respondent's qualitative responses of the description of the individual, it will be coded based from a model from the Pennsylvania State Police training handout that is used when identifying standard characteristics of an individual's descriptions. Respondents will be given a handout of 10 specific characteristics they will have to identify of the "distractor."

Table 2  
Code Sheet for Description of Distractor

---

Characteristics

---

Clothing (Head to Foot)	Yes	No
Gender	Yes	No
Race	Yes	No
Age	Yes	No
Height	Yes	No
Weight	Yes	No
Hair	Yes	No
Eyes	Yes	No
Complexion	Yes	No
Physical (Marks, Scars, etc.)	Yes	No

---

Adapted From: Pennsylvania State Police Training  
(Re-Formatted for research study by Dr. Frissora)

---

All data retention and documents will be stored in Dr. Frissora's office and after one year it will be placed in the secure disposal container in the Department of Criminal Justice and Forensic Sciences for disposal. In the ensuing chapter, the results of the correlational analysis and findings about the sample are analyzed and discussed.

## Chapter 4: RESULTS AND FINDINGS

### Description of the Sample

As explained in the previous section, the sample consisted of 86 respondents who were attending class at a major Midwestern university. The samples were drawn on the 10<sup>th</sup> & 11<sup>th</sup> of April 2015. The following is a description of the respondents.

Over 90% had a social media account whereas 9.3% did not. Approximately 71% had a Twitter account and the mean use, on a scale of 0 (never used) to 4 (use every chance I get) was 1.4 with a standard deviation of 1.3. An older social networking site, Myspace, was used by 20.9% of the respondents with a mean of 0.2 with a standard deviation of 0.4. Facebook, which is newer than Myspace, was used by approximately 85% of the respondents and the usage was a mean of 1.97 (std. = 1.3). The newest product used in this research was Instagram, which was launched in October 2010. Accounts were held by 70% of the respondents with a usage rate mean of 1.9 and a standard deviation = 1.5. In order to measure social media products not mentioned in the instrument, the respondents were asked if they used an account other than those mentioned. This resulted in two other categories, other and other2. Unfortunately, respondents did not indicate with the name of the social networking product they used in the other category. However, the numbers indicated that 35% of the respondents had an “other” account usage mean = 1.0, std. = .45 and 10.5% had an “other2” account usage mean = .25, std. = .83.

Table 3  
Social Media Account Percentage & Frequency Usage

Variables	% of Respondents with Accounts	Frequency of Use*
Facebook	84.9%	mean = 1.9, std. = 1.3
Twitter	70.9%	mean = 1.4, std. = 1.3
Instagram	69.8%	mean = 1.9, std. = 1.5
Other	34.9%	mean = 1.0, std. = 1.4
Myspace	20.9%	mean = .2, std. = .4
Other2	10.5%	mean = .25, std. = .83

\*On a scale of 0 = Never to 4 = Every Chance I Get

It was interesting that the majority of respondents 63% were never tempted to log onto their partner’s account. If the respondents had a phone ringing and an incoming text message at the same time, they would answer the phone before reading the text message (53.5% to 46.5%).

Respondents indicated their age at first use, for social media products, was ten years of age. The oldest first user was 40 years old (mean = 14.6, std. = 5.0). The number of hours respondents spent logged onto social media products per day was reported from zero hours (10.5%) to 21 hours (1.2%). The modal value was 2 hours (23.3%) with a mean of 3.2 hours with a standard deviation of 4.0.

Respondents were asked if they found themselves talking to people more on social media than in person. There were 77.9% that found themselves communicating

with people in person compared to only 22.1% of the respondents finding themselves talking to people on social media. In connection, the respondents were asked about their comfort level in communicating with people. Results were not too far off in comparison to the “Inperson” responses. There were 79.1% respondents who were more comfortable talking to people in person compared to those being comfortable talking to people on social media (19.8%).

The number of times per week respondents lost sleep due to using social media was reported from not happening at all (14.0%) to every single night (4.7%). The modal value was not very often (55.8%) with a mean of 1.6 and a standard deviation of 1.5.

Respondents were next asked if their life would be boring without social media and interestingly 69.8% said that it would not compared to 30.2% who said it would be boring.

In regards to if personal relationships suffers due to the use of social media, it was reported from strongly agree (2) to strongly disagree (-2). The modal value of the respondents just simply disagreed (-1) (33.7%) with strongly disagreed (-2) (31.4%) a couple percentage points behind. The mean value was -.64 with a standard deviation of 1.3.

While filling out the survey, respondents were asked if they checked their feed and notifications, checked their IM, surfed the web, and checked their email. Of those responding, 96.5% of the respondents did not check their feed and notifications compared to 3.5% who did. With respect to instant messaging, 98.8% did not check as 1.2% did. None of them were surfing the web. Finally 98.8% did not check their email compared to 1.2% that did.



A question was asked about how often an appointment or meeting with someone was caused by cancellation, postponement, late arrival, and/or it being missed because of being more occupied with social media. The majority of the respondents (97.7%) said they never canceled compared to 2.3% that said it happened sometimes. As far as postponing a meeting, 93.0% of the respondents said they never postponed, 1.2% rarely postponed, and 5.8% sometimes postponed. With respect to being late, 80.2% of the respondents said they were never late, 15.1% said they were sometimes late, 3.5% said they showed up late rarely, and 1.2% said they were always late. Finally, 94.2% of the respondents said they never missed, 3.5% said they missed sometimes, 1.2% said they missed often, and 1.2% said they missed always.

The year of birth reported by the respondents ranged from 1965 (1.2%) to 1996 (14.0%). The modal value was 1993 (20.9%). The “Yearborn” variable was converted to RSage by subtracting 2015 giving the number age of the respondents. Since the “Yearborn” modal year is 1993, when converted to RSage the modal age is 22 (20.9%). The mean of the RSage variable is 22.4 with a standard deviation of 5.6.

The ethnicities of the respondents were more White/Caucasian at 82.6%, with Black or African American the next highest at 12.8%, Hispanic or Latino 2.3%, and Other 2.3% (see Figure 3, *infra*). The gender of the respondents were majority female 58.1% and males comprising of 41.9% of the sample.

The class rank of respondents was reported from Freshman (19.8%) to Other (4.7%). The modal class rank were Seniors (33.7%) with the next highest class rank being Sophomores (23.3%). The mean of the “ClassRank” variable was 2.8 with a standard deviation of 1.23.

The respondents who were full-time students accounted for 95.3% compared to 4.7% of the respondents who were part-time students. There were 81.4% employed respondents while 18.6% were not employed. Out of the respondents that did say they were employed, 60.5% said they were part time employees and 20.9% said they were full-time employees. The relationship status of the respondents was reported from zero (wrote single or didn't answer) (20.9%) to five (Friends with Benefits) (10.5%). The modal status was Going Steady (31.4%) with the RStatus variable mean being 2.3 with a standard deviation of 1.8.

The majority of the respondents were Senior full-time students who are employed part time going steady.

### **Correlation Analysis**

The independent variable of this study dealt with the respondent's use of social media. The dependent variable is the correct identification of the stimulus (Table 4, *infra*). The training model contained 35 possible points of identification. For example, if a respondent identified a shirt being worn, that was one point. If the color of the shirt was correct, that was another point. Therefore, a simple summed score of all correct identification points was a respondent's score for the dependent variable. The respondents could have received a maximum score of 35 points in regards to the full description of the distraction or stimulus.

This study did not find any statistical significance within the results in relation to the stated hypotheses (see Table 1, *supra*). This indicates that the results could not be inferred within the stated probability to the population. However, several items that were

used to construct the independent and dependent variables were found to have significant correlations as discussed below and illustrated in Table 4.

Since there were findings of significant and some non-significant correlations within the sample only, an examination of certain variables were chosen from the correlation to be analyzed based on the substance of the relationship concerning the hypothesis and as well for future research purposes. The variables that are distinguished are those ones that deal with the description of the individual and the social media correlation relationship. The independent and dependent variable meanings are the following:

Table 4

Variables and Significant Items

<b><u>Independent Variable is constructed from the following:</u></b>	<b><u>Dependent Variable is constructed from the following:</u></b>
use (Use Social Media)	shirt
TwitterUse	iheight(Mentioned a height) iweight(Mentioned a weight)
InstagramUse	pdescribe (description of pants/shorts) pcolor (mentioned a color related to pants/shorts)
Other (mentioned another account)	sdescribe (described shirt) ihaircolor (mentioned a hair color) ihairstyle (mentioned style of hair) ihairstylecorrect (mentioned correct hair style)
Otheruse(use that other account)	Sdescribe (described shirt) pstyle(style of the pants/shorts) Ihaircolor (mentioned a hair color) Ihairstyle (mentioned a hair style) Ihairstylecorrect (mentioned correct hair style)

Table 5  
 Statistically Significant Predictor Variables

IV/DV	r	P	strength
Social Media Use/Shirt	0.218	*	small
TwitterUse/iheight	-0.25	*	small
TwitterUse/iweight	-0.226	*	small
InstagramUse/pdescribe	-0.282	**	small
InstagramUse/pcolor	0.257	*	small
Other/sdescribe	0.317	**	medium
Other/ihaircolor	0.244	*	small
Other/ihairstyle	0.241	*	small
Other/ihairstylecorrect	0.241	*	small
OtherUse/sdescribe	0.263	*	small
OtherUse/pstyle	0.213	*	small
OtherUse/ihaircolor	0.244	*	small
OtherUse/ihairstyle	0.238	*	small
OtherUse/ihairstylecorrect	0.238	*	small

\*\* (Significant at the .01 level) \* (Significant at the .05 level)

The correlation between the respondents mentioning that they use social media (yes or no) and correctly mentioning that the distraction was wearing a shirt had a Pearson's  $r$  of 0.218. This shows a weak positive relationship between the two variables with the correlation being significant at the .05 level.

Respondents that said they use Twitter and that mentioned the height had a Pearson's  $r$  of -.25 showing a weak negative relationship between the two variables.

There is some promise in the future between the relationships of these variables. The Pearson's  $r$  between respondents saying they use Twitter and correctly mentioned the weight was similar to the respondents that correctly mentioned the height. Pearson's  $r$  for the respondents that mentioned the height was  $-0.226$ . This shows again a weak negative relationship between the variables with significance at the  $.05$  level. This indicates that the more time respondents use social media the less accurate they were in mentioning the height. A relationship suggested by the hypothesis.

The Instagram users that described the shorts the "distraction" was wearing had a Pearson's  $r$  of  $-0.282$ . There is a weak-medium negative relationship between the variables. Those users that mentioned a color related to the shorts had a Pearson's  $r$  of  $0.257$ . There is a weak positive relationship between the variables with significance at the  $.05$  level. This is indicating that Instagram users were more likely to give the color of the shorts than describe the shorts. It is saying Instagram users were more likely to give a color of the shorts than describe the shorts, but the statistical significance level is higher for the weak-medium relationship of the describing of the shorts.

Respondents that mentioned that they had an (other) social media account that were not of the four listed on the survey that described the shirt had a Pearson's  $r$  of  $0.317$ . The variables had a moderate positive relationship with significance at the  $.01$  level. The ones that mentioned a hair color and had an (other) account had a Pearson's  $r$  of  $0.244$ . There was a weak positive relationship with significance at the  $.05$  level. The pairing of the mentioning of the hairstyle and (other) account had a Pearson's  $r$  of  $0.241$  with significance at the  $.05$  level similar to the hair color variable. The respondents having an (other) account and that mentioned the correct hair style, had identical

statistical numbers and significance levels as to the previous variable of the mentioning of the hairstyle (ihairstyle).

Respondents who reported using an “other” social media account and described the shirt had a Pearson’s  $r$  of 0.263. There was a weak positive relationship with significance at the .05 level. The ones who mentioned the style of pants/shorts had a Pearson’s  $r$  of 0.213 showing a weak positive relationship with significance at the .05 level. The mentioning of a hair color variable had a Pearson’s  $r$  of (0.244) showing a weak positive relationship with significance at the .05 level. The mentioning of the hair style variable had the same strength, direction, and significance have a Pearson’s  $r$  of (0.238) slightly lower than hair color. Respondents that mentioned the hair style correctly had the same identical statistical numbers to the one’s that mentioned a hair style.

Upon further examination the descriptive statistics of the age of the respondents showed a high degree of homogeneity indicating that there was very little variance in the age of the respondents. In the next section I will review the contributions to this study, the limitations that were faced, and future research plans to take the study to the next level.

## **Chapter 5: CONCLUSION**

### **Contributions**

The question addressed by this thesis is: What is the influence of the use of social media on eyewitness accounts? It is a relatively new topic to our society in the field of human behavior and it is steadily growing in research. As just mentioned, reviewing literature for this unique topic was not easy due to the fact that there is not an abundance of research examining this phenomenon. Social media had to be examined for the most part as a separate entity from that of eyewitness accounts/testimonies. Although sparse, there was some valuable research reviewed that connected the two together. One of the articles summarized above mentions social media's role in evidentiary purposes. Social media is so prevalent that when it comes to individuals putting out personal information, valuable evidence can be obtained from their postings. This is especially apparent in cases dealing identity theft. Lately, text messages have played a monumental role in criminal cases where the contents of those texts were used to connect the dots of the crime. It has destroyed people, but at the same time saved people from jail time due to the contents of text messaging.

Where the focus really lies when examining this research study is the individual's recall of events they witnessed of their eyewitness accounts. Does social media use have an influence on the accuracy of those recalled events? *Neil v. Biggers* (1972) is a US Supreme Court case that contributes tremendously to this study. The defendant Biggers was accused of raping the victim, the victim's identification of the suspect was questioned. The court had to decide if the factors involved in determining the identification of the defendant was reliable. Elizabeth Loftus and her extensive research

on the manipulability of the human memory have been extraordinary in relation to eyewitness accounts. The combination of this particular study with the Neil v. Biggers (1972) and Loftus (2012) work could prove to be something special.

### **Future Research**

As stated in the last chapter, this study did not find any statistical significance in regards to the stated hypotheses (see Table 1, supra). An alternative approach was taken by recoding variables and examining specific items use to construct the independent and dependent variable.

There were correlations found within the sample that could not be inferred to the population, due to not being statistically significant. However there were several items that were used to construct the independent and dependent variable that were statistically significant as illustrated in Table 5 (supra). This clearly supports the suggestion to conduct future research on the matter at hand.

The question can be raised of whether or not to conduct this survey on only a University setting in the future. Due to the homogeneity of the sample, if one continues to conduct the study within the University setting, considerations must be made to increase the diversity of age. For example, multiple departments and different class ranks must be taken into consideration. In the final analysis, the sample size needs to be enlarged to broaden the age range and as well as to diversify the demographics of the sample. The sample we drew from the university was homogenous in terms of the demographics (see Figures 2 and 3, infra). It is important to take time to prepare and plan for a survey like this because the setting of the classroom has to be taken into consideration. The entry of



the distraction and the projection of the voice are the two main factors that have to be well thought out in advance when conducting a survey of this kind. Having a strategic dress rehearsal between the individual conducting the survey and the distraction would enhance the description results within the study. An unusual word or phrase from the “distraction” would have gotten the attention of the respondents causing an increase in identification time. The projection of the voice and pitch sound is a game changer when the survey is being conducted in a big lecture hall; the unusual phrase or word will not mean anything if the respondents cannot hear it.

An online survey is another possible choice, with the only option having it be conducted in a computer lab. The format would be very similar as if the respondents were handed a hard copy.

Another interesting way of conducting the survey is through a Power Point slide format with one individual conducting the survey and second individual flipping from one question to the next. The respondents would be provided a form where they can write down their answers and space to make their description as well. The survey being on power point slides has the respondents looking up at the screen instead of down when reading the question on the hard copy survey.

One thing that can be considered for implementation is developing an exercise or a task within the survey that has the respondents’ texting a response/note, perusing their social media accounts, and/or browsing the web. The minutest details would have to be considered and elaborated upon before it is finalized.

Also, there are several different methods that maybe used to ascertain the measure

of accuracy of an eyewitness's description. First, a small skit will be formulated in which a harmless accident occurs between two individuals. Second, the class will be split into several sections. One section will give their statement of what occurred in as much detail as possible through text messaging or some sort of instant message. Another section would give a hand written statement of what they witnessed. The last section would give their statement verbally to the interviewer. The last method closely represents that which would be experienced by an actual witness of the crime going through the Criminal Justice system. Also, a control group could be chosen and their statements would be analyzed and coded for comparison purposes.

There were a lot of great lessons that were learned from interpreting the statistics of the data results to formulating the best questions possible for the survey, but the most important lesson is that you have to keep pressing because you never know what might be discovered. That is the exciting part about this research study.

“A very single fact could emerge into many different versions of the truth, depends on the number of eyewitnesses and interpretations.” – Toba Beta (Beta, 2011)

## REFERENCES

- Alloway, T., & Alloway, R. (2012). The impact of engagement with social networking sites (SNSs) on cognitive skills. *Computers in Human Behavior*, 28(5), 1748-1754.
- Beta, Toba (2011). My Ancestor Was an Ancient Astronaut. Retrieved February 24, 2015, from:  
<http://www.goodreads.com/quotes/284502-a-very-single-fact-could-emerge-into-many-versions-of>
- Boston College. (2011, May 2). Media multitasking is really multi-distracting. *ScienceDaily*. Retrieved April 21, 2015 from  
[www.sciencedaily.com/releases/2011/05/110502084444.htm](http://www.sciencedaily.com/releases/2011/05/110502084444.htm)
- Brown, K. (2012). The risks of taking facebook at face value: Why the psychology of social networking should influence the evidentiary relevance of facebook photographs. *Vanderbilt Journal of Entertainment and Technology Law*, 14(2), 357 -393.
- Bergen, S., Horselenberg, R., Merckelbach, H., Jelicic, M., & Beckers, R. (2010). Memory distrust and acceptance of misinformation. *Applied Cognitive Psychology*, 24(6), 885-896.
- Carr, N. (2010, May 24). The web shatters focus, rewires brains. *Wired Magazine*, pp. 1-6.
- Clarke, J., Prescott, K., & Milne, R. (2012). How effective is the cognitive interview when used with adults with intellectual disabilities specifically with conversation recall? *Journal of Applied Research in Intellectual Disabilities*, 26(6), 546-556.
- College of Education, Health and Human Services (2015, March 5). As college students' smartphone use goes up, students' smarts in the classroom go down. *A new Kent State study finds more links between high smartphone use and low GPA*, p.1.

- Cutler, B., & Bull, K. M. (2010). *Evaluating eyewitness identification*. Cary, NC, USA: Oxford University Press. Retrieved from <http://www.ebrary.com>. Retrieved April 21, 2015
- Deitchman, A. (2010). Wait, what? On social network use and attention. *NYU Steinhardt Applied Psychology*. New York: New York University. Retrieved April 24, 2015, from [http://steinhardt.nyu.edu/opus/issues/2010/fall/On\\_Social\\_Network\\_Use\\_and\\_Attention](http://steinhardt.nyu.edu/opus/issues/2010/fall/On_Social_Network_Use_and_Attention)
- Essig, T. (2014). (Turkle in Essig, 2014). Sherry Turkle's solution to the downside of screen relations: Conversation. *Forbes Magazine*, pp. 1-4.
- Fontecilla, A. (2013). The ascendance of social media as evidence. *Technology*, 28(1), 1-2.
- Gibson, D. (2007). Define cognitive thinking. Retrieved April 24, 2015, from <http://www.learningrx.com/define-cognitive-thinking-faq.htm>
- Houston, K., Clifford, B., Phillips, L., & Memon, A. (2013). The emotional eyewitness: The effects of emotion on specific aspects of eyewitness recall and recognition performance. *Emotion*, 13(1), 118-128.
- Hughes, D., Rowe, M., Batey, M., & Lee, A. (2012). A tale of two sites: Twitter vs. Facebook and the personality predictors of social media usage. *Computers in Human Behavior*, 28(2), 561-569.
- Junco, R. (2012). In-class multitasking and academic performance. *Computers in Human Behavior*, 28(6), 2236-2243.
- Junco, R., & Cotten, S. R. (2011). Perceived academic effects of instant messaging use. *Computers & Education*, 56(2), 370-378.

- Kluger, J. (2012). (Turkle in Kluger, 2012). We never talk any more: The problem with text messaging  
CNN.com. Retrieved February 24, 2015, from <http://www.cnn.com/2012/08/31/tech/mobile/problem-text-messaging-oms/>
- Levitin, D. J. (2015, January 18). Why the modern world is bad for your brain. *theguardian*, pp. 1-3.
- McWhorter, J. (2013, April 25). Is Texting Killing the English Language? *Time Magazine*, p. 1.
- Mills, K. L. (2014). Effects of Internet use on the adolescent brain: despite popular claims, experimental evidence remains scarce. *Trends in cognitive Sciences*, 18(8), 385-387.
- Mueller, D. (2014). Importance of witness recall in avoiding wrongful convictions. 3-3 Retrieved February 20, 2015, from <http://www.apadivisions.org/division-41/publications/newsletters/news/2014/07/innonence-project.aspx>
- Neil v. Biggers, 409 U.S. 188 (1972) Neil, Warden v. Biggers. Certiorari to the United States Court of Appeals for the Sixth Circuit. Decided December 6, 1972
- Paul, J. A., Baker, H. M., & Cochran, J. D. (2012). Effect of online social networking on student academic performance. *Computers in Human Behavior*, 28(6), 2117-2127.
- Pawlenko, N., Wise, R., Shafer, M., & Holfeld, B. (2013). The interview-identification-eyewitness factor (I-I-Eye) method for analyzing eyewitness testimony. *The Jury Expert*, 25(3), 9-9. Retrieved February 20, 2015.
- Paz-Alonso, P., Goodman, G., & Ibabe, I. (2013). Adult eyewitness memory and compliance: Effects of post-event misinformation on memory for a negative event. *Behavioral Sciences & the Law*, 31, 541-558.

Richtel, M. (2010, June 6). Attached to technology and paying a price. *The New York Times*, pp. 1-6.

Sparrow, B., Liu, J., & Wegner, D. M. (2011, August 23). Google effects on memory: cognitive consequences of having information at our fingertips. *Science AAS*, 333, 776-778. Retrieved April 2015, from Science AAAS.

University of California - Los Angeles. (2014, August 22). In our digital world, are young people losing the ability to read emotions?.*ScienceDaily*. Retrieved April 21, 2015 [from www.sciencedaily.com/releases/2014/08/140822094240.htm](http://www.sciencedaily.com/releases/2014/08/140822094240.htm)

Vredeveltdt, A., &Penrod, S. (2013). Eye-closure improves memory for a witnessed event under naturalistic conditions. *Psychology, Crime & Law*,19(10), 893-905.

Wihbey, J. (2013, July 11). Multitasking, social media and distraction: Research review. *Journalist's Resource - Harvard Kennedy School Shorenstein Center*. Retrieved April 2015, from

<http://journalistsresource.org/studies/society/education/multitasking-social-media>

[distraction-what-does-research-say](http://journalistsresource.org/studies/society/education/multitasking-social-media/distraction-what-does-research-say)

Yeager, S. (2010, November 9). The Secret to Being Fit for Life: Muscle Memory. *Women's Health*, 1-2. Retrieved from

<http://www.womenshealthmag.com/fitness/fit-for-life>

APPENDIX A

"I am a graduate student at YSU and I am conducting this research project as part of my graduate thesis. [I am seeking to find out what effect the use of social media may have on eyewitness accounts.] You must be at least of 18 years old to participate. Your participation is completely voluntary. There will be no consequences if you choose not to participate and you may withdraw at any time. There is no known risk to you. All information you provide will be kept completely anonymous and all data will be reported in aggregated method so that an individual will not be identified. Please do not put your name or any personal identification on the survey. If you have any questions about the research project please contact Dr. Gordon Frissora at [gfrissora@ysu.edu](mailto:gfrissora@ysu.edu) or 330-941-3281. If you have any questions regarding your rights as a research participant, please contact Dr. Edward Orona, Director, Office of Grants and Sponsored Programs, [eorona@ysu.edu](mailto:eorona@ysu.edu) or 330-941-2377." Thank you for your support.

**What is the Influence of Social Media Use on Eyewitness Accounts?**

**Please fill in the blank or check your answers to the questions to the best of your knowledge.**

1. Do you use social media? Yes \_\_\_\_\_ No \_\_\_\_\_

Please complete the table below:

	<b>Who Do You Have an Account With?</b>		<b>IF Yes....How Often Do You?</b>			
	Yes	No	Rarely	Often	Frequently	Every Chance I Get
<b>Twitter</b>	Yes	No	Rarely	Often	Frequently	Every Chance I Get
<b>MySpace</b>	Yes	No	Rarely	Often	Frequently	Every Chance I Get
<b>Facebook</b>	Yes	No	Rarely	Often	Frequently	Every Chance I Get
<b>Instagram</b>	Yes	No	Rarely	Often	Frequently	Every Chance I Get
<b>Specify Others you use:</b>						
_____	Yes	No	Rarely	Often	Frequently	Every Chance I Get
_____	Yes	No	Rarely	Often	Frequently	Every Chance I Get

2. Have you ever been tempted to log onto your partner's account to see what he/she was doing?

Yes \_\_\_\_\_ No \_\_\_\_\_

If yes.....How often? Rarely \_\_\_\_\_ Often \_\_\_\_\_ Frequently \_\_\_\_\_ Every  
Chance I Get \_\_\_\_\_

3. If your home phone is ringing and your text message tone is ringing simultaneously which one do you answer first?

Home Phone \_\_\_\_\_ Text Message \_\_\_\_\_

4. At What age did you start using social media? \_\_\_\_\_

5. Approximately how many hours per day do you spend on social media?  
\_\_\_\_\_ hours

6. Do you find yourself talking to people more on social media than in person?

Yes \_\_\_\_\_ No \_\_\_\_\_

- Which do you feel more comfortable: Communicating with people in person or social media?

In-Person? \_\_\_\_\_ Or Social Media? \_\_\_\_\_

7. (FINISH THE SENTENCE) I use social media to find out about \_\_\_\_\_  
\_\_\_\_\_.

8. Have you ever lost sleep due to using social media?

If yes, how often?.....

not very often \_\_\_\_\_

once a week \_\_\_\_\_

twice a week \_\_\_\_\_

three times a week \_\_\_\_\_

four times a week \_\_\_\_\_

every single night \_\_\_\_\_

9. Do you believe that your life would be boring without social media? Yes \_\_\_\_\_

No \_\_\_\_\_



10. My personal relationships have suffered due to my use of social media:

Please select one:

- Strongly Agree
- Agree
- No Opinion
- Disagree
- Strongly Disagree

11. While you were filling out this survey did you:

<b>Check your Feed and Notifications:</b>	Yes	No
<b>Check your IM:</b>	Yes	No
<b>Surf the Web:</b>	Yes	No
<b>Check your Email:</b>	Yes	No

12. How often have you canceled, postponed, or was late to an appointment or to meet someone because you were more occupied with social media?

<b>Canceled:</b>	Never	Sometimes	Always	Rarely	Often
<b>Postponed:</b>	Never	Sometimes	Always	Rarely	Often
<b>Was late to class:</b>	Never	Sometimes	Always	Rarely	Often
<b>Missed class:</b>	Never	Sometimes	Always	Rarely	Often

13. In What Year Were You Born? \_\_\_\_\_

14. What is your ethnicity origin (or Race)

- Hispanic or Latino \_\_\_\_\_
- Asian/Pacific Islander \_\_\_\_\_
- Black or African American \_\_\_\_\_
- White/Caucasian \_\_\_\_\_
- Native American or American Indian \_\_\_\_\_
- Other \_\_\_\_\_

15. What is your gender? Male? \_\_\_\_\_ Female? \_\_\_\_\_ Other \_\_\_\_\_

16. What is your class rank?

- Freshman \_\_\_\_\_
- Sophomore \_\_\_\_\_
- Junior \_\_\_\_\_
- Senior \_\_\_\_\_
- Other \_\_\_\_\_

17. Are you a Part-Time Student? \_\_\_\_\_ Full-Time Student? \_\_\_\_\_

18. What is your Major? \_\_\_\_\_

19. If you have a Minor what is it? \_\_\_\_\_

20. Are you employed? Yes \_\_\_\_\_ No \_\_\_\_\_

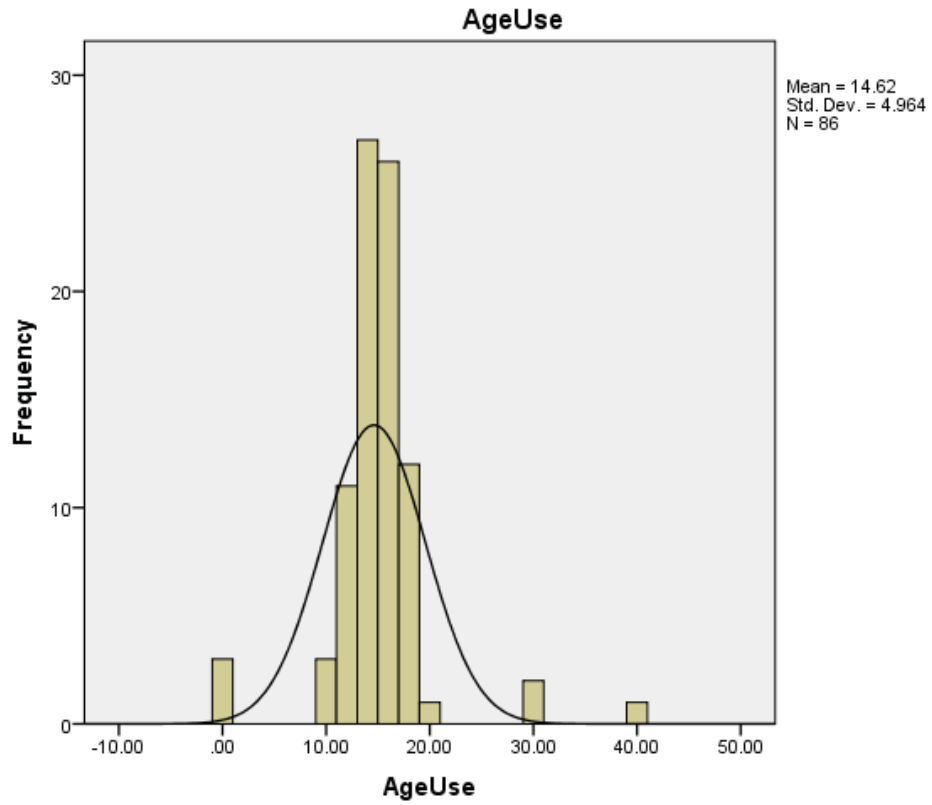
- Full-Time \_\_\_\_\_ Part-Time \_\_\_\_\_

21. What is your relationship Status? \_\_\_\_\_

- Casual Dating,
- Married
- Engaged
- Going Steady
- Friends with Benefits
- Divorced
- Widowed

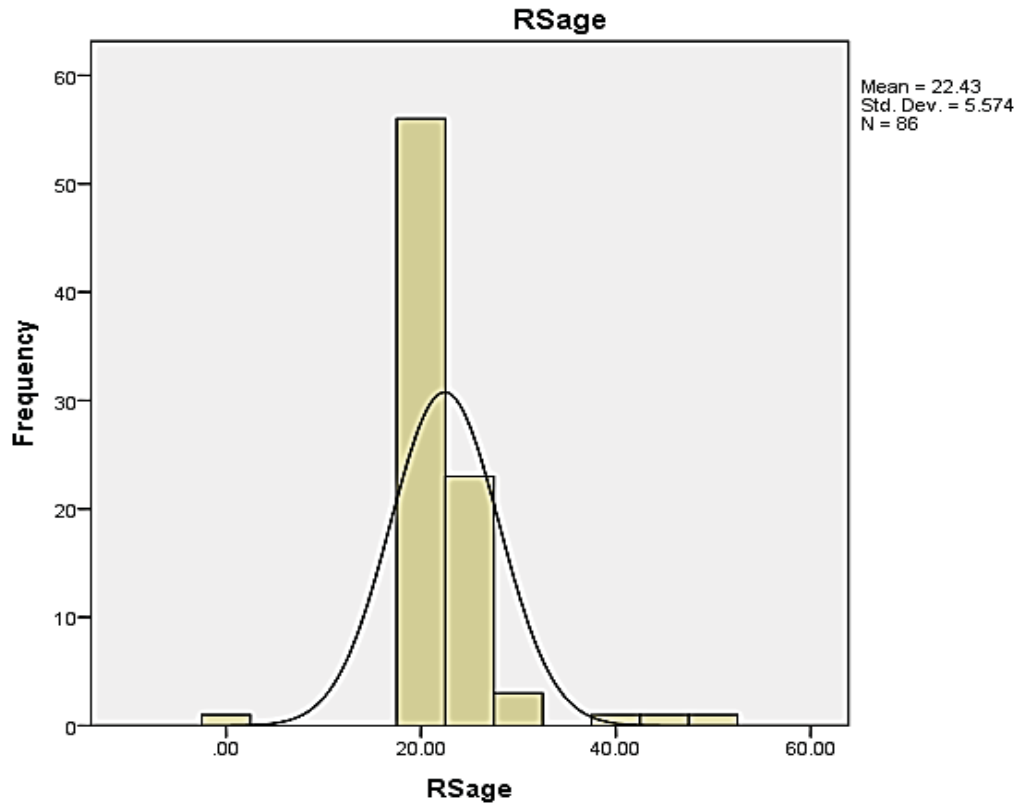
APPENDIX B

FIGURE 1 – Age Respondents First Reported Using Social Media



Source: Data from Research Study, Figure was produced by SPSS

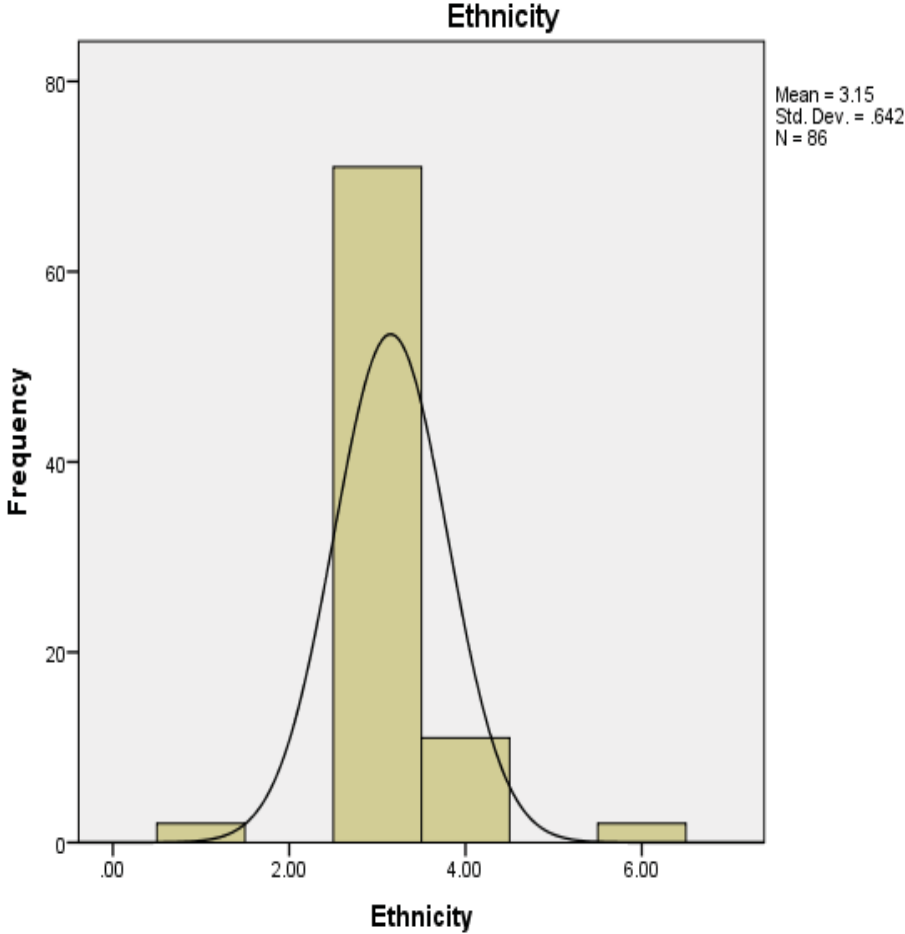
FIGURE 2 – Respondent's Age



Source: Data from Research Study, Figure was produced by SPSS

NOTE: The median age in the U.S. is 37.3 years old (CIA World Factbook)

FIGURE 3 – Ethnicity of Respondents



Source: Data from Research Study, Figure was produced by SPSS

NOTE: White/Caucasian Americans account for about 77.7% of the population (U.S. Census Bureau). In the study they account for about 82.6% of the sample.

## APPENDIX C



One University Plaza, Youngstown, Ohio 44555  
Office of Grants and Sponsored Programs  
330.941.2377  
Fax 330.941.1580

April 8, 2015

Dr. Gordon Frissora, Principal Investigator  
Dr. Richard Rogers, Co-investigator  
Dr. Adam Earnhardt, Co-investigator  
Mr. Torrian Pace, Co-investigator  
Department of Criminal Justice & Forensic Sciences  
UNIVERSITY

RE: IRB Protocol Number: 079-2015  
Title: What is the Effect of Social Media Use on Eyewitness Accounts

Dear Drs. Frissora, Rogers, Earnhardt and Mr. Pace :

The Institutional Review Board of Youngstown State University has reviewed the above mentioned Protocol via expedited review and determined that it fully meets YSU Human Subjects Research Guidelines. Therefore, I am pleased to inform you that your project has been fully approved for one year. You must submit a Continuing Review Form and have your project approved by April 7, 2016, if your project continues beyond one year.

Any changes in your research activity should be promptly reported to the Institutional Review Board and may not be initiated without IRB approval except where necessary to eliminate hazard to human subjects. Any unanticipated problems involving risks to subjects should also be promptly reported to the IRB. Best wishes in the conduct of your study.

Sincerely,



Dr. Scott C. Martin  
Interim Associate Dean for Research  
Authorized Institutional Official

SCM:cc

c: Atty. Patricia Wagner, Chair  
Department of Criminal Justice & Forensic Sciences

[www.yzu.edu](http://www.yzu.edu) The logo for Youngstown State University, consisting of the letters "YSU" in a bold, serif font.