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Cultivation Effects from Television Crime Dramas to Forensic Practices

By

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Abstract

Television and its effects have been frequently studied due to the prevalence of television in today's society. Cultivation theory examines these effects by claiming that people's perceptions of the real world are shaped by the social reality portrayed on television. This paper used this theory to examine a link between college student's viewership of television crime dramas and their opinions about forensic practices. It used quantitative survey questions and previous research to come to conclusions for the research questions. The three research questions asked whether frequent viewing of crime dramas cultivated false beliefs about three forensic practices, (fingerprint analysis, polygraph tests, and DNA analysis). Results found that crime dramas cultivated perceptions about all three practices, but with DNA analysis to a lower extent than the others.

Cultivation Theory: Television Crime Dramas and Forensic Practices

Television crime drama is a genre that stands out amongst others because of its popularity and its perceived relation to reality. Crime dramas include shows like *Law & Order*, *Dexter*, *Criminal Minds*, *CSI*, and *NCIS*. These series are not limited to one broadcaster or network, instead, they are present on many different channels and streaming services which increases the likelihood of people viewing them, whether on purpose or accident. Crime dramas often appear to mirror true reality and they seem to accurately portray the ways in which police departments operate when solving criminal cases, even though the shows are highly dramatized and often sacrifice accuracy for entertainment purposes (Jermyn, 2013). For example, many shows portray lie detector tests as being an end-all for gaining a confession but in reality, these machines are not reliable. This study examines the effect of heavy viewing of fictional television crime dramas on the viewer's perceptions of the crime-solving process.

Cultivation theory was used as the guiding force for this paper. Simplified, this theory suggests that the more time people spend watching, or "living" in, television, the more likely they are to believe that the images and messages shown on TV align with reality (Gerbner, Gross, Morgan, & Signorielli, 1980). The method used to collect data for this study was surveys. These anonymous surveys were distributed to a number of college students in an online format. The survey results were used to draw conclusions about the effect of television crime dramas on viewer's perceptions about the crime solving process.

Literature Review

Prevalence of Television

Television remains one of the most used media. Nielsen estimated that there were 120 million television households in the U.S. as of May, 2019, this is an increase of 300,000 more from the year before (Nielsen, 2019). This growth pattern may continue for years to come. In 2019, American adults tended to watch almost four and a half hours of television a day, (Nielsen, 2019). This estimate is based not only on live TV consumption, but also includes time-shifted TV consumption across all devices like computers. Technological advancements within television have led to the creation of streaming services such as Netflix which have grown in popularity in the past few years. These streaming services allow the viewers to choose an exact show to watch, and most streaming entities do not display commercial advertisements during the programming. Statista found that 70% of people aged 18-35 subscribed to at least one streaming service, which is a larger share than the 62% of any aged adult who subscribed to them (Watson, 2020). This means young adults especially have greater investment in watching television or streaming services.

Streaming has also led to a new activity called *binge-watching* which refers to the extreme, devoted, and time-consuming experience of watching multiple episodes of a television series in rapid succession. (Sung, Kang, & Lee, 2018). It is often done without interruptions such as advertisements. This now-common practice allows the viewer to become further engaged and immersive during *binge-watching*, so they “live” in the constructed reality of the television show even more than by viewing television programs at a lower level of attention (Sung, Kang, & Lee, 2018). Exelmans and Van den Bulck (2017) found that four fifths of college-aged people self-identify as binge viewers whereas just three fourths of all adults identify as binge watchers. This young adult group not only invests in watching streaming television but also self-identifies as binge-watchers at a significantly higher rate than other groups.

Crime Dramas

Television in general is popular amongst Americans and studies show that crime drama series are highly popular (Battaglio, 2019; Clark, 2020). For example, according to Nielsen and reported by *Business Insider*, three out of the top five fictional television series watched in the 2019-2020 television season were crime dramas (Clark, 2020). Nielsen has recently ventured into studying television shows on the two largest streaming services, Netflix and Amazon Prime. Streaming data is only counted on TV screens and not mobile devices, additionally this data collection records the number of minutes a particular show is streamed instead of looking at viewership numbers. As of September 2019, four out of the top ten highest streamed shows were crime dramas (Battaglio, 2019). Cable networks and streaming services recognize the popularity of these programs which is shown by their choices to continually create and renew crime drama series.

Since the earliest days of television, crime series have maintained a presence in television and have continuously secured loyal and sizeable audiences (Jermyn, 2013). Like other genres, crime dramas have had shifts in the topics which the writers choose to cover. At first, most crime television series mainly focused on the storyline about character development but recently, forensic science has taken center-stage in many crime dramas. The shift towards forensic technology occurred when these sciences evolved in real life, and public fascination about these new sciences caused crime series to feature them regularly (Jermyn, 2013). Thus, the writers of these shows continuously present and dramatize real-life machines to solve murders, robberies, and other crimes. Often, the presentation of these technologies gives the show a feeling of “forensic realism” so viewers misjudge these real-life sciences as functioning in the same way as

crime dramas present them, even though these dramas are fictional and often sacrifice accuracy for dramatization (Jermyn, 2013).

Perceptions of Forensic Processes in Crime Solving

A polygraph test, commonly referred to as a lie-detector test, is often a subplot of many crime television series. This test works by attaching wires to a person's body to monitor pulse, sudomotor (sweat) rate, respiration, and blood pressure (Cook & Mitschow, 2019). These physiological reactions are observed by the machine because there is some general scientific evidence that when a person lies, these bodily functions change by a measurable amount (Lewis & Cuppari, 2009). However, this evidence is not completely sound because each person has different reactions to lying and these physiological changes may occur in response to something else other than the act of deception (Lewis & Cuppari, 2009). Analyses completed by parties outside of the polygraph community have continuously found high false positive rates of up to 50 percent and higher (like those in *United States v Scheffer*, 1998). This information means that the test has very low reliability. Because of the polygraph's unreliability, the U.S. Supreme Court ruled that individual jurisdictions can determine whether to allow it in court. All states, except New Mexico, deny its use as evidence unless all parties agree (Cook & Mitschow, 2019). The science behind polygraph tests claim they are unreliable, but crime television dramas often portray them as being completely accurate. The research in this study will examine the general misconception that polygraph tests are accurate.

Fingerprint identification or analysis is also prevalent on television crime dramas. Fingerprint analysis involves comparing a latent print with a known print to assess if two prints can be matched. Latent prints are complete or partial impressions that can be left behind on bodies or other surfaces like a steering wheel, doorknob, or table. Known prints are fingerprints

that have been deliberately collected in a controlled setting from a known source (President's Council of Advisors on Science and Technology, 2016). The scientific evidence behind fingerprint analysis is somewhat questionable but this study was not concerned with validity of this forensic process, rather, with the way in which fingerprint analysis is achieved. Crime programs often dramatize fingerprinting by ignoring this process or by leading the audience to believe fingerprint analysis is done by computers. Dramas are semi-correct in showing that a machine can assist in matching fingerprints but the detailed analysis is done by the human eye. Latent fingerprints are initially computer analyzed to determine potential known matches but a human examiner sorts through these results to make a final judgement to match two sets of fingerprints to one another based on observable print characteristics (Costanzo & Krauss, 2018). This study will examine the misunderstanding that fingerprint analysis is done entirely by machines.

DNA analysis is considered the most reliable forensic practice used to investigate crimes ("Introduction", 2009). Analysis can be done from many biological materials such as saliva and semen. When genetic material is found at a crime scene or on a victim, forensic workers collect samples of it, which then go through a chain of custody to a law enforcement or scientific agency usually a crime laboratory (Hayes, 2010). The Bureau of Justice reports that, as of 2014, there were 409 publically funded forensic crime labs and nearly two thirds of these labs analyzed biological samples like saliva and blood. At yearend, these labs had a backlog of 570,100 cases (Durose, Burch, Walsh & Tiry, 2016). Backlogs result from labs lacking sufficient resources or trained personnel (Introduction, 2009). Television crime series are short-for-time and most have a running time of only an hour, so it would be not be entertaining for the viewer to witness samples taking weeks to come back with results. It can take from five days to six months for

DNA found at homicide scenes to return from the lab, with an average of 68 days (Hayes, 2010). Typically, crime dramas portray results coming back within a matter of hours or days which does not match reality. This essay will determine if television drama shows cultivate the idea that DNA analysis occurs quickly.

Cultivation Theory

George Gerbner first described cultivation theory in the late 1960's while studying television's influence on viewers. The basic premise is that people's perceptions about the reality of the real world are shaped by the social reality portrayed on television. In addition to general perceptions, television can also cultivate certain expectations, assumptions, and behaviors within the viewer (Gerbner, Gross, Morgan, & Signorielli, 1980). The term "cultivate" refers to a non-divisible process which can be subtle, complex, and intermingled with other influences, it is not the same as the word "effects" (Gerbner, 1998). This means that the viewer comes to adopt or believe what is shown on television instead of simply being affected on a surface level.

Television programs constantly emphasize certain aspects of social reality, whether true or false, so the frequent viewing of these programs shape beliefs that a person's reality is the same as the portrayals on television. Heavy television viewers, which are usually those who watch more than four hours a day (Claudia, 2016), are more likely to believe that television's reality aligns with real life. Light viewers are not as likely to think this way, and the margin of difference between heavy viewers and light viewers perceptions is known as the *cultivation differential* (Gerbner, 1998).

Although there is currently a general consensus among researchers that this theory can be applied to all forms of media, most studies tend to focus it towards television including the news or fictional television series (Claudia, 2016). Initially, cultivation theory was concerned with the

overall effects of television and it did not focus on specific genres. As time went on, however, future research argued that there are genre-specific effects because created images of the world vary between genres. Upon viewing these shows, viewers then internalize values, perspectives, and information shared through those genre-specific messages (Cohen & Weimann, 2000).

Television's influence on viewer's beliefs are particularly strong within topics or genres in which the viewers have limited real-life experience with the subject matter (Pfau, Mullen, Diedrich & Garrow, 1995). The present study examined cultivation theory in the genre of crime dramas.

Meta-Analysis: Studies on Television Viewing and Cultivation Theory

The field of communication is ever-changing as media become more developed and audiences learn to adapt to these advancements. Therefore, theories in the communication field may transform in order to keep up with these progresses. The following research paper aims to examine the effect of heavy viewing of fictional television crime dramas on the viewer's perceptions about the crime-solving process. Although the researcher's topic is unique because the specific thesis has not been studied before, other scholars have conducted research that may be helpful for the audience to understand, especially those studies that involve the use of cultivation theory. At first, the cultivation theorists measured television viewing as being around the clock, not taking consideration the particular program or genre (Gerbner & Gross, 1976). However, other researchers have expanded and proved that cultivation can be studied on a narrower basis (Cohen & Weinman, 2009) such as by genre.

Other Genres: Medical Dramas

A specific genre of fictional television that has been studied frequently are medical dramas, which are similar to television crime dramas as they are a fictional portrayal of real life

careers and situations. Chung (2014) examined the relationship between heavy medical drama viewing and audience's opinions about certain health topics. Heavy viewers had a more fatalistic view about cancer because medical dramas depict deaths from cancer at a higher rate than in real life (Chung, 2014). Witzel, Koch, and Kaminski (2017) found that frequent viewers of medical dramas believe that routine medical procedures are more dangerous than they actually are because of their dramatized portrayals in medical television shows. This results in an undeniable fact that frequent viewers of medical shows are more scared than non-viewers or low viewers due to cultivation effects (Witzel, Koch, and Kaminski, 2017). Another study of medical dramas (Heye, et al., 2016) focused on audience views towards radiology. They found that the majority of non-medical professionals perceive medical drama content as accurate, even if the viewer has had past experiences in receiving radiological scans. The results from this study showed that viewers believe radiological examinations to take place at a much higher rate than reality because these programs show them taking place at a disproportionately higher rate even if they have had personal experiences with radiology before, the television shows have overrun their factual-based opinions because they are seen with high esteem despite their fictional label (Heye, et al. 2016).

Additionally, other studies have suggested cultivation effects can be used to examine results after frequent viewing of a single television program. Continuing with the medical dramas, Quick (2009) looked at cultivating of audience views after watching a designated portion of a single series, *Gray's Anatomy*. The researcher tested views before and after viewing and found that exposure to this single television show was enough to effect the audiences views (Quick, 2009). These past studies show that applying cultivation theory to a singular genre of

television programs is acceptable and will yield valuable results. Venturing outside of television, scholars have applied this theory to other forms of media.

Other Media Forms

More recent studies in the field of communication have used cultivation theory to conduct research about video games. Some authors found no direct cultivation effects with video games (Anderson & Dill, 2000) while others have found some correlation. Mierlo and Van den Bulck (2004) conducted an experiment and found that subjects had higher estimates of crime and police presence which was influenced by video game use. Additionally, William's (2006) found that people who were exposed to video games throughout a period of one month experienced feelings that robbery was more likely to happen compared to the control group. Perhaps this is because the realism depicted on television is more convincing than the one depicted in video-games (Mierlo & Vanden Bulck, 2004). The expansion of cultivation theory into video games not only shows that this theory is diverse but also its ability to transform just as media does, even if the effects are not as strong as with television.

Other studies have attempted to use cultivation theory to examine the effects on individuals from music videos and results suggest that these effects do occur. Beullens, Roe, and Van den Bulck (2012) found a relationship between frequent music video exposure and views about driving after drinking, those who frequently viewed music videos had changed opinions towards it. Others tested music videos and the construction of social reality beliefs which uphold cultivation theory and suggest it is an efficient way to analyze effects coming from this newer form of media (Riddle, 2010).

When looking at social media, there are significantly fewer studies which implore the use of cultivation theory. However those that have examined this topic (Cheng, Mitomo, Otsuka, & Jeon, 2016) have found that mass media has significantly higher effects. This suggests that even cultivation theory may have its limits, however, television is still around and popular so cultivation theory will still continue to be researched.

Criticisms and Extensions of Cultivation Theory

Although cultivation theory is generally accepted as a reliable and useful theory, it is not without criticism. A popular criticism of this theory is that it originally lumped together all television viewing into one undifferentiated mass while ignoring differences between types of television (Gerbner, 1967). This could also result in imprecise control measure if limitation of genre or programs was not taken into consideration (Gunter, 2009). Throughout time, this critique has been addressed less as many studies have opted to focus on more specific television such as a single genre or program. Basing these studies off of cultivation effect has been completely acceptable even though it's gathering information about more specific types of TV. This can be seen in some of the afore mentioned studies. Cohen & Weinmann (2000) wrote about different genres, how cultivation theory can be used to study genres, and how this makes the theory work better. Quick (2009) studied a single television program and even encouraged future research to apply cultivation theory to other programs, across multiple episodes, instead of looking at the broad idea of television.

Potter (1991) states that there are many contributing factors that a person experiences other than just the viewing of television. Having a broad outlook on these other factors would make the results more accurate and many studies agree. Williams (2006) claimed that external factors most likely influenced the result of his experiment but did not identify any of these

factors with evidence. Witzel, Koch, and Kaminski (2017) theorized that age played a role in their results and not just because of the amount of television viewing time. Additionally, Beullens, Roe, and Van den Bulck (2012) included a limitation of their study that they could not account for other external factors, no matter how much these would have affected the results. Some scholars choose to report this limitation while other do not. There have also been many limitations identified when it comes to surveys being conducted to test hypotheses formed using this theory. Riddle (2010) brought up a specific issue that the survey used may have fatigued participants as the researcher wanted to get detailed results from their self-reporting. This was also a concern of Mierlo and Van den Bulck (2004) as they mentioned worries about the relationship of media use and the measure of cultivation factors to be false due to unintentional lies in self-reporting

Cultivation theory has also often been linked to other disciplines and theories (Morgan & Shanahan, 2010). Beullens, Roe, and Van den Bulck (2012) chose to use the theory of planned behavior in addition to cultivation theory in order to discover what suited their results the best. Jeffres, Neuendorf, Bracken, and Atkin (2008) were interested in examining cultivation theory against agenda-setting theory and third person effect through multiple surveys and analysis, this article shows how this theory can be used in conjunction to other theories with ease. Anderson and Dill (2000) solely used cultivation theory to conduct their research but despite this originating in the communication field, their work was posted in the *Journal of Personality and Social Psychology*. It is not unusual for works involving cultivation theory to be posted here. Another example of the diverseness of this theory is evident in the fact that an article by Heye et al (2016) was posted to the *Journal of European Radiology* because the theory was used to examine opinions towards radiology.

Research Questions

Based on the review of the literature above, the following research questions are proposed:

RQ 1: Does frequent viewing of television crime dramas cultivate the false belief that polygraph tests are accurate?

Polygraph tests have a low reliability rate (United States v Scheffer, 1998) but crime dramas portray them as being efficient in detecting lies. The repeated exposure to programs that depict them as accurate may cause the viewer to adopt a view that polygraph tests are accurate in real life.

RQ 2: Does frequent viewing of television crime dramas cultivate false beliefs about how fingerprint analysis is done?

Fingerprint analysis is a forensic process that is commonly falsely portrayed in television as being completed solely by computers. Although the process involves machines for a short amount of time, steps of this process are completed by a human examiner who personally matches the latent print to a known print (Costanzo & Krauss, 2018).

RQ 3: Does frequent viewing of television crime dramas cultivate false beliefs about the time schedule of DNA analysis?

Previous research (Hayes, 2010) has shown that DNA analysis can take up to six months to return back to the law enforcement agency that requested its examination. The median return rate is 68 days but in television crime dramas it appears as if DNA analysis is a much quicker process, which is in contradiction of reality.

Methods

To test the research questions against real-life participants, the researcher decided to use a quantitative approach and conduct surveys in an online format in order to reach more people. Quantitative research is more generalizable than qualitative ways of testing but the survey will only question college students at Coastal Carolina University in Conway, South Carolina. The results of the 154 student's surveys will be used to draw conclusion about other students at this university concerning views and opinions of forensic practices shown on crime television dramas.

Population and Sample

The participants of this survey were a variety of gender identities, ages, and races, the only limiting factor was that they had to be in the young adult age group (ages 18-26) and attend Coastal Carolina University. Other limiting factors were not included, as the goal was to compare data between heavy television viewers and light viewers. This age group was specifically targeted for convenience, their accessibility to the internet, and because young adults are the age group that identify most as binge watchers (Exelmans & Van den Bulck 2017) so finding a high percentage of heavy television viewers was reasonable. The sample of participants was non-random and used convenience to find recruits.

To find people to take the surveys, the researcher used many approaches all involving technology. She chose to email students who she has had experiences with in the past, whether personal or related to education. Some participants were sent a mobile link through school-based club group chats. Additionally, the survey was distributed over zoom chats to many of her classes and a university professor personally emailed a link to all of his students. No one was

compensated financially or in any other way and the survey was completely voluntary and anonymous. Ponto (2015) states that using multiple different methods of distribution will help avoid blocking any population from participation. However, due to the circumstances involving the COVID-19 pandemic the survey could only be distributed through the internet.

Data Collection Instrument

The survey consisted of 12 closed-ended questions surveying television use and people's views about the forensic procedures of polygraph tests, fingerprint identification, and DNA analysis. The survey employed a variety of questions, including multiple choice, yes or no questions, and scales to gather information about television use and forensic beliefs. This survey was cross-sectional and taken at one point in time, (see Appendix A for the questions). This research study had three research questions, all to be addressed through the survey results. Thus, certain survey questions were aimed towards a variable in each research question.

The first survey questions measured knowledge about a polygraph, or lie detector, test. There were three survey questions related to this topic. Initially, a question asked if the participant knew what this machine was. Other questions on the survey tested if the participants have heard of DNA and fingerprint analysis. If the survey-taker did not recognize these forensic practices, they were instructed to skip the following questions regarding the machines. They were then separated into another group for data analysis. Looking at polygraphs, the survey questioned whether the person believed they were accurate and what percentage accuracy they thought. Percentages were given in 20 point intervals.

The next survey questions measured knowledge about fingerprint analysis and how this process is carried out by law enforcement agencies. The subjects had the choice to answer if it

was completed by humans, computers, or both. Knowledge about DNA analysis was measured next with a question regarding the time it takes for analysis to be conducted. The scale range was as follows: minutes, hours, days, weeks, months.

Questions measuring the independent variable of television usage were also included in order to group respondents into heavy television viewers and light television viewers. Firstly, they were asked, “Over the past year, on average, how much television do you view each day? This includes active viewing or non-active viewing (television shows running in the “background”).” High television viewers were considered those who viewed four or more hours a day, as stated in the preceding literature review. Next, they were asked how often they watched television crime dramas: never, rarely, sometimes, always, often. Additionally, a few demographic questions were asked in order to organize data for analysis. This study aimed to survey students at Coastal Carolina University who were between the ages of 18 and 26. The participants were asked to provide their age range and status as a student, any result that did not fit these criteria were discarded. The final results of these survey questions were used to organize the data and provide a statistical analysis to address each research question

Findings

Out of the 154 responses submitted, 141 survey results were analyzed because these fit the criteria for the study. These results came from students at Coastal Carolina University between the ages of 18 and 26. A majority of these responses, 60%, were from low television viewers while the others were from heavy viewers. Both of these groups watched television crime shows to a high extent, with each group average claiming they watch crime shows more than “sometimes”. This study compared these two groups and although responses between these

two nominal groups were not equal, they were sufficient enough to analyze and compare satisfactorily.

Research question one asked “Does frequent viewing of television crime dramas cultivate the false belief that polygraph tests are accurate?” If a respondent was familiar with this machine, they were told to move on to other questions that were analyzed to answer the research question. Looking at heavy viewers, 91% of respondents believed that lie detector tests were accurate which is significantly higher than the 64% of low frequency viewers that shared this belief. There is a 27 percentage point difference between those that watch television for more than four hours a day and those who watch less. When prompted to specifically state how accurate these test were, answers fell towards the middle of the spectrum. The majority of people who believed polygraph tests were accurate thought they worked 60 to 80 percent of the time while those who believed they were false believed they were only accurate 20 to 40 percent of the time.

The next research question aimed to analyze beliefs about fingerprint analysis. In reality, fingerprint analysis is initially conducted by a computer but the process is then completed by a human examiner. Respondents were prompted to answer whether a human, computer, or both were involved in the fingerprint analysis process. Looking at high viewers, no one said that only humans completed this process which is similar to the one light viewer person who claimed humans were solely responsible for this. The extremely low amount of people who chose this answer is comparable between both groups and no differences allot, this shows that heavy viewing of television does not cultivate this specific false belief. The majority of heavy viewers, 70% of respondents, believed that fingerprint analysis was a computer-only process and 29% chose the correct answer of both being involved in the process. Looking at low viewers, 43% thought this was a computer based process and the remainder (66%) chose the correct option that

it was conducted by both. The disparity between these two groups in relation to the correct process of fingerprint analysis shows that high viewers of television crime dramas are more likely to adopt these false views often shown on television.

DNA analysis beliefs were examined in order to answer the third research question of “Does frequent viewing of television crime dramas cultivate false beliefs about the time schedule of DNA analysis?” Respondents who were familiar with DNA analysis in terms of law enforcement were directed to answer how long they believed it took for tests to be analyzed. The answers were given in five broad categories ranging from minutes to months. Two out of the five categorical answers were considered to be correct while the other three answers were coded as incorrect. For heavy television viewers, 51% of respondents held false beliefs about how long DNA analysis took to return. 35% of low viewers chose wrong answers. There is a slight difference between these two groups, heavy viewers have a more frequent chance of holding false beliefs towards this forensic process.

Discussions and Conclusions

Results of Chung’s (2014) study showed that viewer’s understanding of different health matters are highly related to medical drama watching, this finding can be applied to this study regarding forensic practices in television crime dramas. If television programming presents a coherent sets of images about a topic, then heavy viewers tend to accept those images as truth (Pfau and Mullen, 1995). This can be applied to polygraph tests being portrayed as accurate on television crime dramas. Despite polygraph tests being one of the most well-known forensic processes (Lewis & Cuppari, 2009), information about them from television crime dramas still has an influence on what people believe about them. This study showed that heavy viewers of

television crime dramas adopted the false idea that lie detector tests are accurate at a much higher rate than low viewers.

Television crime dramas often compromise accuracy for dramatization to further the storyline (Jermyn, 2013). Showing the extensive process of fingerprint analysis would involve the crime program to take time explaining how the analysis involves both computers and humans, this is not usually done as the human element of fingerprinting is usually omitted from crime dramas. Previous surveys (Chung, 2014) regarding other types of dramas have shown that their viewers accept scientific information gained from the television program as truthful education, despite the fact that the program is fictional. Because television programs continually present fingerprint analysis as solely completed by computers, high viewers believe this is true. Results from the study show that the overwhelming majority of high viewers hold the view that it is a computer-only process while less than half of low viewers have this false belief.

According to Pfau and Mullen (1995), influence of television is greatest in circumstances where people have limited past experience, so in this case with people who have not seen or learned about DNA tests from other sources. If the person has experience with this process from other accurate sources of information, this experience may meld with the television images and produce a collage effect (Pfau and Mullen, 1995). This collage effect could have occurred with the participants because DNA analysis has been often discussed outside of crime dramas, like with at-home DNA tests. Even though it is not the same as law enforcement DNA, participants could still relate the two if they have not been educated on the differences between the types of DNA analysis. A variance between heavy and low viewers of television were present in the results, however it was not a large disparity.

Limitations and Future Direction

The preceding research study had limitations. Looking at the data-collection method, using surveys is effective at gathering information from a high number of participants in a short amount of time. However, questions could be misunderstood by the participants, and the results may be unreliable due to this misunderstanding or the lack of truth in responses (Ponto, 2015). Despite these limitations, survey collection was chosen for this study as it collects the largest number of results and the research can be generalizable. Additionally, this specific study could have had skewed results as some of the respondents had a criminology minor and would be more educated about forensic processes than the average college student. It was not possible to account for external factors that could have changed the results.

Future researchers may wish to continue with this study by distributing the survey to participants in different age ranges. Additionally, conducting qualitative interviews with participants may reveal more-specific insights about people's television watching patterns and perceptions of forensic processes. The current study looked at heavy viewers of television, no demographic differences were taken into consideration except for age and student status. Future studies are encouraged to look at variables or subgroups, such as gender, within the group of heavy viewers and compare those results. Also, it may be beneficial to examine the worldly effects of heavy television viewers holding false views about forensic processes.

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Appendix A: Survey

Please answer the following questions to the best of your knowledge and ability.

1. Have you heard of a polygraph machine, commonly referred to as a lie detector test?

Yes No (If selected, skip question 2 and 3)

2. In general, do you believe a polygraph machine is effective in determining if the test subject is lying?

Yes No

3. More specifically, how often do you think polygraph machines are accurate?

0-20% 20-40% 40-60% 60-80% 80-100%

4. Have you heard of fingerprint analysis?

Yes No (If selected, skip question 5)

5. In 2020, is fingerprint analysis completed by computers, humans, or both?

Computers Humans Both

6. Have you heard of DNA analysis in terms of law enforcement?

Yes No (If selected, skip question 9)

7. How long, on average, does it take for DNA to be analyzed for law enforcement?

Minutes Hours Days Weeks Months

8. Over the past year, on average, how much television do you view each day? This includes active viewing or non-active viewing (television shows running in the “background”)

0-1 hour 1-4 hours 4-8 hours over 8 hours

9. When watching television, how often do you watch crime television dramas?

Never Rarely Sometimes Often Always

11. Are you a student at Coastal Carolina University?

Yes No

12. What is your age range?

under 18 18-22 22-26 26-30 over 30