The Pursuit

"You are to appoint judges and officers for all your gates [in the cities] your G-d is giving you, tribe by tribe; and they are to judge the people with righteous judgment. You are not to distort justice or show favoritism, and you are not to accept a bribe, for a gift blinds the eyes of the wise and twists the words of even the upright. Justice, only justice, you must pursue; so that you will live and inherit the land your G-d is giving you.

Deuteronomy 16:18 – 16:20

About *The Pursuit* Journal

The Pursuit, a publication of the Criminal Justice Association of Georgia (CJAG) is a peer-reviewed journal that focuses on the broad field criminal justice. ***The Pursuit*** publishes scholarly articles relevant to crime, law enforcement, law, corrections, juvenile justice, comparative criminal justice systems and cross-cultural research. Articles in ***The Pursuit*** include theoretical and empirically-based analyses of practice and policy, utilizing a broad range of methodologies. Topics cross the spectrum of policing, criminal law and procedure, sentencing and corrections, ethics, juvenile justice and more, both in the United States and abroad.

Authors interested in submitting manuscripts for consideration should us the link on the CJAG website (http://cjag.us) or email the Editor of ***The Pursuit*** at cjagjournal@gmail.com

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Michael B. Shapiro
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About the Criminal Justice Association of Georgia

The Criminal Justice Association of Georgia is a not-for-profit organization of criminal justice faculty, students and professionals. It exists to promote professionalism and academic advancement in all areas of inquiry related to the Criminal Justice field.

The Association holds its annual meeting in October. Those interested in presenting at the conference should contact Professor Jennifer Allen (jennifer.allen@ung.edu).

Readers are encouraged to "like" us on Facebook (https://www.facebook.com/CriminalJusticeAssociationofGeorgia/) and visit our website (http://cjag.us).

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The Reporting of Agricultural Crime to Law Enforcement in Georgia: A Preliminary Examination

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Abstract

Much has been discussed regarding the decisions of some individuals to report and not report their victimization to law enforcement. While various attempts, such as the development of the National Crime Victimization Survey (NCVS), have been made to determine the true extent of unreported crime, most criminological studies have focused on the commission of criminal acts in urban areas (Donnermeyer & DeKeseredy, 2014). Though this knowledge of urban crime is beneficial, very little research has examined the topic of crime in rural environments, especially in regards to the extent that these acts go unreported to police. The current project seeks to address this overlooked topic in criminological research by providing an exploratory assessment of the degree to which agricultural crimes are reported to police officials in the State of Georgia. Data was collected through the distribution of victimization surveys to client-members of Georgia Farm Bureau, the largest and strongest voluntary agricultural organization in the state. Information was obtained regarding their victimization over the prior 12-month period for five specific agricultural crimes (theft, vandalism, poaching, illegal dumping, and trespass) and whether they elected to report these events to law enforcement. For those who did not report

these acts to the police, further information was gathered as to why they chose to remain silent about their victimization. Based on the findings, most agricultural crimes included in this study go unreported to the police irrespective of farm size with the most common reasons for remaining silent being due to issues indicative of a lack of trust or confidence in the legal system.

Introduction

Crime frequently causes individuals and communities to express heightened concern for their safety which often results in the call for greater efforts to reduce law violating behaviors (Hinkle, 2015). A central component to this process is for these infractions to be brought to the attention of police organizations in order for crime prevention measures to be implemented (Goudriaan, Lynch, & Nieuwbeerta, 2004; Bennett & Wiegand, 1994; Greenberg & Ruback, 1992; Mayhew, 1993). While crime can be reported by victims, witnesses, and others, many criminal acts go unreported to police officials. For instance, of the approximate 26 million crimes in the United States in 2000, fewer than half of these events were reported to law enforcement (NCVS). The extent to which offenses are reported to the police varies based on the act itself as studies have consistently shown that more serious crimes are reported at a higher rate than lesser acts (Bennett & Wiegand, 1994; Felson, Messner, Hoskin, & Deane, 2002; Fishman, 1979; Gottfredson & Hindelang, 1979; Kury, Teske, & Wurger, 1999; Pino & Meier, 1999; Skogan, 1976, 1984; Sparks, Genn, & Dodd, 1977). For instance, data from the National Crime Victimization Survey (NCVS) has shown that property offenses such as burglary and thefts are committed more frequently than personal crimes, like rape, assault, and robbery, yet they are less likely to be reported to the police (Greenberg & Beach, 2004). Furthermore, when comparing reported and unreported crime data contained within the NCVS to the data from the Uniform

Crime Reports (UCR) that only includes reported crimes, it is apparent that many illegal acts go unreported to law enforcement.

Most criminological research has focused on events that have transpired in urban areas while ignoring those that are committed in rural environments (Donnermeyer and DeKeseredy, 2014). These areas are not immune to the same crime problems facing more urbanized areas (Donnermeyer, Barclay, and Mears, 2011), yet rural crime ranks as one of the least explored social problems (DeKeseredy, Donnermeyer, Schwartz, Tunnell, & Hall, 2007). Rural America has been frequently portrayed in a dichotomized perspective; one that paints the serene landscape of rural areas as being pristine and untouched by the influence of illegal activity (Weisheit & Donnermeyer, 2000) and the other that depicts these same areas as being violent, backwoods environments where strangers are unwelcomed and at risk of injury or death when venturing into these locations (DeKeseredy, Muzzatti, & Donnermeyer, 2013). While both depictions are erroneous, some studies have shown that rural communities may have higher rates of particular types of crime in comparison to their urban counterparts (DeKeseredy et al., 2013, Jobes, Barclay, Weinand, & Donnermeyer, 2004). Yet little is known about the true extent of these rural offenses as they are reported less frequently to the police than crimes in more populated areas due to a variety of factors including the presence of stronger informal social controls (Carrington, 2007; Hogg & Carrington, 2006). These informal social controls are often developed due to relationships ranging from kinship, friendship, or being acquaintances within these rural environments which often fosters the preference to handle rule violating behaviors through informal, non-legal means that help to maintain social harmony within the community (Barclay, Donnermeyer, Doyle, and Talary, 2001).

The current study seeks to fill the gap in the criminological literature by providing an exploratory assessment pertaining to the reporting of agricultural crime, a specific subset of rural crime, to law enforcement officials in the State of Georgia. Through the collection of survey data from farmers and ranchers, information is gained regarding five types of agricultural crime (i.e., theft, vandalism, trespass, illegal dumping of refuse, and poaching). For instances where the criminal acts were not reported to police, further information was obtained examining the reasons why the participant elected to not report their victimization. Lastly, information was obtained from the participants regarding the outcome of the case, such as whether the offender was arrested or prosecuted and whether the victim ever received compensation from the offender for the damage done.

Reporting of Crime

Before plans are developed to potentially reduce or eliminate crime, the extent and scope of the problematic behavior must first be understood. To accomplish this, criminal acts must be brought to the attention of law enforcement officials. The main source of information regarding the perpetration of criminal acts generally comes from victim reports (Bennett & Wiegand, 1994; Greenberg & Ruback, 1992; Mayhew, 1993). Unfortunately, many acts routinely go unreported for a variety of reasons, such as victim-offender relationships, low confidence or faith in the legal system, presence of informal and/or formal social controls, and type of crime (Donnermeyer & DeKeseredy, 2014). Not only does the probability of alerting police vary depending on the actual crime, there has also been variance among communities in regards to the frequency at which crime has been reported to law enforcement. Specifically, criminal acts committed in rural areas have been found to be reported to law enforcement at a lower rate than

similar crimes that are perpetrated in more populous areas (Weisheit, Falcone, & Wells, 1994; Jones, 2008; Donnermeyer & DeKeseredy, 2014).

Rural communities are frequently characterized as being comprised of a homogenous population displaying a greater degree of social cohesion, intimacy, and shared values based on informal social controls than urban communities (Bouffard & Muftic, 2006; Marshall & Johnson, 2005). Barclay et al. (2001) found that social factors are present in rural areas that place pressure on victims to avoid reported their victimization to police. In these cases, victims were urged, either explicitly or implicitly, to conform to societal norms and to avoid causing conflict brought about by accusing someone of criminality. They further found that if the perpetrator was a neighbor of the victim, the pressure to not report the crime to law enforcement was even more pronounced as reporting the infraction would ostracize the alleged offender from the larger society.

Maintaining cohesiveness and unity is critical for rural areas as residents are often dependent on each other for survival due to a lack of necessary resources that are more readily available in larger populated communities, such as adequate medical care, fire and police services, and economic stability. This is especially important when rural communities experience difficult challenges, such as natural disasters, man-made accidents, and economic struggles (Bunei, Rono, & Chessa, 2013). Criminal acts and the resulting accusations can strain the very social fabric that facilitates and maintains unity causing social harm to the offender, the victim, and the entire community. In these situations, victims can easily elect to accept their victimization and avoid reporting the illegal act in order to preserve peace while maintaining their status and overall harmony within the larger social group (Bunei et al., 2013).

In addition to these social factors, Goudriaan et al. (2004) argued that one has to examine the impact of situational versus contextual effects in addition to rational versus normative factors in this process. Situational factors are often micro-level factors, such as the interplay between the victim and offender, that influence reporting behavior. This would also include external factors associated with the face-to-face interaction between the participants in the crime event, such as the amount of force used and value of items destroyed or stolen.

Contextual variables, on the other hand, are mainly geographic in nature (i.e., blocks, communities, cities, and states) although it also includes public attitudes and the victim's relationship to the offender. Attitudinal factors encompass whether community residents have faith in the police, the level of attachment among citizens, and whether the act was an instance of intrafamilial victimization (Goudriaan et al., 2004). Regardless of the nature of the relationship, family bonds negatively impact the reporting of intrafamilial crimes in most instances (Felson, Messner, & Hoskin, 1999). Furthermore, it has been hypothesized that attitudinal factors also impact the decision of victims to report crimes to the police (Goudriaan et al, 2004).

Agricultural Crime

Although inquiries on rural criminality have historically escaped the inquiry of criminologists (Donnermeyer & DeKeseredy, 2014), recent studies have indicated a growing interest in this area. One subsection of rural crime that has gained greater attention, both within the United States and internationally, involves the topic of agricultural or farm crime. Rural crime, as a whole, would include acts commonly occurring in urban areas, such as robberies, thefts, and assaults. What differentiates agricultural crime from other acts of rural crime involves the target and location of the criminal event. The classic definition of farm crime, which is

utilized for the current study, includes illegal acts that either take place on or to farm/agricultural property (Dunkelberger, Clayton, Myrick, & Lyles, 1992).

Studies have frequently found that agricultural crime is often property related and would include various types of theft (i.e., tool, farm equipment and tools, livestock, chemicals, and commodities) and property destruction (Anderson & McCall, 2005; Barclay, 2001; Donnermeyer & Barclay, 2005; Jones, 2008; Mears et al., 2007). Agricultural properties are often attractive targets of criminals due to the reduced use of security measures to reduce victimization by farmers (Jones, 2008), and the ease of access to public roads in addition to the isolated nature of these properties (Barclay et al., 2001). As a result, many farmers have developed the mindset that being the victim of agricultural crime is an accepted part of doing farm or ranching work (Dunkelberger et al., 1992).

Further motivation for would-be criminals arise from the fact that farmers are generally reluctant to report their victimization to authorities (Jones, 2008). The decision to not report these crimes to the police may go beyond the potential of allegations jeopardizing the social cohesion within agricultural communities. With residents of these areas generally being characterized as “close-knit”, victims could choose to resolve these infractions through informal measures. In their study of farm crime victimization in Alabama, Dunkelberger et al. (1992) found that many farmers held the belief that the local courts were too lenient on perpetrators of agricultural crimes. Slightly less than 50% of the participants in their study expressed skepticism as to whether local law enforcement diligently investigated farm crimes. An additional 25% of the remaining participants indicated that these offenses were not investigated thoroughly. On a larger legislative scale, almost 38% of the respondents did not believe that current laws were adequate to protect farmers and their property while an additional 43% were uncertain as to

whether current laws were adequate. This information points to the potential that many farm crimes are not reported due to farmers subscribing to a belief that nothing would be done to the perpetrator or reporting the act was not worth the trouble. Unfortunately, electing to not report these events has had an impact on police-community relationships as well as distorting the data on agricultural crime (Barclay et al, 2001).

From the scarce research available, studies have found that larger farms tend to be victimized more frequently than smaller farms (Dunkelberger et al., 1992; McCall, 2003; Mears et al., 2007; McIntyre, Prine, & Knowles, 2017). Anderson and McCall (2005) reported that larger farms with higher incomes as well as farms in close proximity to urban areas were at a higher risk of being victimized than other agricultural entities. While we know that the size of the farming operation impacts the overall probability of being victimized, there is no known study that has examined the variance in reporting these acts to the police among different farming enterprises.

Methodology

The current project seeks to fill the gap in the current criminological research by examining the degree to which crimes are reported by the different classifications of farms (i.e., small, medium, and large) in the State of Georgia. In addition, if crimes were not reported to law enforcement, this study provides further information as to why farmers and ranchers elected to remain silent about their victimization. To the best of the researcher's knowledge, this is the first piece of research to examine these two factors, particularly within this particular state.

According to the U.S. Census Bureau (2014), the State of Georgia is the 8th largest state in the United States with an estimated population of 10.1 million people. The Georgia Statistics System operated by the University of Georgia (http://georgiastats.uga.edu/), reported that 24.9%

of the state's population lived in rural areas in 2010. Additionally, a vast majority (91.7%) of Georgia's land in 2010 was classified as being rural with an estimated 26% of the total land area being identified as farmland. The United States Department of Agriculture's Economic Research Service (2017) identified Georgia as being the 15th largest state in 2015 in terms of farm income and wealth generated from all commodities. This information demonstrates that agriculture is a large business within the state which makes it an ideal site for this research.

Data for this project was collected through the distribution of an electronic survey to clients of Georgia Farm Bureau who are involved in the agricultural industry from February 2015 until late July 2015. Georgia Farm Bureau is the largest and strongest voluntary agricultural organization in the State of Georgia that serves more than 300,000 families (Georgia Farm Bureau, 2016). The purpose of Georgia Farm Bureau is to, "provide leadership and assistance to the agricultural sector, promote farm products, aid in agri-related procurement, to act as a spokesperson for farmers in the legislative arena, to be an industry leader in the development and expansion of farm markets, and to seek increased agricultural research opportunities and educational funding" (http://www.gfb.org/aboutus/default.html).

Georgia Farm Bureau maintains an email distribution list of approximately 10,000 member-customers who have identified themselves as being involved in the agricultural industry through either farming and/or ranching activities. To ensure confidentiality of the participants, Georgia Farm Bureau distributed the survey link to these member-customers through email with no participant information (names, addresses, phone numbers, and email addresses) being provided to the researcher. In addition, no identifying information was collected or provided to the researcher through the completion of the electronic survey.

Participants were asked basic demographic information regarding their farming operation, such as how many acres they either owned or rented for the purpose of growing crops or raising livestock. The cumulative total was then separated into three different farm classifications or sizes: small, medium, and large. The development of these categories was based on a modification of the same descriptors used by Dunkelberger et al. (1992) in their examination of farm crime in Alabama. For the purpose of the current project, these categories are defined as: a small farm refers to a farming operation with less than 50 acres; a medium farm is defined as ranging from 50 and 150 acres; and a large farm is any enterprise that is 150 acres or larger.

The participants were also asked questions about whether they had been the victim of five specific agricultural crimes (theft, vandalism, illegal dumping of refuse, trespassing, and poaching) over the prior twelve-month period. Further questions were also asked regarding whether these offenses were reported to the police. For cases not reported, the respondents were asked to identify their reason(s) for not alerting law enforcement. Participants were given four answer choices (nothing would have been done, handled it personally, reporting the act was not worth the trouble, and other) to identify which one(s) best described their reason(s) for not reporting the act to police. Each participant was able to select more than one answer choice, if applicable, as to why they failed to report the crime to the police. If "other" was selected, the respondent was prompted to provide a write-in response to identify why they chose to remain silent on their victimization. Lastly, questions were asked regarding whether the victim had knowledge as to whether the perpetrator was ever charged or arrested for their crime.

Results

Out of 10,000 clients that received the survey, 415 were completed which represents a 4.15% return rate. Participants of these completed surveys represented all regional areas of the State of Georgia with no major land areas being unrepresented in this project. More specifically, individuals from 113 out of 159 Georgia counties (71%) participated in this study.

Demographic information pertaining to the participants of the study can be found in Table 1. The average age of the farmers/ranchers who participated in this project was 59. Additionally, most of the respondents self-identified as being male (0=Male; 1=Female), white (0=Other; 1=White; 2=African American; 3=Hispanic; 4=Native American), and that farming and/or ranching was not their sole occupation (0=No; 1=Yes). In regards to farm/ranch size, 81 individuals described their operations as being small, 109 were medium, 203 were large, and only 22 were unknown/left blank. The results for age, sex, and race were comparable to the results of the U.S. Department of Agriculture's 2012 Census of Agriculture for Georgia. The current study reported a higher percentage (60%) of participants as having other jobs in addition to their farming or ranching operation than what the Census of Agriculture project found in 2012 (53%).

Table 1: Respondent Demographics

Characteristics	N	Mean	SD	Min	Max
Age	335	58.7	12.345	21	89
Sex	341	0.2610	0.43982	0	1
Race	345	1.0145	0.33639	0	4
Sole Occupation	352	0.2926	0.45561	0	1
Farm Size					
Small	81				
Medium	109				
Large	203				
Unknown	22				

Participants who indicated that they had been the victim of one or more of the agricultural crimes included in this study (theft, vandalism, illegal dumping, trespass, and poaching) within the prior 12-month period were asked to indicate whether they had reported the act to the police (0=No; 1=Yes). T-tests were conducted on the data to determine whether the means were significant at the .05 level or lower. The means for all five of these offenses were found to be statistically significant at less than the .01 level, which is lower than the original identified level of significance. Based on the result of this analysis, most acts of vandalism, illegal dumping, trespass, and poaching were not reported to law enforcement authorities (see Table 2). Of the five agricultural crimes, instances of theft were reported to the police more frequently.

Table 2: Was the Crime Reported to the Police

Criminal Act	N	Mean	SD	Min	Max
Theft	130	0.5769*	0.49596	0	1
Vandalism	57	0.4035*	0.49496	0	1
Illegal Dumping	109	0.2110*	0.40991	0	1
Trespassing	154	0.2922*	0.45626	0	1
Poaching	91	0.3407*	0.47656	0	1

*p<.01

Table 3: Reporting of Ag. Crime Based on Farm Size

	N	Mean	SD	Min	Max
Small Farms					
Theft	11	0.4545*	0.52223	0	1
Vandalism	10	0.40*	0.51640	0	1
Illegal Dumping	18	0.222*	0.42779	0	1
Trespassing	26	0.3077*	0.47068	0	1
Poaching	13	0.1538	0.37553	0	1
Medium Farms					
Theft	34	0.5588*	0.50399	0	1
Vandalism	12	0.5833*	0.51493	0	1
Illegal Dumping	27	0.1111	0.32026	0	1
Trespass	35	0.3429*	0.48159	0	1
Poaching	21	0.3810*	0.49761	0	1

Large Farms					
Theft	79	0.5823*	0.49634	1	2
Vandalism	34	0.3429*	0.48507	1	2
Illegal Dumping	61	0.2459*	0.43419	1	2
Trespass	90	0.2667*	0.44469	1	2
Poaching	57	0.3684*	0.48666	1	2

*p<.01

To determine whether there were any differences in the reporting rate of these offenses based on farm size, T-tests were conducted on the means for the three farm categories (small, medium, and large). As shown in Table 3, besides acts of illegal dumping committed against medium size farms, all other offenses were found to be statistically significant at less than the .01 level regardless of farm size. Theft was the most frequently reported criminal event for small and large farm while vandalism was reported to police slightly more than theft on medium size farms. Overall, small farms reported their victimization to the police less frequently than medium and large farming operations. Alternatively, medium size farms were slightly more likely to report their victimization to the police in comparison to large and small farms. Based on these findings, these agricultural offenses routinely go unreported to police officials regardless of the size of the agricultural enterprise.

Table 4 provides reasons why the participants elected not to report their victimization to law enforcement authorities. Respondents were provided four answer choices and were able to select more than one answer as decisions are often made due to a variety of factors. As shown, the most common reasons why the agricultural crime was not reported to the police was because the farmer believed that it was "Not worth the trouble" and/or that "Nothing would have been done". It was interesting to note that the response rate for "Handled it personally" increased rather substantially from acts of theft and vandalism (1% and 2% respectively) to instances of illegal dumping (20%), trespass (29%), and poaching (33%). For those that selected "Other",

write-in responses ranged from fear of retaliation from the perpetrator, personally knowing or being related to the perpetrator, and/or to having reported past infractions to law enforcement with nothing being done to investigate or apprehend the offender(s).

Table 4: Why was it not reported to the police? (In percentages)

Reason	Theft	Vandalism	Illegal Dumping	Trespassing	Poaching
Not worth the trouble	43	48	38	34	27
Handled it personally	1	2	20	29	33
Nothing would have been done	36	36	32	28	21
Other	19	10	10	9	19

All participants in the current study were asked to identify whether the offender had been arrested (0=No, 1=Unsure, 2=Yes) for their criminal deeds. The T-test analysis of response means, as shown in Table 5, were found to be statistically significant at the .01 level for all offenses except for vandalism which was significant at the .05 level. Based on these results, a vast majority of offenders were never arrested for their infractions.

Table 5: Was the Offender Arrested?

Criminal Act	N	Mean	SD	Min	Max
Theft	128	0.4063*	0.72565	0	2
Vandalism	53	0.1698**	0.46969	0	2
Illegal Dumping	107	0.1215*	0.40539	0	2
Trespassing	153	0.0915*	0.28927	0	2
Poaching	86	0.1977*	0.52736	0	2

*p<.01; **p<.05

Discussion

While prior research has mentioned various factors present within rural communities that may restrict the reporting of farm crimes (Bouffard & Muftic, 2006; Marshall & Johnson, 2005; Barclay et al, 2001), no known study has focused specifically on the extent to which agricultural crimes go unreported to law enforcement. The current study fills this void and provides

important information on this subject as well as highlighting reasons as to why these offenses have gone unreported. Based on the findings, the most frequently reported agricultural crimes were theft and vandalism which was largely consistent regardless of the farming enterprise size (large farming operations reported poaching slightly more often than vandalism). In comparison to the other offenses (illegal dumping, trespass, and poaching), theft and vandalism could be reported with greater regularity due to the stolen or damaged property items being covered by insurance policies which would require, in most instances, the issuance of a police report in order to process the claim. Additionally, these acts may be reported with greater regularity as the victims may perceive the other acts (trespass, illegal dumping, and poaching) as being either more difficult to prove and/or solve or not being worth the trouble to report the act. With larger farms being victimized more often than smaller farms (Dunkelberger et al., 1992; McCall, 2003; Mears et al., 2007; McIntyre et al., 2017), it was interesting, and perhaps logical, to see that larger farming operations tend to report, on average, their victimization more frequently than smaller agricultural enterprises.

The perpetration of these criminal acts against farming and ranching operations has a negative financial impact on the agricultural business in terms of replacement cost and production cost (Dunkelberger et al., 1992). Due to this, there would appear to be an incentive to report these offenses to law enforcement authorities regardless of farm size or for business documentation purposes, such as insurance claims. Yet, a high percentage of farm and ranch operators elect to not report their victimization. The most common reasons for not reporting these crimes were that the respondents felt that it was not worth the trouble to report the act and/or that nothing would have been done. Although these were two separate answer choices, they may potentially be closely related in terms of justification for not reporting the event. For

instance, the respondent may have the belief that since nothing would be done about the criminal act, it would not be worth the trouble to report it to the police. Additionally, the selection of "nothing would have been done" also leads to further questions that are beyond the scope of the current study. Namely, does this suggest a belief that the crime would not have been investigated by the police or that the offender would never be arrested even if the crime was investigated? Or does this indicate a belief that the court system would not have convicted the offender even if an arrest was made? Regardless, these reasons arguably point to a lack of trust and faith in the criminal justice system.

If the reasons for not reporting these crimes to law enforcement officials by the farmers and ranchers in this study is due to a perceived lack of faith in the criminal justice system, this belief could arise from whether the offenders of such crimes are arrested for these acts. The findings show that the participants overwhelmingly indicated that the offender, in their respective crimes, was rarely arrested. Although this could, at face value, be used to criticize the justice system in not holding these offenders accountable for their infractions, an alternative view could equally be used to criticize the decision of farmers/ranchers to not report these events to officials. More specifically, if the crimes are not brought to the attention of the police, it is reasonable to believe that no charges would be made against the perpetrator(s). This in effect creates somewhat of a self-fulfilling prophecy where nothing is being done to the offender of farm crimes by the criminal justice system because farmers/ranchers do not report their victimization. Alternatively, several of the respondents who had reported their victimization to the police indicated that the police did little in regards to investigating the crime or in pursuing the offender. From a larger perspective, these particular situations could have been rare, isolated events and not an accurate reflection of the overwhelming response by law enforcement to such

acts. Either way, these findings indicate that there is much work to be done in seeking justice for victims of agricultural crimes and in improving faith among farmers/ranchers and police officials.

Limitations of the Study

Even though this project was the first to provide a preliminary examination of the reporting of agricultural crime to police in the State of Georgia, it is not without limitations. The first limitation of the study pertains to the response rate. For criminological research, the ideal response rate of survey data is at or slightly about 20%. The rate of response for the current work was 4.15% which was well below the normal expectation for similar criminological projects. Georgia Farm Bureau routinely sends electronic surveys to clients on a variety of issues, such as customer service. According to officials with Georgian Farm Bureau, they normally get a 4 – 5% response rate for these surveys. As such, it would be unrealistic to think, that a rate of return of 4 or 5 times greater than what Georgia Farm Bureau typically receives on other electronic surveys could be obtained for this study. Even with the relatively low response rate, the current study was able to provide equal representation of all regions of the state with individuals from 71% of Georgia's 159 counties providing input. Furthermore, much of the demographic information for this study was closely consistent with findings from the U.S.D.A.'s 2012 Census for Agriculture for Georgia.

Although the use of email is a very easy and effective way to distribute surveys electronically to a large number of individuals, this method of distribution also has several weaknesses. One such challenge is that every recipient may not monitor their email on a regular basis which could potentially lead some to fail to notice the survey until after the data collection period had closed. In other instances, some people may have changed email addresses without

updating their client-member records at Georgia Farm Bureau. Additionally, even though we live in a culture saturated with various types of technologies, there are some individuals who are not very familiar with computers and the Internet. This lack of familiarity with computer and Internet technology could lead to a reduced likelihood that these individuals will participate in an electronic survey even if they did receive and see the email sent to them by Georgia Farm Bureau.

Lastly, the findings of the project should not be generalized and be portrayed as representing all agricultural crime in Georgia or other states due, in part, to the issues identified above but also as a result of variances in state economies, resources, and other challenges. As a result, more research should be conducted on this topic both within Georgia and other states across the U.S. to broaden our understanding of these events.

Conclusion

Although an exploratory assessment, this study identifies several important findings regarding farm crime in the State of Georgia. First, there appears to be rather logical reasons why farmers and ranchers routinely elect to remain quiet about their victimization. Unfortunately, this causes the true estimate of farm crimes to be drastically lower than what is experienced which can easily lead to the mindset that we do not have a problem with agricultural crime based on official crime statistics. The second, related, finding is that of those that elect to not report their victimization to the police, there appears to be skepticism as to whether the legal system will adequately investigate these offenses. To remedy these issues, improved lines of communication between members of the legal system and those involved in farming and ranching could alleviate issues of trust. More specifically, it could be beneficial for representatives of the police, prosecutor's office, and judge's office in rural areas to hold periodic community workshops to

exchange information and ideas with those in the agricultural community regarding ways to reduce farm crime victimization. These type meetings could be used to explain the process of investigating and prosecuting agricultural crimes in addition to covering investigative and prosecutorial challenges to these offenses. Additionally, information could be distributed within these meetings advising farmers and ranchers about what information and details are needed by law enforcement officials to assist in their investigations and prosecutions of these acts. Through a better understanding of the impact of these acts from both a farming/ranching and law enforcement perspective, trust and cooperation would likely be improved which could lead to increases in reporting farm crime.

A third finding highlighted by the current project was the need for greater information and research involving the topic of agricultural crime. Namely, more in-depth studies are necessary to identify commonly used ways farmers/ranchers attempt to prevent their victimization in addition to the effectiveness of these measures. Since the current findings appear to suggest a lack of trust in the legal system by the farming community in responding to acts of agricultural crime, there is a need for future research to be conducted to examine the police-community relationship in rural areas. Since any potential distrust may not simply be between the community and the law enforcement officers in their areas, these studies should also examine the relationship between the community and the court system. These potential projects could also be expanded to include the opinion of farmers/ranchers as to whether they believe current laws adequately prevent agricultural crimes from happening and, when perpetrated, whether current laws ensure justice for the farm victim. Ultimately, criminal acts perpetrated to or against farming and ranching operations represent a vast and largely untapped area for criminological inquiry.

References

Anderson, K.M., & McCall, M. (2005). *Farm crime in Australia*. Canberra, AU: Australian Institute of Criminology, retrieved on 9th April, 2017 from: www.aic.gov.au/publications/current%20series/cfi/101-120/cfi119.aspx

Barclay, E.M. (2001). *A review of related literature on agricultural crime.* Institute for Rural Futures, University of New England, retrieved on 9th April, 2017 from: www.criminologyresearchcouncil.gov.au/reports/barclay.pdf

Barclay, E.M., & Donnermeyer, J.F. (2002). Property crime and crime prevention on farms in Australia. *Crime Prevention and Community Safety: An International Journal*. 4, 47-61.

Barclay, E.M., Donnermeyer, J.F., Doyle, B.P., & Talary, D. (2001). *Property Crime Victimisation and Crime Prevention on Farms.* Report to the NSW Attorney General's Crime Prevention Division (Report No. 01.2). Armidale, New South Wales: Institute for Rural Futures, University of New England.

Bennett, R. R., & Wiegand, R. B. (1994). Observations on Crime Reporting in a Developing Nation. *Criminology*, 32, 135-148.

Bouffard, A.L., & Muftic, R.L. (2006). The "rural mystique": Social disorganization and violence beyond the urban communities. *Western Criminology Review*, 7, 56-66.

Buneir, E.K., Rono, J.K., & Chessa, S.R. (2013). Factors Influencing Farm Crime in Kenya: Opinions and Experiences of Farmers. *International Journal of Rural Criminology*, 2(1), 75-100.

Carrington, K. (2007). Crime in Rural and Regional Areas. In E. Barclay, J. F. Donnermeyer, J. Scott, & R. Hogg (Eds.), *Crime in Rural Australia* (pp. 27-43). Sydney: Federation Press.

DeKeseredy, W. S., Donnermeyer, J. F., Schwartz, M. D., Tunnell, K. D., & Hall, M. (2007). Thinking Critically About Rural Gender Relations: Toward a Rural Masculinity Crisis/Male Peer Support Model of Separation/Divorce Sexual Assault. *Critical Criminology,* 15, 295-311.

DeKeseredy, W. S., Muzzatti, S. L., & Donnermeyer, J. F. (2013). Mad Men in Bib Overalls: Media's Horrification and Pornification of Rural Culture. *Critical Criminology.* 22(2), 179-197.

Donnermeyer, J.F., & Barclay, E.M. (2005). The policing of farm crime. *Police Practice and Justice Research,* 6, 3-17.

Donnermeyer, J. F., Barclay, E., & Mears, D. P. (2011). Policing Agicultural Crime. In R. I. Mawby & R. Yarwood (Eds.), *Rural Policing and Policing the Rural: A Constable Countryside?* (pp. 193-204). Farnham, UK: Ashgate.

Donnermeyer, J. F., & DeKeseredy, W. S. (2014). *Rural Criminology: New Directions in Critical Criminology.* New York, NY: Routledge.

Dunkelberger, J. E., Clayton, J. M., Myrick, R. S., & Lyles, G. J (1992). *Crime and Alabama Farms: Victimization, Subjective Assessment, and Protective Action.* Alabama Agricultural Experiment Station: Auburn University.

Felson, R. B., Messner, S. F., & Hoskin, A. W. (1999). The Victim-Offender Relationship and Calling the Police in Assaults. *Criminology,* 37, 931-947.

Felson, R. B., Messner, S. F., Hoskin, A. W., & Deane, G. (2002). Reasons for Reporting and not Reporting Domestic Violence to the Police. *Criminology,* 40, 617-647.

Fishman, G. (1979). Patterns of Victimization and Notification. *British Journal of Criminology,* 19, 146-157.

Gottfredson, M. R., & Hindelang, M. J. (1979). A Study of the Behavior of Law. *American Sociological Review*, 44, 3-18.

Goudriaan, H., Lynch, J. P., & Nieuwbeerta, P. (2004). Reporting to the Police in Western Nations: A Theoretical Analysis of the Effects of Social Context. *Justice Quarterly*, 21(4), 933-969.

Greenberg, M. S., & Beach, S. R. (2004). Property Crime Victims' Decision to Notify the Police: Social, Cognitive, and Affective Determinants. *Law and Human Behavior*. 28(2), 177-186.

Greenberg, M. S., & Ruback, R. B. (1992). *After the Crime: Victim Decision Making.* New York: Plenum Press.

Hinkle, J. C. (2015). Emotional Fear of Crime vs. Perceived Safety and Risk: Implications for Measuring "Fear" and Testing the Broken Windows Thesis. *American Journal of Criminal Justice*, 40, 147-168.

Hogg, R., & Carrington, K. (2006). *Policing the Rural Crisis.* Sydney: Federation Press.

Jobes, P. C., Barclay, E., Weinand, H., & Donnermeyer, J. F. (2004). A Structural Analysis of Social Disorganization and Crime in Rural Communities in Australia. *Australian and New Zealand Journal of Criminology*, 37, 114-140.

Jones, J. (2008). *Farm crime on Anglesey: Local partner's and organisations.* Views on the Issue, second report, January 2008. Retrieved on 7th April, 2017 from http://www.aber.ac.uk/en/media/jane-jones---second-report.pdf

Kury, H., Teske, R. H. C. Jr., & Wurger, M. (1999). Reporting of Crime to the Police in the Federal Republic of Germany: A Comparison of the old and the new Lands. *Justice Quarterly*, 16, 123-151.

Marshall, B., & Johnson, S. (2005). *Crime in rural areas: A review of the literature for the Rural and Evidence Research Centre.* London: University College London.

Mayhew. P. (1993). Reporting Crime to the Police: The Contribution of Victimization Surveys. In W. Bilsky, C. Pfeiffer, & P. Wetzels (Eds.), *Fear of Crime and Criminal Victimization* (pp. 141-157). Stuttgart: Enke Verlag.

McCall, M. (2003). *Results from the 2001-02 National Farm Crime Survey.* Australian Institute of Criminology, Trends and Issues in Crime and Criminal Justice, No. 266.

McIntyre, Jr., R. N., Prine, R. K., & Knowles, Jr., F. An Exploratory Assessment of Agricultural Crimes in Georgia. *International Journal of Rural Criminology*, 3(2), 157-175.

Mears, D.P., Scott, M.L., & Bhati, A.S. (2007). Opportunity theory and agricultural crime victimization. *Rural Sociology,* 72, 151-184.

Pino, N. W., & Meier, R. F. (1999). Gender Differences in Rape Reporting. *Sex Roles,* 40, 979 990.

Skogan, W. G. (1976). Citizen Reporting of Crime: Some National Panel Data. *Criminology*, 13, 535-549.

Skogan, W. G. (1984). Reporting Crimes to the Police: The Status of World Research. *Journal of Research in Crime and Delinquency,* 21, 113-137.

Sparks, R. F., Genn, H. G., & Dodd, D. J. (1977). *Surveying Victims: A Study of the Measurement of Criminal Victimization, Perceptions of Crime, and Attitudes to Criminal Justice.* New York: John Wiley.

Weisheit, R. A., & Donnermeyer, J. F. (2000). Change and Continuity in Crime in Rural America. *The Nature of Crime: Continuity and Change,* 1. U.S. Department of Justice Office of Justice Programs.

Weisheit, R. A., Falcone, D. N., & Wells, L. E. (1994). *Rural Crime and Rural Policing*. National Institute of Justice Research in Action. U.S. Department of Justice.

Liars in Public Safety: Case Studies of Deception

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Abstract

Public safety employees are expected to have and display the morals of their profession and are often held to a higher ethical standard than the community they serve. Organizational and occupational licensing mandates require public safety employees to be truthful in word and deed; however, that is not always the case. This paper will examine the use of deception by public safety employees in one organization during internal investigations of drug use. Linguistic insight into deception, characteristics of liars, and outcomes in the cases are scrutinized. Suggestions for investigative improvement are offered and additional research indicators are presented.

Introduction

Public safety employees: law enforcement officers, firefighters, and emergency medical technicians/paramedics working for municipal, county, state, or federal agencies, undergo a rigorous hiring process requiring compliance with rules and codes of conduct. Employment in

these occupations requires licensure and certification conformity with standards often above those of the private-sector. Truthfulness is required. As noted in the Cobb County (Georgia) Fire Department Code of Conduct, "…personnel shall truthfully answer all questions specifically directed and narrowly related to the scope of employment and operations of the department which may be asked of them," (Cobb County Department of Public Safety Internal Affairs Investigation 13-0017, page 11). There is no gray area in truthfulness. It is either a true statement or a lie. Yet, public safety employees often search for the gray area where they can overtly deceive or covertly mislead. Concerned with the application of understanding and less with abstract theory, this paper will examine case studies in the use of deception by public safety employees during internal affairs investigations into illegal drug use.

In oral communication, when a person tells another person something that they know to be false, this act is called a lying. Although sometimes minimized through terms such as a "tall tale", "propaganda", "invention", "story", or "fib", the person telling the untruth is nonetheless a liar. There is no such thing as a half-truth; a statement is either true or it is not. Deception in communication, the act of misleading through oral or written language[1] requires the use of statements to falsely persuade others. In other words, lies create deception.

And artfully applied deception creates an illusion of truth to the hearer, which is exactly what the liar is attempting to achieve. Porter and Brinke (2010) note, "Deception is a major aspect of social interaction," (p.57), but deception is universally accepted as being ethically and morally wrong. And infamous statements or appearances of deception come to mind, "Consider Bill Clinton as he lied about the Lewinsky affair…" (p.59). Hans Gross (1911/1968), the famous

[1] It is possible to deceive through facial expression and/or body language, but these avenues are not the subject of this paper.

criminalist, put it this way: “That by the lie is meant the intentional deliverance of a conscious untruth for the purpose of deception…” (p.475). It should be noted that liars often lie to people who want to be deceived. How many husbands answer truthfully when asked: “How do I look in this dress?”

In this study, the authors will examine the transcribed verbal statements in three internal affairs investigations in the Cobb County (Georgia) Department of Public Safety.[2] The interviews were audio and or video recorded and transcribed by employees in the Internal Affairs division. The authors attempt to provide insight into the veracity of these statements through a critical examination of, in most cases, the transcribed materials. The application of the study of language, linguistics, to the investigative process is important to aid in resolving questions concerning of violations of policy, procedure, or law; this is forensic linguistics. Because the text materials are found within legal or criminal contexts, the examination is forensic in nature. The goal of the study is to examine the conversations (sworn testimony) between an internal affairs investigator and an employee to ascertain if deception or veracity can be determined based on the current study of forensic linguistics. The objectives to the study include educating investigators on indicators of deception and the verbal conduct of liars, revealing the tactics used by those under investigation to avoid speaking the truth, and the determination of false statements. The analytic tactic of pattern matching logic addresses the internal validity of the study. By comparing empirically based patterns with the verbal outcomes during the investigations, the patterns may coincide. Simply, if employees in public safety jobs cannot be depended on be truthful, can they be depended on meet the tough challenges of their occupation? If public safety employees will lie during internal investigations, they will certainly have no

[2] These cases are examined in *Anabolic Steroid Abuse in Public Safety Personnel* by Turvey and Crowder, 2015.

qualms about lying on the stand during a trail. While there is no Pinocchio effect (liars' noses do not grow, nor does the mark of Cain appear), research in deception has a long history.

Aschaffenburg's 1913 text, *Crime and Its Repression*, included a table of convictions which noted "Violations of Oath" (p. 155). In his 1923 book, *The Psychology of Misconduct, Vice, and Crime*, Dr. Bernard Hollander noted, "Many of the cases that have come before me were well-educated young men and women, plausible talkers, of prepossessing appearance, but decidedly cunning. Their chief characteristic was inveterate lying. Such people fabricate stories to obtain what they desire…," (p.171). Some insight into liars is offered in the research of Soderman and O'Connell, "Unreliable persons or liars should always be allowed to talk as much as they like. If such a witness is allowed to give his own account of things related to the investigation, he will finally contradict himself and tell the truth. It is very difficult, not to say impossible, to lie consistently," (p.11). And Doctor Leo Stanley (1940) put it this way, "I am simply saying that for a man hunting excuses for failure any alibi will serve," (p.3). The point here is the examination of false statements has been the subject of study for a long time. Each of these historical insights will be borne out in the case studies presented.

Methods to detect deception are most often based on the anxiety created by the interview process (Leins, Fisher, Vrij, 2012). While taking longer to respond to questions and often giving shorter answers than truthful persons, "Liars tend to include fewer auditory details and make more speech hesitations than do truth tellers," (Leins, et al., 2012). The clarity and amount of detail of a statement provides insight in accordance with the Undeutsch hypothesis: "that statements that describe an experienced event will have characteristics that differ from statements that describe events that were not experienced," (Warmelink, Vrij, Mann, & Granhag, p. 101, 2013). In other words, making up a story (lying) is different from relating an actual

experience when put into words. Truth tellers give more detail than liars suggesting that people remember and give more details about an experienced event than an imagined event (Warmelink, et al., 2014). Olsson (2004, p. 123-124) states directly, "Broadly speaking, if we are committed to what we are saying we tend to be brief and to the point, we tell it 'like it is', as the saying goes – we do not hedge."

Further, insight into the temporal details of statements reveals information about times and clarity about times indicates that liars give less detail (Warmelink, et al., 2012). Another aspect to consider is report strategies. Olsson (2004) suggests close attention to time in the narrative, such as, being over precise or looking for gaps in time (p.126). He also suggests, "Look for sections of the text where there are clusters of stated times as opposed to sections of the text where all mention of specific times is absent," (2004, p.127). Other insights offered by Olsson include: why are places mentioned and is this information excessive detail used to add realism and to look for out-of-sequence sections.

Leins, et al., (2012), suggest that liars repeat earlier statements and truth tellers simply reconstruct the information memory. In other words, liars are inflexible and rigidly adhere to repeating the same lie over and over; this tactic is used to create an appearance of consistency. To quote Olsson again, "…if we do not believe what we are saying or if we do not believe *in* what we are saying, we will probably beat around the bush, we will be hesitant and non-committal, an even the sequence of events we are describing will most likely be somewhat disordered," (2004, p. 124). When a person is attempting to distance himself from their language, the will use formal language, have narratives out of sequence, and avoid logical and ordered structures (Olsson, p. 124).

Hess (2010) suggests that pronoun usage offers the "greatest opportunity for providing insight into a suspect's thinking," (p.55). The absence of "I' in a statement or the changing from "I" to "We" deserves a close examination as Hess suggests this may be an attempt to lessen the person's responsibility or culpability by diluting it with more people. Hess and Olsson reinforce the insight to verb tense. Past events may be recounted in the present tense; "people often tell a fabricated event as if it were taking place at the time," (2010, p.57). Unnecessary phrases given by a speaker may be a substitution for missing information and extraneous information (how to build a watch verses what time is it) is a common deceptive maneuver giving little relevant information. Quantity of information does not equal quality of information.

Insight to deception detection in this paper will be limited to evaluations of statements, often referred to in research as statement analysis. Other methodologies for detection of deception are beyond the scope of this paper; however, it is interesting to note that 23 of 24 studies on eye behaviors show no scientific evidence to gauge truthfulness (there goes the old adage of, "look me in the eye and tell the truth") and research on voice stress and body posture are weakly linked to deception (Matsumoto, 2011). Matsomoto is clear "that no one indicator of lying exists," but the research indicates "greater use of minimizing and editing adverbs and changes in nouns and verbs all were associated with lying," (2011, p.2). Matsumoto offers a clear and succinct description of statement analysis, "Statement analysis involves examining several aspects of someone's words, including verbs describing communication and uncompleted action; changes in verb tense; minimizing, intensifying, and editing adverbs; extraneous information; unique sensory details; and statement structure, which identifies the person's focus – on the incident or something else," (2011, p.3.). Some research supports the use of statement analysis to assist investigators with detecting deception (Matsumoto, 2011); the "lie detector"

machine (polygraph) not so much. However, because some investigations in this study included a polygraph examination of oral statements, this methodology of deception detection will be discussed.

Fred Inbau's 1934 paper in the *Journal of Criminal Law and Criminology* offers early perceptions about the "lie detector." Inbau provides an understanding about the early machines used (Keeler Polygraph) and answers questions about how and what the machine does most of which are applicable today. By example, "Significance is attached only to the deviations from the "norm" at the points where the subject is being interrogated as to his participation in the crime under investigation," (Inbau, p. 1144). Lyman (2013) offers, "What it does do is measure the physiological responses from the subject, including fear, anxiety, excitation, and other emotions," (p.105-106). The scientific consensus regarding the polygraph has shown it lacks validity (National Research Council, 2003). The Federal Bureau of Investigations administers about 225 polygraphs per year (Lyman, 2013) and numerous pre-employment polygraphs. Gordon and Fleisher (2011) suggest, "The polygraph is the gold standard of truth verification today." However, polygraph examinations can be entered into evidence at trial only if stipulated by the opposing parties. The Employee Polygraph Protection Act (EPPA) of 1988 is Public Law 100-347, dated June 27, 1988, which in sum "prohibits most private employers from using lie detector tests, either for pre-employment screening or during the course of employment," (https://www.dol.gov/whd/polygraph/). The EPPA provides exemption for federal, state, and local governments. It is interesting that the polygraph is not generally allowed to be used in the private sector; yet, government agencies use the tool. The polygraph is used by criminal justice agencies around the globe and as one polygraph examiner said, "You can beat the polygrapher (person administering the test), but not the machine," (S. Duncan, personal communication,

2012). Yet the results of polygraph examinations are unclear in the cases studies presented here. The most likely reason is that the polygraph measures anxiety (not veracity), regardless of the cause.

Methodology

This examination will review three internal affairs investigations conducted by the Cobb County (Georgia) Department of Public Safety Internal Affairs division. The first investigation concerned Firefighter Phillip R. Wilbur, Junior while the second was a multi-participant investigation that included Firefighters Darnell Musgrove, Vaughn Zellars, Jody Cochran, Craig Nemeth, and Rick Bennett. The final case regarded Police Officer Eric Meadors. While the completed investigative files exceed 1100-pages in total, we will review excerpts from statements made by those under investigation and compare and contrast those excerpts to the following statement analysis criteria:

- Fewer details (noted in Gordon & Fleisher, Leins, et al. and Warmelink, et al.)
- Unnecessary phrases with excessive details (noted in Matsumoto and Olsson).
- Speech hesitations (noted in Olsson and Warmelink, et al.)
- Repeating statements (noted in Leins, et al.)
- Time clarity (noted in Gordon & Fleisher, Olsson, and Warmelink, et al.)
- Narrative sequence (noted in Matsumoto and Olsson)
- Pronoun shift (noted in Gordon & Fleisher, Hess, and Matsumoto)
- Verb Tense (noted in Hess, Matsumoto, and Olsson)

As each excerpt is examined, the authors will insert the statement analysis criterion via pattern matching analysis that reveals a lie. "For case study analysis, one of the most desirable

techniques is to use pattern-matching logic," (Yin, 2009, p. 136). After an introduction to the internal affairs case, the authors will present 3 statements by each person denoting lies based on statement analysis. Each statement is produced as transcribed. We will close each case with an examination of the historical notations: violations of oath, inveterate lying, the impossibility to lie consistently, and the belief that any alibi will excuse failure. Because the transcribed testimony is an open-source document available to the public via the Georgia Open Records laws, no Institutional Review Board (IRB) approval is required.

Case One: Firefighter Phillip R. Wilbur, Jr.

Cobb County (Georgia) Fire Department Chief Sam Heaton filed a complaint on Firefighter Phillip R. Wilbur, Jr. on April 25, 2011. Firefighter Wilbur had been arrested after a domestic dispute with his wife. There was also a warrant for his arrest for theft in another county. "Internal Affairs investigators learned that a complaint had been received by the Paulding County Sheriff's Office that Engineer Wilbur had two vials of steroids with syringes at home," (p. 2). Internal affairs investigators were tasked to investigate the alleged misconduct of: unbecoming conduct, conformance to laws, use of alcohol, drugs or narcotics, and testimony. During the investigation the following three statements were made by Wilbur.

Wilbur Statement One: Wilbur returned to Internal Affairs for his second interview on May 5, 2011. His use of illegal anabolic steroids was discussed in a previous interview on May 4, 2011. He denied having ever used illegal anabolic steroids. He was administered a drug screen test by a private company for the investigation on May 4, 2011. Detective Harris with Cobb County Department of Public Safety Internal Affairs Division begins: "Okay. Well go ahead and tell us what you want to talk about, what's going on."

FIREFIGHTER WILBUR: 1. Well, first of all, um, I just want to say that, you know, everything that I said yesterday as far as what happened that night and everything was the honest to God's truth.

In sentence one, we find that Wilbur has 5 speech hesitation and unnecessary phrases.

2. Um, you all asked me about something in the end, um, if I had ever taken anything and, um, I did a couple of weeks ago.

In sentence two, we find Wilbur has three speech hesitations. There are no details here of what Wilbur has taken.

3. It was stupid, um, I think this all happened, you know, I've been devastated by it.

In sentence three we find Wilbur has 2 speech hesitations and states unnecessary phrases. Further, he states he has been devastated, but is not now devastated…verb tense change.

4. I've been depressed.

Sentence four reveals a change in narrative sequence and an unnecessary phrase. It is also important to note that Wilbur claims he has been depressed, not that he is depressed now.

5. I've contacted the EPA program last month, um, on the I believe it was, um, and told actually have a meeting with them today at four o'clock because I realize that this is, you know, everything is it just came down on me at once and snowballed and I did something that I wasn't, I'd never do, and it was not myself.

In sentence five, Wilbur has manifold issues: three speech hesitations, unnecessary phrases, verb tense changes, time clarity, and narrative sequence. Wilbur states EPA which we interpret as meaning EAP, Employee Assistance Program. Wilbur offers no details; if he had actually met with Employee Assistance Program personnel, he should know when it was and who his counselor was.

6. That's not who I am, what I'm about.

In sentence six, Wilbur adds unnecessary phrases which may be considered speech hesitations and he is repeating information from sentence five.

7. And, um, when this all happened I think I looked at - and I still do mean, what did I do wrong?

In sentence seven, Wilbur has two speech hesitations and offers unnecessary phrases. There is no narrative sequence for this statement.

8. You know, what did I not give or what did I not do, am I not good looking enough?

Sentence eight has one speech hesitation and is an unnecessary phase; we still have not learned what Wilbur has done in sentence five (fewer details). Again, there is no narrative sequence to follow. There is no reason for this statement.

9. Why you get attracted to him?

Sentence nine is unnecessary, has a shift in verb tense, and the pronoun "you" is confusing. There is no narrative sequence or reason for this statement.

10. And I think, uh, you know, that's why I did it.

Sentence 10 has three speech hesitations and the narrative sequence is confusing and provides no details on what he has done.

11. I guess I thought well, you know, maybe if, you know, that it would help my appearance or something and I know it's ridiculous and, you know, now that I've looked back but what I had done is, um, there was a guy - I didn't really even know the guy - he just, you know, he's a big guy.

Sentence eleven has manifold issues: seven speech hesitations, multiple unnecessary phases or excessive details, and multiple changes in verb tense.

12. I ended up talking to him and he started, you know, telling me about it or whatever and that's who I had gotten it from.

Sentence twelve has two speech hesitations and the pronoun "it" lacks clarity.

Overall, we have learned only two things from the twelve sentences Wilbur provides: he went to the EPA (or EAP- Employee Assistance Program) and he has gotten something from a guy. To summarize, we have twenty-eight speech hesitations, multiple unnecessary phrases or excessive details, few useful details, shifts in verb tense, and overall no time clarity. Conclusion: Wilbur is not being truthful in the statement, (Cobb County Department of Public Safety Internal Affairs Investigation 11-00010, p. 146).[3]

Wilbur Statement Two: In statement two, Internal Affairs investigators are attempting to follow-up on Wilbur's admission to obtaining and using illegal anabolic steroids which he had previously denied several times in the investigation. Wilbur admitted to obtaining and using Trenabol and Deca (types of injectable illegal anabolic steroids) and 10-tablets (type of steroid is unknown). Investigators are attempting to determine when, where, and from whom Wilbur got illegal anabolic steroids. Detective Harris asks: What are we talking about? What did you get?

FIREFIGHTER WILBUR: 1. And, um, I'd never really seen him in there, you know.

Sentence one has three speech hesitations. Also note he states "He never really seen him in there…" which is probably truthful; he probably never saw this person in there; rather, he is making this story up as he goes…Undeutsch Hypothesis in action (see p. 5).

2. He was…I just happened to be working out there and he was beside me.

Sentence two has one speech hesitation and a narrative sequence issue.

[3] In May 2014, in response to a subpoena, the contracted agency that services the Cobb County Employee Assistance Program confirmed that Phillip Wilbur had never been a client or reported for assistance; hence, a lie within a lie.

3. He's a great big guy, you know, and we just, you know, started talking just in general and, um, you know he actually kind of brought it up, you know.

Sentence three has six speech hesitations and shifts in verb tense. Interesting Wilbur blames this unknown person for "bringing it up."

4. So I asked him if he competed and stuff like that, you know, and he was like yeah and, you know, was really the only interaction I had with the guy, you know, and he said that, you know, I'd see him in there or whatever but after that, you know, I haven't haven't done anything but, you know, go to work and go home and be with my kids and my wife because I try to be there every second so I haven't even been back there, um, oh jeez, I don't know, probably since all this has happened I haven't haven't even exercised, really, but a couple times at the fire station.

Sentence four has no details on the issue of illegal anabolic steroid possession and use, sixteen speech hesitations, repeating information, changes in time, narrative sequence changes, and manifold unnecessary details.

5. I run on the treadmill.

We have learned only two things from the five sentences Wilbur provides: he met a guy and he runs on the treadmill. To summarize, we have 26 speech hesitations, multiple unnecessary phrases or excessive details, few useful details, shifts in verb tense, and overall no time clarity. Conclusion: Wilbur is not being truthful in the statement, (Cobb County Department of Public Safety Internal Affairs Investigation 11-00010, p. 146-148).

Wilbur Statement Three: Wilbur admitted lying to the investigators several times about his use of illegal anabolic steroids during the investigation, as well as, using illegal

anabolic steroids. Sergeant Bell, an internal affairs investigator, asks: Did, uh, did the urinalysis yesterday, that we went, did that kind of make you a little nervous?

FIREFIGHTER WILBUR: 1. Yeah, well, I don't know long that stuff stays in your system, (the word "how" is not found in the transcript before the word long).

In sentence one, Wilbur uses 12 words to answer a yes or no question. There are two speech hesitations. There is no detail or clarity on what "stuff" is.

2. You know, I haven't taken it for several weeks so, you know, I thought well maybe It will be negative but, you know, I've never been dishonest about anything in my life and when I got home, you know, when I left it was on my mind.

In sentence two, Wilbur has seven speech hesitations, confusing narrative sequence, verb tense changes, and multiple unnecessary phrases. Note that Wilbur states, "I've never been dishonest about anything in my life…" yet, he is in this second interview because he lied in his first interview.

3. I couldn't get it out of my mind and I think God just put a burden on my heart and, you know, I prayed about it all night and yesterday evening and I called yesterday evening, called both of your numbers, and, uh, left the message, you know, talked to you as soon as I can.

In sentence three, Wilbur has three speech hesitations, confusing narrative sequence, verb tense changes, excessive and unnecessary phrases. Wilbur now inserts God as a witness.

4. I just think in the whole scheme of things you know, overall in the end that it's always best to just be honest and just to come out and say what it is, you know, because if you don't, then it's always gonna come back, you know, in some way to bite you and, you know, I just...

In sentence four, Wilbur has nine speech hesitations, verb tense changes, and unnecessary phrases.

We have learned only one thing from the four sentences and the one hundred seventy one words Wilbur provides: yes the drug test made him nervous. To summarize, we have 21 speech hesitations, multiple unnecessary phrases or excessive details, few useful details, shifts in verb tense, and the narrative sequence is confusing. Conclusion: Wilbur is not being truthful in the statement, (Cobb County Department of Public Safety Internal Affairs Investigation 11-00010, p. 159-160).

In the three examples from the internal affairs investigation of Firefighter Phillip R. Wilbur, Jr., all the false statement criteria suggested in the research are found. Amazingly, Wilbur even inserts in example three, "I've never been dishonest about anything in my life…" when the investigative file shows Wilbur admitting to being a liar on multiple occasions. Historical insights prove true in the Wilbur internal affairs investigation: he admits to violations of the policy (oath) of the agency (Wilbur had sustained allegations of unbecoming conduct, conformance to laws, use of alcohol, drugs, or narcotics, and false testimony); Wilbur is a confirmed liar; when allowed to talk, Wilbur cannot maintain focus or consistency; and at the end of the case, Wilbur submits a letter of resignation (May 6, 2011, the day after the interview), citing the alibi, "I Phillip R. Wilbur, Jr., due to family issues and mental stress, I do hereby regretfully resign from Cobb County Fire and Emergency Service, effective immediately." Wilbur never mentions his possession and use of illegal anabolic steroids, and instead focuses on the alibi issues of family and mental stress. Wilbur resigned after a directed drug test by Internal Affairs, was found positive for illegal anabolic steroids, and was never administered a polygraph examination.

We close the case on Phillip Russell Wilbur, Jr., with an examination of the historical notations: violations of oath, inveterate lying, the impossibility to lie consistently, and any alibi will serve for failure. Wilbur meets all the criteria set forth by criminologists from centuries past.

In the multi-participant inquiry from Cobb County Internal Affairs investigations, each firefighter and police officer is examined for his use of illegal anabolic steroids and his relationship to Phillip R. Wilbur, Jr. Wilbur is named by all the participants as a drug dealer in illegal anabolic steroids. Each participant came to the attention of internal affairs investigators when a drug enforcement officer provided information that former firefighter Phillip R. Wilbur, Jr., was providing illegal anabolic steroids to firefighters and a police officer. Multiple text messages between the participants and Wilbur are a part of the internal affairs investigation and clearly reveal the sale of illegal anabolic steroids, including the prices and deal or pick-up locations. The first of the five firefighters examined was Darnell Musgrove.

Case Two: Firefighter Darnell Musgrove

Internal affairs investigators were tasked to investigate the alleged misconduct of: violation of rules, unbecoming conduct, conformance to laws, and use of alcohol, drugs or narcotics by Firefighter Darnell Musgrove. During the course of the investigation the following three statements were made by Musgrove.

Musgrove Statement One: Musgove was forthcoming about using illegal anabolic steroids to investigators and quickly names Wilbur as his drug dealer. Investigator Harris asks Musgrove: "How rampant is this within the fire department?"

FIREFIGHTER MUSGROVE: 1. Um, actually, we really don't…we just talk most about fire and stuff like that, but um, I wouldn't know how rampant it is.

In sentence one, Musgrove has four speech hesitations, provides unnecessary phrases, shifts pronouns, and does not answer the question.

2. I think it's all over the nation, actually, public safety.

In sentence two, Musgrove has one speech hesitation, gives unnecessary phrases, and does not answer the question…about his fire department.

Initially Musgrove states he does not know how rampant illegal anabolic steroid use is in the fire department and in the next sentence he wants the investigator to believe it is everywhere….all over the nation. Musgrove is not truthful in this statement, (Cobb County IA Investigation, 13-0017, p. 164).

Musgrove Statement Two. Investigator Harris asks a very straight-forward question to Musgrove after he has admitted to taking illegal anabolic steroids: "Okay. Do you remember the name of the person (who sold illegal anabolic steroids)?"

FIREFIGHTER MUSGROVE: 1. Um, it was eight…it was eight years ago.

In sentence one, Musgrove has two speech hesitations, provides unnecessary phrases, gives no details, and does not answer the question.

2. Ah, I can see his face.

In sentence two, Musgrove has one speech hesitation, gives no detail, and does not answer the question.

3. He was here, but he's not…not here anymore.

In sentence three, Musgrove has one speech hesitation, provides little detail, is repeating, and does not answer the question.

Musgrove does not answer a very simple question. It is a yes or no question, yet he gives 24-words and the question remains unanswered. Musgrove is not truthful in this statement

(Cobb County IA Investigation, 13-0017, p. 144). Four questions later he finally states Phillip Wilbur as the person he bought steroids from.

Musgrove Statement Three. Musgrove admitted in the interview to having purchased and sold injectable illegal anabolic steroids. Investigator Harris asked: "Have you ever tried orals?"

FIREFIGHTER MUSGROVE: 1. Just that um, I've forgotten the name of it.

In sentence one, Musgrove offers three speech hesitations and the question is a yes or no question and Musgrove does not give an answer.

2. It's a white capsule, not capsule, just a white powdery-type deal.

In sentence two, Musgrove provides unnecessary phrases or details; there is no clarity to what "it" is. Musgrove has still not answered the yes/no question.

3. I don't…I don't even know the name of it now.

In sentence three, Musgrove has one speech hesitation, is repeating, and the original question remains unanswered with a yes or a no.

4. Don't remember the name of it.

In sentence four, Musgrove is repeating statements from sentence three and has yet to answer the question.

When responding to a "yes or no" question, Musgrove provides four sentences that do not address the question. Musgrove increases his use of words; this time he provides 38-words and the question remains unanswered. Musgrove is not being truthful in this statement, (Cobb County IA Investigation, 13-0017, p. 157).

In the three examples from the internal affairs investigation on Firefighter Darnell Musgrove the false statement criteria suggested by the research is evident. Musgrove has failed

to provide any detail to any question; he has multiple speech hesitations; often repeating information; the reader is never clear on what "it" refers to in is his answers; and Musgrove often gives excessive or unnecessary details instead of answering the question. Details in the internal affairs case file clearly indicate that Musgrove's alibi for using illegal anabolic steroids was to improve his sexual performance. Musgrove failed to comply with orders to take a polygraph examination. Sustained allegations in the case of Firefighter Musgrove include: violation of rules, unbecoming conduct, conformance to laws, use of alcohol, drugs, or narcotics, insubordination, false testimony, and violations of the requirement to cooperate in an investigation of a county employee.

We close the case study of Darnell Musgrove with an examination of the historical notations: violations of oath, inveterate lying, the impossibility to lie consistently, and any alibi will serve for failure. Musgrove meets all the historical deception criteria. Musgrove was fired from his position after over twenty-seven years' service.

Case Three: Firefighter Craig A. Nemeth

Internal affairs investigators were tasked to investigate the alleged misconduct of: violations of rules, unbecoming conduct, conformance to laws, and use of alcohol, drugs or narcotics by Firefighter Craig Nemeth. During the course of the investigation the following three statements were made by Nemeth.

Nemeth Statement One: Firefighter Nemeth quickly admits to taking illegal anabolic steroids and named Wilbur as the drug dealer who sold him the drugs (Cobb County IA Investigation, 13-0017, p. 242-243). Investigator Harris asked Nemeth: "Did you know when you started talking to him (Wilbur) about this that buying that was illegal?"

FIREFIGHTER NEMETH: 1. Well, I kinda…he said that it was from a doctor and…but I knew that is wasn't prescribed to me.

In sentence one, Nemeth has five speech hesitations. He provides unnecessary details, gives no real detail, and fails to answer a yes/no question.

After using 21-words, Firefighter Nemeth does not answer the question because he is not being truthful in this statement, (Cobb County IA Investigation, 13-0017, p. 249).

Nemeth Statement Two: After admitting to buying illegal anabolic steroids from Wilbur at his house, Firefighter Nemeth is asked the following question from Sergeant Brown in internal affairs, "Um, why would you stop after one cycle (of using anabolic steroids)?"

FIREFIGHTER NEMETH: Because I got the results that I wanted and then when I came off of it I ah, it was um, I…I was kind of like ah, I started ah, for the first couple of weeks I…it took a while for my body to…what's the word? To build itself back up and for about a month or so I was kind of like tired and….and felt crappy cause…I was like man, that's why people do it all the time because…

Nemeth answered the question in the first 8-words; yet, he continues by adding in 29 speech hesitations, provides unnecessary phrases and excessive details, the narrative sequence is muddled, and there is no time clarity.

Nemeth was not expecting a question from Sergeant Brown as Investigator Harris had lead most of the interview. Nemeth attempts to reinforce his answer to Sergeant Brown by providing excessive details that are unnecessary and useless. Nemeth is not being truthful in this statement, (Cobb County IA Investigation, 13-0017, p. 251-252).

Nemeth Statement Three: Nemeth is asked by Sergeant Brown, "So who all was purchasing, buying from Wilbur?"

FIREFIGHTER NEMETH: 1. I have no idea. I…like honest…honestly, I know…I'm sure Phillip had his…his string that he was doing, but honestly, I could not tell you.

In sentence one, Nemeth has eight speech hesitations and unnecessary phrases. Notice that in Nemeth's third speech hesitation he says…"honestly, I know." Further, Nemeth uses the word "honestly" three times. Nemeth continues his use of excessive words long after his first four words answered the question. In an attempt to reinforce his initial lie, Nemeth slips and tells, "…honestly, I know."

2. I tried to stay as far away from that as possible and then when all that stuff happened I…when…when he got in trouble I…you know that was the last I'd even ever come in contact with it and I don't …I just…I tried it that one time and…

In sentence two, Nemeth has seven speech hesitations, the narrative sequence is confusing, and the excessive and unnecessary details muddle the answer. Nemeth assumes the listener will interpret "that" and "it" as illegal anabolic steroids, but we do not know what "that" and "it" is. People mislead.

Nemeth is being untruthful in statement three (Cobb County IA Investigation, 13-0017, p. 254).

In the three examples from the internal affairs investigation on Firefighter Craig Nemeth the false statement criteria offered by the research is evident. Nemeth has failed to provide any meaningful detail to any question; he has manifold speech hesitations; he often repeats information; and the use of excessive and or unnecessary phrases is staggering. Firefighter Nemeth submitted to a drug screen test on June 6, 2013 and resigned from the fire service on June 14, 2013. No polygraph examination was performed with Firefighter Nemeth. Sustained

allegations against Craig Nemeth include: violation of rules, unbecoming conduct, conformance to laws, and use of alcohol, drugs, or narcotics.

We close the case study of Craig Nemeth with an examination of the historical notations: violations of oath, inveterate lying, the impossibility to lie consistently, and any alibi will serve for failure. Firefighter Nemeth meets all the historical deception criteria for noted liars.

Case Four: Firefighter Vaughn "Charlie" Zellers

Internal affairs investigators were tasked to investigate the alleged misconduct of: violations of rules, unbecoming conduct, conformance to laws, and use of alcohol, drugs or narcotics by Firefighter Vaughn Zellers. In his first interview, June 7, 2013, Firefighter Zellers denies injecting an illegal substance, denies purchasing an illegal substance, and denies anyone has ever given him an illegal substance (Cobb County IA Investigation, 13-0017, p. 284). In a later meeting with the Fire Chief, Zellers admits to multiple lies told during the first interview with internal affairs investigators. Zellers returns to internal affairs for a second interview. During the course of the investigation the following three statements were made by Zellers during his second interview conducted on June 25, 2013.

Zellers Statement One: Zellers is asked by Detective Harris: "Okay, what type of steroids did you take?"

FIREFIGHTER ZELLERS: 1. I don't even know. I don't even know.

Sentence one repeated as a speech hesitation.

2. I mean, I was so stupid about it.

Sentence two has speech hesitations and is an unnecessary phrase.

3. But um…oh God.

This is an add-on of four speech hesitations, is an unnecessary phrase, and offers no details that answer the question.

Firefighter Zellers either knows or he doesn't know what kind of steroids he obtained from Wilbur and took. He has multiple speech hesitations and unnecessary verbiage. Zellers is not being truthful in this statement (Cobb County IA Investigation, 13-0017, p. 534). Two answers later, Zellers admits to taking testosterone cypionate he obtained from Wilbur.

Zellers Statement Two: During this second interview, Zellers is acknowledging his lying about the use of illegal anabolic steroids during the first interview. Detective Harris asks: "Why did you not tell us this the first time?"

> FIREFIGHTER ZELLERS: 1. Because it's…first of all it's embarrassing to say why the…I tried to get help, you know, and the county wasn't there for me so, don't get me wrong, I mean…

In what the authors suggest is an attempt to bamboozle the investigator, Zellers has twenty speech hesitations within manifold unnecessary phrases.

Zellers not only lied during the first interview, he continued to do so during the second interview. The reader should note that Zellers is now inserting the blame for his personal failures on "the County" because it wasn't there for him; this shift in context and narrative sequence supports that Zellers is not being truthful, (Cobb County IA Investigation, 13-0017, p. 540).

Zellers Statement Three: Investigator Harris established the use of illegal anabolic steroids by Zellers. Zellers claim was that he last used drugs in 2008. Harris asks the question: "Okay. Did…since then, have you used any at all?"

FIREFIGHTER ZELLERS: 1. No. I remember, um, once, like, um, I don't know, years ago, I started thinking about it again and I started to talk to, uh, I think it was Phillip and, uh, but then, you know, we had our babies and it was just so costly I couldn't even…

In an attempt to support his lie of "No," Zellers inserts twelve speech hesitations and seven unnecessary phrases. Zellers answers a yes/no question with forty-nine words, of which, only one word was necessary. After his "No" answer, Zellars changes the answer to "once" just three words later. Zellers narrative sequence is confusing.

Zellers is lying again (Cobb County IA Investigation, 13-0017, p. 547).

In the three examples from the internal affairs investigation on Firefighter Vaughn Zellers the false statement criteria is evident. Zellers failed to be truthful in his first interview and only after meeting with the Fire Chief did he admit to his lies. Yet, in his second interview he continues with his inability to tell the truth. Zellers fails to provide any detail in any question; he has manifold speech hesitations; he often repeats information; and the amount of excessive and or unnecessary phrases are astounding. Yet, the impudence of Zellers is revealed on page 550 when he states, "I've got nothing to hide, guys. I just told you, I've taken it, I've bought it, I've done it…" (Cobb County IA Investigation, 13-0017, p.550). Firefighter Zellers never submitted to a drug screen test. No polygraph examination was performed with Firefighter Zellers. Sustained allegations against Vaughn "Charlie" Zellers include: violation of rules, unbecoming conduct, conformance to laws, use of alcohol, drugs, or narcotics, and false testimony.

We close the case study of Vaugh "Charlie" Zellers with an examination of the historical deception notations: violations of oath, inveterate lying, the impossibility to lie consistently, and any alibi will serve for failure and Zellers meets all criteria. In what the authors offer is the most

interesting alibi offered, Firefighter Zellers blames "the county" for his use of illegal anabolic steroids.

Case Five: Firefighter (Sergeant/Engineer) Jody Cochran

Internal affairs investigators were tasked to investigate the alleged misconduct of: violations of rules, unbecoming conduct, conformance to laws, and use of alcohol, drugs or narcotics by Firefighter Jody Cochran. Interestingly, the deal or pick-up locations of illegal anabolic steroids from Phillip R. Wilbur, Jr. included a public park while Wilbur's son played in a football game (Cobb County IA Investigation, 13-0017, p. 458). During the course of the investigation the following three statements were made by Cochran during his second interview conducted on June 17, 2013.

Cochran Statement One: Investigator Harris has established that Cochran has obtained illegal anabolic steroids from Phillip Wilbur. Harris asks a yes/no question: "Just the one vial?"

> FIREFIGHTER COCHRAN: I think it was one. I mean I …don't…it's been a long time ago. I don't remember all of that.

Cochran has used twenty-one words to answer a yes/no question and still does not answer the question. Cochran has three unnecessary phrases, inserts a time clarity issue, and four speech hesitations. "I think…" allows Cochran to make a statement and not take ownership of it.

Again, we find evidence of attempting to support a lie with multiple words when only one word is needed. Clearly, Cochran is not being truthful in this statement, (Cobb County IA Investigation, 13-0017, p. 439).

Cochran Statement Two: Internal Affairs Investigator Sergeant Brown established Cochran was lying and follows with: "Your text messages and direct testimony is that you have purchased, not having been given, that you bought steroids, testosterone from Wilbur."

FIREFIGHTER COCHRAN: 1. He might have gave me one and then I…you know and maybe I bought…I…I might have bought…it's been so long ago.

Cochran has ten speech hesitations. He is repeating. He insists on inserting the time clarity issue.

2. I really truly don't remember.

The narrative sequence is backward. If Cochran could not remember, statement two should have been first. The excessive phrase "really truly" is not needed and is an attempt to support the false story that he does not remember.

Cochran is untruthful, (Cobb County IA Investigation, 13-0017, p. 448).

Cochran Statement Three: Sergeant Brown asked: "How much did you pay for it."

FIREFIGHTER COCHRAN: 1. I don't…I really…that's a long time ago.

Cochran does not answer the question. He has four speech hesitations and provides an unnecessary phrase. He blames time clarity for his failure to answer.

2. I don't…I don't even remember that…it…that's why I said he might have gave it to me.

Cochran still does not answer the question. He has three speech hesitations; he is repeating; he has unnecessary phases; and he notes Wilbur "might" have given it to him in an apparent attempt to shift blame to Wilbur for his use of illegal anabolic steroids.

3. I don't remember what I paid for it.

Cochran's narrative sequence is jumbled. This statement should have been his first statement, if he was truthful. Again, Cochran blames time clarity.

4. I don't know. I mean…

We are not sure what Cochran does not know; this is an unnecessary phrase. He adds a speech hesitation.

Cochran continues to be untruthful, (Cobb County IA Investigation, 13-0017, p. 450).

In the three examples from the internal affairs investigation on Firefighter Jody Cochran the false statement criteria is evident. Cochran does not answer questions. He offers confused narrative sequences; he repeats information; he offers no details; he offers time as an excuse; and manifold speech hesitations are spoken. Cochran is untruthful in his statements. No drug screen test results are filed on Firefighter Cochran. No polygraph examination was performed with Firefighter Cochran. Sustained allegations against Firefighter Jody Cochran include: violation of rules, unbecoming conduct, and conformance to laws.

We close the case study of Jody Cochran with an examination of the historical notations: violations of oath, inveterate lying, the impossibility to lie consistently, and any alibi will serve for failure. Sergeant/Engineer Jody Cochran meets all the historical deception criteria of a liar.

Case Six: Fire Lieutenant J.R. (Rick) Bennett

Internal affairs investigators were tasked to investigate the alleged misconduct of: violations of rules, unbecoming conduct, conformance to laws, use of alcohol, drugs or narcotics, Cobb County Fire and Emergency Services Station Officer Responsibilities, and Cobb County Board of Commissioners Conduct and Performance Policy Requiring Cooperation in an Investigation by Firefighter (Lieutenant) J.R. (Rick) Bennett. Lieutenant Bennett came to the attention of Internal Affairs Investigators when he was named by Firefighter Musgrove as a person that Musgrove had sold illegal anabolic steroids to (Cobb County IA Investigation, 13-0017, p. 152). During his June 3, 2013, Lieutenant Bennett made the following statements.

Bennett Statement One: Detective Harris asked: Have you ever used any type of illegal, non-prescription steroid? Okay. Have you ever ingested an oral steroid?

LIEUTENANT BENNETT: "Ever ingested an oral steroid? In high school. In high school."

Bennett repeats the question which is an unnecessary phrase and he continues repeating. Bennett is untruthful, (Cobb County IA Investigation, 13-0017, p. 216).

Bennett Statement Two: Detective Harris states: So my intention is to do this as quick as possible, but you got to remember also they're other people.

LIEUTENANT BENNETT: I would not do anything illegal.

Bennett had previously admitted to taking an oral steroid, which must be illegal as no doctor would prescribe an anabolic steroid to a high school student without significant medical cause. Further, in a previous discussion Bennett had discussed his DUI (Driving Under the Influence) situation.

Bennett continues to be untruthful, (Cobb County IA Investigation, 13-0017, p.219).

Most of the interview answers by Bennett are redacted. However, Lieutenant Bennett submitted to a polygraph examination on June 16, 2013. The following is taken from the report submitted by Daniel E. Sosnowske, M.S., of SOS Polygraph Services, Woodstock, Georgia.

After conducting a structured interview with Rick, the following relevant questions were formulated and asked on the polygraph examination. 1. Since you've been employed by Cobb County, have you used any type of illegal steroids? (Answer: No). 2. Since you've been employed by Cobb County, have you sold any type of illegal steroids? (Answer: No). 3. Since you've been employed by Cobb County, have you purchased any type of illegal steroids? (Answer: No). After conducting three polygraph charts utilizing a Modified General Question Technique, it is the opinion of this examiner that there was **SIGNIFICANT PSYSIOLOGICAL RESPONSES** (bold and capitalization in the original document) present at

the above listed questions. When advised with the results of his exam, Rick continued to deny using, selling, or purchasing any type of illegal steroids, (Cobb County IA Investigation, 13-0017, p. 421-422).

In the examples and examination of Bennett's use of illegal anabolic steroids, Bennett was untruthful in his answers; the polygraph examiner comes to the same finding. "Mr. Sosnowski indicated that Lt. Bennett was showing deception on three key questions that were asked of him," (Cobb County IA Investigation, 13-0017, p. 13).

An examination of the historical notations: violations of oath, inveterate lying, the impossibility to lie consistently, and any alibi will serve for failure is not easily deciphered in the Bennett case because so much of the case is redacted. And while Lieutenant Rick Bennett's links to the historical criteria is not possible, the additional data from the polygraph examination reveals that Bennett is a liar.

Case Seven: Police Officer Eric Meadors

Officer Eric Meadors is the sole police officer named as a customer of the illegal anabolic steroid dealing Phillip R. Wilbur, Jr. Officer Meadors was interviewed on June 14, 2013, by Detective T.V. Harris. Harris was tasked to investigation violations of rules, unbecoming conduct, conformance to laws, and use of alcohol, drugs, or narcotics.

Meadors Statement One: Detective Harris quickly confirms that Officer Meadors has used illegal anabolic steroids, he asks: "So you haven't taken any illegal steroids in the last…since you've been a Cobb County police officer?"

OFFICER MEADORS: "No, because I've taken multiple urine…again, I don't know if they test for steroid use or anything like that or if I was being investigated at that time, but, yeah, I mean I have not used any and I would supply a urine sample." [4]

In an effort to support the untruthful answer of "no," Officer Meadors provides 44-words of unnecessary phrases and speech hesitations.

Officer Meadors is untruthful in this statement, (Cobb County IA Investigation, 13-0018, p. 24).

Meadors Statement Two: Detective Harris informs Officer Meadors he is going to have to submit to a polygraph examination; Meadors resists. Detective Harris asks: Is that why you don't want to do a polygraph?

OFFICER MEADORS: "No. It's just, I just, again, I don't trust the validity of polygraphs all the time but, I mean, but I understand why you would ask for one."

After answering the question, Officer Meadors adds twenty-seven words to bolster his claim resulting in speech hesitations, repeating statements, and unnecessary phrases.

Officer Meadors is being untruthful, (Cobb County IA Investigation, 13-0018, p. 28).

Because he was ordered to undertake a polygraph examination, Officer Meadors' results were very similar to those of Lieutenant Bennett. The following is taken from the report submitted by Daniel E. Sosnowske, M.S., of SOS Polygraph Services, Woodstock, Georgia.

After conducting a structured interview with Eric, the following relevant questions were formulated and asked on the polygraph examination. 1. Since January 2010, have you used any type of illegal steroids? (Answer: No). 2. Have you ever sold any type of illegal steroids? (Answer: No). 3. Do you know for sure of any current Cobb County employees who are using or selling any type of illegal steroids? (Answer: No). After conducting three polygraph charts

[4] Officer Meadors admitted to taking illegal anabolic steroids on page 27 of the report. "Okay, yes, I've used since I've been a Cobb County police officer."

utilizing a Modified General Question Technique, it is the opinion of this examiner that there was **SIGNIFICANT PSYSIOLOGICAL RESPONSES** (bold and capitalization in the original document) present at the above listed questions. When advised with the results of his exam, Eric continued to deny using any type of illegal steroids since January 2010. He continued to deny any knowledge of any current Cobb County employees who were using or selling illegal steroids, (Cobb County IA Investigation, 13-0018, p. 42).

In the examples and examination of Meadors' use of illegal anabolic steroids, Meadors was untruthful in his answers; the polygraph examiner comes to the same finding.

We close the case study of Eric Meadors with an examination of the historical notations: violations of oath, inveterate lying, the impossibility to lie consistently, and any alibi will serve for failure. Interestingly, the alibi offered by Meadors is found in manifold cases of public safety officers abusing illegal anabolic steroids: "I just was doing what I thought I needed to do to kind of maintain my, my edge, my level, you know, that's really the only thing I have to say about that," (Cobb County IA Investigation, 13-0018, p.63). Officer Eric Meadors meets all the historical criteria of a liar.

Applications

To evaluate truthfulness, detect deception, and assess creditability, investigators must begin the training and practice of statement analysis (Matsumoto, 2011). Utilization of written statements by internal affairs investigators before the oral interview is clearly warranted. Written statements will allow investigators to determine event sequence changes, time confusion, verb and adverb editing, shifts in pronouns, and insight into attempts to change the focus of the issue(s). To prepare for a follow-on interview, investigators must examine the transcribed oral statements to determine deception techniques used by the interviewee. A prepared interrogatory

based on the written statement or transcribed oral statement will assist the investigator in finding the truth.

Discussion

"Distinguishing truths from lies is a difficult task," (Nahari, Vrij, and Fisher, p.227). An investigator must be motivated and educated in multiple strategies to find the truth. Yet, clearly truthful statements differ from fabricated stories in content and quality.

Other tactics for deception detection include the examination of verifiable details of a statement. Nahari, Vrij, and Fisher (2014) determined "liars mentioned fewer details that can be verified than do truth tellers," (p.236). Liars avoid providing details that can be verified (p.235). "If interviewers inform interviewees at the beginning of the interview that s/he will look for verifiable details, truth tellers may well respond by including may of such details in their statement, whereas liars are more reluctant and less likely to do so," (p. 235). An example of verification by details in the Phillip Wilbur case: if the detective or one of his peers had stepped out of the office and called the contracted company for Cobb County Employee Assistance Program (which Wilbur refers to as EPA), the investigator could have quickly determined Wilbur's lie and confronted him about the issue.

When interviewees, as we have shown in these cases, lack conviction by repeatedly inserting "I can't remember," or "It's been a long time," the person is often feigning memory loss and adds on by hedging the answer with, "I think," "I believe," or "kind of," (Adams, 1996). Interviewees also lack conviction by avoiding any evidence that can be verified. "It seems that liars, who are asked to provide a free recall when lacking knowledge about the evidence against them, avoid providing details about this evidence to a larger extent than do truth tellers. This

tendency may reflect a strategy to avoid being put in connection with the crime, that is to avoid giving details that may seem self-incriminating," (Hartwig, Granhag, Stromwall, & Vrig, p. 482).

This study and the presentation of tactics for improving the detection of deception reveals that investigators in public safety agencies must seek to learn, apply, and determine truthfulness for the protection of the public and indications of criminal conduct. What can public organizations do to limit lying and deception? It is the opinion of the authors that nothing the organization does will change the person and the ethical and moral compass they bring to the table. Making more rules does not indicate people will follow the rules. The manifold effects of public safety organizations holding public safety employees harmless for inveterate lying reveals the use of deception will continue. Public safety organizations must act when deception is clearly indicated; yet, the direction, decisions, and outcomes are clearly in the hands of leadership. Leadership matters.

Continued research and insightful case studies are necessary. Study considerations may include those public safety employees who use the fifth amendment to the Constitution of the United States to avoid providing information; such as, retired Detective Reynaldo Guevara, of Chicago Police Department who used this answer over 200-times in court, (https://chicago.suntimes.com/crime/ex-chicago-detective-takes-5th-more-than-200-times-in-wrongful-conviction-case/). The challenging endeavor of reading over 1100-pages of transcribed testimony in three internal affairs investigations exposes the need for academic research into public safety employees failing to tell the truth.

References

Adams, S. H. (1996). Statement Analysis. *FBI Law Enforcement Bulletin*, 65(10), 12.

Aschaffenburg, Gustav. (1913). Crime and its repression. Boston: Little, Brown, and Company.

Cobb County Department of Public Safety Internal Affairs Investigation 11-00010, (2011).

Cobb County Department of Public Safety Internal Affairs Investigation 13-0017, (2013).

Cobb County Department of Public Safety Internal Affairs Investigation 13-0018, (2013).

Gordon, N.J. & Fleisher, W.L. (2011). Effective interviewing and interrogation techniques. 3 Ed., New York: Academic Press.

Gross, H. (1911). Criminal psychology: A manual for judges, practitioners, and students. (H.M. Kallen, Tras.). Montclair, NJ: Patterson Smith

Hartwig, M., Granhag, P., Stromwall, L.A., & Vrij, A. (2005). Detecting deception via strategic disclosure of evidence. *Law and Human Behavior*, 29(4), 469-484. doi:10.1007/s10979-005-5521-x.

Hess, J.E. (2010). Interviewing and interrogation for law enforcement. 2 Ed., New Providence, NJ: Matthew Bender.

Hollander, Bernard. (1923). The psychology of misconduct, vice, and crime. New York: Macmillan.

Inbau, F.E. (1934). Scientific evidence in criminal cases II: Methods of detection deception. *Journal of Criminal Law & Criminology, 24*(6),1140-1158.

Leins, D., Fisher, R.P., & Vrij, A. (2012). Drawing on liar's lack of cognitive flexibility: Detecting deception through varying report modes. *Applied Cognitive Psychology 26* (4), 601-607. doi: 10.1002/acp.2837

Matsumoto, D. (2011). Evaluating truthfulness and detecting deception. *FBI Law Enforcement Bulletin, 80*(6), 1-8.

National Research Council (2003). *The Polygraph and Lie Detection.* Committee to Review the Scientific Evidence on the Polygraph. Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.

Nhhari, G., Vrij, A., and Fisher, R.P. (2014). Exploiting liars' verbal strategies by examining the verifiability of details. *Legal and Criminological Psychology,* 19, 227-239. doi: 10.1111/j.2044-8333.2012.02069.x

Olsson, J. (2004). Forensic linguistics: An introduction to language, crime, and the law. New York: Continuum.

Porter, S. & Brinke, L. (2010). The truth about lies: What works in detecting high-stakes deception?. *Legal & Criminological Psychology, 15*(1), 57-75. doi:10.1348/135532509X433151

Seidel, J. (June 12, 2018). Ex-Chicago detective takes fifth more than 200 times in wrongful conviction case. Chicago Sun Times. https://chicago.suntimes.com/crime/ex-chicago-detective-takes-5th-more-than-200-times-in-wrongful-conviction-case/

Shuy, R.W. (1998). The language of confession, interrogation, and deception. Thousand Oaks, CA: Sage.

Soderman, H. and O'Connell, J.J. (1935). Modern criminal investigation. New York: Funk and Wagnalls.

Stanley, L.L. (1940). Men at their worst. New York: D. Appleton-Century.

Turvey, B.E. & Crowder, W.S. (2013). Ethical Justice: Applied Issues for Criminal Justice Students and Professionals. San Diego, CA: Academic Press.

Turvey, B.E. & Crowder, W.S. (2015). Anabolic steroid abuse in public safety: a forensic manual. San Diego, CA: Academic Press.

Warmelink, L., Vrij, A., Mann, S. & Granhag, P., (2013). Spatial and temporal details in intentions: A cue to detecting deception. *Applied Cognitive Psychology, 27*(1), 101-106. doi: 10.1002/acp.2878

Yin, R. K., (2009). Case study research: design and methods. 4th Ed. Los Angeles, CA: Sage.

Correlates of Serial Murder: An Examination of Earl James' Data From *Catching Serial Killers*

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Abstract

Serial killers stand as one of the most difficult criminal types to study empirically. This is due both to the quantity and quality of data sources; compared to other criminal types, serial killers are rare and data on serial killers is not readily available. Indeed, the most prevalent research design in this area is the case study. In 1991, Earl James compiled a dataset including a host of variables largely ignored in the serial killer literature. James did no analyses on the data he collected, but merely added the data as an appendix to his book. This research examines James data to evaluate multiple factors that may be associated with serial murder. Results indicated that serial killers in this sample were not necessarily the smartest individuals, but that the subjects' behavior was organized. This indicated a relative amount of preparation on the parts of the serial killers in completing their crimes.

Introduction

A serial killer is an individual who murders more than one person over a given period of time; however, there is disagreement about how many more than one victim makes a killer a

serial killer. The lack of a nominal definition, leave alone an operational one, is a factor that has proven to be almost insurmountable in this type of research. As in the study of white-collar crime, the lack of a pervasive definition hampers any findings from studies of serial killers and makes all conclusions tentative at best.

Based on both definitional constraints and logistical practicalities, scholars do not have an accurate estimate of how many serial murders are committed each year (Arndt, Hietpas & Kim, 2004), nor do they know how many serial murderers are operating in the U.S. at any given time (Gresswell & Hollin, 1994). While Hickey (1996) estimated that there are approximately 30-50 serial killers active in the U.S. at any given time, this is still just an estimate. As a result, much of the extant research is based on case studies, which have an inherent reliability issue as well as indicating a significant lack of generalizability. Further, the gathering of such data is problematic in that the researcher must find a willing subject, a willing attorney (if the intended subject has counsel), and last, but by no means least, the penal institution's approval in which the subject is housed.

Earl James (1991) completed an overview of serial killers, which sought to give law enforcement agencies assistance in catching these perpetrators; James employed social scientific methods in his review of multiple serial killers. James' (1991) study was largely a conglomerate of case studies in which he explored the history of various serial killers to support his arguments. At the conclusion of the book, James tabulated the data he collected on the various serial killers he had explored. The results of these tables is a list of dichotomous variables that explored the serial killers' demographics, modus operandi, victim information, and total number of victims. To date, neither James, nor other researchers have evaluated the James' dataset.

The present study will analyze the James' data quantitatively. This research will examine potential links between the number of victims a serial killer commits and other variables surrounding the offense. Specifically, this study seeks to explore correlations between the killer's modus operandi (MO)/signature, the killer's demographics, the nature of the investigation, and the number of victims killed before the serial killer's apprehension.

Modus operandi is defined as "choices and behavior that are intended to assist the criminal in the completion of the crime…how the offender commits the crime" (Turvey, 2012, p. 334). An example of this would be weapon used or victim type. Whereas signature is more related to "why the offender commits the crime") Turvey, 2012, p.334). Turvey (2012) defines signature as "those acts committed by an offender that are not necessary to commit the crime, but rather suggest psychological or emotional needs" (p.344). Examples of signature behavior would be trophy taking or post- mortem posing of the body of the victim.

The "nature of the investigation" refers to several factors. For example, whether or not the suspect provided an alibi to the police, whether or not the offender took a polygraph, if the killer confessed, and whether or not he followed the investigation in the news media. The next section evaluates the literature on serial killers, with an emphasis on the definitional constraints and findings of serial killer research.

Literature Review

Serial homicide remains an area of great interest to criminologists and the general public despite the fact that its study has been hampered by a host of methodological problems for researchers in the field. There is both a paucity of reliable and valid data; more specifically, definitions of what constitutes serial homicide have been hotly debated (Egger & Doney, 1990,

Holmes & DeBurger, 1988, Levin & Fox, 1985, Hickey, 1996). Definitional ambiguity has created so much confusion, for practitioners and researchers, the FBI's (2008) Behavioral Analysis Unit at the National Center for the Analysis of Violent Crime held a symposium in San Antonio, Texas, in 2006 designed to resolve definitional constraints and settle upon a universal definition. This symposium was attended by over 100 psychiatrists, academics, researchers, and practitioners who attempted to finalize a definition of serial homicide.

One of the more widely cited definitions of serial murder was provided by Egger's in 1990:

> One or more individuals (males, in most known cases) commits a second murder and/or subsequent murder; is the lack of a prior relationship between victim and attacker; is at a different time and has no connection to the initial murder; and is usually committed in a different geographic location. Further, the motive is not for material gain and is believed to be for the murderer's desire to have power over his victim. Victims may have symbolic value and are perceived to be prestigeless [sic] and in most instances are unable to defend themselves or alert others to their plight, or are perceived as powerless given their situation in time, place or status within their immediate surroundings (such as vagrants, prostitutes, migrant workers, homosexuals, missing children, and single and often elderly women) (Egger, 1990, p. 4).

The definition that Egger (1990) provides is much more detailed and specific than many of the other definitions of serial murder. Egger specifies the motive as power, the fact that victims have both symbolic value, are considered to be without prestige to the offender, with little or no status in their surroundings, and are previously unknown to the offender.

Many scholars have found Egger's definition too restrictive for research purposes, as it excludes many crimes that may in fact be serial murder under different definitions. Therefore subsequent definitions have been simplified and expanded resulting in a higher number of serial murders. In fact, Hickey (2013) criticized Egger's definition as too restrictive in that it would preclude killing for financial gain and the serial murder of victims known to the perpetrator. Hickey (1986; 2013) defined serial murder as "through premeditation, three or more victims over a period of days, weeks, months, or years"(p. 32). Keeney and Heide (1994) defined serial murder as "the premeditated murder of three or more victims committed over time, in separate incidents, in a civilian context, with the murder activity being chosen by the offender"(p.384).

The 1998 Protection of Children from Sexual Predators Act (Title 18, US Code, Chapter 51, Section 111) defined serial murder as:

> a series of three or more killings, not less than one of which was committed in the United States, having common characteristics such as to suggest a reasonable possibility that the crimes were committed by the same actor, or actors.

According to the symposium's final report, the above statutory definition was created purely to establish when the FBI could assist local and state law enforcement in a case of "serial murder" and so this definition may not necessarily be useful for scholarly work. The definition of serial murder generally agreed upon at the symposium was "the unlawful killing of two or more victims by the same offender(s) in separate events" (US Department of Justice, 2005). Of course the exact meaning of the phrase "separate events" begs further questions and potential confusion.

Other definitions have also held sway in the prior literature. For example, pioneering serial murder researchers, Douglas, Burgess, Burgess and Ressler (1992), defined the phenomenon as three or more murders in three or more different locations with an emotional

cooling off period. Here, the phrase "cooling off period" is used for the first time; it is a concept which affected subsequent definitions in the research. The operational definition of this concept is problematic in and of itself as Douglas et al. (1992) do not specify how long a cooling off period should be, nor do they state what makes this period emotional or not.

Before discussing the prior research on serial killers, it is instructive to explain the differing types of serial killer according to a typology created by Holmes and Holmes (1998). These types will guide the present study by supplying a theoretical framework within which we can better analyze our findings. Within this schema there are the following types of serial murderer: Visionary, mission, hedonistic, and the power-control.

The visionary killer may have suffered a psychotic episode and may even be delusional. These types of killers may well believe that they are being instructed by a higher power to kill a certain group of people. This type of killer might be reflected in the persona of the Son of Sam killer, David Berkowitz. Berkowitz allegedly told investigators that his neighbor's dog, who he believed to be Satan, instructed him to kill his victims. Dietz (1986) would expect this type of killer to be unable to avoid detection for very long and therefore have a lower number of kills before apprehension.

The mission killer does not aurally or visually hallucinate and is not a psychotic. These killers are firmly grounded in reality. Rather, the mission killer believes, from his own cognitive processes, that he should eradicate a certain group of people. For example, Gary Leon Ridgeway (a.k.a. the Green River Killer) was thought to be on a mission to kill prostitutes. The mission killer is generally organized; it is hypothesized that this type of killer will have a greater number of kills before apprehension.

The hedonistic killer category can be further split into three categories; the lust killer, the "thrill killer", and the "comfort-oriented killer." The lust killer kills for sexual gratification which may occur before or after the victim is dead. Lust killers may well engage in rape, necrophilia, and cannibalism. The thrill killer is driven by the pleasure he/she obtains from the act of killing itself. It is generally the thrill killer who may also engage in torture of victims. Finally, the "comfort-oriented killer" kills for material gain. Examples of this may well include professional hit-men who are clearly serial killers, but, their motivation appears to be solely monetary.

The last of the Holmes and Holmes' typologies is the power-control killer. This type of serial murderer receives sexual gratification from experiencing total control over his victims. Further, this type of killer may receive sexual satisfaction from the crime; the power he exerts over his victim *per se* causes his arousal. A classic example of this sort of killer would be Ted Bundy.

Research on Serial Killers

The extant literature examining the nature of serial murder is somewhat sparse; however, there are a number of studies which have examined the issue, albeit tangentially. For example, in 1986, Dietz stated:

> Serial killers who are able to reach the 10-victim level are able to do so because they manage not to be caught, which generally requires either careful execution and an acceptable public persona (as in the John Wayne Gacy case), or high mobility (as in the case of Henry Lee Lucas and Ottis Toole), or both (as in the case of Ted Bundy) (Dietz, 1986, p. 6).

He further stated that if an offender was suffering from psychosis, the number of successful kills carried out before his apprehension would be lower than the psychopathic killer due to the killer being disorganized and lacking the ability to elude capture. Here we see a rare example of scholarly literature discussing how the numbers of kills a serial killer perpetrates may be related to multiple other factors.

Fox and Levin's (2012) demographic analysis showed that most serial killers are male, white, aged between 20-39, over two-thirds of these killers have a victim count of between 5 and 10, have a 'career length' of less than 2 years, are sometimes interested in police work and the criminal justice system, and, in many cases, possess a prior criminal record. Further, in many cases they have engaged in 'peeping tom' activity for a period of time before the first assault or murder (Fox & Levin, 2012).

Fox and Levin (2012) also discussed the geographic characteristics of these killers. They found that nearly 90% of such killers operated at the local or regional level. Contrary to popular belief, very few serial killers operate at the national level. The idea of serial killers traversing the US in search of victims may have been created and enhanced by high profile cases such as that of Theodore (Ted) Robert Bundy who was estimated to have killed over 35 women in the 1970s and 1980s in at least 5 states and Henry Lee Lucas who was initially estimated to have killed between 40 to 50 people in at least 3 states (Hickey, 2013).

Dietz's (1986) study does discuss variables and key attributes, which might be found in serial killers in general, but there was no analysis of each of these variables as they related to the number of kills an offender perpetrates. This study included data on demographics, aspects specific to the investigation, and the modus operandi of the killer.

Earl James' Research on Serial Killers

In 1991, Earl James evaluated serial killers from a law enforcement perspective. James' (1991) purpose for his work was primarily to assist law enforcement and other investigators to apprehend serial killers. His methods were an examination of successfully prosecuted serial killer cases and discussion of the methods used by law enforcement in these cases. Further, James sought to point out errors made by law enforcement in these cases.

James' (1991) data came from a host of serial killer case studies. Thus, for every topic that James covered in the investigation of serial killers, he would utilize the specific story of a serial killer that fit the investigative topic. While these case studies met the particular topic's needs, the generalizability of the particular serial killer case study is questionable. While important themes emerged from various histories of serial murder investigations, the generalizability of specific serial killer case histories is a critical limitation of James' work.

What is more important about the James' book is the appendix, which provides a host of dichotomous data on the serial killers used in the case studies. The James database includes a myriad of variables associated with the crime, investigation, and the killer himself. Among these variables are the demographics of the killers such as age, race, IQ, marital status, number of children (if any), and whether or not the killer was in good physical condition. Further, he discussed variables that included both the modus operandi and signature of the killer. These included variables such as whether or not he/she had an accomplice, victim type, whether or not he/she was armed during the crime, any sexual elements to the crime, evidence of torture and so forth. In the final group of variables, James recorded factors relating to the nature of the investigation itself. These included whether or not the killer provided an alibi to the police, the

killer's willingness to take a polygraph test, the killer's willingness to confess, and whether or not he followed the investigation in the news media.

While the dataset is interesting to peruse, James (1991) did not analyze the data using univariate, bivariate, or multivariate statistical techniques. It appears that the James' database was not primarily collected for analytic purpose. Indeed, its inclusion as an appendix indicates that James (1991) added the dichotomous serial killer data as an afterthought. It is not even discussed or linked to any part of the book's main text. The data seem to be added for illustrative purposes in support of the descriptions of the case studies he used in the main body of the book.

This research will extend the work of James (1991) by analyzing his dataset. This dataset will be discussed with greater detail in the data section below. The next section will also evaluate the methods and analytic techniques used in this study.

Research Methods

As was illustrated in the review of the literature, the study of serial killers and their victims has been limited. The focus of this research is to more systematically examine the etiology of serial murder using the James dataset. The primary research question driving this research is: What is the relationship between serial killer efficacy and perceived stereotypical correlates of serial murder?

Data

The data for this project was collected by Earl James (1991) in his book *Catching Serial Killers*. James' (1991) database consists of 28 serial killers (see Appendix A for the serial killers

included in James' dataset) that approximate randomly selection. As will be seen below, the subjects identified by James included serial killers that were varied across race and nationality. The primary non-random aspect of the serial killers in the dataset is that they had been captured by law enforcement. This allowed for James to identify key pieces of information about the subjects that have been linked to serial killers.

James (1991) differentiated the serial killers in his database by several key themes. First, James denoted key demographic features of the serial killers; this included information on age, race, and IQ. Second, he identified the modus operandi of the subjects. Modus operandi included information on whether the serial killer tied up victims, owned handcuffs, and/or hunted humans. Third, James collected information on the criminal investigation of the serial killer subjects. Information in this category evaluated whether the serial killer was caught through routine police stops, finding trace evidence that led to the serial killer, and if the serial killer refused to confess. The next section examines the conceptualization and operationalization of the variables in James' (1991) dataset.

Conceptualization and Operationalization

The concept of serial killer efficacy is linked to how successful the James' subjects were in completing their serial murders. The outcome (dependent) variable for this concept is the total number of victims. In serial killer research, this is often times a tricky variable to use. In many cases, the total number of victims is unknown. This is due to the serial killer's unwillingness to divulge where the victims' remains were placed in an effort to avoid extra prosecution or simple forgetfulness of where the victims' bodies were placed due to the overwhelming number of victims. Whatever the case, sometimes the number of victims attributed to a serial killer is

known and other times it is estimated as a range of values; the minimum value is generally linked to the total number of bodies found or charges made by the state and the maximum value is a suggestion of how many maximal victims there might have been based on the particular serial killer's suggestions. In cases where a range of values is the best estimate of a serial killer's total number of victims, we use the minimum value of victims so as not to overestimate and possibly risk misrepresenting the total number of victims. We collected information on the dependent variable of number of victims from a myriad of sources.

James' (1991) measured many different independent variables that he thought would be correlated to serial killer behavior. All of the variables measured by James were dichotomous variables with two outcomes (yes/no, male/female, etc.). The first series of variables focused on the serial killer's relationship with parents/guardians. Variables here included: absentee father, maternal hatred, raised by adopted parents, abused or sexually abused as a child, and regular church attendance. The second set of variables provided descriptions of the killer; these included being described by women as handsome, being articulate, being attracted to girls less than 12 years of age, had female attack fantasies, and attempted suicide. The next battery of variables examined aspects of the murders: weapon used, number of weapons, planning, random victim selection, worked in a team, posed as a cop, offered victim a ride, possessed handcuffs/leg irons, and if the serial killer used alcohol/drugs on the victim. James (1991) also measured victim characteristics like the relationship of the victim and offender (stranger/acquaintance), conned victim into compliance, victim was a prostitute, stole money from the victim, raped the victim, videotaped sex with the victim, and released any victims.

The final variables measured by James (1991) were in relation to the concepts of location of the kills, sensational aspects of the crimes, law enforcement, and evidence. Variables

associated with location were met the victims at the bar, the killer's knowledge of the area, if the attack took place in the victim's home, bodies were left in remote areas, and bodies left where easily found. In relation to sensational aspects of the murders, variables included if victims were bitten, if foreign objects were inserted into the victims' vaginas, if cannibalism, necrophilia, human hunting, dismemberment, burning, and/or torturing were involved, if souvenirs were taken from the victim, if the victims were buried underground, and if the victims were thrown into the water. Law enforcement variables included killer communicated with the police, associated with police to gain information, studied criminal justice in school, arrested by random police patrol, arrested by investigating detectives, questioned by police and released, if the killer confessed for legal advantage, if a witness identified the killer with the victim, and if a surviving victim identified the killer. Evidentiary variables included if the serial killer altered his/her car's appearance, changed license plates, cleaned the car, left evidence in the car, left trace evidence on clothing, took victims' clothing, left trace evidence at the crime, left fingerprints at the crime scene, left incriminating evidence at home or work, and kept killing despite the threat of immediate capture.

Finally, James (1991) collected information on basic criminological control variables. James measured theoretically important variables like IQ (above average or not), prior criminal history, and history of sex offenses. The remainder of the control variables were race, age, nationality (US or somewhere else), marital/relationship status, children, and whether the subject served in the military.

The serial killers are not necessarily similar in their killing behaviors. These murderers kill for a variety of reasons, have differing skill sets, and different intrinsic motivators. While he did not add information on the typology of the serial murderers in his database, we added a

variable for type of serial murder according to the Holmes and Holmes (1998) typology discussed above. While this typology has four characteristics, the serial killers included in the James data were comprised of only two characteristics: power-control and hedonistic. It is expected that this distinction could impact the total number of victims by a serial murderer.

Analytic Strategy

Since the size of the dataset provided by James was only 28 cases, we are limited in the types of statistical analyses that can be performed on the data. The law of large numbers does not begin until 30 making higher level statistical analyses untenable. As such, the primary analyses utilized in this study are univariate statistics, a mixture of percentages, medians, and modes. In addition, bivariate correlations (Pearson's product moment correlation (r) and Spearman's rho) were used to assess the link to which some of the commonly perceived correlates of serial murder are statistically related to the total number of serial killer victims. We include both measures of correlation as a statistical argument can be used that the data is appropriate for either form of correlation metric.

Analyses and Findings

The first set of analyses addresses the demographic profile of the serial killers evaluated and the dependent variable of the number of victims per serial killer; these are reported on in Table 1.

Table 1. Dependent Variable and Demographics

Variable	Coding	Percent	Mean	Median
Number of victims			12.04	8.5

Type of Serial Murderer	Power Control	21.4
	Hedonistic	78.6
Origin of killer	Born outside of US	19.2
	US born	80.8
Race	White	88.5
	Non-White	11.5
Age	17-27	21.4
	28-38	50
	Over 38	21.6
IQ above average	No	80.8
	Yes	19.2
Marital Status	No	56
	Yes	44
Divorced/Separated	No	67.9
	Yes	32.1
Had Girlfriend	No	75
	Yes	25
Has one or more children	No	64.3
	Yes	35.7
Was a peeping Tom	No	75
	Yes	25

Prior Criminal History	No	18.5
	Yes	81.5
Prior Rape Conviction	No	39.3
	Yes	60.7
Served in the Military	No	89.3
	Yes	10.7

N=28

Table 1 indicates that the sample of serial killers was primarily born in the U.S. (81%), white (88.5%), and between the ages of 28 and 38 (50%). These are generally in line with the prevailing wisdom about serial killers. Unlike these characteristics, the serial killers examined here tended to have lower than average IQ's (81%); this is at odds with stereotypes that serial killers are smarter and thus more capable of committing and getting away with their murders. Table 1 also indicates that, according to the Holmes and Holmes (1998) typology, the subjects in this database were of the hedonistic (79%) or power control (21%) type.

James' (1991) demographic information also examined serial killer relationships. Most of the subjects were not married (56%); on the contrary, 32% of the subjects had been divorced and/or separated from a spouse. A quarter of the serial killers had a girlfriend. The majority of serial killers did not have any children (64%).

Table 1 also evaluates the past history of the serial killers in the sample. First, 81.5% of the serial killers had a criminal history. In particular, many of the subjects had prior rape convictions (61%). Second, serial killers in the sample were relatively unlikely to have been

peeping toms at some point in their lives (25%). Third, the subjects evaluated by James (1991) tended to have no military service in their background (89%).

Most important to this research, Table 1 provides information on the total number of victims the serial killer murdered. The average number of victims per serial killer was 12. This number should be viewed with some caution as one serial killer had at least 80 victims. This offender caused the dependent variable to be highly skewed and kurtose. The median reported a number closer to 8.5 victims at the 50^{th} percentile.

One of the most frequent anecdotal correlates of serial killing is family turbulence during the serial killers' formative years. Table 2 reports statistics on the subjects' early family lives.

Table 2. Relationship with Parents/Guardians

Variable	Coding	Percent
Father not around	No	77.8
	Yes	22.2
Hated Mother	No	88.5
	Yes	11.5
Raised by Adopted Parents	No	57.1
	Yes	10.7
	Missing	32.1
Abused as Child	No	25.0
	Yes	42.9

	Missing	32.1
Sexually Abused as Child	No	57.1
	Yes	3.6
	Missing	39.3
Attended Church	No	89.3
	Yes	10.7

N=28

As can be seen, the father was absent from the family in 78% of the subjects; the subjects seemed to have a closer relationship with mothers as only 11.5% of the serial killers hated their mothers. While the data was missing in 32% of the cases, only 10% of the remaining sample was raised by adoptive parents, but 43% were abused and 3.6% were sexually abused as children. Only 10.7% of the sample attended church regularly during their formative years.

Table 3 examines general descriptions (both in terms of physical and psychological factors) of the serial killers in the sample.

Table 3. Descriptions of the Killer

Variable	**Coding**	**Percent**
Described by women as handsome	No	82.1
	Yes	17.9
Was Articulate	No	60.7
	Yes	39.3

Attracted to girls less than 12	No	78.6
	Yes	21.4
Fantasized about attacks on women	No	64.3
	Yes	35.7
Committed/Attempted Suicide	No	85.7
	Yes	14.3

N=28

The figures in Table 3 are largely counterintuitive. Serial killers were not described as handsome (82%) or articulate (61%). These serial killers were not attracted to girls under the age of 12 (79%) and did not fantasize about attacking women (64%). Very few of the serial killers had attempted suicide (14%). Subjects appear to be psychologically stable for all intents and purposes.

Table 4 evaluates the various aspects of the subject's serial murders, or the typical modus operandi of the serial killer.

Table 4. Aspects of the Murders

Variable	**Coding**	**Percent**
Type of Weapon	Gun	25.9
	Knife	14.8
	Strangulation	18.5
	Blunt Force	3.7
	Multiple/Other	37.0

Number of Weapons Used	Single Weapon	25.9
	Multiple Weapons	74.1
Hit Victim with Blunt Object	No	64.3
	Yes	35.7
Planned Murder in Advance	No	67.9
	Yes	32.1
Random Victim Selection	No	11.1
	Yes	88.9
Victim Younger than 12	No	85.7
	Yes	14.3
Worked in Team	No	74.1
	Yes	25.9
Posed as a Cop	No	78.6
	Yes	21.4
Offered Victim a Ride	No	50.0
	Yes	50.0
Possessed Handcuffs/Leg Irons	No	71.4
	Yes	28.6
Used drug/alcohol on victims	No	74.1
	Yes	25.9

N=28

While the most frequently occurring weapon used was a gun (26%), 74% of the subjects used multiple weapons. The serial killers used blunt force in addition to the killing weapon in 36% of the cases. Contrary to expectations, only 32% of the murders were planned and 89% of victims were selected randomly; additionally, subjects did not possess handcuffs and/or leg irons in 71% of the cases. Across the serial killers, only 14% of subjects had a victim under the age of 12, worked in teams in 26% of the cases, posed as a police officer in 21% of the cases, and offered the victim a ride in 50% of the cases. The subjects used drugs and/or alcohol on victims in 25.9% of the cases. These results indicate that the subjects were more opportunistic in their target selection.

Table 5 evaluates the various aspects of the victim that might be associated with serial murder.

Table 5. Victim Aspects

Variable	Coding	Percent
Victim was a Stranger	No	10.7
	Yes	89.3
Victim Sex	Female	81.5
	Both	18.5
Conned Victim into Compliance	No	25.0
	Yes	75.0

Were Victims Mostly Prostitutes?	No	75.0
	Yes	25.0
Stole Money from Victim	No	75.0
	Yes	25.0
Raped Victim	No	29.6
	Yes	70.4
Video Tape of Sex with Victim	No	92.9
	Yes	7.1
Released a Victim	No	82.1
	Yes	17.9

N=28

The victim was a stranger in 89% of the cases and was a female in 82% of the cases. The serial killer conned the victim into compliance in three quarters of the cases. While the vast majority of victims were not prostitutes (75%), the serial killer did rape the victim in many instances (70%). The serial killers did not tend to steal money from the victims (75%), did not have a videotape of sexual intercourse with the victim (93%), or did not release any victims (82%).

Table 6 examines the characteristics of the location that the serial killers used in their homicidal acts.

Table 6. Location and the Murders

Variable	Coding	Percent
Met Victim at Bar	No	89.3
	Yes	10.7
Knew the Area	No	39.3
	Yes	60.7
Attack took place in Victim's House	No	10.7
	Yes	89.3
Body left in Remote Area	No	35.7
	Yes	64.3
Body left where easily found	No	53.6
	Yes	46.4

N=28

The above table indicates that while the serial killers did not tend to meet victims in bars (89%), the subjects tended to know the area (61%) and the vast majority of attacks occurred at the victim's residence (89%). The victim's body was oftentimes left in a remote area (64%) and not where it could be easily found (54%).

The next set of variables examined sensational or gruesome aspects of the serial murders.

Table 7. Sensational Aspects of the Murders

Variable	Coding	Percent
Victim was Bitten	No	85.7
	Yes	14.3
Foreign Object Inserted in Vagina	No	85.7
	Yes	14.3
Cannibalism in Kill	No	91.7
	Yes	8.3
Committed Necrophilia	No	64.3
	Yes	35.7
Hunted Humans as Animals	No	82.1
	Yes	17.9
Dismembered Victims	No	64.3
	Yes	35.7
Burned Victim	No	85.7
	Yes	14.3
Victim Tortured?	No	78.6
	Yes	21.4
Took Souvenirs	No	67.9

	Yes	32.1
Buried Victim Underground	No	71.4
	Yes	28.6
Body Thrown in Water	No	78.6
	Yes	21.4

N=28

Table 7 indicates that while there are certainly sensational and gruesome aspects to serial murders, this is not the norm as one might perceive from watching any movie/television show about serial killers. Only 14.3% of victims were bitten, 14.3% had a foreign object inserted into the vagina, 8.3 % of the cases revolved around cannibalism, 17.9% hunted their victims as animals, 21% tortured their victims, and 36% of the subjects engaged in necrophilia. A meager 32% of subjects took "souvenirs." In more practical-sensational terms, 36% of subjects dismembered victims, 14% burned their victims' bodies, 29% buried their victims, and the victims' bodies were thrown into the water by 21.4% of the serial killers.

Table 8 examines the variables that focused on serial killers and law enforcement before their eventual capture.

Table 8. Serial Killers and Law Enforcement

Variable	Coding	Percent
Killer Communicated w/ Police	No	95.8
	Yes	4.2

Associated with Police to Gain Information	No	78.6
	Yes	21.4
Studied Criminal Justice in School	No	78.6
	Yes	21.4
Arrested by LEO on patrol	No	85.7
	Yes	14.3
Arrested by detectives stemming from investigation	No	67.9
	Yes	32.1
Questioned by police and released	No	71.4
	Yes	28.6
Confessed Crime to gain legal advantage	No	60.7
	Yes	39.3
Witness ID'd perpetrator with victim	No	60.7
	Yes	39.3
Surviving victim ID'd perpetrator	No	67.9
	Yes	32.1

N=28

Contrary to most fictional depiction of serial killers, only 4% of subjects communicated with the police. Interestingly, 21% of subjects associated with police officers to gain information or studied criminal justice in college. In 14% of the subjects, they were arrested as part of a normal

traffic stop; 32% of subjects were arrested stemming from an investigation. Police questioned and released the subject in 29% of the cases. The subjects confessed to the crime to gain legal advantage in 40% of the cases. Finally, the subjects were identified by witnesses in 40% of the cases and by surviving victims in 32% of the cases.

The final battery of univariate statistics revolves around serial murders and evidence.

Table 9. Evidence and the Murders

Variable	Coding	Percent
Altered Car Appearance	No	88.9
	Yes	11.1
Switched Car Plates	No	81.5
	Yes	18.5
Cleaned Car	No	85.2
	Yes	14.8
Evidence Found in Home/Car	No	57.1
	Yes	42.9
Got Trace Evidence on Clothing	No	85.7
	Yes	14.3
Took Victim's Clothing	No	75.0
	Yes	25.0

Left Trace Evidence at Crime Scene	No	53.6
	Yes	46.4
Left fingerprints at scene	No	89.3
	Yes	10.7
Kept Killing despite Threat of Capture	No	67.9
	Yes	32.1
Incriminating evidence found at home/work	No	67.9
	Yes	32.1

N=28

James (1991) collected a great deal of information about the subjects' automobiles. Subjects in the sample tended not to do much with their cars in relation to the murders; this is counterintuitive to most depictions of serial killers. Subjects did not alter their cars appearance (89%), did not switch car plates (82%), or clean their car (85%). In fact, evidence was found in either the subject's home and/or the car in 43% of the cases and incriminating evidence was found at home/work in 32% of the cases. Trace evidence was left at the crime scene in almost 47% of all cases. Despite this, serial killers tended to be careful in the commission of their crimes. Trace evidence was left on only 14% of the subjects' clothing, 25% of the subjects took the victim's clothing, and a mere 11% left fingerprints at the crime scene. Despite the threat of capture, 32% of the serial killers continued to kill.

After the univariate analyses were completed, bivariate statistics were performed on all of the data to assess the relationship between the dependent variable of number of victims and all of

the rest of the variables in the dataset. The results are provided in Table 10; due to space constraints, only the statistically significant correlations are presented.

Table 10. Bivariate Correlations with the Number of Victims

Variable	Pearson's r Number of Victims	Spearman's Rho Number of Victims
Marital Status	0.415*	0.499*
Prior Criminal History	-	0.558*
Served in the Military	0.737*	0.510*
Sexually Abused as Child	0.648*	-
Random Victim Selection	-0.669*	-
Possessed Handcuffs/Leg Irons	0.462*	-
Victim was a Stranger	-0.669*	-
Video Tape of Sex with Victim	0.844*	0.457*
Hunted Humans as Animals	0.669*	0.445*
Burned Victim	0.501*	-
Arrested by Random Police Patrol	-	0.444*
Switched Car Plates	0.612*	0.491*
Evidence found in Home/Car	0.382*	-

$p < 0.05$

As can be seen in Table 10, very few of the many variables collected by James (1991) had a statistically significant effect on the number of serial killer victims; most importantly, the classification of serial killer had no statistically significant association with the total number of

victims. Whether a serial killer was of the hedonistic type or power control type had no bearing on the total number of victims.

Of the relationship denoted in the analyses, it should be noted that the relationships found are very strong overall. Those who were married, served in the military, video recorded sexual intercourse with the victim, hunted victims as animals, and switched car plates tended to be linked to a higher number of victims across both types of bivariate analysis. Under Pearson's r correlations, being sexually abused as a child, possessing handcuffs/leg irons, burning the victim's body, and evidence being found in the subject's home/car was related with a higher number of victims. Random victim selection and the victim being a stranger were correlated with lower numbers of victims. Under the banner of Spearman's Rho correlations, prior criminal history and being arrested by random police patrol were correlated with a larger number of victims.

This section has examined the univariate and bivariate analyses of the James (1991) database on serial killers, the number of victims, and perceived correlates of serial murder. It is clear that there were very few correlations with the dependent variable of number of victims. The next section examines the conclusions we draw from these analyses.

Discussion and Conclusion

This study has examined variables that are commonly believed to be correlated with serial homicide. In particular, this research examined variables that might help to predict the total number of victims a serial killer will murder. The findings of the present study are somewhat redolent of much of the extant literature; however, there are some novel and, even counter-intuitive findings. As far as many of the descriptive statistics are concerned there were

no major departures from the existing literature. We review our specific findings with respect to the Warren, Hazelwood, Dietz (1996) study as it has the most linkage to the current study.

Warren, Hazelwood, and Dietz (1996) conducted a study of sexually sadistic serial killers, which shared many of the same variables that James sought to examine. The present study found many similar results to the Warren et al. (1996) research. Warren et al. (1996) found that most of the killers in their dataset were male and white; this finding held in the current research. In addition, about 50% of Warren et al.'s (1996) subjects were married which is similar to the results found here. In the present study, only 25% engaged in 'peeping tom" activities whereas in the 1996 study, 45% on the offenders engaged in voyeurism.

There were also discrepancies between the present study and the Warren et al. (1996) study. In the 1996 research, 80% of the sample had experienced violent fantasies against women, whereas in the present study only 35.7% had experienced this type of fantasy. One interesting finding of this study is that only 3.6% of the sample was sexually abused as a child. In a 2005 study, Mitchell and Aamodt found that 26% of their sample of 50 serial killers had been sexually abused when they were children.

Another large disparity was found when the prior criminal history rates of the two groups of killers were compared. The Warren et al. study showed that 35% of their sample had a prior criminal record and the James data showed over 80% having a prior criminal record. These differences may be accounted for by the fact that Warren et al. studied sexually sadistic serial killers, while the data used in this study was not so specific. When one considers other studies that examine the percentage of serial killers with prior criminal histories the present study appears to be somewhat more in line. Arndt, Hietpas, and Kim (2004) found a prior criminal

record rate of 51% in their sample and Canter, Missen, and Hodge (1996) found that 75% of serial killers had a prior criminal record.

In addition to descriptive statistics, this study utilized bivariate correlations to determine the association between the traits measured and the number of kills for each serial killer. The bivariate correlations were instructive, which only partially supports previous research. One key finding was that there were very few correlations between the number of victims and the host of variables evaluated here. Most importantly, there was no link between serial killer type (power-control and hedonistic) and number of victims. Despite this, there were some relationships that beg discussion. For instances, being married was found to be positively correlated to the number of victims when using both Pearson's r and Spearman's rho (0.415 and 0.499 respectively); this represents a medium strength relationship. This may be due to the fact that disorganized killers may be less likely than their organized counterparts to reach a high kill count and disorganized killers are very rarely married.

Other key correlations revolved around military history and criminal record. Having previously served in the military was found to have a strong positive relationship with number of kills (r=0.737) Those individuals who have served in the military may well be, by virtue of their training, more careful in the commission of the crime and the subsequent evasion of capture may well be more prevalent in these individuals as they will be more disciplined. Having a prior criminal record is positively correlated with a higher number of kills, but, only when using Spearman's rho (0.558).

This research also uncovered other relationships between number of victims and various other variables. Experiencing sexual abuse as a child is positively correlated with number of

victims. Killers selecting their victims at random and killing strangers are both negatively associated with number of kills (Pearson's of -0.669 and -0.669). Neither of these variables has been studied before. Videotaping the sexual elements of the crime was associated with number of victims with a very strong relationship (Pearson's r = 0.844). This is not surprising as the videotaping of the crime would generally tend to take preparation; those killers who are prepared tend to make fewer mistakes and are therefore less likely to get caught, allowing the killer to achieve a higher number of kills. The same rationale can be applied to both the positive relationship (r = 0.462) between number of kills and the possession of handcuffs and leg irons, and the positive relationship (r = 0.669) between having "hunted humans like animals" and number of kills. Further, another strong positive relationship was found between number of victims and switching car plates (r = 0.612 and rho = 0.49) this relationship can be ascribed to the switching of license plates showing a degree of forethought, organization and clearly taking active steps to avoid apprehension. Both of these sorts of behaviors indicate some degree of prior planning and, as such, a level of control which would lead to achieving a higher number of murders before apprehension.

Other relationships were more confounding in their existence. The positive relationship (r = 0.501) between number of victims and the burning of a victim is perplexing. This relationship may be attributable to a small N and random error. Killers being arrested by random police patrol had a positive relationship with the dependent variable. One possible explanation may be that were it not for random patrols, the killer may not have been caught as he was operating in a manner which, hitherto had allowed him evade capture.

Comment [SM1]: Need overall new paragraph that explains

Limitations and Future Directions

There are several limitations with this research. First, the total N of the study is only 28 cases. The law of large numbers does not apply until the total number of cases reaches 30. Because of this fact, we were unable to apply multivariate statistical analyses, such as some form of multiple regression, to the data. Since this is largely an exploratory study, this limitation does not apply; basic bivariate correlations can shed light on some of the perceived correlates of serial murder and whether some of the oft-believed stereotypes can be statistically applied to serial murder.

Second, the data is a secondary data source compiled by another researcher. There is little explanation of particular variables and, in some instances, inferences had to be made on exactly what the variables were measuring. Third, and in relation to the previous limitations, the data collected was not complete. Model misspecification is inevitable since James (1991) did not account for all conceptual/variable correlates of serial murder. Finally, since there are only 28 cases, any results are arguably not generalizable to all serial killers, even if the sample mimics randomness.

While the current research has attempted to help shed light on the etiology of serial murder, more work clearly remains. Future research should attempt to utilize the same variables as the James (1991) database. In addition to using similar variables, the data should be collected on more serial killers. While the nature of the data requires serial killers to have been caught, this strategy can better help criminologists to understand the motivations and mechanisms by which serial killers go about their criminal offending. Finally, if data on more serial killer subjects is collected in the vein of the James dataset, the larger N will allow for the utilization of higher level, multivariate statistical analyses.

These findings should be helpful in the investigation of serial homicide as, although the number of subjects is small, the depth of these data provide a much more contextual perspective. Further, these data were collected by a police officer, James, who gathered the information which he felt important to investigators.

references

Arndt, W. B., Hietpas, T., & Kim, J. (2004). Critical characteristics of male serial murderers. *American Journal of Criminal Justice*, *29*(1), 117-131.

Canter, D. V., Missen, C., & Hodge, S. (1996). Are serial killers special? *Policing Today*, *2*(1), 3-8.

DeLisi, M., & Scherer, A. M. (2006). Multiple homicide offenders: Offense characteristics, social correlates, and criminal careers. *Criminal Justice and Behavior*, *33*(3), 367-391.

Dietz, P. E. (1986). Mass, serial and sensational homicides. *Bulletin of the New York Academy of Medicine*, *62*(5), 477.

Douglas, J., Burgess, A. W., Burgess, A. G., & Ressler, R. K. (2013). *Crime Classification Manual: A Standard System for Investigating and Classifying Violent crime*. Hoboken, NY: John Wiley & Sons.

Egger, S. A. (1984). A working definition of serial murder and the reduction of linkage blindness. *Journal of Police Science and Administration*, *12*(3), 348-357.

Egger, S. A. (1990). *Serial Murder: An Elusive Phenomenon*: Westport, CT: Praeger.

Federal Bureau of Investigation, Critical Incident Response Group, National Center for the Analysis of Violent Crime. (2008). Serial murder: Multi-disciplinary perspectives for investigators. Retrieved from

http://www.fbi.gov/stats-services/publications/serial-murder/serial-murder-1#director

Fox, J. A., & Levin, J. (2014). *Extreme Killing: Understanding Serial and Mass Murder*. Thousand Oaks, CA: Sage Publications.

Gresswell, D. M., & Hollin, C. R. (1994). Multiple murder: A review. *British Journal of Criminology*, *34*(1), 1-14.

H.R. 3494--105th Congress: Protection of Children From Sexual Predators Act of 1998. (1998). In www.GovTrack.us. Retrieved October 6, 2014, from https://www.govtrack.us/congress/bills/105/hr3494

Hickey, E. W. (1996). *Serial Murderers and Their Victims*. Boston, MA: Wadsworth.

Hickey, E. W. (2013). *Serial Murderers and Their Victims, 6th Ed*. Boston, MA: Cengage Learning.

Hinch, R., & Hepburn, C. (1998). Researching serial murder: Methodological and definitional problems. *Electronic Journal of Sociology*, *3*(2), 1-11.

Holmes, R. M., De Burger, J., & Holmes, S. T. (1988). Inside the mind of the serial murder. *American Journal of Criminal Justice*, *13*(1), 1-9.

Holmes, R. M., & Holmes, S. T. (1998). *Contemporary Perspectives on Serial Murder*. Thousand Oaks, CA: Sage Publications.

James, E. W. K. (1991). *Catching Serial Killers: Learning From Past Serial Murder Investigations*. Lansing, MI: International Forensic Services.

Keeney, B. T., & Heide, K. M. (1994). Gender differences in serial murderers A preliminary analysis. *Journal of Interpersonal Violence*, *9*(3), 383-398.

Levin, J., & Fox, J. A. (1985). *Mass Murder: America's Growing Menace*. New York, NY: Plenum Press.

Mitchell, H., & Aamodt, M. G. (2005). The incidence of child abuse in serial killers. *Journal of Police and Criminal Psychology*, *20*(1), 40-47.

Turvey, B.E. (2012). *Criminal Profiling: An Introduction to Behavioral Evidence Analysis.* Burlington, MA: Elsevier.

Warren, J. I., Hazelwood, R. R., & Dietz, P. E. (1996). The sexually sadistic serial killer. *Journal of Forensic Sciences*, *41*(6), 970-974.

Appendix A

Larry Gene Bell

Kenneth Bianchi

Richard Biegenwald

Ted Bundy

Angelo Buono

John R. Christie

Douglas D. Clark

Alton Coleman

John Collins

Richard Cottingham

Albert DeSalvo

Kenneth Erskine

Dherren Fitzgerald

Gerald Gallego

David Gore

Robert Hanson

William George Heirens

Edmund E. Kemper

Leonard Lake

Robert Joseph Long

Donald Miller

Charles Ng

Clifford Robert Olson

Harold Sassak

Peter R. Sutcliffe

Fred Waterfield

Coral E. Watts

Christopher Wilder

The Pursuit

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