

“911 What’s Your Emergency?”: Deception in 911 Homicide and Suicide Staged as Homicide Calls

Homicide Studies

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Abstract

Emergency 911 calls are often the first indication a homicide occurred and serve as initial witness statements in an investigation. The current study explores deception among homicide and homicide staged as suicide 911 calls. One hundred suicides, 18 homicide staged as suicide calls, 31 homicides with uninvolved callers, and 26 homicide offender calls were compared. Little overlap was found in deception indicators between the current findings and previous studies. Caution is warranted when extrapolating from studies using only 911 homicide calls to equivocal death cases, where investigators consider if the manner of death is a suicide or a staged homicide.

Keywords

911 calls, homicide investigations, homicides staged as suicides, homicide offenders, suicides

While the number of research articles on 911 calls in homicide investigations is relatively small, it has increased over time. The genesis of the knowledge base, the growth and its relation to investigative importance, can be attributed to the original research

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conducted by Harpster et al. (2009). Harpster and colleagues (2009) hypothesized there were several key features of 911 calls that make them potentially valuable as evidence in death investigations. First, they noted that 911 calls are generally not rehearsed and take place after the caller has discovered or committed a violent act. In either case, the caller is influenced by their emotions and therefore if they have committed the crime may make unintended mistakes or respond inappropriately. Second, 911 calls are recorded and can be repeatedly examined. They noted recorded calls can help identify voice modulation, ascertain any hesitation or pauses, and detect any background noise or activity. Burns and Moffitt (2014) also argued that it requires extra effort to lie when face to face or to a live 911 operator and is far different than an attempt to lie in a written statement. In preparing a written statement, the offender has a chance to consider his words carefully and may be able to edit the statement at any time. This is obviously not the case in a 911 call. These are real time and recorded exchanges, so there is no doubt about the caller's statements or whether he or she backtracked or inadvertently refuted previous statements.

Harpster et al. (2009) developed their original study for the purpose of analyzing 911 calls from individuals reporting homicides. They measured the differences between two groups—one group was innocent callers whereas the other group consisted of guilty callers (i.e., offenders). During their analysis, they considered the totality of the call, including not only what was said by the caller, such as whether the caller asked for assistance or was merely reporting a crime and the quality of the caller's language, but also included how the information was relayed by the caller (i.e., emotions, voice modulation, and any delays in speech or answering questions). Further, they assessed the reason for the call. For example, did the call focus the attention on the victim and their need for assistance or did the caller focus mainly on himself? Harpster et al. (2009) found distinct differences in the call characteristics for guilty versus innocent callers. Innocent callers were more likely to focus on getting help for the victim and did not provide extraneous information. They were able to provide accurate details on the victim's status, answer questions, and follow directions from the 911 operator. Innocent callers were consistent regarding the facts of the event and were more likely to correct erroneous information if new details were learned during the call as opposed to guilty callers who were more likely to provide conflicting information and seldom self-corrected.

Harpster and colleagues (2009) also found guilty callers tended to provide rambling and unclear explanations and did not fully cooperate with 911 operator instructions, such as performing CPR on the victim. They also tended to repeat demands or phrases, such as "Oh my God, oh my God," which was seen as an effort to avoid answering questions. Further, guilty callers were more likely to provide extraneous information and unneeded details of events, rather than a clear and concise report of relevant information. Providing extraneous information was one of the strongest indicators of guilt within their study. Guilty callers also tended to delay answering questions or had noticeable pauses in the conversation referred to as the "*huh factor*." This was understood as the caller being caught off guard with an unexpected question and was reflected through the callers use of "what?" or "huh?" in response to the 911 operator.

Other factors of guilty callers included: being overly patient and polite in conversation with the 911 operator. Examples included making requests and not demands for assistance and usage of “please, thank you, yes ma’am or yes sir.” Acceptance of the victim’s death without absolute proof and insulting or derogatory comments directed toward the victims were also prevalent among guilty callers.

Burns and Moffitt (2014) conducted a study of fifty 911 calls of reported homicides but used a different approach to their analysis. They examined the text of the calls for linguistic cues based on theories of deception detection to differentiate between deceptive and truthful 911 callers. Specifically, they measured the calls using “linguistic feature mining.” This technique allowed them to quantify deceptive linguistic language. This is a change from previous studies that involved listening to the actual audio recordings of the calls with the focus on the totality of the words and syntax. They hypothesized they could differentiate between deceptive and truthful 911 callers based solely on the systematic differences in the words used to report the incident. They found that truthful callers used more negative words (i.e., swear words) and first person singular (i.e., he, she), while deceptive callers used person plural words more often (i.e., they, them) and statements such as “wait” or “hold on.” However, by not using audio calls they were not able to hear any voice modulation or background noises, nor could they determine the length of any pauses. Moreover, with a lack of access to the full recordings, they could not tell if the transcription was completely accurate or if any hesitation on the caller’s part was properly documented.

Cromer et al. (2018) completed a third study analyzing 911 calls for indicators of deception. Similar to Burns and Moffitt (2014) they focused both on using the linguistic aspects of the call while integrating the findings of Harpster et al. (2009) as the basis for their study. Their analysis consisted of reviewing fifty 911 calls from completed police investigations, 36 were from known truthful callers and 14 from known deceptive callers. They measured 14 linguistic and four mitigating variables from the transcripts to determine if any of the variables, or combination thereof, could discern the truthfulness of a 911 call. Mitigating variables were classified as events that if present during the call may influence the linguistic behavior of the caller. Like the study by Burns and Moffitt (2014), only the written transcripts of the 911 calls were used to obtain the data from which to measure the variables.

Their resulting analyses confirmed some of Harpster et al.’s (2009) findings and refuted others. Cromer et al. (2018) found that a caller providing extraneous information is probably the strongest predictor of guilt of all of the measured variables. They also concurred on indicators including conflicting facts and possession of the problem, which was defined as the caller focusing on the victim, or the current problem, rather than focusing on themselves. Callers who tend to focus on themselves rather than the victim, noted by comments such as “I need help, I have a problem, I need assistance” are not taking possession of the problem. In this instance, the focus of attention or the problem is on the caller’s need not the victim. When a caller focuses on themselves it was found to be an indicator of deception. Additionally, the researchers found that incorrect order and weapon touch were also found to be linked

to deceptive callers (Cromer et al., 2018). Incorrect order was defined as the order in which individuals speak about things is suggestive of their priorities. For instance, it was hypothesized that an innocent caller tends to report the most serious aspect of the event, that is, the immediate need for emergency service, before reporting other aspects of the event such as extent of injuries or status of the victim. Guilty callers may report other less serious aspects of the event prior to reporting the more serious. For example, initially reporting someone broke into a house and ransacked property, and then reporting the death of the victim - the time sequencing of important events is out of sync. Weapons touch referred to comments made by the caller without prompting from the operator, that they had touched the weapon at the scene. Overall, Cromer et al. (2018) found a positive predictive rate of 86%, meaning the callers who were identified during the research as deceptive were later determined to be guilty of the offense. Further, the negative predictive rate of 80% was found for those callers that were identified in the research as truthful and later determined to be truthful.

Cromer and colleagues could not replicate many of the initial findings from Harpster's original study; out of the nine variables related to guilt in the work by Harpster et al. (2009), only two variables were determined to be statistically significant (Cromer et al., 2018). For example, the two studies disagreed on the importance of a caller's acceptance of a victim's death, a caller's level of politeness, interacting with the dispatcher, and the use of the word "just" to minimize involvement in the death. It is possible that the smaller sample size in Cromer et al.'s study (2018) meant it lacked the statistical power to detect differences. Additionally, the study was also limited in similar ways to the Burns and Moffitt study (2014) because it relied on the written word rather than the actual recorded call.

Crime Scene Staging

Crime scene staging, by common understanding, is an attempt to misdirect a police investigation away from the true facts. Beauregard and Martineau (2014) found 0.9% of sexual homicides involved some form of crime scene staging. Crime scene staging is described by Chancellor and Graham (2017) as intentional efforts by an offender to add, remove, or rearrange physical and/or forensic evidence within the scene to resemble the event they would like the police to believe happened. One important element of the staging effort could be the 911 call to police reporting the death, which would be the first step in the offender's attempts to misdirect the police investigation. The 911 call is an example of verbal staging where the caller implants false information to the police hoping to influence their response. For instance, reporting a suicide to 911, the police may respond to the scene with the mindset they are responding to a suicide. One study of staged homicides found that 21.5% of them involved verbal staging, which involves providing a false verbal report with police in order to misdirect the investigation (Schlesinger et al., 2014). Chancellor and Graham (2017) note that a staged scene is not designed to withstand a long-term investigation; rather it is only to get through the initial police response to the scene. If the responding police officers are

convinced that the death is the result of suicide, it is likely there will be no further investigation and the offender will have achieved the goal of successfully getting away with murder¹. The 911 call thus is an essential part of the offender's effort. It should be noted that while offenders in staged homicides frequently "discover" the victim and reported the death, this is not always the case (Ferguson & Petherick, 2016). Offenders may stage the homicide by manipulating both the scene and others (Eke, 2007), which includes having others call 911 for them.

Looking at aspects of crime scene staging, Ferguson and Petherick (2016) specifically discussed the concept of a homicide being staged to resemble a suicide. They conducted a multi-decade study of 115 homicide cases. A total of 16 (13%) were found to have been initially reported as suicides, but through police investigation were determined to be homicides. Other experts have all identified suicides as one of the more common themes used to misdirect police away from the true facts (Chancellor & Graham, 2017; Ferguson & Petherick 2016; Geberth, 2015) On the flip side, there is one additional aspect of staging involving suicide wherein a suicidal victim has staged the scene and their death to resemble a homicide, thereby, their death is seen as being a "homicide victim" rather than suicide. This may be an effort to protect their image or as one final effort to gain notoriety, exact revenge against family or friends (Adair & Doberson, 1999; Prahlow et al., 1998). In response to a story that made national headlines of a 71-year-old man who staged his suicide to look like a homicide, his daughter surmised that his intention was to protect his family from the shame of suicide and the self-doubt of missing warning signs (Abrahamson, 2018).

Douglas et al. (2006) also noted an important aspect of homicide staging, "When a crime is staged the responsible person is not someone who just happens upon the victim. It is usually someone who had some kind of association or relationship with the victim, who is most likely to be considered a suspect, thus necessitating the need to deflect attention away from them." (p. 34). Thus, making the 911 call is especially important for the offender to begin deflecting attention away from them and onto someone or something else. As noted by Chancellor and Graham (2017), there is no need for a stranger to stage a scene to resemble any other act. In fact, a qualitative examination of offender forensic awareness behaviors in 22 homicides found that the most elaborate forensic awareness behaviors occurred when the offender and victim were known to each other (Ferguson, 2019). Staging efforts by a stranger is an exception and not the general rule because there is little need to alter a scene and misdirect a police investigation away from them. For example, one study of staged homicides, put the estimate at 10% of offenders who staged some part of the scene were strangers in relation to the murdered victim, while another study put the estimate below 2% (Ferguson, 2015; Schlesinger et al., 2014). Ferguson and Petherick (2016), in their study was the relationship between the victim and offender in incidents of staged suicides, noted 43.8% of the homicide offenders were cohabitating spouses, 6.3% were cohabitating partners, and 50% were nondomestic family members or friends. There were no cases of strangers staging homicides to look like suicides (Ferguson & Petherick, 2016). This establishes the necessity of examining the 911 calls, as the

spouse or those with close personal relationships, are generally among the most likely to stage a scene and are normally the first suspects.

The focus of this literature review was two-fold. First, to review other similar studies relating to Harpster and colleagues' groundbreaking 911 call analysis research, and second to introduce the concepts of crime scene staging within the 911 call used by an offender in an attempt to misdirect a police investigation. The knowledge base to date relies on only a few studies that have examined 911 call characteristics. Consequently, it is of vital importance that further work be done to replicate and expand this investigative avenue. Additionally, so far, the research has focused primarily on 911 calls of homicides, whereas the presented research sought to expand to 911 call analysis of suicides and homicides staged as suicides. A review of the literature on staging shows that 911 calls could provide valuable information for investigators. While 911 calls were always considered important to obtain during a death investigation, the usefulness of analyzing 911 calls is still evolving to determine if information contained within provide clues about the truthfulness of the caller.

The first objective of the presented paper was to use an updated sample to replicate the previous work done by Harpster et al. (2009), as it is used as the foundation for many law enforcement trainings and a book geared toward law enforcement was published (Harpster & Adams, 2017). Beyond the replication is an expansion into unexplored concepts within 911 calls based on questions that have arisen in the operational experiences of the authors. The goal was to empirically test these new constructs to determine if they helped differentiate between callers who were involved in the homicides and those that were not. We hypothesized that similar findings would be present in the replication study with more recent 911 calls.

Research Question 1: What 911 caller behaviors and verbalizations are more likely among callers who were involved in the homicide as compared to 911 callers who were not involved?

The second objective, and hence research question, focused on those times when a homicide is staged as a suicide and the homicide offender calls 911 to report that the deceased killed him or herself. It was unclear if findings from the previous 911 call studies would be applicable to these staged homicides. This research expanded on what was previously done by including an appropriate comparison group to homicides staged as suicides, namely true suicide 911 calls where a person found someone who committed suicide and then called 911 to report it. We hypothesized that homicide staged as suicide 911 calls would have more verbal staging as measured by specifically stating the death was a suicide and mentioning the previous mental health and physical health history, along with prior suicidality of the deceased.

Research Question 2: For 911 calls that were called in as a suicide, what caller behaviors and verbalizations are more likely among callers who staged a homicide to look like a suicide as compared to callers reporting a true suicide?

Method

Sample

Utilizing a convenience sample of calls, the authors obtained 911 calls from a combination of cases worked by military law enforcement, federal law enforcement, calls posted online via news articles or on YouTube and public records requests from state or local police departments. All cases must have been an adjudicated homicide or for suicides, an official determination of suicide was made by appropriate officials to be included in the sample.

One hundred seventy-five 911 calls that were made between 2005 and 2019 at both United States Army installations (64%) and civilian 911 call centers (36%) were utilized for this study. The calls were either 911 calls where the death was presented as a suicide or where the death was presented as a homicide. These calls were further subdivided into two groups—the caller was not involved in the death or the caller was the homicide offender. Consequently, we had 100 true suicide calls (57.1%), 18 homicide staged as suicide calls (10.3%), 31 calls where the caller was not involved in the homicide (17.7%), and 26 offender calls (14.9%). All the homicide staged as suicide 911 calls were made by the homicide offender. To be included in the true suicide call group, the caller must not have been the person who committed suicide, rather it must have been someone who found the deceased's body after the suicide.

Most of the 911 callers were male (67.4%), 32.5% were female, and one could not be determined. The victim-offender relationship was measured by how the caller described the relationship on the 911 call. Most of the callers were the spouse or partner to the deceased (34.9%). The second most common relationship type, most likely due to the high number of Army 911 calls, was work colleague (17.1%), which was then followed by other family members (16.6%). Friends, acquaintances and roommates made up 11.4% of the callers. We were unable to determine the victim-offender relationship in 10.3% of the calls. Callers were considered strangers to the victims in 4.6% of the calls, and callers of other varied relationships were 4.6% of calls. Interestingly, only one caller was an ex of the deceased (0.6%).

Measures

To obtain measures of 911 call behaviors and verbalizations, actual words used by the caller, we developed an instrument with multiple measures intended to replicate the concepts explored by Harpster et al. (2009). We augmented this by adding questions of our own based on inquiries that arose during case investigations for a total of 28 variables. These variables and their distributions can be seen in Table 1. Two of the operational definitions for the variables measured require explanation. For voice modulation coders were looking for a change in the intensity and pitch of the caller's voice. Providing extraneous information was coded when the caller shared information that was irrelevant to the crisis at hand.

Finally, we added three questions that were only to look at the possibility of verbal staging within homicide staged as suicide 911 calls as compared to true 911

Table 1. Caller Behaviors across Four Types of 911 Calls.

	Homicide calls		Presented as suicide	
	Not involved in homicide (n=31)	Caller is homicide offender (n=26)	True suicide (n=100)	Homicide staged as a suicide (n=18)
Requests help for victim	25.8%	38.5%	28.0%	22.2%
Only provides notification of body	48.4%*	23.1%*	43.0%	66.7%
Urgency through demands to respond	35.5%	57.7%	49.0%	33.3%
Has voice modulation	48.4%*	76.9%*	78.0%	61.1%
Gives immediate report of victim's condition	80.7%	88.5%	80.0%	77.8%
Names the victim	16.1%	26.9%	43.0%	55.6%
Focuses on victim welfare for whole call	48.4%	53.9%	82.0%	38.9%
Accepts victim's death	45.2%	26.9%	49.0%	55.6%
Blames victim	3.2%	11.5%	16.0%	22.2%
Reports victim is dead	45.2%	30.8%	48.0%	55.6%
Provides extraneous information	16.1%	23.1%	17.0%	22.2%
Provides detail about the location	77.4%	80.8%	96.0%**	66.7%**
Shares own location prior to incident	41.9%	57.7%	34.0%	44.4%
Provides sensory detail	77.4%	65.4%	56.0%	77.8%
Delays at outset of call	16.1%	23.1%	11.0%	16.7%
Comments about blood/ Brains	38.7%	26.9%	26.0%	44.4%
Stays close to victim ^a	59.1%	72.7%	41.9%	57.1%

(continued)

Table 1. (continued)

	Homicide calls		Presented as suicide	
	Not involved in homicide (n = 31)	Caller is homicide offender (n = 26)	True suicide (n = 100)	Homicide staged as a suicide (n = 18)
Talks over dispatcher	25.8%	19.2%	18.0%	61.1%
Asks dispatcher's permission	9.7%	11.5%	13.0%	22.2%
Uses curse words	9.7%	26.9%	19.0%	27.8%
Stalls when answering	22.6%	23.1%	7.0%*	27.8%*
	Homicide calls		Presented as suicide	
	Not involved (n = 31)	Caller is offender (n = 26)	True suicide (n = 100)	Staged as a suicide (n = 18)
Uses terms of endearment and is a family member ^b	6.3%*	38.9%*	16.7%	21.4%
Reports no knowledge about what happened	51.6%	54.9%	27.0%	33.3%
Calls out to a higher power ("Oh my God")	35.5%	42.3%	27.0%	44.4%
Mentions mental health of Deceased	3.2%	3.9%	8.0%	11.1%
Mentions physical health of deceased	9.7%	19.2%	8.0%	11.1%
Uses the word "just"	80.7%	88.5%	80.0%	83.3%
Average number of times "just" is used by caller	2.5*	4.0*	2.4***	6.4***

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

^an = 132. Removed calls where it could not be determined and where the dispatcher told the caller to move away.

^bFamily was defined as both spouse/partner/exes and other immediate family members.

Table 2. Caller Behavior for 911 Calls Reported as Suicides.

	True suicide (n = 100)	Homicide staged as a suicide (n = 18)	Total calls presented as suicides (n = 118)
Specifically states the death was a suicide	60.0%*	22.2%*	54.3%
Questions missing signs of impending suicide	2.0%	0.0%	1.7%
States the deceased was previously suicidal	1.0%	11.1%	2.5%

* $p < .01$.

calls—specifically (a) stating that the death was caused by suicide, (b) the caller questioning themselves about missed signs of suicide, and (c) stating that the deceased was previously suicidal (see Table 2). Each 911 call variable was either coded as present or absent, except for a few which had the option of unable to determine, such as for the concept of the caller staying close to the victim.

Procedure

Ensuring the integrity of the findings, it was crucial that the coders be blind to the outcome of the case, especially as in the pioneering work by Harpster et al. (2009) there was no mention of the culpability of the caller being blind to the coders. On the other hand, blind coding was incorporated in the research by Cromer et al. (2018). For the current study, no author coded a call that came from their own agency. The last author was responsible for finding all open source calls and submitted all records requests. Moreover, the last author then assigned calls to the coders so that the coders would be blind to the call condition.

Coders utilized both a written transcript of the call as well as the full audio recording to code each variable. Coders were either sworn law enforcement officers with a minimum of 15 years of experience in investigations or other operational personnel who participate in casework. The lowest percent agreement between the coders was 72.0% agreement on “Caller demonstrates voice modulation” (present/absent) and 72.4% agreement for “Caller reports a lack of knowledge about circumstances of death” (present/absent). For those where the level of agreement was below 80%, all of the authors reconvened to discuss the differences in interpretations, and subsequently re-coded those specific items.

Data Analyses

Chi-square tests were run to compare true suicide calls to homicide staged as suicide calls, while separate chi-square tests were run comparing homicide calls where the

caller was not involved to calls where the homicide offender called 911 but did not admit culpability on the call. For those bivariate analyses where the cell size was less than five calls, Fisher's exact test was used to test significance. Unfortunately, we were not able to do multivariate analyses due to the likelihood of overfitting the model due to the small number of dependent variables in each group. Finally, Cramer's V was calculated to compare the bivariate analyses strength of association to what was reported by Harpster et al. (2009).

Results

Research Question #1: What 911 caller behaviors and verbalizations are more likely among callers who were involved in the homicide as compared to 911 callers who were not involved?

Of the numerous variables tested, only four had a discernable effect in differentiating 911 calls where the caller was not involved in the deceased's murder compared to those where the offender called 911. Only providing notification of the deceased's body was related to a caller being less likely to be involved ($\chi^2(1, N=57)=3.90, p < .05$). Almost half of uninvolved callers called 911 to only provide notification of a dead body as compared to approximately a quarter of offender 911 callers. Voice modulation was significantly more common among offender involved calls ($\chi^2(1, N=57)=4.86, p < .05$), and finally, when the caller was a family member of the deceased using a term of endearment was more likely among homicide offenders who called 911 ($\chi^2(1, N=34)=5.02, p < .05$). The word "just" was used by the 911 caller in approximately 80% of all calls, and there was not a significant difference when only measuring if the word was used ($\chi^2(1, N=57)=0.65, p = .33$). The true difference came in the number of times the word just was used ($t(55)=-2.01, p < .05$); on average, a homicide offender who called 911 used "just" 4.0 times, as compared to an average of 2.5 times when the caller was not involved in the victim's death.

Research Question #2: For 911 calls that were called in as a suicide, what 911 caller behaviors and verbalizations are more likely among callers who staged a homicide to look like a suicide as compared to callers reporting a true suicide

For homicides staged as suicides 911 calls, there was more reluctance on the part of the caller to provide information to the dispatcher. In homicides staged as suicides, the offender who called 911 was more likely to stall when answering ($\chi^2(1, N=118)=7.20, p < .05$), and less likely to provide basic information about the deceased's location ($\chi^2(1, N=118)=16.92, p < .01$). Additionally, contrary to expectations, homicide staged as suicide callers were less likely to specifically state that the death was a suicide ($\chi^2(1, N=118)=8.77, p < .01$).

Table 3. Comparison of Cramer's V Strength of Association.

	Harpster et al. (2009) Cramer's V (χ^2)	Homicide calls Cramer's V (χ^2)	Staged as suicide Cramer's V (χ^2)
Plea to help victim	.288 (10.23)**	.136 (1.05)	.047 (0.26)
Urgency of plea ^a	.416 (16.52)**	.261 (3.89) *	.171 (3.43)
Demanding plea	.492 (28.63)**	.222 (2.81)	.113 (1.50)
Voice modulation ^a	.390 (16.76)**	.292 (4.86) *	.141 (2.35)
Self-correction ^b	.253 (8.70)*	—	—
Extraneous information	.806 (76.43)**	.088 (0.43)	.049 (0.28)
Inappropriate politeness	.531 (36.79)**	.083 (0.39)	.085 (0.85)
Acceptance of death	.375 (14.74)**	.189 (2.02)	.047 (0.26)
Acceptance of death with relationship	.531 (36.79)**	.230 (1.80)	.149 (1.24)
Insulting/Blaming the victim	.229 (7.20)**	.162 (1.50)	.060 (0.42)
Minimizing just	.191 (3.70)*	.106 (0.65)	.030 (0.11)
Huh factor	.308 (10.89)**	.006 (.00)	.247 (7.21)**
Repetition	.420 (23.46)**	.236 (1.17)	.075 (0.21)
Conflicting facts	.624 (50.00)**	.024 (0.03)	.056 (0.36)
Resistance to answer	.593 (45.38)**	.088 (0.43)	.063 (0.46)

Chi-square values in parentheses; $df=1$ for all analyses.

* $p < .05$ ** $p < .01$.

^aSignificant relationship found in the opposite direction as seen by Harpster et al. (2009).

^bSample size too small to make bivariate comparisons.

The same finding from the replication portion of the study about the use of the word "just" remained true with 911 calls reported as suicides as well. There was no difference in the likelihood of the word "just" being used between the two types of calls ($\chi^2 (1, N=118)=0.11$ $p=.52$), but homicide staged as suicide callers said the word "just" on average 6.4 times during the call as compared to only 2.4 for callers reporting a true suicide ($t(116)=-2.47$, $p < .05$).

Table 3 illustrates the comparison between Harpster and colleagues' findings (2009) to the replication segment and the homicide stage as suicide segment of this study. The variables measuring (1) if there was an urgency to the plea for help and (2) voice modulation were the only relationships that had a significant Cramer's V; however, the relationship was in the opposite direction as compared to Harpster and colleagues' analyses.

For those variables in the current study where no relationship was found between the measured construct and the involvement of the caller, it could have been due to the current study's smaller sample size. Yet it is important to note that where there was not a significant relationship, Cramer's V, which measured the strength of the relationship, was not nearly as strong as what was seen by Harpster et al. (2009). Focusing on the expansion to suicide calls, there was agreement between the findings of Harpster et al. (2009) where the measure of delayed reaction (the "huh" factor) was seen more often in the homicide staged as suicide calls as compared to true suicide calls.

Discussion

The first objective of this study was to attempt to replicate the findings from previous work on deception in 911 homicide calls. Contrary to our hypothesis this study was unable to replicate the formative findings in the field by Harpster et al. (2009). In fact, when we did find a significant result between homicide offenders who called 911 without admitting to the crime and uninvolved 911 callers it was in the opposite direction of what was previously found. Voice modulation was more likely among homicide offenders, while calling only to notify of a dead body was more common among uninvolved callers. A more recent study found that providing extraneous information was the strongest predictor that a caller was involved in the homicide (Cromer et al., 2018), yet in the current study providing extraneous information was uncommon among the callers, and when it was given it was equally likely among the groups. We attempted to replicate a further finding from Cromer et al. (2018) about the importance of weapon touch in relationship to the likelihood the caller was involved, however, in the current study there were too few callers (3/175, 1.7%) that mentioned that had touched the weapon during the call to run comparative statistics.

The novelty in this study came with the introduction of homicide staged as suicide 911 calls as compared to true suicide calls. The findings demonstrated that the indicators seen in previous research about deception among 911 homicide callers, and even within the current study, cannot be applied to understanding the verbalizations of homicide staged as suicide 911 calls. There was not a single variable that overlapped within our analysis between homicides where the 911 caller reported it as a suicide and homicides that were reported as such to 911. Also, contrary to our expectations, mentioning that the victim was suicidal was rare in the calls of both true suicides and staged suicides, as was mentioning the mental health of the deceased. In fact, 911 callers who were reporting true suicides were more likely to specifically tell the dispatcher that it was a suicide. Offending callers who staged a homicide to appear as a suicide were significantly less likely to provide basic information on the location of the deceased. Offending callers of staged suicides used the word “just” more frequently in their interactions with the 911 dispatcher. They also were more likely to stall in responding to dispatchers’ questions, which supports the findings of Burns and Moffit (2014), along with what Harpster et al. (2009) called the “huh” factor.

With the exploration of 911 calls reported as homicides and 911 calls reported as suicides, the inclusion of new operationally devised constructs did not add any meaningful assistance to the differentiation of calls. Namely, mentioning the mental health or physical health of the deceased or calling out to a higher power were unrelated to the involvement of the caller in the death of the deceased. Moreover, we did not find a difference in cursing between involved and uninvolved callers as did Burns and Moffit (2014).

Operational Considerations

To ensure accuracy when coding we listened to the audio recordings, while reviewing the written transcripts of the call. This is also necessary when conducting an analysis

of a 911 call for an active homicide case. Listening, while reading the transcripts, allows law enforcement to detect emotion, stress, voice modulation, irritation, and potential background noise and other conversations. One can also evaluate their speech patterns and listen for any changes in their pace or any pauses or hesitation. One of these pauses was earlier identified as the “huh factor” (Harpster et al., 2009). The “huh factor,” or stalling in response to dispatcher’s questions, was present within our study only among those callers who tried to stage a homicide to look like a suicide. These speech pattern changes are not always present or appreciated when only reviewing the written transcripts.

Second, it is extremely valuable to be able to listen to the voice of the caller as they are explaining the incident. Non-offending callers who were reporting a homicide were less likely to have voice modulation and more likely to be calling to only report a dead body. For those calls reporting a suicide, non-offending callers were much more straightforward in their explanation to 911 dispatchers by specifically stating the death was a suicide (60% of the calls), as compared to callers who were staging a homicide as a suicide who only specifically stated it was a suicide in 22% of the calls.

The written transcripts also allow for a simple way to examine one facet of minimization. Minimization is defined as the use of the words “just” or “only” to create distance between the caller and the event (Harpster & Adams, 2017). In this present study, both offender and non-offender callers used the word “just” in the description of events. The importance was found to be the number of times the caller used the word “just”, which can be easily quantified using a transcript. In those cases of homicide staged as suicides, the caller used “just” 6.4 times compared to 2.4 times for non-offenders reporting a suicide, while in typical homicide 911 calls offenders used the word just an average of four times, as compared to 2.5 for non-involved callers.

While the application of research methods tries to ensure objectivity, there is still an inherent subjectivity in analyzing these calls, as noted by the level of agreement only reaching 72% for a few variables even as the coders are seasoned researchers and law enforcement professionals. This illustrates the importance of considering the call within the unique context of the facts of the case and the comparative analysis of additional statements made by the caller. In fact, deception detection research has led to the best practice of considering a baseline for how subjects provide truthful statements in similar settings to those where they are being deceptive (Vrij et al., 2010). Individual differences in the way people communicate and respond to trauma must be factored into an analysis of 911 calls in determining whether people are likely being deceptive.

Limitations and Future Directions

A large percentage (93%) of the sample’s true suicide calls came from military installations. True suicide 911 calls from the general public are difficult to obtain, which necessitated the incorporation of military suicide calls. This can limit the generalizability of the sample, so we strongly encourage future work to replicate these findings with suicide 911 calls from a wider segment of the population. Second, while the overall sample size is large, the number of calls within each group of 911 callers are

smaller than ideal, which limits the power to detect statistical differences. In an attempt to show the direction of our findings we included strength of association measures (Cramer's V). However, as the presented findings conflict with what is seen previously in the research literature, we urge continued inquiry so that law enforcement practitioners can choose from empirically driven techniques when they investigate homicide cases. Additionally, there were a few items with rates of agreement under 80%, which was surprising given the investigative experience of the coders. While we included those items with lower agreement in this analysis, as they were subsequently discussed and recoded, future work needs to explore the level of agreement between seasoned investigators on these concepts.

While we obtained calls from across the country, due to the small sample size within each of the four call categories, we did not examine how the results varied by geographic region. As the coders were blind to the regions of the country from where the calls, nor were caller accents measured, it was difficult to properly account for any regional differences in word use, for example in the repetitive use of the word "just." Future research should examine the use of "just" as an indicator for possible deception varies by region.

Conclusion

While studies thus far have had mixed results labeling which specific variables have a potential value to indicate possible deception within 911 calls in homicide investigations, there is still utility of using 911 calls as an investigative tool. According to Adcock and Chancellor (2016), one of the first steps in any death investigation is to eliminate the person who found the body or reported the crime as a suspect. Beyond the ability of comparing the story provided to the 911 call dispatcher with the facts of the case, this study revealed some significant findings that can help investigators use 911 calls as a possible starting point for establishing the direction of their investigation. Recognizing a deceptive caller through their audio or linguistic cues, could quickly direct police attention and scrutiny toward that caller. The research thus far, however, makes it unlikely a 911 call analysis alone could be used as direct evidence in a criminal proceeding as evidence of deception. Rather it is more likely that conflicting statements or admissions made under emotional distress following the crime, could be introduced as evidence in a criminal proceeding.

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Note

1. Interestingly, while there is a number of articles exploring the offender's use of staging, there was no empirical research found that explores the investigative clues that led to the staging being discovered.

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