Determining the Veracity of 911 Homicide Calls in the Metro-Phoenix Area Using COPS

Scale and Concordance

by

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ABSTRACT

Determining guilty parties in homicide cases is not always straight forward. The more tools investigators have to assist them, the better. 911 calls are often the least influenced form of linguistic evidence, in the sense that the caller has not yet been influenced by lawyers, law enforcement, etc.. This paper analyzes the reliability of using the Considering Offender Probability in Statements (COPS) scale and concordance program to evaluate veracity in 911 homicide calls. To do this, six 911 homicide calls from Mesa, Arizona were transcribed, evaluated based on the COPS scale, and put through a concordance program. The results showed high reliability with the COPS scale and varying reliability with the concordance program, with benefits and drawbacks to each. This study unveils the need for more research to be done on 911 calls.

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INTRODUCTION

I wanted to use the opportunity to write a thesis on something that I personally find very interesting and did not get to learn much about in my undergraduate and graduate courses: forensic linguistics. There are many topics in forensic linguistics, but I find deceit to be one of the more interesting ones. I also wanted to do research that could potentially contribute to helping society. I had heard about studies of detecting deceit that looked at body language and heard about studies of deceit in interrogations, so I wondered if there was a way to tell if someone was being dishonest based only on their language, which led me to 911 calls.

Before a case makes it to court, there are many ways in which suspects' stories can change. A big issue is interrogation contamination. For example, in a case where a man was trying to go back to prison, he tried to convince the police that he was the perpetrator of a murder. The police also wanted him to be guilty (because that would make their job easier), so they worded their questions in ways that gave clues to the suspect as to what he should say (Gaines, 2019). Because of instances like this, 911 calls are more likely to not be contaminated by others. In a conversation between the caller and the call taker, most of the responsibility is on the caller to carry the conversation by telling the call taker what happened, who was involved, where the incident took place, etc. very concisely. In comparison, in an interrogation or interview, law enforcement and/ or lawyers may be attempting to lead suspects to say (or not say) or allude to certain details. A 911 call is the least influenced language there is in a homicide case (although

dispatchers do influence the callers responses with the types of questions they ask), and law enforcement should have reliable resources to be able to effectively use 911 calls as evidence in their investigations.

Some research regarding indicators of guilt or innocence in 911 calls has already been done (Burns & Moffitt, 2014; Harpster, 2006; Adams & Harpster, 2008; Harpster et al., 2009). However, in most of these studies the majority of the calls came from Ohio or elsewhere in the Midwest. Furthermore, the most recent study, conducted in 2014, only had a data set of 50 calls. The next most recent study was conducted in 2009, a decade ago, and language changes. Taking another pool of data from a different part of the country (i.e. Arizona) and at a different point in time (i.e. 2014-2018) may yield different results or may provide additional indicators of innocence or guilt that were not evident in the previous study. This leads to the question: are the previously studied linguistic indicators of guilt or innocence present in 911 calls regarding homicides robust?

For this study, I analyzed six 911 calls from Mesa, Arizona. First, I transcribed the audio. Then, I compared their structure to the structure of typical 911 calls according to previous research. Next, I evaluated the caller's language based on the COPS scale. Finally, I used a concordance program to analyze the caller's speech word for word.

In the following chapter, I give a review of the existing literature relating to forensic linguistics, the structure of 911 calls, the history of the COPS scale, and a study that analyzed 911 calls at the word level. In Chapter 3, I talk about the design of this study in more detail. Chapter 4 includes the background and breakdown of each call.

Chapter 5 discusses the results of the study and implications for further research. Chapter

6 outlines the limitations of the study, and chapter 7 concludes the paper.

Chapter 2

REVIEW OF LITERATURE

Forensic linguistics refers to all areas where language and law come into contact

("Forensic Linguistics"). Analysis of legal documents, witness statements, police

interviews, consumer product warnings, copyright infringement allegations, and cases of

authorship and speaker identification all fall within the category of forensic linguistics. A

famous example in which forensic linguistics was used was in the case of the Unabomber

(Ted Kaczynski) in the 1970s. The Unabomber did a very good job of making his DNA

virtually untraceable. It was not until a criminal profiler from the FBI, James R.

Fitzgerald, began to analyze the Unabomber's manifesto in the 1990s that they were able

to narrow down who the Unabomber might be and ultimately find Ted Kaczyncki.

Within forensic linguistics is the realm of deception and deceit. Defining

deception is a difficult task, but the definition provided by Vrij (2000) covers the major

characteristics of an act of deception: "a successful or unsuccessful deliberate attempt,

without forewarning, to create in another a belief which the communicator considers to

be untrue". There are many different forms of deception and labels vary from researcher

to researcher. For example, Granhag & Strömwall (2004) discuss falsification, distortion,

and concealment while Buller et al. (1994) discuss falsification, concealment, and

equivocation instead of distortion. Falsifications are completely fabricated statements or

statements contradictory to the truth, distortions alter the truth in order to fit the

deceiver's goal, concealments are claims that the deceiver does not know or remember

the truth (Granhang & Strömwall, 2004), and equivocations use non-specific language

(Buller et al., 1994). Deceptive 911 calls can have acts of deception from any and all of these categories.

Structure of a 911 call

Emergency 911 calls usually comprise the following components (Imbens-Bailey & McCabe, 2000):

1. An opening sequence

2. A request sequence in which the caller tells the dispatcher some basic information about what happened to prompt the call and may ask for a specific type of aid

3. The dispatcher may then elicit further information if necessary

4. The dispatcher may then offer a response to the emergency

5. The dispatcher closes the exchange often with assurances that help is on the way

Any deviance from this general format is cause for suspicion. Looking at 911 calls from a conversational analysis point of view, flouting of any of the Gricean maxims would be highly concerning. The call taker expects the caller to be clear (maxim of manner), concise (maxim of quantity), truthful (maxim of quality), and relevant (maxim of relevance) (Grice, 1975).

History of the COPS Scale

Harpster et al. (2009) analyzed 100 911 calls (63 of the calls being from Ohio) for linguistic indicators of guilt and innocence. In this study they found 21 variables of innocence and guilt combined. The indicators of innocence studied were *plea for help, voice modulation[1], verbal reaction* and *self-correction*. The indicators of guilt were *extraneous information, inappropriate politeness, acceptance of death, acceptance of death when a relationship exists, possession of a problem, insulting or blaming the victim, minimizing, minimizing "just" in initial communication, the "huh" factor, repetition, conflicting facts*, and *resistance to answer*.

Table 1.

Indicators of Innocence (Linguistic indicators of innocence extracted from Harpster et al. (2009))

Variable	Description	Example
Plea for help	When the caller asks the call taker for assistance. There are also characteristics to the pleas. Usually, the plea is made very early on in the call, the plea is urgent in that it requests assistance arrive as soon as possible, and it is demanding.	Dispatcher: 911, what is your emergency? Caller: Get an ambulance to 4200 Dryden Road, my friend's been shot!

_____

[1] For this study, voice modulation was not measured formally, but rather impressionistically.

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Variable	Description	Example
Plea for help	When the caller asks the call taker for assistance. There are also characteristics to the pleas. Usually, the plea is made very early on in the call, the plea is urgent in that it requests assistance arrive as soon as possible, and it is demanding.	Dispatcher: 911, what is your emergency? Caller: Get an ambulance to 4200 Dryden Road, my friend's been shot!
Voice modulation	It is expected that an authentic caller of a homicide would express voice modulation, which shows inflection, change in tone, volume, and shows emotion.	
Voice reaction	In some cases, there is a recorded 1 to 1.5 second pause before the call taker initiates the call. In this pause one may be able to hear the caller reacting to the incident. A 'normal' reaction would be to show some sign of distress verbally.	Caller: Please! Please answer phone! Dispatcher: 911, what is your emerg...

Table 2.

Indicators of Guilt (Linguistic indicators of guilt extracted from Harpster et al. (2009))

Variable	Description	Example
Extraneous information	Extraneous information is information that flouts the maxim of relevance.	Dispatcher: How old is your son? Caller: He's only six, he's like ate an apple and he's burpin' it up, he's not, not, it's like a seizure type, we got in a, yea, <u>we got in a car wreck two months ago</u>. Here, the caller provides irrelevant information about getting into a car accident months ago, which does not seem to be related to the problem at hand. Additionally, the only information the call taker requested was the age of the caller's son.

Variable	Description	Example
Inappropriate Politeness	Politeness is usually not shown (or necessarily expected) during 911 calls. This is not to say that extreme rudeness is *expected*. Inappropriate politeness refers to greetings, like "hi" or "hello" or language that suggest the caller is putting effort toward producing face saving language (Harpster et al. 2009; Tracy & Tracy, 1998).	Dispatcher: 911, what's your emergency? Caller: <u>Hi</u>, I've been shot and my husband has been shot.
Acceptance of death	Acceptance of death is when the caller claims that the victim is dead without actually knowing if they are dead or not.	Dispatcher: 911, what's your emergency? Caller: I just heard a gunshot in the apartment next door and I went over… <u>my neighbor is dead</u>!
Acceptance of death when relationship exists	This is similar to the previous variable, except the caller knows the victim in some way. Denial is the first stage of grief (Kübler, 1997), so skipping it and accepting the death is unusual.	Dispatcher: 911, what's your emergency? Caller: I just got home from work and <u>my wife is laying dead</u> at the bottom of the stairs!
Possession of a problem	This refers to when a caller asserts that *he/she* has a problem, but does not request assistance. This is only when the caller uses "I".	'<u>I</u> have an unconscious friend.'

Variable	Description	Example
Insulting or blaming the victim	This is when the caller insults or blames the victim during the 911 call.	Dispatcher: Do you know what's wrong with your daughter? Caller: Not a clue. Dispatcher: Has she taken any medications? Caller: She might have, <u>she's very, very sneaky</u>. She threw a huge temper tantrum earlier; she might have taken something.
Minimizing	Minimizing refers to when the caller uses the word "just" when explaining his/her actions regarding the event.	Dispatcher: 911. Caller: Yes, yes… ahh, I got a man over here, he's, he's, he's been shot. Dispatcher: There's somebody there that's been shot? Caller: Yea, he's been it's been it's been, but he's in pain, real bad. Dispatcher: Ok where are you? Caller: I'm, uhh, uhh I don't know, I <u>just</u> been seeing him in his car.
Minimizing "just" in initial communication	This is similar to the previous variable, except this is when the use of "just" occurs in the first exchange with the call taker.	Dispatcher: 911, state the emergency. Caller: I, I, I <u>just</u> came home. My wife is on the floor and there's blood all over. I don't know what to do.

The "huh factor"	When a caller responds to the call taker's question with "huh?" or "what?". This does not apply if the caller is asking for clarification or cannot hear what the call taker has said. "These responses indicate that the caller appears to be caught completely off guard and is not tracking his or her own responses" (Harpster, 2006, as cited in Harpster et al., 2009).	Dispatcher: How many stairs did she fall down? Caller: <u>Huh?</u>
Repetition	Repetition refers to when the callers repeat utterances three or more times.	Caller: <u>Oh god, oh god, oh god, oh god</u>…
Conflicting facts	The caller provides contradictory information to what they had said before. This is different than self-correction in the sense that the caller has not learned any new information.	Dispatcher: How long has your baby not been breathing? Caller: <u>Just now</u>, she's been fine for the last few hours. Dispatcher: Has she been sick lately? Caller: No, <u>we were just sleeping and the phone woke me up</u>.
Resistance to answer	The caller does not cooperate with the call taker.	Dispatcher: Did something happen to her, was this more than just an argument? Caller: <u>That's all I'm trying to report</u>.

Harpster's research led to the creation of a scale for investigators to use when analyzing the veracity of a 911 call (see Appendix A). To use this scale, the investigator checks off the different variables found in the call he/she is analyzing. Then, the investigator looks to see if the call has more variables of innocence or guilt. While the

scale was most likely made to be broadly accessible, it is difficult to believe that such a simple scale could be reliably accurate. For one, not every variable has the same correlation strength to either guilt or innocence. For example, extraneous information is more strongly correlated with guilt than minimizing (Harpster et al., 2009). It is also disheartening to imagine that such a simplistic scale might be used to assist in proving someone guilty or innocent, especially when the consequence could be life in prison or even the death penalty (as it often is in homicide cases).

LIWC and 911 calls

       Burns & Moffit (2014) were able to take their own approach in determining the veracity of 911 calls using automated text analysis and different variables. They found that

       deceptive 911 callers will display: (a) higher use of third-person plural, (b) higher use of third-person singular, (c) more assent terms, (d) more negation terms, (e) more emotionally-charged swearing, (f) more inhibition words, and (g) lower use of first-person plural, (h) lower use of first-person singular, (i) less negative emotion, (j) less anxiety, (k) lower use of numbers, and (l) lower use of generic location details than truthful 911 callers.

Chapter 3

RESEARCH DESIGN

Audio of 911 calls from adjudicated homicide cases from the Mesa Police

Department records from 2014 to 2018 were transcribed. Calls from 2019 and 2020 were

not evaluated because these cases have not been adjudicated yet. In total, six calls were

evaluated. The geographic origin of this data is significant because it is different than the

origin of most of the data in Harpster et al. (2009). Differences in linguistic variation

across the United States could be impactful to the results of the COPS scale.

First, the calls were transcribed using broad Jeffersonian transcription as turn-

taking and the content of the utterances is what was focused on. While extremely detailed

transcription can be useful, for this specific project and efficacy purposes the calls were

transcribed with just enough detail to analyze the aforementioned indicators.

Furthermore, the audio themselves are the primary data; the transcriptions simply assist

in analyzing the calls (Cameron, 2001), so pauses and stress were not transcribed unless

they contrasted starkly with the rest of the participants' speech. Then, analysis was done

using results from Harpster et al. (2009). The COPS (Considering Offender Probability in

Statements) scale (Adams & Harpster, 2008) was used to predict whether or not the caller

was involved or uninvolved with the homicide. After determining the guilt or innocence

of the caller via the COPS scale, the actual verdicts of the cases were looked at.

Additionally, the data were put through a concordance program to find if the

results from the present study align with the linguistic inquiry and word count results

from Burns & Moffit (2014) described above.

Chapter 4

THE DATA AND RESULTS

I analyzed six 911 homicide calls which all took place in Mesa, Arizona. Two of the calls were made by males and four of the calls were made by females. All of the callers were over the age of eighteen. While not confirmed, it appears that two of the callers were not native English speakers. Gender, age, and language proficiency were not considered in this study, but I feel it important to note for transparency. When presenting each of these calls I first outline the structure of the call, then identify the features of each call according to the COPS scale.

Call #1

Caller #1 (see appendix B) was a woman calling in a shooting she heard in the next street over. Following the outline provided by Imbens-Bailey & McCabe (2000), there is an opening sequence, but it is very short: "911 emergency" (line 1). Then immediately, the call moves into the second portion of the call, where the caller provides information about what happened to prompt the call. This happens in lines 2-3: "uhhhmmm, I'm at ((address))[2]. There's, uh, shots being fired. It's a shotgun". The third phase of the call, where the dispatcher asks the caller for more information, takes up almost the entirety of the rest of the call. It lasts from line 4 to line 98.

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[2] Identifying information such as names, phone numbers, and addresses have been redacted to protect the privacy of the callers.

There is a moment (lines 15-16) where the dispatcher tells the caller she is sending help (phase 4), but then she continues to ask more information of the caller until line 98. Phase 5, the closing exchange, is initiated by the dispatcher, but she does not end the call with assurance that help is on the way because at this point the suspect is already in custody (line 117). This call generally follows the pattern for a 'normal' 911 call (Imbens-Bailey & McCabe, 2000). Following the COPS scale, the innocent and guilty features in this call are outlined below.

Table 3.

Features of Innocence in Call #1

Feature	Evidence
Relevant information	Nowhere in the conversation did the caller speak of anything not related to the call.
Correction of facts	Lines 20 - 28 are exchanges clarifying on which street the incident took place. Lines 111-114 where the caller explains that she can't see the victim, but that she hears him.
No acceptance of victim's death	Nowhere does the caller mention the victim or anyone's death.
Voice modulation	Although not transcribed, when listening to the calls, the caller's tone is not even.
Cooperation with dispatcher	The caller answers all of the dispatchers questions and clarifies miscommunications (line 73, for example). Nowhere does the caller not cooperate with the dispatcher.

Table 4.

Features of Guilt in Call #1

Feature	Evidence
No request for help for victim	The caller never asks for help for the victim. Although, it could be argued that by stating there is someone injured that that in itself is a request for help.
Polite and patient	The caller was not uncooperative and she did not demand or even ask anything of the dispatcher. She even closes with "thank you" (line 129).
Self-interruptions	There are several times when the caller stops her utterances and continues with an utterance different than the initial (e.g. lines 10, 38, and 107)

In total there are 5 innocent features and 3 guilty features. The difficulty with this call was determining if "help requested for victim" or "help requested for caller only" was more appropriate to fulfill the section "who was the call about?" of the COPS scale. In this call, the caller did not explicitly ask for help for herself nor for the victim, which made it extremely difficult to decide which one to choose, so that category was left out. Another difficulty came in choosing "concern for victim" or "insulting or blaming victim". The caller did not show any particular concern for the victim (she did not even mention a victim until line 13, after she was asked by the dispatcher), but she also did not show negative emotion toward the victim. Leaving out these two categories because of their ambiguity leaves the totals at 5 innocent features and 3 guilty features.

When the word count was analyzed, 5.16% of the words used by caller #1 were first-person singular pronouns, 4.08% were third-person singular pronouns, 2.99% were assent terms, 2.18% were negation, and 0% were first-person plural pronouns, third-person plural pronouns, swearing, inhibition words, and numbers[3]. Comparing these numbers to the results of Burns & Moffit (2014) it could be argued that this person was not involved with the shooting; there is high frequency of third-person singular, assent terms, negation, and first person singular.

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[3] Addresses, phone numbers, and ages were not included as numbers.

Figure 1a.

Percentage of total words
Call #1 Concordance Results

Figure 1b.

19
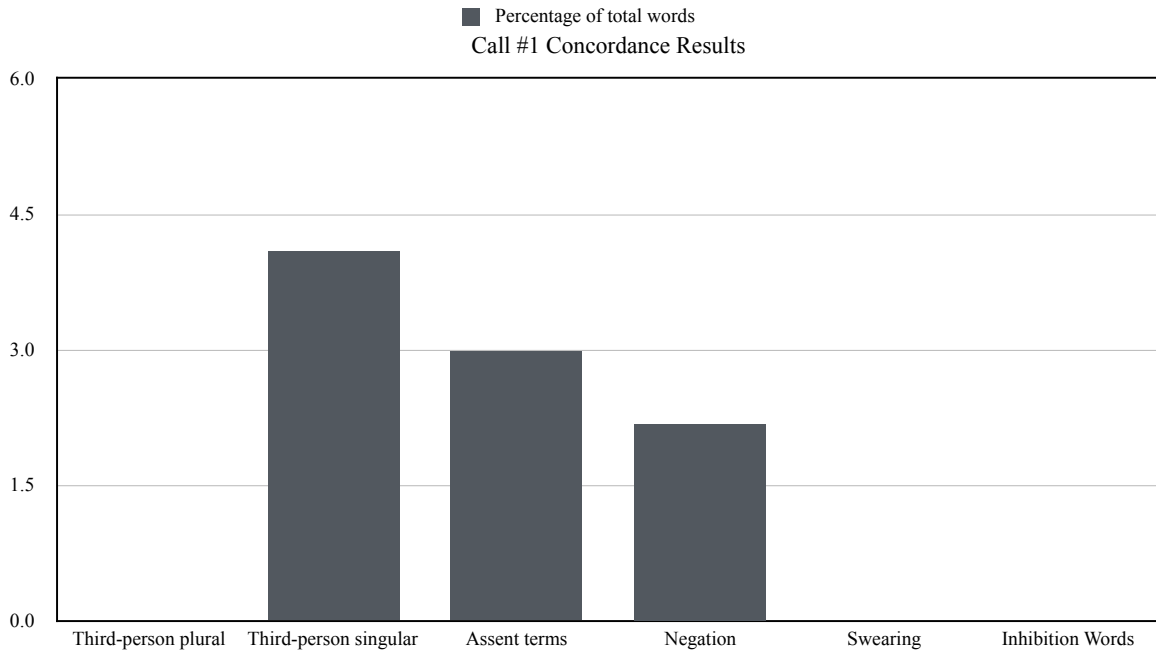
Call #2

   The structure of call #2 (see appendix C) is very similar to that of call #1.

Caller #2 was a man calling in a shooting he heard in the neighborhood. There is an

opening sequence, but it is very short: "911 emergency" (line 1). Then immediately, the

call moves into the second portion of the call. This happens in lines 2-5: "Ye- I have a

shooting over here on ((street name)) uh ((street name)) between uh ((street name)) and

uh ((street name)). Somebody has a rifle and he shot somebody in the car". The third

phase of the call takes up almost the entirety of the rest of the call. It lasts from line 6 to

line 156. Phase 4, the dispatcher's assurance that help is on the way, happens at line 53,
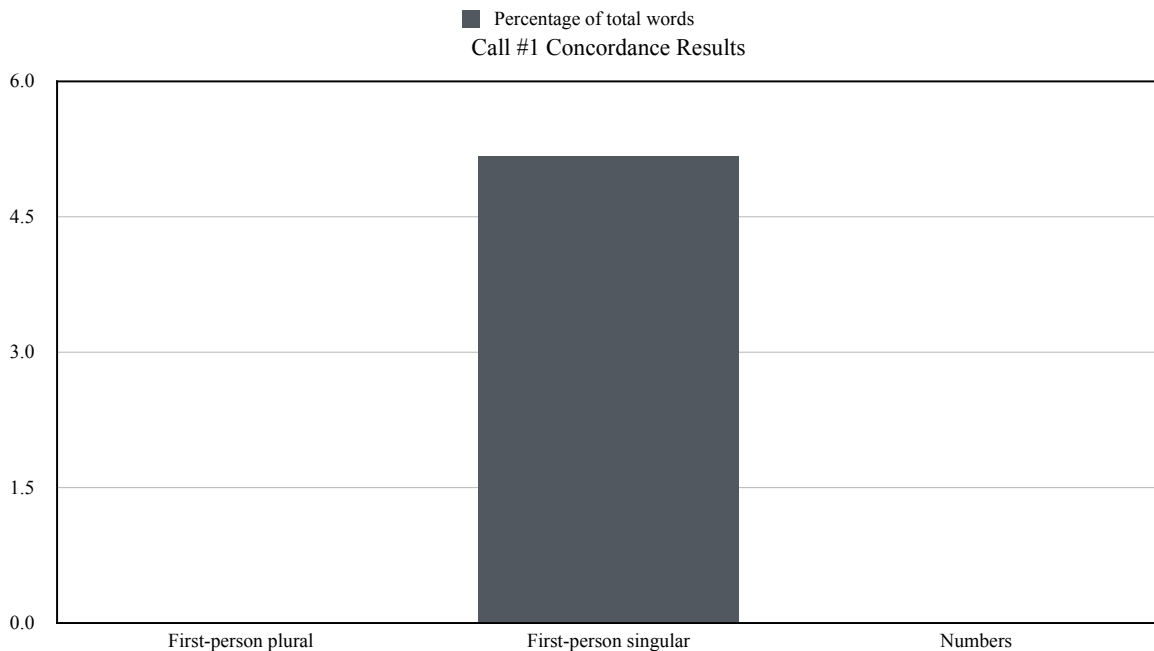
and then the dispatcher continues to ask more clarifying questions. The closing exchange is initiated by the dispatcher, but she does not end the call with assurance that help is on the way because first responders are already on scene (line 104). This call generally follows the pattern for a 'normal' 911 call (Imbens-Bailey & McCabe, 2000) and is very similar to call #1.

Following the COPS scale the innocent and guilty features in this call are outlined below.

Table 5.

Features of Innocence in Call #2

Feature	Evidence
Relevant information	Nowhere in the conversation did the caller speak of anything not related to the call.
Concern for victim	The caller mentioned there is a victim in his first turn (lines 4-5).
Correction of facts	In line 20 the caller clarifies where the shooter shot from. In line 48 the caller clarifies what he witnessed. In line 86 the caller clarifies what type of gun he saw.
No acceptance of victim's death	The caller does not say that the victim is dead. He only says someone was shot (lines 4-5) and that he was moaning (line 161).

Table 6.

Features of Guilt in Call #2.

| Feature	Evidence
Focus on caller's problem	In line 2, the caller says "I have a shooting".
No voice modulation	The caller was calm and collected throughout the call
Polite and patient	In one of his final turns he tells the dispatcher "thanks"
Self-interruptions	There are several times when the caller stops his utterances and continues with an utterance different than the initial (e.g. line 137)

For this call, there were 4 innocent features and 4 guilty features. The difficulty with this call was determining if "help requested for victim" or "help requested for caller only was more appropriate and if "focus on victim's survival" or "focus on caller's problem" was more appropriate. The focus of this call was on where the incident took place and helping law enforcement find the location of the suspect rather than tending to the victim, so there was not a focus on the victim to begin with. However, the focus was not on the caller's 'problem' either, which made choosing in those categories to be troublesome. Leaving them out left the features of innocence and guilt at a tie 4:4.

The word count of caller #2 showed 8.57% of their speech to be third-person singular pronouns, 3.1% to be first-person singular pronouns, 2.73% to show negation, 1.46% to be assent terms, and 0% to be first-person plural pronouns, third-person plural

pronouns, swearing, inhibition words, and numbers. Based on these proportions, caller #2 would be innocent.

Figure 2a.
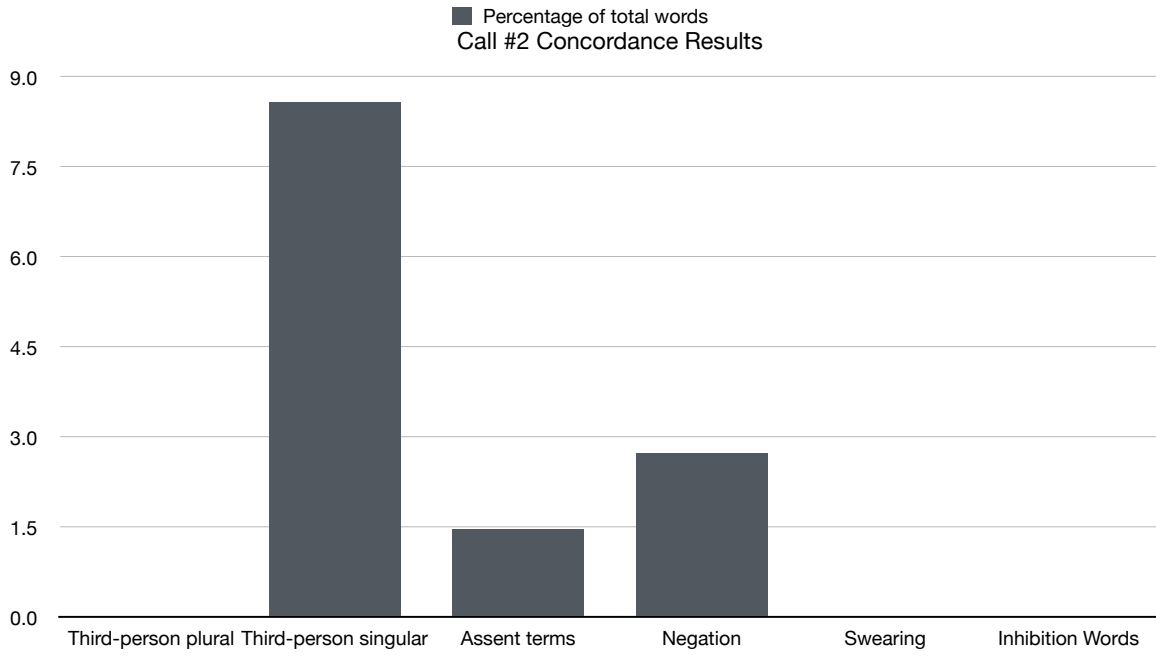
Figure 2b.
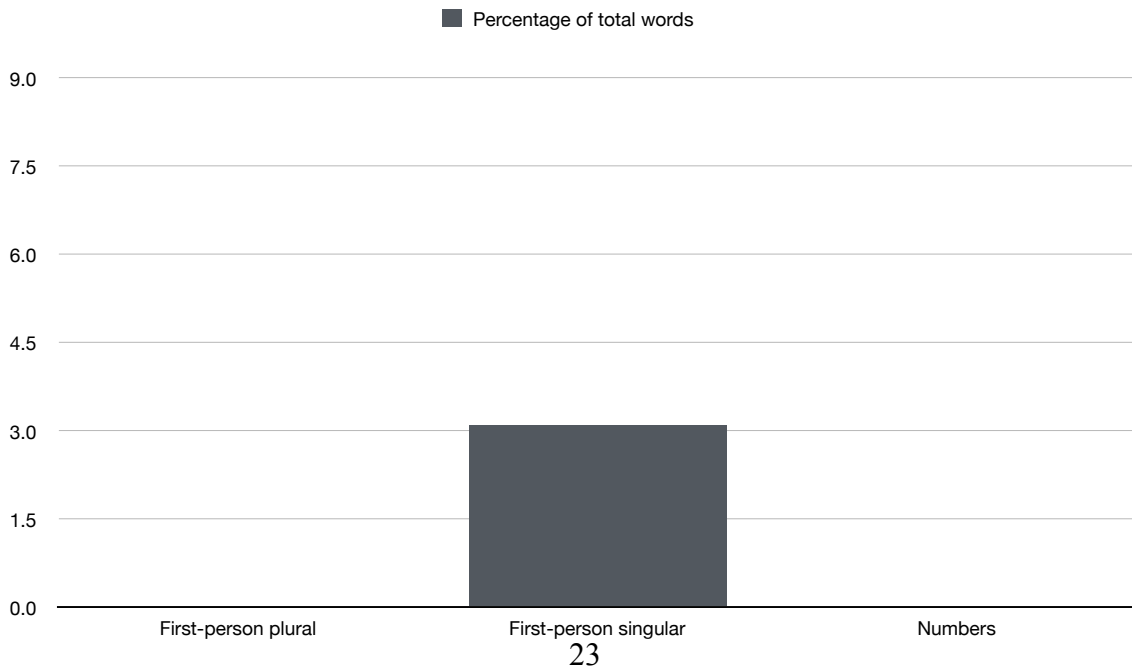
Call #3

The structure of call #3 (see appendix D) is very similar to the other calls. Caller #3 was a woman calling in a dead body she found while making deliveries. There is an opening sequence, but it is very short: "911 emergency" (line 2). Then immediately, the call moves into the second portion of the call (lines 3-8). The third phase of the call takes up almost the entirety of the rest of the call. It lasts from line 9 to line 78. The first assurance from the dispatcher that help is on the way happens at line 59, and then the dispatcher continues to ask more clarifying questions. The closing exchange is initiated by the dispatcher, but she does not end the call with assurance that help is on the way because before the call is ended the dispatcher makes sure police officers are at the scene (line 94). This call generally follows the pattern for a 'normal' 911 call (Imbens-Bailey & McCabe, 2000) and is very similar to call #1.

Following the COPS scale the innocent and guilty features in this call are outlined below.

Table 7.

Features of Innocence in Call #3

Feature	Evidence
Concern for victim	In the caller's first turn, she explains that there is a victim and he appears to be injured (lines 3-8)
Correction of facts	In lines 10-11 the caller looks up the exact address. In line 31 the caller offers to go back to the body and check where the blood was coming from.
No acceptance of victim's death	Although the caller reported large amounts of blood, she never said he had died.
Voice modulation	Although not transcribed, the caller's voice was shaky throughout the call, especially in the beginning. Additionally, she was breathing very heavily.
Cooperation with dispatcher	The caller answered all of the dispatcher's questions and followed all of the dispatchers directions.

Table 8.

Features of Guilt in Call #3

Feature	Evidence
Extraneous information	In line 83 the dispatcher asks the caller if she normally uses the front door. She says "yes", but then continues in lines 88-89 that she's a klutz.
Polite and patient	In line 10 the caller says "I'm sorry". In line 67 the dispatcher apologizes for not having heard what the caller said, to which the caller responds with "no, it's okay. It's loud out here" (line 70).
Self- interruptions	Line 6: "he's on the gr- sidewalk…"

Call #3 had 5 innocent features and 3 guilty features. 3 categories were left out because of the difficulty in making a decision. "Request for help for victim" and "no request for help for victim" were difficult to choose between because the caller did not explicitly ask for help for the victim, although the state of the victim is what prompted the call. Since help was not explicitly asked for, I did not want to be presumptuous and assume that the caller made the call to help the victim. However, the state of the victim is what prompted the call, and stating there is someone lying on the floor bleeding could be an instance of semantic implicature. Ultimately, I decided it would be most fair to omit that category. Similarly, it was difficult to choose between "help requested for victim" and "help requested for caller only". As previously mentioned, the caller did not

explicitly ask for help for the victim, but the caller also did not ask for help for herself, so this category was also omitted. Lastly, "focus on victim's survival" and "focus on caller's problem" posed difficulties. Although the caller never explicitly accepts the death of the victim, based on how she described him, he was probably dead. The victim would need to be showing signs of life for there to be a focus on the victim's survival. The caller was not focused on her "problem" during the call, though, which lead to the decision to omit this category.

2.84% of this caller's speech was third-person singular pronouns, 2.02% negation words, 1.81% assent terms, .52% third-person plural pronouns, .52% inhibition words, .52% numbers, and 0% first-person plural pronouns and swearing. Surprisingly, first-person singular pronouns occurred in 12.12% of this caller's speech. Looking at the large amount of first-person singular and the comparatively smaller amounts of other elements of speech, this caller would appear to be guilty.

Figure 3a.

Percentage of total words
Call #3 Concordance Results

14.0	
12.0	
10.0	
8.0	
6.0	
4.0	
2.0	
0.0	

First-person plural   First-person singular   Numbers

Figure 3b.

Percentage of total words
Call #3 Concordance Results

14	
12	
10	
8	
6	
4	
2	
0	

Third-person plural   Third-person singular   Assent terms   Negation   Swearing   Inhibition Words
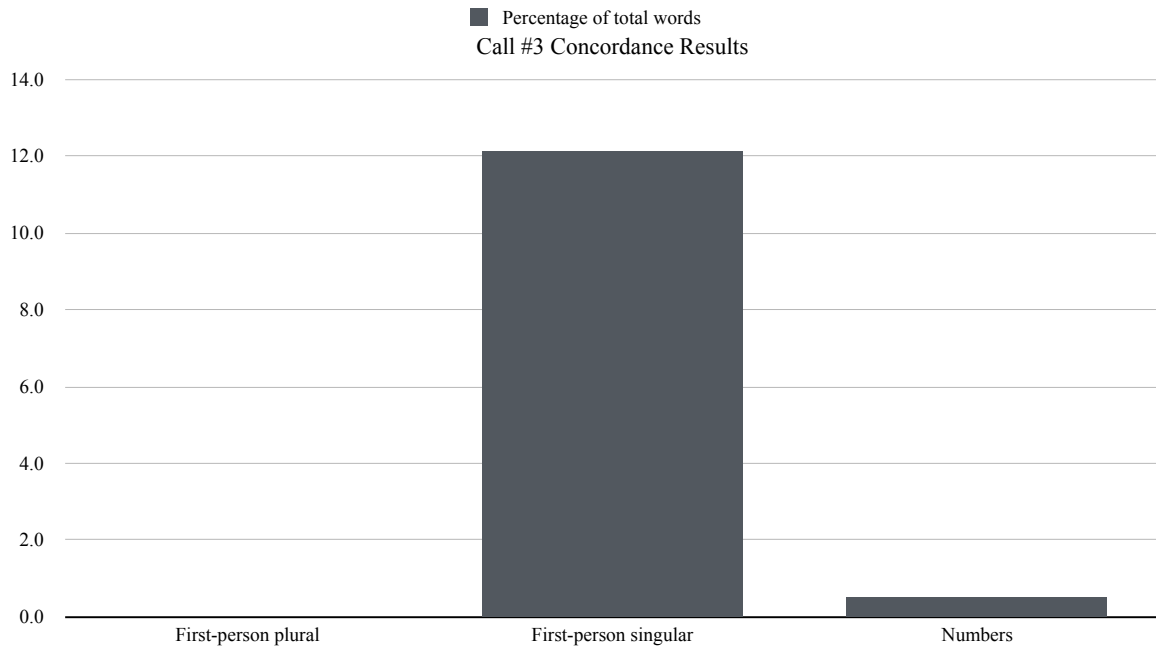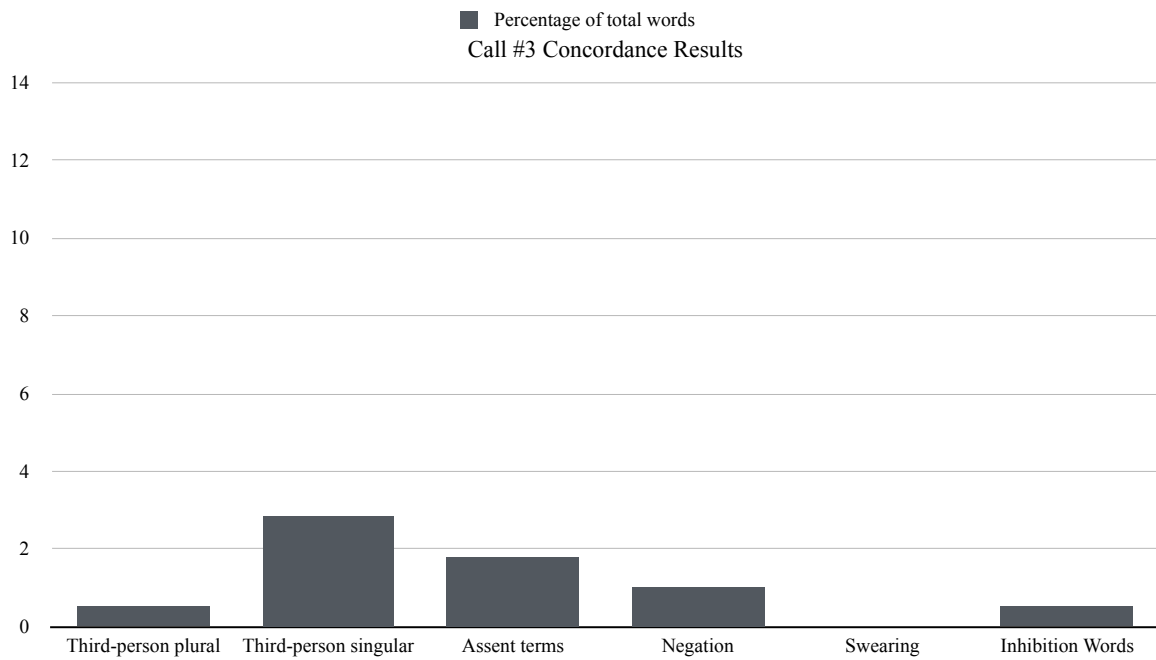
Call #4

   Caller #4 (see appendix E) was a man calling in a body he found on the side of

the road. There is a short opening sequence: "Mesa Police, how may I help you?" (line 1)

and "hello, how can I help you?" (line 3). Then, the call moves into the second portion of

the call (lines 4-6). The third phase of the call takes up almost the entirety of the rest of

the call. It lasts from line 7 to line 71. The dispatcher tells the caller that help is on the

way at line 82 and initiates the closing exchange. This call follows the pattern for a

'normal' 911 call (Imbens-Bailey & McCabe, 2000) more closely than the three previous

calls.

   Following the COPS scale, the innocent and guilty features in this call are

outlined below.

Table 9.

Features of Innocence in Call #4

Features	Evidence
Request for help for victim	The call was focused on getting officers to the scene to check on the body.
Relevant information	The caller only gives information pertaining to the man he found and the dispatcher's questions
Concern for victim	The victim was the subject of the conversation, and the caller decides to stay on the scene to wait for police to arrive (line 76).
Correction of facts	The communication between the dispatcher and caller is not very clear. The caller is persistent in making sure the dispatcher understands him correctly (e.g. line 13, 26, 31, 39)
No acceptance of victim's death	The caller repeatedly states that he does not know if the man is asleep or dead (lines 5, 15, 17, 22, and 52).
Cooperation with dispatcher	The caller answers the dispatcher's questions.

Table 10.

Features of Guilt in Call #4

Features	Evidence
No voice modulation	The caller was calm and collected throughout the call with the exception of line 30.
Polite and patient	The caller did not appear to be frustrated with the dispatcher even though she was not understanding him. He opens the call with "how are you ma'am?" (line 2), calls the dispatcher "ma'am" (e.g. lines 2 and 83) and ends with "thank you thank you" (line 88).
Self-interruption	e.g. lines 20, 35, and 44.

This call had 6 innocent features and 3 guilty features. Determining between "focus on victim's survival" and "focus on caller's problem" was troublesome. The caller repeatedly said he was not sure if the victim was sleeping or dead, and as far all the call alludes, he did not check to see if the victim was conscious or not, but the caller did not seem to treat this as a problem; he offered to stay until police arrived. Because of this, this category was omitted.

Figure 4a.
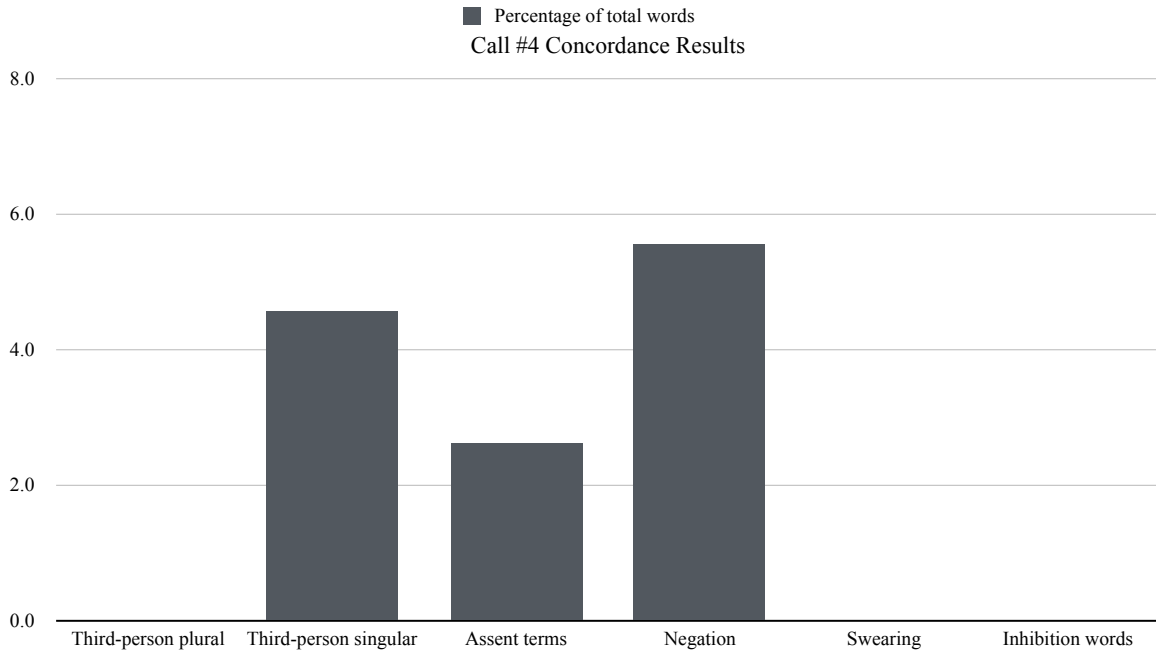
Figure 4b.
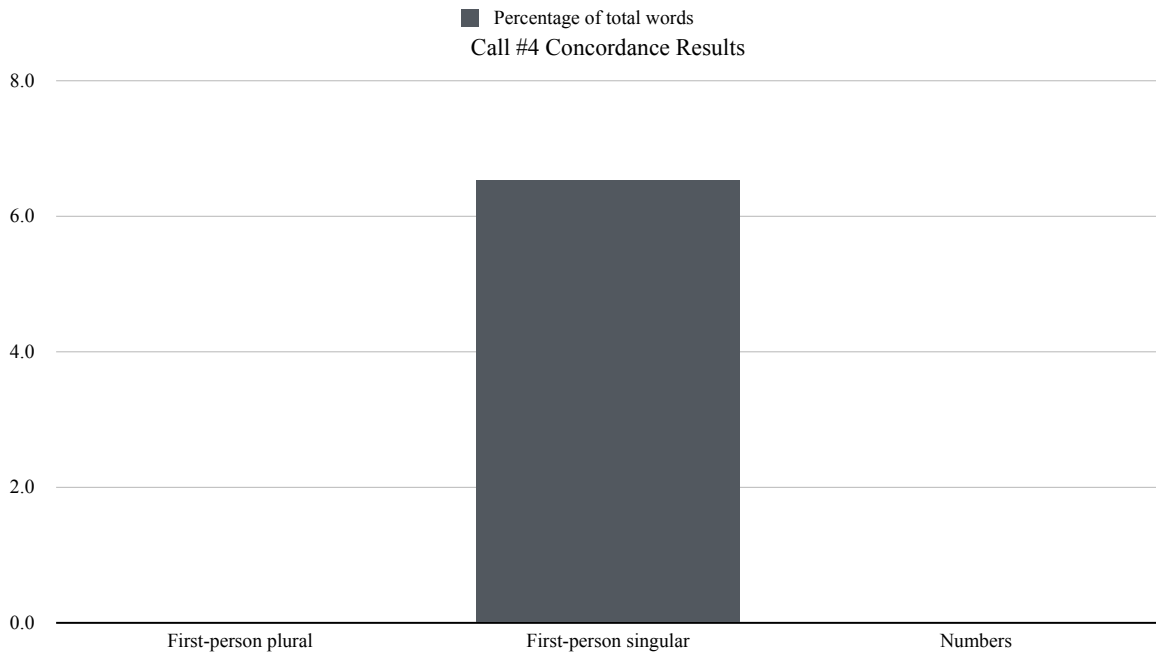
Call #5

Caller #5 (see appendix F) was a woman calling in a stabbing that had just occurred outside of her workplace. There is a short opening sequence: "911 emergency" (line 1) to which the caller responds with "uhm yes" and then moves on to explain the situation (lines 2-5). The third phase of the call takes up almost the entirety of the rest of the call. It lasts from line 6 to line 46. The dispatcher tells the caller that help is on the way at line 64 and seems ready to initiate the closing exchange, but the caller causes a delay in that (line 73). She says she is leaving because her shift is almost over. The dispatcher spends the next few turns trying to convince the caller to stay so that an officer can speak to her. Finally, the dispatcher initiates the closing exchange in line 88. This call follows the general pattern for a 'normal' 911 call (Imbens-Bailey & McCabe, 2000).

Following the COPS scale, the innocent and guilty features in this call are outlined below.

Table 11.

Features of Innocence in Call #5.

Features	Evidence
Request for help for victim	Line 13-15: "...lot of blood if you guys could like make it"
Relevant information	Everything the caller said pertained to the situation and answered the dispatcher's inquires.
Concern for victim	Line 13-15: "...lot of blood if you guys could like make it", line 22: "...he's honestly agonizing right now…", line 38: "... he's laid on the floor literally he can't get up at all", line 52: "...he's uhm agonizing right now"
Focus on victim's survival	Lines 13-15: "Uhm there's somebody else that's helping him and he has a lot of blood like if you guys could like make it"
Help requested for victim	Line 13: "...lot of blood if you guys could like make it"
No acceptance of victim's death	The caller frequently mentions the amount of blood and that the victim is in pain, but she does not say that he is dead or going to die.
Urgently, rudely demanding	Line 14: "... if you guys could like make it", and in the other segments where she mentions the amount of blood present

Table 12.

Features of Guilt in Call #5.

Features	Evidence
No voice modulation	The caller did seem nervous, but she still spoke relatively calmly.
Resists cooperation	When the dispatcher asked the caller to say for the officers to contact her, she was reluctant. This part of the conversation lasted from lines 75- 93.
Self-interruptions	e.g. lines 5 and 8

This call had 7 guilty features and 3 innocent features. An interesting part of this call was the section where the caller resists cooperation. Toward the end of the conversation the dispatcher asks the caller to stay for an officer to talk to the caller because she was the first one to call in the incident. The caller is reluctant and she and the dispatcher take a few turns until the caller eventually agrees to stay. Unlike the other calls, this one did not pose much difficulty.

Caller #5 used 5.0% first-person singular pronouns, 4.72% third-person singular pronouns, 1.95% negation, 1.59% first-person plural pronouns, 1.39% assent terms, and 0% third-person plural pronouns, swearing, inhibition words and numbers. The large usage of third-person singular is cause for suspicion.

Figure 5a.

Percentage of total words
Call #5 Concordance Results

Figure 5b.

Percentage of total words
Call #5 Concordance Results
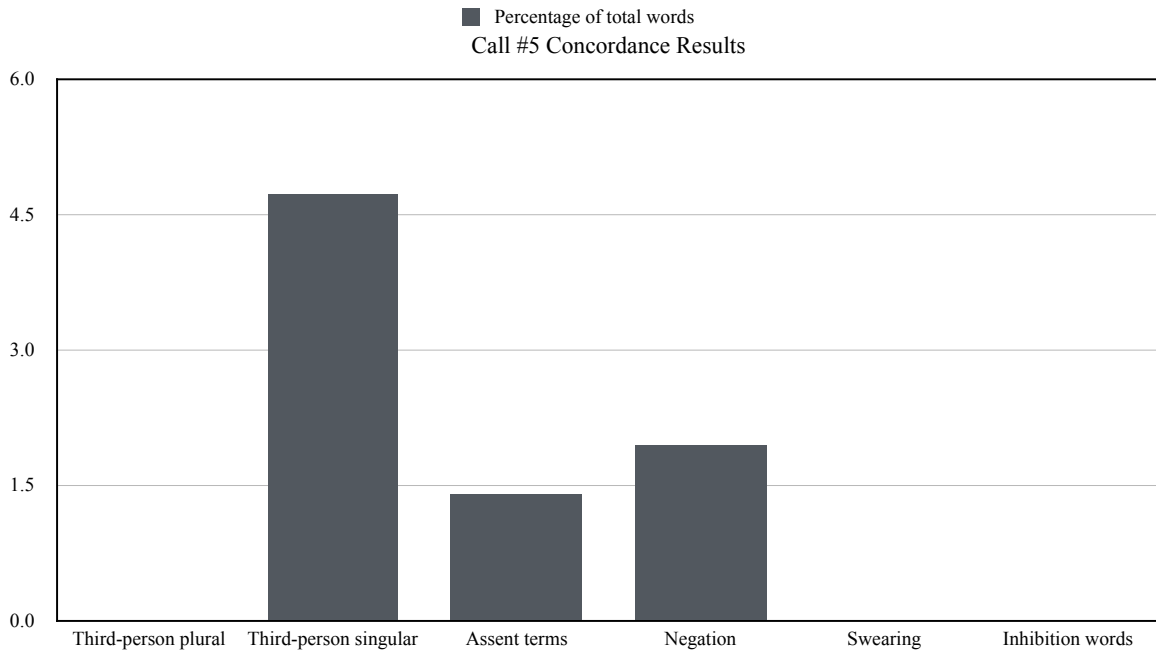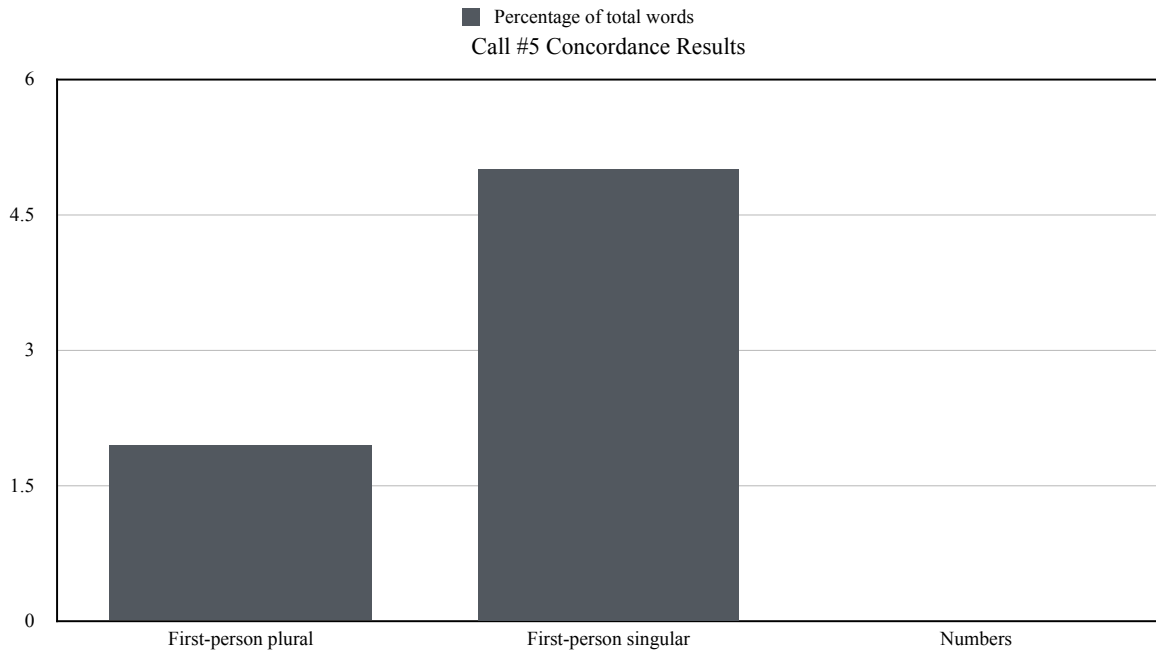
Call #6

        Caller #6 (see appendix G) was a woman calling in a stabbing that had just occurred outside of her workplace. There is no opening sequence in the traditional sense. The caller immediately starts speaking before the dispatcher and explains what had happened. The dispatcher then requests more information from lines 5- 78. The first assurance that help is on the way occurs at line 16. The dispatcher initiates the closing exchange in line 116, after police have already arrived. This call follows the general pattern for a 'normal' 911 call (Imbens-Bailey & McCabe, 2000).

        Following the COPS scale, the innocent and guilty features in this call are outlined below.

Table 13.

Features of Innocence in Call #6.

Features	Evidence
Relevant information	The information the caller provides is all related to the situation at hand.
Concern for victim	Line 62: "I hope she's not dying"
No acceptance of victim's death	Line 62: "I hope she's not dying"
Voice modulation	The caller is very frantic and raises her voice frequently throughout the call (e.g. lines 1, 11, 15, 18, 22)
Cooperation with dispatcher	The caller answered the dispatcher's questions and followed her guidance.

Table 14.

Features of Guilt in Call #6.

Features	Evidence
Self-interruptions	e.g. lines 30 and 45- 46.

This call had 5 innocent features and 1 guilty feature. The caller did not explicitly request help for the victim, but was most likely calling because the victim needed help, so this category was omitted because of its ambiguity. It was hard to determine if the caller was "urgently, rudely demanding" or "polite and patient". She was clearly distraught and had overlapping speech with the dispatcher, but she also did not curse and answered the dispatcher's questions. Because the caller was not starkly rude or starkly polite, this category was omitted.

Caller #6's speech was comprised of 5.59% third-person singular, 4.53% assent terms, 4.18% first-person plural, 3.84% negation words, 3.83% first-person singular, and 0% third-person plural, swearing, inhibition words, and numbers. Looking at only these results, there could be arguments made for the caller's potential innocence or the caller's potential guilt.

Figure 6a.

Call #6 Concordance Results
■ Percentage of total words

Figure 6b.

Call #6 Concordance Results
■ Percentage of total words

39

Chapter 5
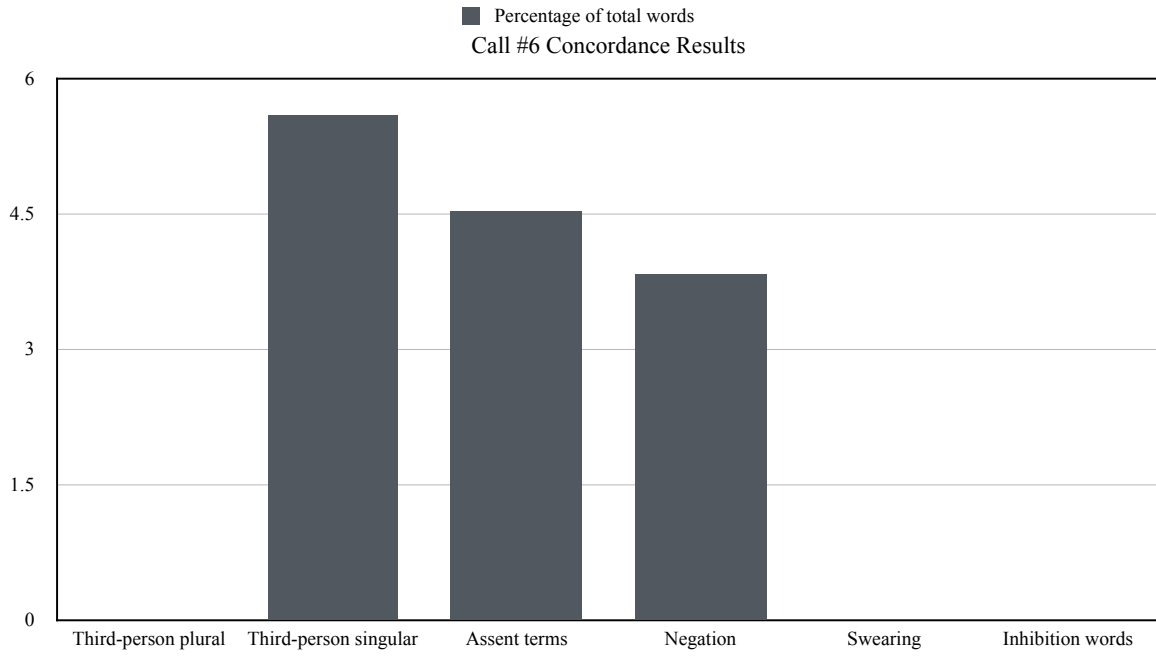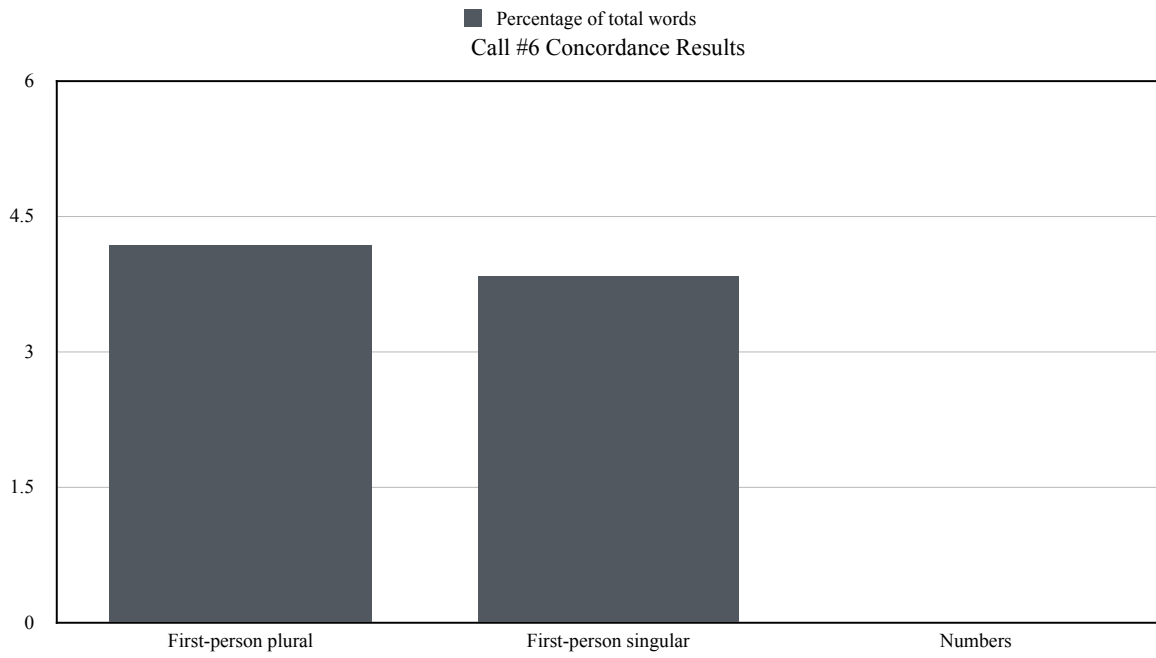
DISCUSSION

The COPS scale was accurate. Of the 6 calls evaluated, the checklist matched

the adjudications of all of the cases. However, as a user, I found some parts of the COPS

scale to be a bit problematic. The "concern for victim" vs "insulting or blaming victim",

"help requested for victim" vs "help requested for caller only", and "focus on victim's

survival" vs "focus on caller's problem" were the most difficult to assess categories.

Some calls simply did not address some of these categories.

The callers in call 1 and 2 did not show particular concern for the victim, nor

did they show any disdain toward the victim. It could be argued that all of the callers

were concerned for the victim to some extent because they decided to call 911. However,

the callers in calls 5 and 6 were the only ones who *explicitly* expressed concern for the

injured parties. Caller 5 says "there's somebody else that's helping him and he has a lot of

blood like if you guys could like make it" (also showing a sense of urgency) after only a

few exchanges with the dispatcher. Caller 6 says "I hope she's not dying" deep into the

conversation with the dispatcher.

None of the callers explicitly requested help for themselves or for the victim.

They appeared to have approached the conversation by presenting information to the

dispatcher and letting the dispatcher decide where the conversation should go next,

contrary to previous research which argued that the caller carries the conversation. The

following are the opening statements from the callers.

Caller 1: "There's, uh, shots being fired."

Caller 2: "I have a shooting over here on ((address)) between uh ((street name)) and uh ((street name))"

Caller 4: "I found eh there's a guy asleep or die on side of the road I don't know"

Finally, the focus of the calls were not on the victim's survival. They were mostly focused on getting the first responders to the correct location with the correct amount of preparedness rather than attending to the victim. The fifth most used word by caller 4 was "East", which shows that much of the speech was focused on location. In the calls, there were a couple of 'check ins', such as the dispatcher asking if the victim was still conscious, but at no time in any of the calls did the dispatcher give guidance on how the caller or someone else nearby could assist the victim nor did they encourage it. However, there also was not an emphasis on the caller having a problem.

Leaving these categories untouched can either leave an equal number of both guilty and innocent factors or forces the investigator to choose one over the other without enough linguistic evidence.

The results of the concordance were surprising. According to Burns & Moffit (2014) deceptive callers use a higher use of third-person plural, third-person singular, assent terms (agreeing with the dispatcher), negation, swearing, and more inhibition words (telling the dispatcher to wait or hold on) and a lower use of first-person plural, first-person singular, and numbers.

Figure 7a.

Total Concordance Results

Figure 7b.

Total Concordance Results
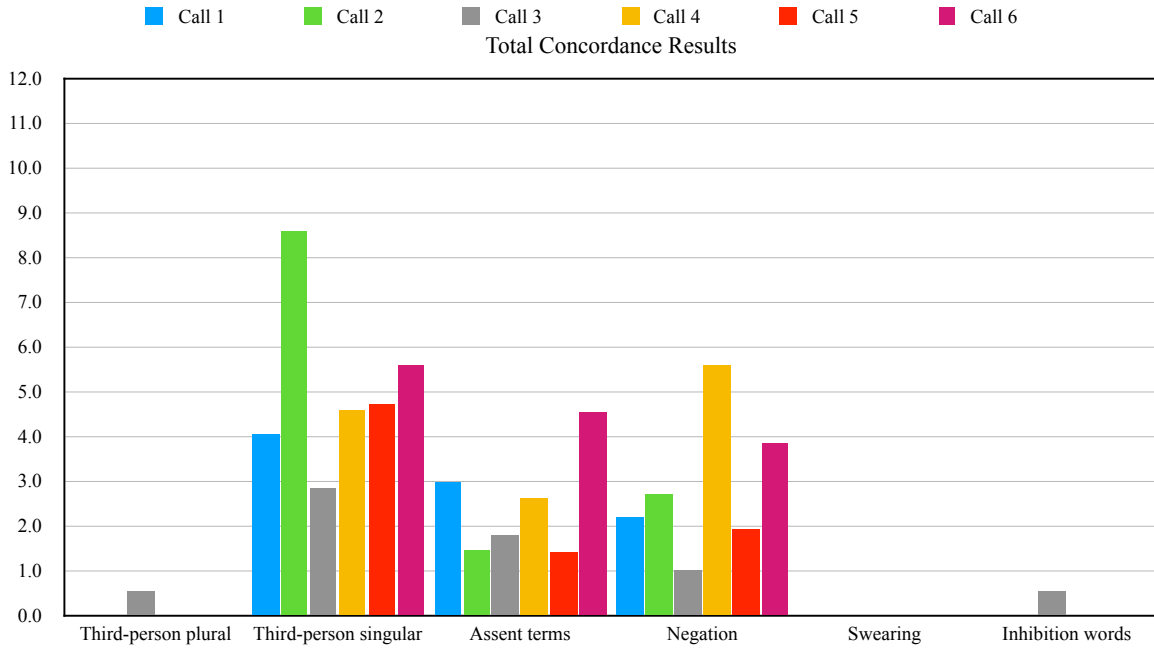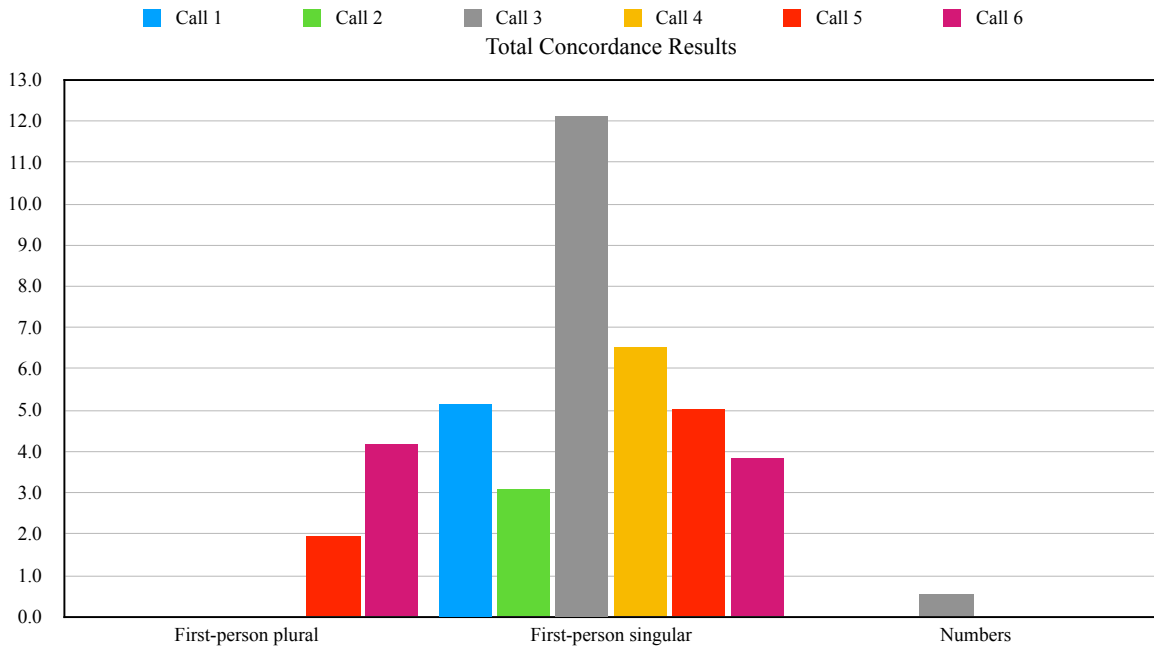
All of the callers were innocent, but the results show how varying these factors can be. The caller in call 2 would appear to be guilty based on their language. They have the highest use of third-person singular, a lot of negation, and a moderate amount of first-person singular. This study shows that using each of these techniques in isolation can be problematic.

Chapter 6

LIMITATIONS

This study has many limitations. It is limited by the geographical distribution of

the calls since 100% of the calls were from the metro-Phoenix area, namely Mesa. This

potentially limits any diversity there may be in regards to linguistic variation. This study

also relied on the work of the Mesa Police Department, which took longer than expected

to provide the requested data. Because of this, only 6 calls were able to be analyzed,

which is a very small sample size. In this sample, 100% of the callers were determined to

be innocent. Comparing the results of innocent callers to guilty callers would be

immensely useful. Future research on this topic would be beneficial using different

samples of data (from a different geographical location, for example), larger samples of

data, and/ or perhaps different methods of measuring the data.

Costs

There was a cost associated with obtaining the data. The Mesa Police Department

charges a fee for requesting police reports ($5 per report), an additional fee for reports

over 50 pages long ($.50 per additional page), and an additional fee for 911 call audio

($10 per call). While these numbers appear small at first, they quickly add up.

Chapter 7

CONCLUSION

911 calls are unique in the way that callers' responses are more 'raw' than they would be in an interrogation or in court. While the questions the dispatcher asks guides the caller's responses, they are not being guided by officers or lawyers. There are a variety of ways to analyze these calls. Two methods are the COPS (Considering Offender Probability in Statements) scale and automatic text analysis. For this study, six calls from Mesa, Arizona were evaluated using both the COPS scale and automated text analysis. It appears that not all of the callers were native English speakers.

Both the COPS scale and automated text analysis have benefits and drawbacks. The COPS scale is simple and easy to use, but this simplicity can sometimes be too simple. Not all calls fill every category on the scale and when they do not, the scale becomes difficult to use. The text analyzer provides lots of detail, but the results are extremely diverse depending on the call. It is paramount that when using a text analyzer that the calls are read or listened to. Without the context or content of the call, it can be easy to jump to conclusions based on the parts of speech of a caller. This study worked with a small sample size with 100% of the callers being innocent; having a larger sample size and guilty callers would be highly beneficial.

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APPENDIX A

COPS SCALE

911 COPS (Considering Offender Probability in Statements) Scale

To use the COPS Scale, investigators simply place a mark at the appropriate end (toward guilty or innocent) of the line corresponding with each descriptor and then determine the side on which the majority of marks appear. In the following example, most of the marks indicated guilt. The caller later confessed to coercing her boyfriend into killing her husband.

> *Dispatcher*: 911. What is your emergency?
> *Caller*: Please help me!
> *Dispatcher*: What's going on?
> *Caller*: My husb.... I just walked in the house. My husband's dead!
> *Dispatcher*: Ma'am, how do you know he's dead?
> *Caller*: He's not breathing. He's cold!
> *Dispatcher*: OK. We're on our way to help you.
> *Caller*: Please help me! Please help me! Please help me!
> *Dispatcher*: OK. Stay on the line with me.
> *Caller*: He's dead! Somebody shot my husband! I just got home.
> Please help me! I don't know how long he's been dead.

Innocent Callers   **Guilty Callers**

What was the call about?

Innocent Callers		Guilty Callers
Request for help for victim	----------------------- [√]	No request for help for victim
Relevant information	----------------------- [√]	Extraneous information
Concern for victim	----------------------- [ ]	Insulting or blaming victim
Correction of facts	----------------------- [ ]	Conflicting facts

Who was the call about?

Innocent Callers		Guilty Callers
Help requested for victim	----------------------- [√]	Help requested for caller only
Focus on victim's survival	----------------------- [ ]	Focus on caller's problem
No acceptance of victim's deaths	----------------------- [√]	Acceptance of victim's death

How was the call made?

Innocent Callers		Guilty Callers
Voice modulation	[√] -----------------------	No voice modulation
Urgently, rudely demanding	-----------------------	Polite and patient
Cooperation with dispatcher	-----------------------	Resists cooperation
No self-interruptions	----------------------- [√]	Self-interruptions

48

APPENDIX B

CALL #1

```
 1  D   911 emergency
```

 2 C   uhm: I'm at ((address)) There's uh shots being

 3   fired It's a shotgun

 4 D   Okay ((address)) in Mesa, correct?

 5 C   [Yes it's on the next street over]

 6 D   [()] Oh, it's a different street than yours?

 7 C   Ye- it's the next street I think it's ((street name))

 8   and

 9 D   -() shotgun or that's what it sounds like?

10 C   Ye- No it's the guy with a uhm red () and he's got a

11   gun

12 D   And nobody's injured that you know of, right?=

13 C   =No there's somebody injured

14 D   You think someone's been shot?=

15 C   =Yes yes

16 D   Okay and just stay on the line I have police I'm

17   getting paramedics started okay?=

18 C   =[Okay]

19 D   [And is the street East] West North of you?

20 C   It is uh West of me and the guy just went over- he's

21   at the last uhm door (.) at the top

22 D   So that- he's at an apartment or a house?

23 C   It's a house- uhhh apartment building I think it's

```
24  D   ((Redacted))?

25  C   I I believe so

26  D   Uh ((street name)) is the street that's very west of

27      you Is it that [one]?

28  C   [Okay] then it's ((street name))

29  D   Okay

30      ((typing))

31  D   And the person with the gun is in a car? Or

32      [something else]?

33  C   [No] he jumped out of the car and he's upstairs in

34      the last uhm the upstairs at the closest- the door

35      closest to the uhm stairs

36  D   Okay so he's now upstairs at the apartments that's

37      facing ((street name)) [correct]?

38  C   [Yeah] I think- yes and he's uhm- he's on the phone I

39      don't know who

40  D   And where is the shotgun now do you know?

41  C   Uhm it's in front of the door

42  D   And the person that was shot do you know where

43      they're at?

44  C   They're over by the car

45  D   What color and type of car is it?

46  C   It's a red Honda hatchback
```

47 D   Is that the car he got out of?

48 C   Yes

49 D   Okay

50 C   The shooter

51 D   And I want you to stay inside where you're safe but

52   can you see the plate on that car from where you're

53   at?

54 C   No I can't Eh- it's facing me Uh I can't see [it]

55 D   [Is] it parked on ((street name))?

56 C   [No it's not]

57 D   It's not Okay

58   ()

59 C   There's a chain link fence between us

60 D   So it's in the apartment property?

61 C   Yes it's in the middle of the drive- uh the middle of

62   the parking lot not in the parking spot (.) I heard

63   yelling and shooting

64 D   Okay and the male with the shotgun what race is he?

65 C   Hispanic or light black

66 D   And how old would you say?

67 C   uh in his twenties

68 D   And did you see what color shirt and pants?

69 C   He's wearing a white wife beater

70 D   Okay ((typing)) Did you see what color shorts?

71 C   He's wearing black shorts and black tennis shoes

72 D   And his hair?

73 C   Short

74 D   Short black hair?

75 C   mhm

76 D   And did you see him fire the shotgun at the other

77   guy?

78 C   Ye- uh you know what honestly I can't tell if it's a

79   Shotgun or- it's long barrel rifle

80 D   It's not a handgun

81 C   No it's not a handgun

82 D   And the- the officers they're asking uhm if you can

83   tell the building number or apartment number that he

84   went into from where you're at

85 C   I can't he's standing in the door

86 D   He's standing in the doorway?

87 C   Yes

88 D   Does that doorway face ((street name)) then?

89 C   It uhm- it faces the- an empty lot

90 D   Okay

91 C   But I live on ((street name)) and there's a clear

92   view from my house since I have like the only house

```
93  D    So the apartment is off of ((street name)) but it

94       faces East toward [you]?

95  C    [((street name))] It faces-

96  D    Oh it's off of ((street name))=

97  C    =No=

98  D    =or ((street name))?

99  C    It's off of ((street name)) but the apartment

100      actually faces ((street name))

101 D    Gotcha

102 C    It's the first set of apartment buildings on the East

103      side of ((street name)) (.) and there's officers

104      outside now

105 D    Okay can they come to you to- so you can point out

106      where he's at in case?

107 C    Yeah I can- oh he's got him He's talking to [him]

108 D    [You can see him?]

109 C    Yeah

110 D    Okay

111      Alright uhm you're at ((address))? Which apartment

112      are you at ma'am?

113 C    I'm in a house

114 D    Oh it's a house? Okay ((typing))and you haven't seen

115      The person that was shot get out of the car right?
```

115   The person that was shot get out of the car right?

116 C No () or on the side of the car I can't actually see

117   him but I could hear him

118 D Okay and what is your name ma'am?

119 C ((first and last name)) ((spells out name))

120 D Okay and your phone number ((first name))?

121 C It's ((phone number))

122 D ((phone number)) correct?

123 C Yes and they've got him in custody

124 D Okay just stay where you're at and they'll contact

125   you when everything's secure okay? [Thank you for

126   your help]

127 C [()]

128 D Thank you

129 C Thank you

130 D Bye bye

APPENDIX C

CALL #2

```
1  D   911 emergency

2  C   Ye- I have a shooting over here on ((number)) uh

3      ((street name)) between uh ((street name)) and uh

4      ((street name)) Somebody has a rifle and he shot

5      somebody in the car

6  D   ((address)) in Mesa Stay on the line with me okay?

7      What color vehicle?

8  C   Uh- it's red It's a red little small car

9  D   S- so a victim in a red small car was shot?

10 C   Yup It's on- it's on front I'm getting out of the way

11     here The guy's got a gun right here

12 D   Where's the guy with the gun?

13 C   He's up in the apartment

14 D   He's up on the second story?

15 C   Yup Yup

16 D   Okay On a balcony or what?

17 C   On a balcony He's going [inside the door]

18 D   [Okay] Stay on the line with me And that's where he

19     fired from?

20 C   No he fired from down in the parking lot Somebody came

21     after him in a car or [something]

22 D   [And he's now] uh- uh- upper level apartment? Okay

23 C   R- right

24 D   Do you know the address of the apartment he's at?
```

57

```
25  C   It's right in the back of the motel off of uh redacted

26      off of=

27  D   =oh Do you know the name of it by any chance?

28  C   Nah it's a small-

29  D   -Okay The subject with the gun is he white black

30      hispanic native american?

31  C   He's black

32  D   About how old?

33  C   Looks 25

34  D   What color shirt?

35  C   White white cut out t shirt

36  D   So no sleeves?

37  C   Right no sleeves

38  D   A sleeveless white t shirt Pants or shorts and what

39      color?

40  C   Black black shorts He just put the gun inside the uhm

41      the apartment

42  D   Okay Hang on with me His height and weight?

43  C   He's skinny he's about: five ten he's about one-sixty

44  D   Short medium or long hair and what color

45  C   Short cropped hair black () like a little afro or

46      someth=

47  D   =He walked up to the car and shot the man?

48  C   No the guy was chasing him in the red car the guy's on
```

49   the ground right now on the black top

50 D   So the driver of the red car was chasing the black man

51   who was on foot?

52 C   Right right

53 D   Okay hang on here for me

54 C   () said hold on

55 D   I do have them headed that way can you give a better

56   idea of an address or name of a complex where he is

57 C   Well again it's just off of ((street name)) it's off

58   Of- it's off of ((street name)) ((street name)) and

59   ((street name)) down ((street name))

60 D   So the complex that he's on is off of ((street name))

61   ((spells street name)) not ((street name)) right?

62 C   Right well it's just about a hundred feet off

63   ((street name))

64 D   Okay so I'm looking at ((street name)) and ((street

65   name)) is it on the east or west side of ((street

66   name)) the complex where he is

67 C   It's on the the uh: east side of ((street name)) and

68   it's uh: north of ((street name))

69 D   Okay and is it right along ((street name)) or it east

70   of ((street name)) a little bit? I see a complex

71   that's just east of ((street name)) north side of

72   ((street name)) so it's closer to ((street name))

73 C   Right so it's real close to ((street name)) ()

74 D   So possibly ((address))?

75 C   Right right

76 D   Okay

77   ( )

78 D   Do you have any idea of an apartment number at all?

79 C   He's got the light on and he's outside on the

80   [balcony]

81 D   [()] suspect is outside on the balcony you don't see

82   the gun?

83 C   No the gun he put inside it sounded like a twenty-two

84   or something small but the other guys ()

85 D   And it's a small gun?

86 C   ((pause))

87 D   It was a small gun that you saw?

88 C   Well it was a rifle

89 D   Oh okay

90 C   He's got his hands in the air now

91 D   Suspect has his hands in the air?

92 C   Well I don't

93 D&C   [()]

94 D   Does the balcony face east toward ((street name)) or

95   is he visible west toward [((street name))]

96 C   He he he he's down on the ground now by the fence

```
 97   D    He's not up on the second floor?

 98   C    No he walked down he's talking to his buddy now

 99   D    He's downstairs now?

100   C    Right=

101   D    =Okay

102   C    He he's out on ((street name)) now he's coming
           through

103        ((street [name]))

104   D    [Out of] the apartment walking what direction on

105        ((street[name]))

106   C    [()] oh the cops have him now

107   D    PD is with him?

108   C    Right=

109   D    =Yes

110   C    =Right

111   D    My officers are with him?

112   C    Yes officers got him tied behind his back=

113   D    Is he complying?

114   C    Yup

115   D    Okay hang on with me So you witnessed the whole
           thing?

116   C    Uh-

117   D    Did they seem like they know each other er?

118   C    Yes he said he told him to stop he said he told him
           to
```

119   stop and the guy wouldn't stop but he just came by the

120   car and everything and the guy I don't know if he

121   turned around and ran him over or something whatever

122   happened I don't know

123 D   Oh you never saw him chasing him with the car?

124 C   Well: I did and uh: I- I I- when he when the shots

125   started firing he said I told you to stop and he never

126   he didn't or something and he started sho- shot him

127   like about six times

128 D   So you saw the subject in the red car trying to run

129   him over right?

130 C   Right I think so yeah

131 D   Yes or no.

132 C   Yes.

133 D   You did witness that sir?

134 C   Right

135 D   I'm trying to make sure we have that notated correctly

136   Do you know either of these parties involved?

137 C   No no they they l- I'm actually the owner I'm the

138   landlord owner of uh ((address)) () okay yeah

139 D   You're the landlord at ((partial address)) what?

140   [((street name?))]

141 C   ((Street name)) right

142 D   Okay tell me your name

143 C   uh ((first name)) ((last name)) It's two words

144   ((spells last name)) oh there comes those here comes

145   the whole thing

146 D   Your first name is ((first name))?

147 C   ((First name)) ((spells first name))

148 D   Alright sir at you're at ((phone number)) your cell

149   phone?

150 C   Right that's my cell phone

151 D   Okay where is the victim right now is he still in

152   The car?

153 C   Oh no the victim's on the ground

154 D   He is okay Do you know if he had a weapon at all?

155 C   I don't know I don't don't he's on the ground I- the

156   door's open to the red car I don't know

157 D   So unknown condition of the victim and he's laying

158   on the ground?

159 C   Right

160 D   Okay

161 C   He was He was moaning before

162 D   He was the only one in the car that you saw?

163 C   Yes

164 D   Okay (.) Okay so do you live at the ((address)) as

165   well?

166 C   No I live I live in Gilbert

167 D   Okay but you could be contacted this is a good number

168   ((phone number))?

169 C   Right right

170 D   Alright I really appreciate your help sir okay and

171   they'll contact you by phone if needed here alright?

172 C   Okay thanks=

173 D   =Okay thank you buh bye

174 C   Goodbye

APPENDIX D

CALL #3

```
 1  C   [((heavy breathing))]

 2  D   [911 emergency]

 3  C   Oh my gosh uhm I work for ((company)) I'm making a

 4      delivery and I was waiting for the man that runs the

 5      store to come out and () he's laying behind the

 6      counter he's on the gr- sidewalk () where he's at and

 7      I didn't get close to him but there's blood all over

 8      the place and he's on the ground

 9  D   What's the address ma'am?

10  C   I'm sorry uhm hold on let me pull it up on my

11      handheld uhm ((clears throat)) ((address))

12  D   Stay on the phone with me okay?

13  C   yeah ((heavy breathing))

14  D   ((address)) in Mesa and is what's the name of the

15      store? is it [()]

16  C   [((store name))]

17  D   Okay ((store name))

18      ((pause))

19  D   Did you see any weapons?

20  C   I didn't even look as soon as I saw blood on the

21      floor I ran out I'm outside of the store I'm scared

22      ((pause))

23  C   I didn't see anybody when I pulled up and I just pulled

24      up a moment ago and then I thought it was strange
```

```
25        that he wasn't coming out and 'cuz he always comes

26        out right away and I was walking the camera on the

27        screen that shows all the uhm security footage and I

28        thought I saw him but I wasn't too sure and then I

29        looked again and I saw somebody laying and I walked

30        back there and that's when I saw him laying back

31        there and blood everywhere

32   D    But you didn't did you see where the blood was coming

33        from?

34   C    I did not do you want me to walk [back there and]

35        look?

36   D    [>No no no<] I don't want you to do that

37   C    ((pause))

38   D    Stay on the phone okay?

39   C    ((pause))

40   D    Do you know what time they normally open?

41   C    He opens at seven

42   D    Okay=

43   C    =That's why I barely got here

44   D    Gotcha ((typing)) did anything else seem out of

45        sorts?

46   C    I I honestly [didn't really look]

47   D    [And and I get it] it's okay

48   C    ((pause))
```

```
49  D   Just stay on the phone I want you to stay on the

50      phone nothing else looked suspicious?

51  C   Not that I saw when I pulled up no

52  D   Okay Was he behind the counter?

53  C   He I think he's like in a back room

54  D   Okay

55  C   I didn't see him 'cuz I actually looked over the

56      counter as best I could 'cuz it's kinda high so I had

57      to walk into the back and I've never been there so I

58      actually was like walking back a little bit further

59      that's when I saw him kinda like to the left of the

60      counter

61  D   Okay

62  C   Back there in the back

63  D   Alright I do have help coming I just want you to stay

64      on the phone okay? ((typing)) What is your name hun?

65  C   ((first name)) ((letter)) as in ((word)) ((spells

66      name))

67  D   I'm sorry what was [that]

68  C   ((spells [name))]

69  D   [oh okay] sorry

70  C   No it's okay it's loud out here

71  D   I have lots of help coming to you okay? And what's

72      your last name?
```

68

```
73  C    ((spells last name))

74  D    ((last name)) okay

75  C    Yes

76  D    Alright and so you're calling from ((phone number))

77  C    ((phone number))

78  D    Okay so ((phone number))

79  C    Correct

80  D    Okay I do have police and fire in route to you okay

81       just stay on the phone

82  C    Okay

83  D    And do you normally go in the front door when you

84       come in?

85  C    Yes

86  D    Okay

87       ((pause))

88  C    Sometimes he even opens the door for me because [I'm

89       such a klutz] that I have a hard time going in

90  D    [yeah] gotcha

91       ((pause))

92  D    There's lots of help coming okay? So just stay on the

93       phone

94  C    Oh I hear I hear firefighters () and ambulance

95  D    Both police and fire okay?
```

96 C   Okay should I hang up now?

97 D   Nope nope I want you to stay on the phone I have an

98   officer that's coming in off of ((street name)) once that

99   officer's with you then we'll disconnect

100 C   He's right here right in front of me already

101 D   Okay perfect okay perfect then I'll disconnect with

102   you okay?

103 C   Okay

104 D   Alright bye now

APPENDIX E

CALL #4

```
 1  D    Mesa Police how may I help you?

 2  C    Hi, how are you ma'am?

 3  D    ^Hello how can I help you?

 4  C    Uh I am ((redacted)) in east Mesa east () I found eh

 5       there's a guy asleep or die on side of the road I

 6       don't know

 7  D    At what address?

 8  C    Front uh front Food City (street name))

 9  D    I'm sorry the address one more time

10  C    Eh Food City ((address)) exactly the building ()

11       ((address))

12  D    ((address)) in Mesa?

13  C    Yes eh it's not the building it's on the road eh over

14       the the east there to the left side there's someone

15       sleeping or die eh I don't know

16  D    Oh so he's sleeping outside the building?

17  C    uh sleep or die not not building on the road beside

18       the cars driving

19  D    On the sidewalk?

20  C    Eh it's not on the sidewalk it's eh the cars there's

21       signs there's signs he's sitting beside the signs I

22       don't know he sleep or die I don't know

23  D    Okay where where are the signs in the huge complex

24       the huge complex right there so are you talking about
```

```
25        ()

26   C    () if you move after ((street name)) () between

27        ((street name)) and () road

28   D    Kay that's a big big open gap is it east is it more

29        east toward ((street name)) or is it I'm sorry more

30        west toward ((street name)) or more east toward ()

31   C    EAST EAST EAST Excuse me between () road and east eh

32        and((street name))

33   D    Okay you're saying in the road

34   D&C  [()]

35   C    I took my car I am () I took my car

36   D    Are you gonna wait there for an officer?

37   C    Yes yes I am waiting

38   D    So is he in a parking lot?

39   C    No it's not the parking its in the road

40        ((pause))

41   C    Yes ma'am

42   D    Do you want him trespassed on the property?

43   C    No eh it's not my property it's on the road not my

44        property therefore I am moving I am checking the ()

45        on the road () yes

46   D    One moment

47   C    Thank you

48   D    ((Typing))
```

73

49 D   There's no confrontation correct?

50 C   Excuse me?

51 D   There's no CON FRON TATION correct?

52 C   No there's nothing just like I told you asleep or die

53   or I don't know he's beside [the road]

54 D   [Is he] is he white black hispanic native?

55 C   Black black

56 D   How old?

57 C   Eh look like 40 something like that

58 D   What color shirt and pants is he wearing?

59 C   He don't wear things on the top

60 D   No shirt?

61 C   No shirt

62 D   And what color pants?

63 C   I didn't check ()

64 D   That's okay How tall do you think he is?

65 C   Huh? ((car sounds))

66 D   How tall do you think he is?

67 C   Eh ((car sounds)) I think about six feet

68 D   And how much do you think he weighs?

69 C   Uh eh he is big body

70 D   And what color hair does he have?

71 C   He's a black guy

72 D   So what color hair does he have?

```
73  C   Black

74  D   And are you gonna be waiting next to him for

75      officers?

76  C   Yes at my car ((redacted)) I am stopped and () It's

77      not on the road beside the road on the ()

78  D   Can I get your name?

79  C   My name ((first name)) ((spells first name))

80  D   And your last name?

81  C   ((last name)) ((spells last name))

82  D   And is your phone number ((phone number))

83  C   Yes yes ma'am

84  D   ^Okay I went ahead and put a call for services and

85      I'll have an officer go out there okay? It could take

86      anywhere from a few minutes to thirty minutes

87      depending on emergencies okay?

88  C   Thank you thank you

89  D   Thank you buh bye
```

APPENDIX F

CALL #5

```
 1  D    911 emergency

 2  C    Uhm yes uhm I'm calling cause right out uhm I'm a

 3       I'm a((company name)) uhm representative ah we have

 4       an injured person he just got stabbed right outside

 5       the of the parking lot its on- the the address is

 6       ((address))

 7  D    Did you see who did it?

 8  C    No I- we didn't a customer just ran inside for us to

 9       call 911

10  D    Is he still outside?

11  C    Yes

12  D    ((Typing))

13  C    Uhm there's somebody else that's helping him and he

14       has a lot of blood like if you guys could like make

15       it

16  D    Alright just stay on the phone with me

17  C    Okay

18  D    Okay did you see the person that stabbed him?

19  C    No we we didn't see anything anything at all we just

20       had a customer run inside for us to call 911 cuz

21       somebody was had just gotten stabbed he's honestly

22       agonizing right now he has- he's full of blood in

23       his all over his shirt everything everything is all

24       full of blood of him
```

77

25	D	Okay I need a description of the male is he white
26		black native american hispanic?
27	C	Pardon me? He looks like uhm he looks like a white
28		person
29	D	How old does he look twenty thirty forty
30	C	Uhm he looks like over twenty like in his twenties
31	D	What color shirt and pants is he wearing
32	C	He has a muscle shirt
33	D	White
34	C	A muscle shirt a white muscle shirt with- it's red
35		now cuz it's full of blood
36	D	Okay what color pants
37	C	Uhm black pants He's d- he's laid on the floor
38		literally he can't get up at all
39	D	Okay I just gave the description to the officers so
40		we do have officers in route just stay on the phone
41		with me
42	C	Okay
43	D	Can you guess his height and weight for me
44	C	Uhm he's really skinny probably only about one
45		twenty one thirty
46	D	Okay and is he short average or tall
47	C	Uhm he's average Somebody's helping him I guess
48		holding his blood in

78

```
49   D    Is he right out by the front door?

50   C    He's right outside in front of the front door

51   D    Okay is he still conscious?

52   C    Yes he's uhm agonizing right now

53   D    Okay () What is your name?

54   C    Uhm ((first name))

55   D    How do you spell that for me

56   C    ((spells first name))

57   D    And your last name

58   C    ((pause))

59   D    What's your last name?

60   C    Uhm ((last name)) ((spells last name))

61   D    Okay and the phone number you're calling from is

62        (( phone number))

63   C    Yes this is the inside our uhm where we're inside

64        the((store name)) I'm not allowed to go outside so

65        I'm like pretty much the only person here

66   D    Okay and you said you can't go outside cuz you're

67        the only person there

68   C    No I'm the only person here so I can't go outside

69   D    Okay we do have the fire department in route stay on

70        the phone

71   C    A police just showed up uh police

72   D    You're with an officer now
```

```
73  C    Yes one uhm one officer just showed up I don't know
74       if the paramedics are showing up anytime soon
75  D    We got paramedics in route but uh the officer's
76       gonna have to be there first You're gonna be inside
77       for officer contact?
78  C    Uhm I'm uh honestly I'm already about to leave I
79       leave at six o'clock in the morning so I'm gonna
80       leave pretty soon
81  D    Okay well the officer's are gonna need to talk to
82       you since you're the one that called first just to
83       get the information
84  C    Okay
85  D    Are you gonna stay inside for officer contact?
86  C    Uhm well is it gonna be I mean I have kids is it
87       gonna be fast?
88  D    I mean one officer's already there and I have
89       several officers on the way already
90  C    Okay
91  D    Okay so I'll let them know you're gonna be inside
92       for officer contact
93  C    Okay
94  D    Okay just stay there until they talk to you okay
95  C    Okay
96  D    Thank you
```

97   C   Buh bye

APPENDIX G

CALL #6

```
 1  C    HELLO I'm at the ((store name)) at the ((street

 2       name)) and ((street name)) and a guy come into the

 3       ((type of store)) and stabbing the girl I think he

 4       gonna be

 5  D    Okay you said ((street name)) and ((street name)) in

 6       Mesa what corner are you on?

 7  C    Uh SOUTHWEST CORNER

 8  D    Okay southwest corner okay are you

 9  C    ()

10  D    Are you at ((address)) in Mesa?

11  C    () it's ((SUITE NUMBER))

12  D    Suite ((suite number))?

13  C    Yeah

14  D    Okay and you said he's stabbing somebody?

15  C    () LAYING ON THE GROUND

16  D    Okay I have help on the way okay? Stay on the line

17       for me

18  C    THANK YOU So we ran out the shop and all we () with a

19       knife

20  D    Alright I have help started that way okay is

21       everybody out of [()]

22  C    [OKAY SOUTHWEST CORNER]

23  D    Okay stay on the line for me okay? Is everybody out
```

24   of the

25   of the store?

26 C   Yes yes and we run into the car and we () the shop

27 D   Who's inside? Okay was it a man or a woman?

28 C   A man that's stabbing a girl

29 D   Okay is the man was he white black hispanic native

30   american?

31 C   There's a- I believe it's white I can't [()] we

32   couldn't see

33 D   [Okay]

34 C   He's covered with the hood

35 D   Okay and uhm how old do you think he was do you know?

36 C   He was about twenties or thirties early thirties

37 D   Okay and what color shirt?

38 C   Uh I don't I don't remember

39 D   Okay you said he had a hoodie on?

40 C   Yeah

41 D   Do you know what color it was?

42 C   Uh maybe the grey or something

43 D   Okay take a deep breath for me you're doing great we

44   have officers on the way okay do you know what color

45   his [pants were]?

46 C   [Yeah] actually I have a camera maybe we can-

47   hopefully we can- hopefully we are able to ()

```
48    D    Okay I have officers on the way Is he still inside

49         the store?

50    C    No I ran out () back door

51    D    Okay do you know where he is at all?

52    C    I don't know [because] () stabbing her with a knife

53    D    [Okay] Okay I understand we have help on the way

54         y okay? Do you know what color his pants were?

55    C    No no he covered with the hood and I couldn't even

56         [()]

57    D    [Okay] And you don't know where he went at all?

58    C    No because he keep stabbing the girl and I run to the

59         back door

60    D    Is anyone-

61    C    -()

62    D    Okay

63    C    I hope she's not dying

64    D    Alright take a deep breath

65    C    He really mean to kill her

66    D    Yeah

67    C    He really meaned to kill her

68    D    Okay do you know if the girl is still inside the

69         store?

70    C    Still laying on the ground at the uh register

71    D    Okay it's inside your ((type of store)) correct?
```

72   Yes yes

73   D   Okay is anybody inside with her?

74   C   Nobody because ()

75   D   Okay I just wanted to make sure

76   C   () run away

77   D   ((Pause))

78   C   Oh my god

79   D   Alright it it's you and one other employee you guys

80   were the only ones that were there? Were there any

81   other

82   C   () another employee but she () start to run

83   D   You ran okay Were there any other customers inside

84   the store?

85   C   No no

86   D   Okay

87   C   It's kinda late so we [kinda] about to close

88   D   [Okay]

89   C   ((pause))

90   D   I understand and you guys you are you by you're

91   behind the building then?

92   C   No now we run to the back and one of my () still back

93   the we run to the car and we go to the up front

94   D   Okay

95   C   And we still in the front in the car

```
 96   D    Okay

 97   C    ((pause))

 98   D    Alright I have officers that are pulling up shortly

 99        what kind of car are you in?

100   C    ((Pause))

101   D    What is your name ma'am?

102   C    My name is ((first name))

103   D    ^((first name))

104   C    I'm the manager of the shop

105   D    Okay what's your last name ((first name))?

106   C    ((Spells last name))

107   D    And a good phone number for you?

108   C    ((phone number))

109   D    Is it the one you're calling me on?

110   C    Yes yes yes () my cell phone

111   D    Okay ((phone number)) Okay and your address is it

112        ((address)) in Mesa?

113   C    Yes

114   D    Okay is it okay if officers speak with you?

115   C    Yeah

116   D    Okay I'm just gonna get a description of you so they

117        can identify you are you Asian or?

118   C    He he asking to

119   D    Are you with the officer?
```

120 C   Yeah

121 D   Okay I'm gonna let you speak with-

122 C   They are coming

123 D   Alright thank you buh bye

124 C   Buh bye

APPENDIX H

IRB APPROVAL

ASU Knowledge Enterprise Development

EXEMPTION GRANTED

Elly Van Gelderen
CLAS-H: English
480/965-3535
ellyvangelderen@asu.edu

Dear Elly Van Gelderen:

On 3/19/2020 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Using COPS Scale to Analyze 911 Homicide Calls for Linguistic Indicators of Guilt or Innocence
Investigator:	Elly Van Gelderen
IRB ID:	STUDY00011653
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	• IRBSB2019Gladstone.pdf, Category: IRB Protocol; • Record Requests , Category: Other;

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 on 3/19/2020.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

cc: Chenay Gladstone
        Chenay Gladstone

BIOGRAPHICAL SKETCH

Chenay Gladstone is a high school ESL teacher and masters student at Arizona State University studying Applied Linguistics. She received a bachelor's degree in 2019 from Arizona State University in English with a concentration in Linguistics. She is interested in sociolinguistics, forensic linguistics, and hopes to some day work in law enforcement.