CRIMINAL JUSTICE STUDENTS’ BELIEFS AND KNOWLEDGE ABOUT DETECTING DECEPTION

A Thesis

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by

Michelle K. Jackson

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Division of Criminal Justice
Abstract

of

CRIMINAL JUSTICE STUDENTS’ BELIEFS AND KNOWLEDGE
ABOUT DETECTING DECEPTION

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The purpose of this research was to gauge the knowledge and beliefs about the topic of deception among criminal justice lower division students and criminal justice upper division students enrolled at California State University, Sacramento during the Spring 2013 semester. Using a purposive sampling procedure of two criminal justice courses, 367 college students completed a self-administered survey. Specific analyses were conducted including creating an index, reviewing an independent samples t-test, and calculating a Chi Square test of significance in order to determine if upper division criminal justice students are more knowledgeable about deception than lower division criminal justice students and if there are differences in the beliefs about deception between the two groups. Although the results were mixed, the analysis found that both criminal justice students and non-criminal justice intended majors have some knowledge of deception as well as have differing beliefs about the topic. Further research might include a larger population of criminal justice students by surveying more courses that are offered and over
a longer period of time, as well as use different or more methods to test the hypothesis and analyze the data collected.

_______________________, Committee Chair
Yvette Farmer, Ph.D.

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Date
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Chapter 1

Introduction

Dishonesty is extremely common in the academic and personal realms of daily life (Zimny, Robertson, & Bartoszek, 2008, pg. 291). People may choose to be dishonest for different reasons. Sometimes, people might tell a lie to protect themselves, to protect someone else, because they are feeling fearful of the consequences if they were to tell the truth, or because they feel guilty about the truth (Vrij, Granhag, & Mann, 2010, p. 79). Interestingly enough, people may tell lies as often as 30 percent during their interactions with others (Boltz, Dyer, & Miller, 2010, p. 458). Further, Boltz et al. (2010) claim that people tell “self lies” and “other lies” (p. 458). Self lies are told by people when their intentions are for personal gain only and other lies are told when a person is purposely lying for the benefit of someone else (Boltz et al., 2010, p. 459).

What some people might consider to be the opposite of dishonesty is the ability to trust, and being transparent with other people might be a necessary component to trusting others. The ability to trust other people may be a valuable trait to have if you plan to work in the criminal justice field, which might include fields such as courts, corrections, investigations and law enforcement. Students who are often knowledgeable in the topics of courts, corrections, investigations and law enforcement are criminal justice majors. According to Bjerregaard and Lord (2004), criminal justice students often perceive students in other majors to be less trustworthy than other criminal justice students (p. 269). Therefore, not only is trusting others a valuable trait to have, but being able to
detect deception in others may be useful when developing good relationships with co-workers and other people you might have daily contact with.

The topic of detecting deception may be of particular importance, especially for criminal justice majors. Surprisingly enough, there is little research that covers the perceptions criminal justice students have about detecting deception. It is necessary to define the terms lying and deception in order to better understand topics related to detecting deception. Researchers Frank and Menasco (2008) claim that a lie involves a “deliberate and conscious behavior” that might lead others to believe a person is not being truthful (p. 2). Additionally, a lie is something that people do when they have to make an extra mental effort to suppress, manufacture or change information (Frank & Menasco, 2008, p. 2). DePaulo et al. (2003) defined deception as when a person purposely intends to mislead others by exchanging information verbally or non-verbally that isn’t the truth (p. 74).

Since criminal justice majors are likely to lean towards careers in the courts, corrections, investigations or law enforcement fields, one might assume that it is necessary for them to learn and be knowledgeable about the methods of detecting deception. However, due to the lack of research supporting the knowledge and beliefs criminal justice students have about the topic of deception, further research is needed. Consequently, one might assume that additional knowledge about detecting deception and methods of detecting deception will further benefit criminal justice students in their future careers.
Statement of the Problem

While there are some research topics that cover criminal justice students’ knowledge and beliefs about lying, such as ethics (Bjerregaard & Lord, 2004; Lord & Bjerregaard, 2003), cheating and academic dishonesty (Zimny et al., 2008), sexual lying (Williams, 2001), prisons (Smith, Meade, & Koons-Witt, 2009), and drug policies (Garland, Bumphus, & Knox, 2012), there is little to no research that covers criminal justice students’ knowledge and beliefs about detecting deception and methods of detecting deception. Further research of the knowledge and beliefs criminal justice students have about detecting deception may help criminal justice departments determine if they need to offer more deception classes or more class assignments relating to the topic to help better prepare them for their future careers in the criminal justice field. More importantly, research focusing on the knowledge and beliefs criminal justice students have about the topic of deception may better help the professors and teachers understand what these students are learning about throughout their college career.

Learning what topics criminal justice students don’t know enough about may help professors and teachers modify course information as well as help departments modify their curriculums. Also, offering more classes relating to methods of detecting deception may further benefit them in their criminal justice careers and give them another skill to be knowledgeable about. After careful consideration and an acknowledgement of the lack of research focusing on the perceptions of criminal justice students about methods of detecting deception and how prepared they are for careers following related courses, the following two questions arise:
Research Question 1 - Are criminal justice students knowledgeable about the topic of deception?

Research Question 2 - Is there a difference in the beliefs and knowledge of this topic for students in the beginning of their criminal justice coursework versus students at the end of their coursework?
Chapter 2

Literature Review

Background and Defining Deception

Lying and deception occur in the daily lives of individuals (Vrij, Semin, & Bull, 1996), and the ability to detect when a person is lying or telling the truth may be a topic of particular interest (Boltz et al., 2010). There are various ways to detect deception in another person, and some include different non-verbal and verbal cues that a person might reveal when being questioned. Some of these cues include but are not limited to eye contact, voice pitch, physiological responses, and others that will be described in this research. Before describing ideas related to the methods of detecting deception, it is important to define the terms lying and deception. Lying is considered a common feature of social behavior exhibited by humans and occurs when a person tells someone something that isn’t really true (Hart, Fillmore, & Griffith, 2009, p. 135). Similar to lying, according to Hirschberg (n.d), deception is when a person purposely tries to lead others to believe that what they are saying is true when they know it is not (para. 1). The terms lying and deception are used interchangeably throughout this research.

There are different factors that may change the way a person acts or feels when they lie (Hirschberg, n.d., para. 3). For example, if a person tells a “white” lie, they may have minor psychological effects versus when they tell “serious” lies, which may cause them to experience stress if they are trying to cover up something they did (Hirschberg, n.d., para 3). If a person is being questioned in an investigative interview and is deceptive when answering, the interviewer may also feel frustrated when trying to get to the truth.
In an attempt to detect when someone is lying, Haddad and Ratley (2002) claim that one of the earliest approaches to lie detection is “Voice Stress Analysis” (VSA), which didn’t prove to be very successful. Voice Stress Analysis focuses on the effects that stress has on a person’s voice, such as “vocal jitter”, or differences in the voice pitch when someone is nervous (Hirschberg, n.d., para. 19). Zuckerman, DePaulo, and Rosenthal (1981) claim that the act of lying causes other physiological effects such as fear, guilt, arousal and cognitive load (p. 7). Cognitive load occurs when a person is either asked to lie or has to defend their lie with very little preparation, and they feel an overload of thoughts when trying to remember the details they gave previously (Vrij et al., 2000, p. 242). Even though there are physiological and behavioral effects of lying, not all liars experience them (Vrij et al., 2010, p. 79). Since not all liars experience physiological effects of deceit, it might make it harder for an interviewer to determine if that person is actually being deceitful (Vrij et al., 2010, p. 79). However, due to the many methods of detecting when a person is lying, further explanation of the different non-verbal and verbal cues to deception is included in this research.

**Non-Verbal Cues to Deception**

Over the years, there have been studies of lie detection that involve many methods, and some are related to non-verbal cues to detecting deception. Some non-verbal cues to detecting deception include psychological responses to lying such as, cognitive load, gaze aversion which can be described as the number of seconds a person looks away from the interviewer before looking back at them (Vrij et al., 2000, p. 246), changes in eye contact like deliberate or traditional eye contact, and some behavioral cues
like fidgeting, facial expression changes, and movement of the arms, hands, legs and feet (Hart et al., 2009; Leins, Fisher, & Vrij, 2012; Mann et al., 2012; Vrij, 2008). Not everyone that lies is necessarily good at being able to detect deception in others. In order to be able to detect deception in other people, it might be useful to understand some of the non-verbal cues they may reveal.

**Non-Verbal Cues to Deception - Cognitive Load**

One of the non-verbal methods of lie detection is cognitive load. When a person is asked a question that requires them to further defend their lie, they have to think of an answer quickly and accurately without contradiction in order to make the interviewer believe they are telling the truth (Vrij et al., 2000, p. 242; Vrij et al., 2010, p. 89). When a person tries to think of a quick answer to a question, and experiences both gaze aversion and cognitive load, it may also reveal their dishonesty (Vrij et al., 2000, p. 242). If a person who has just lied, is being asked to repeat their story, it would be beneficial to them to have a good memory in order to repeat the lie, have original thinking in order to be convincing to others, experience rapid thinking in order to come up with a quick response to not reveal the lie, and the liar also would benefit by being intelligent (Vrij et al., 2010, p. 89).

**Non-Verbal Cues to Deception - Gaze Aversion**

Often related to cognitive load is another non-verbal method of lie detection, gaze aversion. According to Vrij (2008), physiological responses are cues that may help when trying to detect deceit in a person. Deceit might show through any anxiety the person feels (Leins et al., 2012, p. 601). Gaze aversion might be coupled with fidgeting if the
person is feeling uncomfortable (Leins et al., 2012, p. 601). Since experiencing both gaze aversion and fidgeting may mean that the person is feeling some form of anxiety and discomfort, which could occur when telling truth and lies, one shouldn’t always assume the person in question is actually lying (Leins et al., 2012, p. 601).

In addition to someone experiencing feelings of anxiety and discomfort, people who avert their gaze might also feel ashamed of the topic of discussion (DePaulo et al., 2003). Some researchers believe that gaze aversion is not a reliable method of detecting when a person is being deceptive, because so many people tend to look away from their interviewer while being questioned (Vrij et al., 2000; Vrij et al., 2010). Perhaps knowing more about other non-verbal and verbal cues to deception might increase the chances of an interviewer being able to detect deception in someone else (Vrij et al., 2000). When people experience feelings of discomfort, they may also be exhibiting changes in their eye contact with the interviewer, which may then reveal a lie (Mann et al., 2012).

**Non-Verbal Cues to Deception- Eye Contact**

Other non-verbal cues include the differences between ‘traditional eye contact’ and ‘deliberate eye contact’ (Mann et al., 2012, p. 207). Traditional eye contact is determined by the amount of time or number of seconds that the person being interviewed spends gazing into the eyes of the person interviewing them (Mann et al., 2012). In contrast, deliberate eye contact is measured by the slightly longer amount of time that a person is holding eye contact with the person interviewing them (Mann et al., 2012). Some believe that liars are more likely to exhibit deliberate eye contact when being interviewed, because they hope to fool the investigator into thinking they are telling
the truth (Mann et al., 2012). Some research has indicated that those who are trained to
detect deceit during interviews, are more likely to do so if they are aware of how non-
verbal behavior is related to deception (Vrij et al., 2000, p. 241). Additionally, common
non-verbal strategies for some people who lie and some people who tell the truth is to be
mindful of not making any excess movements while being questioned and to try to
maintain eye contact (Vrij et al., 2010, p. 91).

Non-Verbal Cues to Deception- Behavioral Cues and Changes in Emotions

People who are attempting to detect deception in a suspect while interviewing
them, may be searching for specific behavioral cues in order to determine if that person is
lying, which has often lead to inaccurate results (Hart et al., 2009, p. 136). Hart et al.
(2009) claim that research has indicated that some people exhibit behavioral changes
such as movements in their posture, inconsistent eye contact and excessive blinking when
they lie (p.136). Changes in facial expressions, which include frequency of smiling or
grimacing, are also an important method of detecting non-verbal deception (Vrij et al.,
2000, p. 246). Other people experience responses that may indicate they are lying such as
movements in their hands, feet, arms, and legs (Hart et al., 2009, p. 139). Fidgeting
which may involve movements of the hands, fingers, feet and legs is considered a
behavior that provides another non-verbal cue to deception (Hart et al., 2009, p. 139; Vrij
et al., 2000, p. 246).

Lying isn’t necessarily easy for everyone to do, and not everyone who lies can
convince people they talk to that they are telling the truth. Lying may cause people to feel
emotionally stressed (Ekman, 1992; Vrij et al., 2000, p. 242). Some claim that people
may experience certain internal emotions while telling a lie such as fear of getting caught, excitement for having the ability to fool the interviewer, and guilt for making someone believe something that’s not true (Vrij et al., 2010, p. 79). Interestingly, some people might find it difficult to tell a lie, because they have to fabricate a story in a short amount of time, while making sure they don’t change the sequence of events, making sure they don’t slur their speech, making sure to not include too many pauses in their stories, and making sure they don’t contradict themselves (Vrij et al., 2000, p. 242). Additionally, Vrij et al. (2000) claim that those who are more aware of the relationship between non-verbal behavior and detecting deception are often more successful at detecting when someone is lying, because they have improved their skills to do so (p. 241).

In an article relating to what constitutes being a good liar, Vrij et al. (2010) claim that many people who lie won’t necessarily feel common emotions such as guilt or fear when telling a lie (p. 79). The authors believe that some liars don’t feel guilty for telling a lie, because they believe the lie they told was justified or lying is a normal occurrence for them (p. 80). If a person does feel guilty for telling a lie, it might be because they are afraid of not being believed by others, but not all liars feel this way (Vrij et al., 2010, p. 79). On the other hand, the authors have found that not all liars are fearful when telling a lie (p. 80). If a person is telling a lie to a person that they believe is not a very good lie detector, they are more likely to continue lying rather than being afraid of being caught (Vrij et al., 2010, p. 80). Lastly, if a person thinks s/he is a good liar, they may not experience certain feelings, because they don’t think anyone they lie to will detect it (p. 80).
Non-Verbal Cues to Deception- Study Conducted at International Airport

In an interesting attempt to study non-verbal cues to deception, Mann et al. (2012) conducted an experiment of a diverse population at an international airport, which proves to be important since it is a location that is often targeted by terrorists and enables the interviewers to question people from different countries (p. 208). Matsumoto claims that gaze aversion may indicate different outcomes in people based on where they are from and their ethnic background (as cited in Mann et al., 2012, p. 208). This experiment focused on the differences gaze aversion has on the people who are lying and those telling the truth and included 338 participants (Mann et al., 2012, p. 208). Of the 338 participants, 72 percent were male, the average age was 33 years old, and they came from 81 different countries (Mann et al., 2012, p. 208). The person conducting the experiment approached passengers in the airport and asked them if they would volunteer in a study that could earn them a small amount of money, but would require them to divulge their travel plans (Mann et al., 2012, p. 209).

Those who volunteered to participate in the experiment were asked several questions by the interviewer, and someone else participating in the study asked some of them to lie and some to tell the truth (Mann et al., 2012, p. 209). Of the participants, 177 were asked to tell the truth about where they were traveling and what the main purpose of their trip was (Mann et al., 2012, p. 209). The other 161 participants were asked to tell the truth about where they were traveling, but they were asked to lie about the purpose of their trip (Mann et al., 2012, p. 209). The participants were given as much time as they needed to prepare their answers, and when they were ready to be interviewed, they were
taken into small rooms and interviewed by one of two females (Mann et al., 2012, p. 209). After asking each participant, liar and truth teller, a total of 16 preplanned questions, three to five raters coded the amount of time the gazes averted from the interviewer and the amount of times the participant deliberately made eye contact with the interviewer (Mann et al., 2012, p. 210).

After indicating the countries that each participant was from, the researchers found that Asian and Western European participants exhibited very little gaze aversion compared to their Eastern European counterparts (Mann et al., 2012, p. 210). Additionally, Caucasian participants also displayed less gaze aversion than their Afro-Caribbean counterparts (Mann et al., 2012, p. 210). Overall, the results of this experiment also indicated that liars tend to make more deliberate eye contact than the participants who told the truth, but liars didn’t necessarily exhibit more gaze aversion than truth tellers (Mann et al., 2012, p. 210). The results of this study indicated that gaze aversion does not necessarily occur more often in liars than in truth tellers. Other than non-verbal cues to deception, verbal cues to deception are also valuable to consider when trying to determine if a person is lying during an interview utilizing verbal cues to deception (Boltz et al., 2010; Hart et al., 2009; Vrij, 2008; Vrij et al., 2000).

**Verbal Cues to Deception**

Verbalizing lies has been considered a normal feature of social behaviors in humans (Hart et al., 2009, p. 135). Other than non-verbal methods of detecting deception, there has also been a focus on methods related to verbal cues such as speech rate, stuttering, pauses in speech, inconsistent stories and length of responses (Vrij et al.,
Vrij et al. (2000) indicated that speech rate focuses on the number of words spoken during an interview between each mental and verbal pause (p. 246). Stuttering, speech errors, and speech hesitations include when a person says “ah” or “umm” between statements, or the repetition of a word or group of words (Vrij et al., 2000, p. 246). Inconsistent stories and the length of the responses are related to the time between the question being asked and the actual response given by the person being interviewed (Vrij et al., 2000, p. 246).

Even though many investigators focus on non-verbal cues to indicate when a person is lying, Vrij (2008) claims that people pay too much attention to the non-verbal cues and should be focusing more on the verbal cues during an interview (p. 1324). Some researchers believe that relying on verbal cues such as speech content is more helpful in determining deceit when the interviewer is knowledgeable about the person and the facts of a case (Vrij, 2008, p. 1324). Furthermore, an interviewer can compare what they know about the case to the information the suspect revealed, which may help determine whether the suspect was lying or not. Interviewers who do pay more attention to the speech content of the suspect might benefit from numerous versions of the events of the crime from witnesses, which may also help them to determine if the suspect is changing their story. Additionally, when the observer is not aware of the person they are interviewing, they might pay more attention to the non-verbal behavior rather than the verbal behavior which may effect their ability to detect deception (Vrij, 2008, p. 1324).

Interestingly enough, interviewers who are unaware of the facts of a case may rely on non-verbal behaviors rather than verbal behaviors, because they don’t have statements
of the events to compare to the responses from the suspect they are interviewing (Vrij, 2008, p. 1324). Vrij (2008) believes that investigators who rely more on verbal cues to deceit rather than non-verbal cues, were more successful interviewers than those who focused on non-verbal cues only (p. 1333). Additionally, investigators might benefit by focusing on verbal responses and speech content rather than non-verbal cues, because it could help encourage the suspect to talk about their experiences or incidents. Further, Boltz et al. (2010) indicates that interviewers might benefit more by paying attention to verbal responses from the suspect, because the voice is “less amenable to self-regulation” and would provide a higher chance of detecting deception in the response (p. 459).

Some researchers believe that lie detection is difficult, and that only proper training on identifying certain cues can help to make an investigators’ interviewing experience more successful (Lane, Schneider, Michael, Albrechtsen, & Meissner, n.d., p. 2). Lane et al. (n.d.) describe verbal and vocal cues as something to focus on when conducting an investigative interview or interrogation (p. 2). The authors state that verbal cues come from the content a suspect provides in their statement (p. 2). The authors also state that vocal cues come from the behaviors that a suspect indicates through their “speech production”, which may include any hesitations in their speech, the “pitch of voice”, and “response latency” (p. 2). More specifically, response latency can be described as a delay in the time a respondent takes to answer a question that has been asked by another person (Boltz et al., 2010, p. 459). If an individual is asked a question and they don’t respond right away, they may be telling a spontaneous lie, because they take the time to decide if telling the truth or lie would benefit them when giving their
answer (Boltz et al., 2010, p. 459). On the other hand, the authors found that liars who try to seem truthful may compensate by responding to a question quickly, thus telling a prepared lie (p. 459).

Of particular interest is the inclusion of certain “temporal parameters of the voice” (Boltz et al., 2010, p. 459). One of the parameters is the delay in the spoken response by the interviewee when answering a question posed by the investigator conducting the interview, which can be analyzed in regards to the truthfulness in the answer (Boltz et al., 2010, p. 459). When responding to an interviewer, the speaker must decide whether they are benefitting themselves more by telling the truth or by making up a lie, which may require a longer delay and may indicate to the interviewer the presence of deception in the response (Boltz et al., 2010, p. 459). The types of lies that are thought of as a quick response in hopes of profiting the interviewers’ story are called “spontaneous lies” (Boltz et al., 2010, p. 459).

In a study that researched whether differences in response latency and speech rate result in cues to deception, Boltz et al. (2010) indicate that many people lie during 20-35% of all social interactions (p. 458). Boltz et al. (2010) claim that there are two motivations for lying, “self lies” and “other lies” (p. 458). The authors claim that self lies are told for the purpose of self gain and to boost one’s own identity or materialistic resources, and other lies are told for the purpose of someone else’s benefit (p. 458). Since self lies are self beneficial, they are held to a much “stricter criteria” and other lies are looked at as being more positive and held to not as strict criteria (Boltz et al., 2010, p. 460).
Methods of Detecting Deception

Some professionals are unsuccessful at detecting when a person is lying, because they are unaware of what to look out for when examining verbal and non-verbal behaviors (Vrij et al., 2000, p. 241). Vrij et al. (2000) claim that there are three ways to detect when a person is lying (p. 239). The first method involves the importance of observing the way a person behaves, which may include the movements they make with their hands, legs, feet, and arms, whether they sustained eye contact or exhibit gaze aversion, and the speed and pitch of their voice when responding to questions asked by the interviewer (Vrij et al., 2000, p. 239). The second method involves the interviewer carefully listening to the responses of the person they interview, and paying particular attention to any changes in their stories or sequence of events told by the suspect (Vrij et al., 2000, p. 239). The third method relates to the interpretation of the suspects’ physiological responses, which may include responses revealed by a polygraph test (Kassin, 2008, p. 1314; Vrij et al., 2000, p. 239).

Some might believe that lying requires more of an effort than just being honest (Kassin, 2008, p. 1314). Further, if a liar is asked to retell their story in reverse chronological order, they are more likely to reveal their dishonesty when their story no longer matches up to the one they told in chronological order (Kassin, 2008, p. 1311; Vrij et al., 2008). Further explanation of some of the different methods of detecting deception is included in this research.
Methods of Detecting Deception- Physiological Responses and Polygraph Tests

Relying on physiological responses to detect truth or lies is another method of discovering when deception is present. Focusing on physiological responses might involve the use of polygraph tests, which is also known as a lie detector test (Kassin, 2008, p. 1314). According to Vrij et al. (2000), good lie detection requires the interviewer or investigator to consider both the truth and lies in a person’s story, because they want to be able to identify any differences in order to reveal any dishonesty (p. 240). In order to identify truths and lies in a story, gaining more experience interviewing people may improve one’s ability to recognize certain physiological responses to lying and truth telling.

However, one concern related to the outcomes of polygraph tests is the possibility of false confession (Kassin, 2008, p. 1314). Even though some are innocent, some suspects who are questioned with the use of a polygraph, may feel pressured to confess to crimes they did not commit due to the evidence stated by the examiner or interviewer. Some might agree with Kassin (2008) that a reasonable person would not confess to a crime they did not commit (p. 1316). One can’t always assume that just because a person admitted to committing a crime, that they are actually guilty. Polygraph testing and recognizing any physiological responses someone might have when being questioned is not the only way to detect when someone is being deceptive. While it is not as commonly used, investigative hypnosis is another method that may be used as a deception detection technique during an interview.
Methods of Detecting Deception - Investigative Hypnosis

In addition to detecting deception through the use of polygraph tests and relying on physiological responses, investigative hypnosis is another method that perhaps isn’t used as much as other methods involving interviewing (Wagstaff, 2009, p. 43). Interestingly enough, information that a person recalls during hypnosis might actually be false which means that the interviewer could be gathering incorrect information and therefore wouldn’t be helpful when trying to solve a case (Wagstaff, 2009, p. 44). Further, hypnotic procedures may cause the suspect or person being investigated to remember and recite occurrences that they previously were unsure about, and some of the recalled memories may actually be their imagination or simply incorrect memories (Wagstaff, 2009, p. 45). Due to the uncertainty of the information gathered through hypnosis, it might not always be credible to use in court.

Research indicates that a good way to obtain positive results during a hypnotic interview is to start with an introduction to get the interviewee comfortable and relaxed with the process (Wagstaff, 2009, p. 48). Then, the interviewer would inform the interviewee that hypnosis will heighten their memories of a particular event and may help them to recall certain incidents (Wagstaff, 2009, p. 48). During a hypnotic interview, it is realistic to think that an interviewee is more likely to recall memories with their eyes closed and laying down versus being un-relaxed and sitting up face to face with their interviewer (Wagstaff, 2009, p. 49). The author indicates that even though there is a chance that someone being hypnotized is likely to recall correct information regarding a certain incident, there is evidence that also suggests that certain subjects who participate
in hypnotic procedures may sometime recall false information (p. 51). The author also indicates that some subjects end up recalling memories that they would otherwise be reluctant to discuss out loud (p. 52). Perhaps, a way to raise the chances of gaining correct information during hypnosis is to build rapport with the interviewee prior to the interview.

**Methods of Detecting Deception- Building Rapport**

Building rapport with the person is an important step when conducting an investigative interview, so certain preparation should be included (Dreeke & Navarro, 2009, p.1). Dreeke and Navarro (2009) indicate that a valuable way to establish rapport is “isopraxis”, which involves copying or mirroring the behaviors of the person being interviewed (p.1). The authors indicate that Isopraxis is something humans have been doing since they were babies, so it seems to be a skill that most people already have (p.1). When an investigator mirrors the behavior of the person they are interviewing, it helps to build rapport by matching the style of communication the person prefers (Dreeke & Navarro, 2009, p. 2). When trying to build rapport with the person being interviewed, it is important to practice active listening and consider their non-verbal behavior in order to appear understanding and pleasant (Dreeke & Navarro, 2009, p. 2). Further, the authors also indicate that many people being interviewed by a person who socializes with them in a pleasant manner is more likely to cooperate, be more attentive and respond to questions being asked of them (p. 2). An investigator who is able to build rapport and mirror communication styles with people they interview is more likely to become a successful
interviewer, and they are more likely to identify useful informants during an investigation (Dreeke & Navarro, 2009, p. 2).

Building rapport with victims of crimes might be just as crucial when gathering information during an investigation as it is with possible informants. Often times, a victim is traumatized by the experience they had, so being asked to describe details of the crime they were a victim of to an officer in a uniform may seem really intimidating (Fisher, 2010). For that reason, it is vital that the interviewing officer take the time to develop a plan to build a positive relationship with the victim in order for them to feel comfortable enough to divulge details of the crime (Fisher, 2010). Collins, Lincoln, and Frank claim that the same courtesy should be given to any witnesses of crimes as well as direct victims (as cited in Fisher, 2010). When an interviewer questions a possible informant, victim, witness or suspect, they will sometimes videotape the meeting with the intention of later using it in court as evidence in a trial (Kassin, 2008, p. 1319).

**Methods of Detecting Deception- Videotaping Interviews**

Another method of detecting deception through investigative interviews is videotaping the interviews (Kassin, 2008, p. 1319). Kassin (2008) claims that even though there are multiple states in the United States that have “mandatory videotaping requirements”, there are other states that offer it on a voluntary basis only (p. 1319). Even though videotaping an interrogation or interview is not required in every state, there are some advantages. One advantage is the presence of the camera being a deterrent to the interviewer from using abusive tactics to get the suspect to tell the truth (Kassin,
Videotaping seems to benefit the suspect and the victim by ensuring that the suspect was treated fairly when being interrogated, and it benefits the victim by ensuring that the evidence and stories actually match. If the stories don’t match, then deception could be discovered when comparing the recorded interview with the actual evidence. Other than helping to compare evidence with stories given in an interview, videotaping may turn out to be beneficial for other reasons. Videotaping during interviews can benefit a case in court, because they provide exact evidence and descriptions of the sequence of events, help to verify the facts, help to identify the mental and physical state of the suspect, and they ensure the way the statements were taken and verify that certain statements were not given due to coercive tactics from the interviewer (Kassin, 2008, p. 1319). When questioning a suspect, witness, informant or victim, it may be important to be a trained interrogator or interviewer in order to gain the most useful information for the case.

**Training to be a Good Interrogator and Interviewer**

While the words ‘interrogator’, ‘investigator’ and ‘interviewer’ may be used interchangeably in this research, state prosecutors may prefer the word ‘interviewer’, which relates to a meeting and discussion between them and the suspect or person they are interviewing (Kassin, Appleby & Torkildson Perillo, 2010, p. 39). Additionally, the word ‘interrogator’ is likely to be used by defense lawyers, because they tend to have one-on-one meetings that involve grilling the suspect to get answers from them rather
than to simply interview them (Kassin et al., 2010, p. 39). Training to be a good interrogator, investigator and interviewer is crucial to uncovering the most vital information when solving a case. Interviewers should be trained up on skills such as asking open ended questions versus closed ended questions, participation and cooperation in pre and post training, and role play interviews (Fisher, 2010; Wright & Powell, 2006), and conducting an interview in such a way that answers given identify deception and truth (Clemens, Granhag, & Stromwall, 2011), and learning to ask direct versus strategic questions (Levine, Shaw, & Shulman, 2010, p. 229).

According to Wright and Powell (2006), it is crucial that interviewers are mindful to ask the right questions when interviewing a suspect, witness, victim, etc. (p. 317). The proper training in asking open ended versus closed ended questions can mean the difference of a very informative interview, or an unsuccessful one (Fisher, 2010). Open ended questions focus on the interviewee and allow them time to arrange their thoughts and tell a whole story versus only being asked a closed ended question that may mean their answer is as simple as ‘yes’ or ‘no’ (Wright & Powell, 2006, p. 317). Asking closed ended questions to a child may create a risk of confusing them which may result in a fabricated story (Wright & Powell, 2006, p. 317). Additionally, Wright and Powell (2006) claim that interviewing with open ended questions is especially important when a child is the person being questioned, because their cognitive abilities are not as developed as they will be when they are adults (p. 317). Regardless of the age of the interviewee though, it is important for the interviewer to be properly trained in how to ask the right questions.
Additional training may include investigators participating in role-play interviews, where one plays the investigator and one plays the interviewee (Wright & Powell, 2006, p. 319). Constructive feedback would then be given to the investigator to help them improve their interviewing skills (Wright & Powell, 2006, p. 319). Further, knowing the difference between open ended questions and closed ended questions is important (Levine et al., 2010, p. 229). The role play interviews allow a professional interviewer to analyze the types of questions others ask in training and to make suggestions to improve for performance reviews (Wright & Powell, 2006, p. 319). Further feedback should be given to the interviewer to help them know which questions to ask that will help identify truths and lies (Clemens et al., 2011, p. 519).

Criminal Justice Students’ Perceptions and Knowledge

Criminal Justice students learn about many topics in college such as gangs, corrections, courts, laws, abuses, interviewing and investigations, so one might reasonably assume that students should have some perceptions or knowledge of these topics. Research has indicated that Criminal Justice students have perceptions on topics such as ethics (Bjerregaard & Lord, 2004; Lord & Bjerregaard, 2003), cheating and academic dishonesty (Zimny et al., 2008), sexual lying (Williams, 2001), prisons (Smith et al., 2009), and drug policies (Garland et al., 2012). Further examination of topics related to the perceptions and knowledge criminal justice students may have on these topics is included in this research.
Criminal Justice Students’ Perceptions and Knowledge- Ethics

Lord and Bjerregaard (2003) indicate that ethics is an important course to teach to college students, and their research focuses on the impact that a criminal justice ethics course has on the likelihood that those particular students will engage in certain unethical behaviors (p. 192). In following the beliefs of Aristotle, Lord and Bjerregaard (2003) believe that ethical behavior is not something that can be taught to people (p. 192). Instead, it is a necessary component in a persons’ upbringing (Lord & Bjerregaard, 2003, p. 192). Due to the importance of the topic of ethics within many aspects of the criminal justice field, it may be necessary to require a semester long ethics class instead of just devoting a portion of a criminal justice semester course to ethical topics (Lord & Bjerregaard, 2003). Ethics is an important topic to teach to students of many disciplines.

Other than criminal justice students, it might be beneficial to teach ethics to students majoring in nursing, law, social science, business and social work, among other fields. They all have aspects of their careers where they may have to make decisions based on what is ethical. For example, nurses may need to make split second decisions based on ethics in order to save a patient. Lawyers are faced with making ethical decisions every day in order to defend their clients. People working in the business sector should consider ethics when buying and selling companies. Social workers may have to make an ethical decision about whether or not to write a Child Abuse report if they witness unethical behavior by the caregivers. While ethics courses may be in many different majors, there is little research that focuses on the evaluation of the relationship between ethics and criminal justice coursework (Lord & Bjerregaard, 2003, p. 195).
In order to better understand the relationship between ethics courses and criminal justice students and any changes that may occur, Lord and Bjerregaard (2003) explored the impact that a specific ethics course has on the beliefs and values of criminal justice students (p. 195). The authors indicate that their expectations were that taking an ethics course would effect the students’ values, beliefs, and likelihood of engaging in unethical behavior. (p. 196). The first half of the semester included in depth class discussions relating to ethical reasoning and critical analysis of certain problematic situations, and the second half of the semester included criminal justice ethical issues (Lord & Bjerregaard, 2003, p. 196). The data collection method implemented by the authors included the researchers distributing anonymous and voluntary self-administered surveys to the students in the ethics course during the first and last week of class, with a total sample size of 43 students (p. 196). Additionally, the survey included topic sections that were meant to measure basic demographic characteristics, value orientations, likelihood of future involvement of unethical behavior, and ratings of ethical violations (p. 196).

In order to determine if there were any differences between the student’s beliefs and values over the course of this class, the researchers had to compare the answers on the completed surveys (Lord & Bjerregaard, 2003, p. 196). The authors found that one main difference in the surveys was that the students are more likely to respond with more detailed answers following the ethics course. The authors also found that the ethics course did have a very dramatic impact on the values that the students share (p. 199).

Due to their knowledge of other criminal justice topics such as law, courts, prisons, sentencing, etc., criminal justice students may be less likely to believe they
would engage in ethical violations and more likely to view these violations as serious compared to non-criminal justice students. When looking at the perceived likelihood of students engaging in serious ethical violations, there weren’t many changes (Lord & Bjerregaard, 2003, p. 200). This was mainly because students indicate similar responses for this question for pre and post ethics class. The authors found that students believe that certain crimes are actually less serious post ethics class versus pre ethics class (p. 199). More specifically, the authors indicate that there were slight differences in the perceptions that the students had about how police officers might view certain crimes such as keeping cash found in a wallet (p. 202).

Overall, the beliefs and values of the students changed over the course of the ethics class (Lord & Bjerregaard, 2003, p. 198). The authors also found that the students became less concerned with “personal gain” and more concerned with the “welfare of others”, which was considered to be positive since these students chose to obtain a career that focuses on helping other people (p. 202). One might gather from this research that teaching an ethics course in many fields of study may be necessary and beneficial to the students, and that an entire semester long ethics course is more beneficial to the students’ beliefs and values than only teaching a portion of a course on ethics.

**Criminal Justice Students’ Perceptions and Knowledge- Academic Dishonesty**

Ethical issues carry over to more than just what students believe or what their values are about certain topics. Ethics can also be applied directly to the students and whether or not they are honest during their college career. Academic dishonesty is a necessary topic to consider, because one might assume that it occurs at every college at
one point or another. According to Bjerregaard and Lord (2004), one of the most studied ethical issues related to college students on college campuses is the occurrence of academic cheating (p. 265). Students may face different opportunities to cheat in school, such as cheating on tests, group projects, and papers, among other things. There are slight differences between criminal justice majors and non-criminal justice majors when it comes to their thoughts about cheating (Bjerregaard & Lord, 2004, p. 265). While both criminal justice majors and non-criminal justice majors feel shameful when considering the possible consequences of cheating in school as well as believing that cheating is morally wrong, criminal justice majors are more likely to be influenced by the actions of their friends whereas non-criminal justice majors are more likely to be influenced by the pleasure of engaging in such high risk behavior such as academic cheating (Bjerregaard & Lord, 2004, p. 265).

There may be differences in what male versus female criminal justice students believe when it comes to ethics (Bjerregaard & Lord, 2004, p. 265). Male criminal justice students believe that positive reactions to choices made are likely to result from decisions followed by rules put in place (Bjerregaard & Lord, 2004, p. 266). On the other hand, female criminal justice students believe that positive reactions are more likely to occur when a female determines on her own that a moral decision has been made rather than relying solely on following rules (Bjerregaard & Lord, 2004, p. 266).

Interestingly enough, Zimny et al. (2008) found that those students who admit to cheating in school, whether it means cheating on a test or plagiarizing, they are also more likely to be a student that experiences dishonesty in their personal relationships. For
example, if a student admits to cheating in their academic life, they are also more likely
to lie in relationships with friends or even their sexual partners (Zimny et al., 2008). One
can’t assume that every dishonest student is actually going to admit to cheating though.
Further interest about student dishonesty is continued with the topic of lying in sexual
relationships.

**Criminal Justice Students’ Perceptions and Knowledge- Sexual Lying**

Ethics and deception are necessary topics to consider when discussing criminal
justice students, because they may face making decisions related to ethical issues or
suspects lying to them in order to avoid being punished. Other than focusing on students’
perceptions about ethical issues and academic dishonesty, the topic of lying in sexual
relationships is also of particular interest (Williams, 2001, p. 2322). As previously
mentioned, the students who admitted to being dishonest in school are more likely to also
lie in their personal relationships apart from school (Zimny et al., 2008, p. 292). Even
though cheating in school is a serious offense, lying in sexual relationships is a major
health concern, because many people rely on the honesty of their sexual partner before
making the decision to engage in a sexual relationship with them (Williams, 2001, p.
2322). For those people who regularly inquire about sexual history in a potential sexual
partner, they may be reducing their likelihood of contracting a sexually transmitted
disease (Williams, 2001, p. 2335).

On the other hand, it may be tough to know if the potential sexual partner is
telling the truth about their sexual history. One would have to be able to detect deception
in their potential partner in order to know for sure. While some indicate that many people
tell lies in order to protect themselves or minimize the chance of rejection (Kashy & DePaulo, 1996) others claim that they are less likely to lie about their sexual history than their casual partners would (Williams, 2001, p. 2323). If a person is willing to lie about their sexual history, it may be reasonable to assume they are also likely to lie about other aspects of their lives and experiences (Williams, 2001, p. 2323). Knox, Schacht, Holtm & Turner claim that students who lie to sexual partners, often lie about things that are indirectly related to their sexual history but more related to their feelings about sex in general (as cited in Williams, 2001, p. 2323). One might assume that if a person is willing to lie to you about irrelevant information, then they are likely to lie to you about other things as well.

Williams (2001) conducted a study that involved an investigation of four different sub-studies at four different colleges (p. 2324). All four studies examined different aspects of sexual relationships and the researcher expected to find that students were less likely to be dishonest in a sexual relationship if they were closer to the person. The first study examined the honesty a person has with themselves and honesty they have with their partner (Williams, 2001, p. 2324). The second study examined the honesty a person has with a casual sexual partner (Williams, 2001, p. 2327). The third study examined the honesty the participants have with their primary, friend and stranger partners (Williams, 2001, p. 2329). The fourth study examined honesty about different topics with primary, friend and stranger partner types (Williams, 2001, p. 2332). The findings of all four studies were inconsistent regarding the sexual lying in certain relationships relating to how close the individuals were to each other (Williams, 2001, p. 2335).
The results of the four studies varied. The first study indicated that participants were more likely to give reasons why their partner was dishonest versus why they were dishonest with their partner, which indicated that most participants in this study were more worried about protecting themselves over their partner (Williams, 2001, p. 2326). On the other hand, the second study indicated that participants are more likely to be honest with their partners about any STD’s they’ve had, but they would be less likely to be honest about how many sexual partners they have had or what sexual acts they are interested in (Williams, 2001, p. 2328). Interestingly enough, the third study indicated that participants were more likely to be honest with their primary or friend partners about the number of previous partners they have had than to their stranger partners (Williams, 2001, p. 2330). However, participants were less likely to be honest with their primary partners about any times they have cheated on previous partners (Williams, 2001, p. 2330). Lastly, the fourth study indicated that participants tend to be more honest with the partners they are closest to (Williams, 2001, p. 2333). However, results indicated that participants tend to be less honest with their primary and friend partners about any sexual acts or history that they believe is irrelevant (Williams, 2001, p. 2333).

Additionally, this study showed that students were generally more likely to be honest with sexual partners they are closer to versus ones with whom they only had a casual relationship with (Williams, 2001, p. 2336). This study also indicated that there are two factors related to sexual lying in relationships. The first factor is the closeness of the two people in the particular sexual relationship, because the closer they are, the less likely either person would lie about their sexual history (Williams, 2001, p. 2336). The
second factor is related to the individual differences in beliefs about honesty and personal habits (Williams, 2001, p. 2336). Interestingly enough, the majority of students who participated in the study indicated that they are generally quite honest with their sexual partners about their sexual history (Williams, 2001, p. 2337).

**Criminal Justice Students’ Perceptions and Knowledge- Prisons**

Tsoudis claims that criminal justice majors have interesting perspectives on topics related to criminal justice compared to incarcerated people and even students who study other majors (as cited in Smith et al., 2000, p. 293). This difference in perspectives may be due to the amount of criminal justice related courses they take versus students in other majors. In an attempt to increase the “intellectual abilities” of students, some colleges offer correctional tours to give the students opportunities to experience brief exposure to a portion of the criminal justice system (Smith et al., 2009, p. 294). When criminal justice students take a tour of a correctional facility, they are given the opportunity to observe real life inside a prison instead of just reading about it in their textbooks, which helps to improve their cognitive development (Smith et al., 2009, p. 294). Additionally, many jobs in the criminal justice field require prior experience or exposure to the criminal justice system.

Gaining first hand insight of the criminal justice system may help the student decide on a certain career path for their future. Exposing criminal justice students to facility tours of prisons will help them gain a truthful outlook on the criminal justice system, rather than relying solely on their personal prejudices they developed from other sources such as their peers or television. Incorporating learning tools aside from what is
used in a normal classroom setting, exposes the students to a new truth, and they can apply their experiences to their knowledge gained in their college career as well as their future professional careers. In doing so, the students might gain knowledge and a perspective that may help them when deciphering truths and lies within the criminal justice system.

In an attempt to give students an opportunity to gain knowledge and perspective on prison life, this study involves students visiting two maximum security facilities for males and one maximum security facility for females (Smith et al., 2009, p. 296). In this study, students were not allowed to take notes during the tour (Smith et al., 2009, p. 296). Instead, the students were instructed to take two questionnaires, one before and one after the visit (Smith et al., 2009, p. 292). The researchers were hoping to find differences in their knowledge and perspectives before the tour compared to after the tour (Smith et al., 2009, p. 296).

The results of the study found that over 85% of students changed their perceptions about prisons after taking the tour (Smith et al., 2009, p. 299). The authors indicate that the students believed that the threat of a prison sentence was a necessary deterrent to criminal activity (p. 300). The authors state that before the tour, students viewed incapacitation as a response to reinforce public safety, and viewed rehabilitation as an important aspect when addressing the needs of certain people such as ones who are drug addicted, mentally ill, etc. (p. 301). The students also agreed that retribution and restoration were necessary components of punishment (Smith et al., 2009, p. 301).
Surprisingly enough, students changed their perspectives about the physical environment of prisons after taking the tour compared to their previous assumptions. The students previously assumed that prisons were looked at as a place of “danger” and “vulnerability”, but after taking the tour, their opinions were actually the opposite (Smith et al., 2009, p. 303). The authors indicate that students perceived prisons as “clean, organized, militaristic, and minimalist”, and they were surprised by the closeness of all the cells, cafeteria tables and the openness regarding showers and bathroom facilities (p. 303). Further, the students also assumed that the majority of inmates would be of low socio-economic status, low IQ, mostly African Americans and perhaps poor hygiene (Smith et al., 2009, p. 305). Post prison tour, the students realized that their prejudices were partly incorrect, and that there are different education levels among inmates, different races and ethnicities, different socio-economic statuses of inmates, and a mixture of ages (Smith et al., 2009, p. 305).

For future courses, it might be helpful for professors to come up with more hands on ways to teach criminal justice students about the criminal justice system. For example, professors could incorporate certain films, facility tours, class discussions and debates, as well as other opportunities for external learning rather than just using a textbook and class lectures to teach (Smith et al., 2009, p. 294). In doing so, the students will gain particular insight in the real life of the criminal justice system, which may further benefit their educational experiences. If students participate in opportunities that involve observation or interaction with different fields of criminal justice, such as the prisons, the student is given the opportunity to gain real world experience which may
help them decide which avenue of criminal justice to focus on for a future career.

Unfortunately, many criminal justice students haven’t been exposed enough to direct experiences in the criminal justice system (Smith et al., 2000, p. 293).

**Criminal Justice Students’ Perceptions and Knowledge- Drug Policies**

The “war on drugs” has been running full force for thirty years and continues to be of particular concern to many criminal justice agencies and U.S citizens alike (Garland et al., 2012, p. 3). In addition to the continuation of the war on drugs, more drug users are ending up in prison which also contributes to overcrowding. There has been little research focusing on criminal justice students’ perceptions of drug policies in the United States. As for the attitudes about marijuana use, over 90 million Americans have reported using marijuana in their life and it just happens to be one of the most commonly used drugs by high school and college students (Garland et al., 2012, p. 6). Some Americans believe it should be legal to use marijuana, which has more recently resulted in some states legalizing its use (Garland et al., 2012, p. 6). Garland et al. (2012) indicate that citizens in those states may purchase marijuana for personal use without the fear of getting caught and possibly charged with a crime (p. 6). As for testing for drug use, some Americans agree it is necessary when applying for certain jobs such as public safety, but others agree that mandatory drug testing is directly related to job retention and employees resigning from their position or withdrawing from background requirements to obtain a new position (Garland et al., 2012, p. 7).

Garland et al. (2012) received permission from college faculty to conduct a study that included distributing surveys to students during class time, and asking them to
voluntarily complete the survey (pg. 8). In order to be eligible to participate, the students had to be at least 18 years old. Of the eligible students, a total of 294 criminal justice or legal policy students voluntarily completed the survey (p. 8). The survey included 50 questions about basic demographic data, attitudes toward current drug policies, specific attitudes toward marijuana, and specific attitudes toward drug testing (Garland et al., 2012, p. 8).

After an in depth analysis of the surveys completed, the researchers found little variation among college students taking classes in criminal justice and legal policy (Garland et al., 2012, p. 9). However, having a specific major was a factor in predicting more tolerant attitudes towards marijuana use. The results of the study indicate that over half of the students who participated admitted to smoking marijuana or using other drugs (Garland et al., 2012, p. 9). The authors claim that many of the students admitted that there was a serious drug related problem in America and that the war on drugs was failing to do its job (p. 9).

Additionally, the authors indicate that the majority of the students believe that drug rehabilitation programs should be the punishment for drug users rather than prison sentences, and most of the students agreed that those said drug programs are successful (p. 9). Criminal justice and legal studies majors tend to lean towards the belief that decriminalizing and legalizing marijuana use should happen as compared to students of other majors (Garland et al., 2012, p. 12). The criminal justice students that completed the survey developed beliefs and have gained knowledge about drug policies (Garland et al., 2012, p. 12). In the future, it would be helpful to include more research relating to the
accumulation of knowledge through the college experience that focuses on how doing what it takes to earn a college degree makes a difference in the knowledge gained about the subject matter.

**Theoretical Framework**

The future of the criminal justice system may somewhat rest on the knowledge and beliefs of the current criminal justice students. There is little research that covers the knowledge and beliefs criminal justice students have about the topic of detecting deception, so this researcher identified two different theories to help address these topics. The two theories included are Ausubel’s (1962) Assimilation Learning Theory and the Theory of Cognitive Dissonance (Metin & Metin-Camgoz, 2011, p. 131).

The accumulation of knowledge may be critical for the future generation of law enforcement officers, lawyers, probation officers, investigators, etc. According to Ausubel’s (1962) Assimilation Learning Theory, students learn through cognitive abilities or the acquisition of knowledge by relating new knowledge to what they already know (Novak, 2011, p. 59). David Ausubel first introduced his theory in 1962 and has been adjusting it over the years to relate to new generations of students. According to Ausubel’s Assimilation Learning Theory, the key is to recognize the distinction between two kinds of learning, learning by rote and meaningful learning (Novak, 2010, p. 21). According to Ausubel (1962), when learning by rote, a person is learning by not making any new effort to include new ideas in their cognitive structure (Novak, 2011, p. 22). On the other hand, Ausubel favors meaningful learning, which refers to when a learner chooses to include new ideas and concepts that are consistent with their existing
cognitive structure (Novak, 2011, p. 22). Meaningful learning is the process by which a person adds new knowledge to current knowledge which allows the student to move further in their educational path by storing more information in their brains. When new learning occurs, some of the new knowledge that relates to information already stored in the brain, allows for further growth and more storage for new information. While the student holds onto previous knowledge about topics related to criminal justice for example, they are also gaining new knowledge, so they are also becoming more knowledgeable as they move forward in their college career.

According to Rokeach (1970), the terms beliefs, attitudes, and values are all related and organized together to form a “cognitive system” (p. ix). If a person’s beliefs, attitudes or values change, then that change will result in the person changing their behavior and thoughts about different topics (Rokeach, 1970). In the case of the lower division criminal justice students and upper division criminal justice students, their beliefs about topics like deception would differ based on their attitudes, values, experiences and knowledge they encounter during their four years of college.

Student beliefs effect different aspects of their daily lives, including their beliefs about topics in their criminal justice courses such as deception. In an attempt to further express how student beliefs evolve and develop over time, Hill et al. (2013) conducted a study about undergraduate students beliefs about the meaning of life. The study included student beliefs about topics such as the meaning of life, their goals, evolution of their decisions over time, how they can apply what they learn to a future career, having a family, and self-improvement and self-care (Hill et al., 2013, p. 404). The study also
included what it will take for the students to feel happy, what they believe about their own personal relationships, their personal development and personal growth (Hill et al., 2013, p. 401). The students noticed over time that the exposure to different topics in school as well as different experiences in their personal lives, allowed them to further develop their beliefs and they went from once relying on others’ thoughts to them feeling confident enough in their knowledge and life path to speak and think for themselves (Hill et al., 2013, p. 404). Additionally, their beliefs about their life goals evolved over time through the experiences they have had during college and further helped them to develop their personal beliefs for their future (Hill et al., 2013, p. 405). This article speaks to how student beliefs about deception develop over time through their college and life experiences. Each student has beliefs about topics when entering college and over time, their beliefs evolve and further develop with each passing day, week, month and year they are learning and experiencing new things.

As described in social psychology, Cognitive Dissonance Theory focuses on a person's desire to relieve the tension caused by incompatible beliefs leading to attitude change. This theory was first introduced in 1957 by Leon Festinger, and was since further developed by other researchers who study beliefs and attitudes (Metin & Metin-Camgoz, 2011, p. 131). The theory of cognitive dissonance is based on the thought that people hope to live with consistency in their lives, and if they are ever faced with inconsistency, then they make an effort to rationalize those inconsistencies in order to reduce the discomfort the inconsistencies may cause (Metin & Metin-Camgoz, 2011, p. 131). Festinger describes consistency with the term “consonance” and describes inconsistency
with the term “dissonance” (Metin & Metin-Camgoz, 2011, p. 131). In the case where someone experiences dissonance, they make efforts to reduce it and avoid situations that would cause them more inconsistency (Metin & Metin-Camgoz, 2011, p. 131).

Dissonance may occur when an individual holds two cognitions (beliefs, opinions, ideas) which are psychologically inconsistent with each other (Berkowitz, p. 3). Since dissonance is unpleasant, people strive to reduce it in their lives or thoughts by adding “constant” cognitions to make them “fit together” so they become more consistent with each other (Berkowitz, p. 2). In the case of the criminal justice students’ beliefs about deception, students with certain beliefs or attitudes about deception might change them if the material presented in classes creates tension because it might make them question their existing beliefs or attitudes. This can also occur when a student observes their classmates questioning the topic of deception or bringing up events (i.e., a murder case, case study, etc.) related to the topic that may trigger the student to change their pre-existing beliefs. Through the course of the semester or through the course of taking other criminal justice classes, students develop their thoughts, perceptions, attitudes and beliefs about topics related to their studies such as deception, which is why it is expected that criminal justice lower division students have different beliefs as compared to upper division criminal justice students.

Hypotheses

After careful consideration of the topic of deception and related topics covered in the literature review, the researcher included two theories that helped address student knowledge and perceptions. Ausubel’s (1962) Assimilation Learning Theory addresses
the topic of knowledge in that lower division criminal justice students (CrJ 001) are not as knowledgeable about the topic of deception as criminal justice upper division students (CrJ 190). The CrJ 190 students have had several years to build their cognitive skills as well as their exposure to criminal justice related classes and topics, which has resulted in them being more knowledgeable in the end. Additionally, criminal justice students enrolled in CrJ 190 are likely to be more knowledgeable about topics like deception as compared to those students enrolled in CrJ 001, because they have had more time to be exposed to such topics as well as expand their brain by learning new information. Any knowledge that CrJ 190 students already had about deception when they began their criminal justice coursework was met with new knowledge that they gained throughout their college career.

Similar to how criminal justice 190 students have more knowledge about deception than criminal justice 001 students due to their exposure to the criminal justice system in their college courses and their life experiences, the researcher used Festinger’s Theory of Cognitive Dissonance to support how the beliefs criminal justice students have in the beginning of their coursework develop as they move further in their college career (Metin & Metin-Camgoz, 2011, p. 131). As mentioned previously, when students experience inconsistencies in their lives or in school, they do what they can to minimize those inconsistencies. When doing so, their beliefs and perceptions about topics covered in their coursework may change. Since there hasn’t been a lot of research that focuses on criminal justice students knowledge and perceptions about topics like deception, one
might wonder if the theories included in this research are consistent with the following hypotheses:

_Hypothesis 1_- Lower Division criminal justice students are not as knowledgeable as upper division criminal justice students about deception.

_Hypothesis 2_- Lower division criminal justice students have different beliefs about deception as compared to upper division criminal justice students.

**Summary**

There are numerous methods of detecting deception in others, which may include but are not limited to non-verbal and verbal cues. More specifically, some non-verbal cues that may detect deceit include cognitive load, gaze aversion, traditional and deliberate eye contact, as well as different behavioral cues and changes in emotions people experience. Additionally, some verbal cues to detecting deception include speech rate, pauses in speech, inconsistent stories and the length of someone’s responses. While paying close attention to the non-verbal and verbal cues to detecting deception, it is important to also consider other methods such as hypnosis and polygraph tests, attempting to build rapport with the person being interviewed, videotaping the interview, and being trained to be an interviewer or investigator.

While there is a lot of research that focuses on deception and being able to detect when someone is lying, methods of detection, investigation and interviewing methods, and perceptions of criminal justice students regarding topics related to criminal justice, there is very little research focusing on criminal justice students’ perceptions of detecting deception. The theories in this research include Ausubel’s (1962) Assimilation Learning
Theory to support the knowledge students have about detecting deception and Cognitive Dissonance Theory to help support why the beliefs students have about detecting deception change over the course of their undergraduate coursework. The two theories discussed are consistent with the hypotheses included in this thesis. The following methodology section will encompass the purpose of the research, the research design, participants, and the strengths and limitations of survey research.
Chapter 3

**Methodology**

The research that covers topics like the beliefs and knowledge criminal justice students have about deception and the different methods of detecting deception is minimal. If criminal justice students plan to work in fields such as policing, law or investigations, it is reasonable to assume that they should be knowledgeable about deception and how to detect it in others. There are non-verbal and verbal cues to detecting deception. Some non-verbal and verbal cues include eye contact, voice pitch, cognitive load, physiological responses to interviewing, to name a few. Knowledge of deception and ways to detect when a person is lying seems to be an area of study that should be covered in the college experience for criminal justice students, which is why the lack of research on their beliefs and knowledge about deception is of particular interest.

**Purpose**

The purpose of this study is to gauge the beliefs and knowledge undergraduate criminal justice students have about deception and methods of detecting deception. This researcher is interested in learning more about being able to detect when a suspect is lying. There is a lot of research that covers the topic of deception and different methods of detecting deception, but there is little to no research that covers criminal justice students’ beliefs and knowledge of this subject. This research also hopes to determine if lower division criminal justice students are not as knowledgeable as upper division criminal justice students about deception and whether lower division criminal justice
students have different beliefs about deception as compared to upper division criminal justice students.

**Research Design**

This study seeks to explore the differences in the beliefs and knowledge about deception from the beginning of the students’ criminal justice coursework (CrJ 001) to the end of the coursework (CrJ 190). A quantitative research design was used in this study by administering surveys to students in the available criminal justice CrJ 001 and CrJ 190 classes. The survey included questions and statements relating to beliefs and knowledge about deception and methods of detecting deception. In this study, the independent variable is the participant’s enrollment in either CrJ 001 or CrJ 190. The dependent variables are the participant’s beliefs and knowledge about the topic of deception and methods of detecting deception.

**Sampling Strategy**

The two courses targeted for this research reflected purposive sampling in an effort to determine the differences in students’ beliefs and knowledge at two points in the Criminal Justice educational path. The sampling strategy required that the researcher identify the criminal justice 001 and 190 courses available for the Spring 2013 semester, which determined the sampling frame. For this study, the sampling frame consisted of eight sections of CrJ 001 and eight sections of CrJ 190 available for the Spring 2013 semester. After listing out all CrJ 001 courses and CrJ 190 courses to survey, the researcher added up the capacity of each course session to get an estimated population of students. There were 523 CrJ 001 students and 240 CrJ 190 students that were potentially
available to participate in the study. In order to determine the necessary amount of
students needed to conduct this research, a size calculator was used at
http://www.surveysystem.com/sscalc.htm. In order to determine the sample size, a
confidence interval and a confidence level were used. A confidence interval of 5 and a
confidence level of 95% were chosen for this study. Of the 763 students (523+240), the
researcher needed to survey at least 250 criminal justice students as determined by the
sample size calculator. The researcher hoped to include all available CrJ 001 and CrJ 190
courses. This helped to ensure that the researcher met or exceeded the target number of
250 student participants even if some professors did not provide access to students in
their courses.

**Eligibility and Participants**

The eligible participants included any student enrolled in either CrJ 001 or CrJ
190, 18 years of age or older, and who volunteered to complete the survey. One course,
CrJ 001 included primarily lower level criminal justice students (freshman/sophomores).
The second course that was surveyed included upper level students (graduating seniors)
in criminal justice 190. After surveying various Criminal Justice 001 and 190 courses at
California State University, Sacramento, a total of 367 participants were included in this
study. The ages of student participants ranged from 18-49 years old. Both male and
female students participated by completing the survey. While all of the CrJ 190 students
were criminal justice majors, the researcher found that the majority of the CrJ 001
students were not intended criminal justice majors.
Of the 367 participants, there were a total of 170 students enrolled in CrJ 001, but only 36 of those students were intended to be criminal justice majors. The remaining 197 students that were enrolled in CrJ 190 were all criminal justice majors. This resulted in a total of 233 criminal justice or intended criminal justice majors. This left 134 CrJ 001 students that were not intended to be criminal justice majors. To address the research questions identified in this study, the researcher only focused on the CrJ 001 and 190 students who were either intended or actual criminal justice majors (N=233). Additional analyses of the CrJ 001 non-criminal justice students were also included separately in this research.

Data Collection, Data Entry, Data Cleaning

Prior to the data collection, the researcher had to gain access to the eligible students in the available classes. In order to gain access, the researcher needed to obtain permission to administer surveys from the professors in each available section. The research had numerous email transactions as well as face to face conversations with the professors in an attempt to gain access to as many available sections of CrJ 001 and CrJ 190 as possible. Each professor was given a copy of the student script (see Appendix B), consent form (see Appendix C), and the survey to be administered in their class (see Appendix D). Once the professors gave approval for the researcher to administer surveys to their classes, the researcher coordinated a day and class time to survey the available students. For the professors that either didn’t respond to the requests from the researcher or declined to allow access, the researcher then tried to gain access with the next professor on the list.
Upon gaining access to the approved CrJ 001 and CrJ 190 courses, the researcher collected the data by asking the professor or a student volunteer to administer the surveys to all the students in the class. Otherwise, the researcher administered the surveys to every student who was present in the class. The researcher then waited in the hallway while all students who volunteered to participate, completed the survey. Any students who didn’t want to participate held onto the blank survey until other participants completed their surveys. Once the surveys were completed, the professor or student volunteer collected the forms and placed them in a sealable manila envelope. The professor or student volunteer then handed the sealed envelope to the researcher waiting in the hallway.

Once the researcher gathered all 367 completed surveys (see Appendix D), she numbered each survey, created a codebook (see Appendix E) for all the questions and statements in the survey, and then created an Excel spread sheet where she entered the completed data from all the surveys. Once the data from all surveys were entered into Excel, the researcher cleaned the data by checking her entries against the actual surveys. Once the data were cleaned, the researcher analyzed the data in both Excel and SPSS using descriptive statistics. Once the data were analyzed in SPSS and Excel, the researcher created graphs and tables reflecting the results to help determine whether the hypotheses were supported.

**Strengths and Limitations**

In comparison to other research designs, the use of self-administered surveys has its strengths and limitations. The main strength of self-administered surveys is that it is
generally cheaper than other survey methods (Babbie, 2007). In this case, the researcher only had to pay out of pocket for the cost of printing the surveys. Another strength included the ability to sample large populations such as college students, which was beneficial in this study. This survey didn’t include any personally identifiable questions, and it didn’t include any questions or statements that might have made the participants uncomfortable.

In contrast, the use of self-administered surveys in research also has its limitations. The standardization of self-administered surveys can also be deemed a limitation. For example, questions that are designed for most respondents may actually leave out some of the population. Some students might leave out other relevant knowledge they may have that the researcher won’t obtain due to the specifics of the questions asked in the survey. For example, if a student has no knowledge of deception, they would have to skip all the knowledge questions on the survey. This means the researcher wouldn’t have as many complete surveys, which may result in missing data. Other concerns included whether or not the students were answering the survey truthfully. Further, some students might not have understood the questions, so they might have left them blank or guessed their answer. Since the researcher was not able to answer any questions during the completion of the surveys, the students were left to answer the questions to the best of their abilities.

**Reliability & Validity**

Both reliability and validity are important aspects in research studies. According to Babbie (2007), reliability refers to the reproduction of certain measures that lead to
results that are similar to one another, and validity refers to the integrity of whether something that has been measured really does measure what is expected. Each student received the same script, consent information and survey which ensured the ethics of the study. This study also included voluntary participation, written instructions that are clear and concise, and clear statements and standard questions. As for the validity of survey research, it is not as strong as the reliability because the participants may not interpret the statements or questions the same way which may then cause them to respond differently to the survey. In an attempt to increase the face validity of this study, the researcher made sure to create the survey with specific directions to each set of statements and questions in order to help ensure that the participant understood.
Chapter 4

Analysis

The first step in this data analysis included examining the frequency distribution of the variables included in the survey. Reviewing the frequencies allowed the researcher to check each variable included. During the review of the variables, the researcher was able to identify any errors in the data that needed to be cleaned before further analyses were conducted. Once the data were cleaned, the researcher was able to run cross-tabulations which included all variables. The variables reflected the statements relating to beliefs about deception and questions relating to the knowledge about deception. Table 1 includes the six belief variables; CRJINFDEC, RNGCLDEC, INTMETDEC, STUCARBEN, DETOWNGEN and LIEDETDEC, and it includes the five knowledge variables; VERCUEDEC, NONVERCUE, BUILDRAP, EYECONT, HYPNPOLY which were all included in this study.
Table 1

Description of Variables

<table>
<thead>
<tr>
<th>Beliefs Variables</th>
<th>Survey Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRJINFDEC</td>
<td>Criminal Justice Students have been informed of the topic of deception.</td>
</tr>
<tr>
<td>RNGCLDEC</td>
<td>California State University, Sacramento offers a range of courses covering the topic of deception.</td>
</tr>
<tr>
<td>INTMETDEC</td>
<td>Criminal Justice Students are interested in the topic of deception and methods of detecting deception.</td>
</tr>
<tr>
<td>STUCARBEN</td>
<td>Any Student who is interested in Law Enforcement, Law, or Investigations would benefit from taking a course in Detecting Deception.</td>
</tr>
<tr>
<td>DETOWNGEN</td>
<td>It is easier to detect deception in someone of your own gender.</td>
</tr>
<tr>
<td>LIEDETDEC</td>
<td>Every person who lies is able to successfully detect deception in others.</td>
</tr>
</tbody>
</table>

Knowledge Variables

<table>
<thead>
<tr>
<th>Survey Questions and Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>VERCUEDEC</td>
</tr>
<tr>
<td>NONVERCUE</td>
</tr>
<tr>
<td>BUILDRAP</td>
</tr>
<tr>
<td>EYECONT</td>
</tr>
<tr>
<td>HYPNPOLY</td>
</tr>
</tbody>
</table>

To further explain the belief statements in Table 1, the responses on the surveys were analyzed by using a Likert scale for the belief statements (1 = strongly disagree, 2 = disagree, 3 = unsure, 4 = agree, 5 = strongly agree). Multiple choice answers were available for the knowledge questions/statements and varied for each one. A detailed codebook is included in Appendix E.
Table 2 illustrates the demographic data in the survey. The demographic variables that were included were YOURGEND, AGETODAY, RACETHBAC, and UNDCLALEV. The gender variable was broken down by Male and Female. The age variable included student ages ranging from 18 to 49. The researcher collapsed the ages by grouping them 18-20, 21-23, 24-26, 27-29, 30+. The class level variable included freshman, sophomore, junior and senior. The race and ethnicity variable included American Indian or Alaskan, Asian, Black or African American, Hispanic or Latino, Native Hawaiian or Pacific Islander, White or Caucasian and Other. Table 2 indicates the percentage of students in each category out of 233.
Table 2

Demographic Characteristics of CrJ Majors

<table>
<thead>
<tr>
<th>Variable</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>53.1</td>
</tr>
<tr>
<td>Female</td>
<td>46.9</td>
</tr>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>18-20</td>
<td>11.5</td>
</tr>
<tr>
<td>21-23</td>
<td>57.6</td>
</tr>
<tr>
<td>24-26</td>
<td>23.31</td>
</tr>
<tr>
<td>27-29</td>
<td>7.56</td>
</tr>
<tr>
<td>30+</td>
<td>.02</td>
</tr>
<tr>
<td>Class Level</td>
<td></td>
</tr>
<tr>
<td>Freshman</td>
<td>8.0</td>
</tr>
<tr>
<td>Sophomore</td>
<td>3.1</td>
</tr>
<tr>
<td>Junior</td>
<td>3.5</td>
</tr>
<tr>
<td>Senior</td>
<td>85.4</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td></td>
</tr>
<tr>
<td>American Indian or Alaskan</td>
<td>.7</td>
</tr>
<tr>
<td>Asian</td>
<td>12.8</td>
</tr>
<tr>
<td>Black or African American</td>
<td>3.2</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>23.9</td>
</tr>
<tr>
<td>Native Hawaiian or Pacific Islander</td>
<td>1.8</td>
</tr>
<tr>
<td>White or Caucasian</td>
<td>49.1</td>
</tr>
<tr>
<td>Other</td>
<td>8.4</td>
</tr>
</tbody>
</table>

Research Question 1 of this thesis asks, are criminal justice students knowledgeable about the topic of deception? Out of 233 criminal justice majors, only 186 indicated that they knew about deception. The five questions included in the knowledge portion of the survey were VERCUEDEC, NONVERCUE, BUILDRAP, EYECONT, and HYPNPOLY. Participants were given a choice of up to 6 answers and only one of which is correct. An index was used to score the answers to the five questions. Any right answer was scored as 1 and any wrong answer was scored as 0. In
order to come up with the total score for each student, the right or wrong answers were added up to get a total of 0 to 5 out of 5. After the researcher used the index to score the answers, the group means were calculated. Of the 186 students, 27 scored 0 out of 5 answers correct, 65 students scored 1 out of 5, 68 students scored 2 out of 5, 22 students scored 3 out of 5, and only 4 students scored 4 out of 5. Of the 186 criminal justice students that indicated they knew about deception, no one scored 5 out of 5. Out of 186 students, on a scale of 0-5, the mean is 1.52. The results of the analysis of knowledge questions reflect that criminal justice students have limited knowledge.

Hypothesis 1 states, lower division criminal justice students are not as knowledgeable as upper division criminal justice students about deception. The researcher was able to examine the group means as previously mentioned to determine if criminal justice students are knowledgeable about deception. Figure 1 shows the difference of knowledge of deception between CrJ 001 criminal justice intended majors and CrJ 190 students.
The participants in Figure 1 include 25 CrJ 001 intended majors and 161 CrJ 190 students which equal a total of 186 CrJ students. CrJ intended majors in CrJ 001 classes scored on average 1.24 while CrJ 190 students scored 1.57 on the knowledge of deception index. An independent samples t-test was performed on 186 cases. Mean differences between CrJ 001 and CrJ 190 were not statistically different $t(33.540) = -1.699, p = .099$.

Hypothesis 2 anticipates that lower division criminal justice students have different beliefs about deception as compared to upper division criminal justice students. When comparing the belief statements between CrJ 001 intended majors and CrJ 190 students, a Chi Square statistic was calculated to determine if there was a relationship.
between the belief variables and enrollment in the given classes. Table 3 includes the six statements related to beliefs about the topic of deception, the calculated Chi Square value, and the significance level associated with that value.

Table 3

*Comparison of CrJ 001 Intended Majors and CrJ 190 Students*

<table>
<thead>
<tr>
<th>Description of Belief</th>
<th>Chi Square Value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>CrJ students are informed about deception</td>
<td>5.32</td>
<td>.256</td>
</tr>
<tr>
<td>CSU- Sacramento offers a range of courses about the topic of deception</td>
<td>32.82</td>
<td>.000 *</td>
</tr>
<tr>
<td>CrJ students are interested in the topic of deception</td>
<td>1.75</td>
<td>.626</td>
</tr>
<tr>
<td>Students interested in Law Enforcement, Law or Investigations may benefit from learning about deception</td>
<td>3.53</td>
<td>.171</td>
</tr>
<tr>
<td>It is easier to detect deception in someone of your own gender</td>
<td>4.29</td>
<td>.369</td>
</tr>
<tr>
<td>Everyone who lies can detect deception in others</td>
<td>6.26</td>
<td>.181</td>
</tr>
</tbody>
</table>

*p < .05

The results of the Chi Square tests indicate that there is no relationship between most of the belief statements and type of enrollment. A relationship between one particular statement, “CSU-Sacramento offers a range of courses about the topic of deception”, and type of enrollment proved to be significant with a Chi Square value of 32.82. This result indicates a difference in beliefs regarding Sacramento State’s course
offerings on the topic of deception between CrJ 001 intended majors and CrJ 190 students.

This researcher decided to complete additional analyses that included a comparison of the relationship between beliefs for CrJ intended majors and non-CrJ majors enrolled in CrJ 001 classes. Of the 170 students enrolled in these classes, 107 students indicated that they knew about deception: 25 CrJ intended majors and 82 non-CrJ majors. To determine these relationships, a Chi Square test was used and the significance level was included for each Chi Square value calculated.

Table 4

Comparison of CrJ Intended Majors vs. Non-CrJ Majors

<table>
<thead>
<tr>
<th>Description of Belief</th>
<th>Chi Square Value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>CrJ students are informed about deception</td>
<td>2.10</td>
<td>.717</td>
</tr>
<tr>
<td>CSU- Sacramento offers courses about the topic of deception</td>
<td>9.6</td>
<td>.048 *</td>
</tr>
<tr>
<td>CrJ students are interested in the topic of deception</td>
<td>4.27</td>
<td>.371</td>
</tr>
<tr>
<td>Students interested in Law Enforcement, Law or Investigations may benefit from learning about deception</td>
<td>.824</td>
<td>.935</td>
</tr>
<tr>
<td>It is easier to detect deception in someone of your own gender</td>
<td>2.7</td>
<td>.610</td>
</tr>
<tr>
<td>Everyone who lies can detect deception in others</td>
<td>1.34</td>
<td>.854</td>
</tr>
</tbody>
</table>

*p ≤ .05
The relationship between the second belief statement and type of enrollment in Table 4 reflects a Chi Square value of 9.6 and a significance level of .048. This result indicates a difference in beliefs regarding Sacramento State’s course offerings on the topic of deception between CrJ majors and non-CrJ majors. Results of the Chi Square tests indicate that there was no relationship between the other belief statements and type of enrollment.

This researcher was interested in examining the relationship between the students’ major and their level of knowledge about deception among CrJ 001 students. In doing so, the researcher used an independent samples t-test to examine the knowledge of deception between the non-CrJ majors and CrJ intended majors (see Figure 2).

\[ \frac{\text{Knowledge of Deception}}{\text{Non-CrJ Major N= 82}} \quad \frac{\text{CrJ Intended Major N =25}}{\text{Knowledge of Deception}} \]

Figure 2. Non-CrJ Majors vs. CrJ Intended Majors

Specifically in the CrJ 001 classes, non-CrJ majors scored on average 1.34 while CrJ intended majors scored 1.24 on the knowledge of deception index. Mean differences between non-CrJ majors and CrJ majors, as calculated by an independent samples t-test,
were not statistically different $t(48.64) = .476, p = .636$. The results in Figure 2 indicate that non-CrJ majors scored slightly higher than CrJ intended majors on the knowledge of deception questions and statements.
Chapter 5

Discussion and Conclusion

Main Findings

The main findings of the study indicate that CrJ 190 students are slightly more knowledgeable about the topic of deception as compared to CrJ 001 students and there are few differences in the beliefs of criminal justice intended majors and non-criminal justice intended majors. The researcher anticipated finding that CrJ 190 students are significantly more knowledgeable about the topic of deception as compared to CrJ 001 students and that CrJ 190 students held significantly different beliefs about the topic of deception as compared to CrJ 001 students. Instead, the results of this study indicated that CrJ 190 students are only slightly more knowledgeable about the topic of deception as compared to CrJ 001 students and that CrJ 190 students have only slightly different beliefs about deception than CrJ 001 students. Overall, the results of the study are a little disappointing.

Research Question 1

Research question 1 in this thesis asks whether criminal justice students are knowledgeable about the topic of deception. The researcher hoped to be able to answer this question by including a number of items measuring knowledge of deception on a survey instrument. After reviewing the results from the analysis of those items, the researcher found that criminal justice students have a little knowledge about the topic of deception.
The accumulation of knowledge about deception may play an important role in the future success of a criminal justice student who is interested in a career in law enforcement, investigations, corrections, etc. Of the knowledge questions, none of the students got all five questions right. The average score was 1.5 questions answered correctly. The results indicated that students were surprisingly not very knowledgeable about the topic of deception, which is disappointing.

Research Question 2

Research Question 2 in this thesis asks whether there is a difference in the knowledge of and beliefs about deception for students in the beginning of their criminal justice coursework versus students at the end of their coursework. The researcher addressed this question by formulating two hypotheses: the first hypothesis relates to knowledge of deception while the second hypothesis relates to beliefs about deception. Both of these hypotheses are discussed below.

Hypothesis 1

Hypothesis 1 anticipates that lower division criminal justice students are not as knowledgeable as upper division criminal justice students about deception. Hypothesis 1 is consistent with the theoretical framework of David Ausubel. Ausubel’s (1962) Assimilation Learning Theory supports that criminal justice students enrolled in CrJ 190 should be more knowledgeable about the topic of deception than criminal justice students enrolled in CrJ 001. The reasoning behind this idea is that CrJ 190 students have had a few more years of exposure to the criminal justice education than CrJ 001 students, which means they have had more time to apply new knowledge to old knowledge.
When comparing knowledge of deception between CrJ 001 versus CrJ 190 students, the results indicate that CrJ 001 students are only slightly less knowledgeable about deception as compared to CrJ 190 students. These independent samples t-test results reflect some support for hypothesis 1, but the difference in levels of knowledge is not significant. This result was surprising as the researcher expected the CrJ 190 students to be significantly more knowledgeable about the topic of deception due to their experiences and topics learned throughout their college career.

**Hypothesis 2**

Hypothesis 2 indicates that lower division criminal justice students have different beliefs about deception as compared to upper division criminal justice students. Hypothesis 2 is consistent with Leon Festinger’s Theory of Cognitive Dissonance. This theory relates directly to why students change their beliefs, attitudes or perceptions about topics, so it applies to why criminal justice students have differing beliefs from the beginning of their coursework versus at the end. To determine support for hypothesis 2, the researcher compared the significance of the belief statements between CrJ 001 and CrJ 190 students by performing a Chi Square test. Of the six belief statements previously discussed, the relationship between one statement and type of enrollment proved significant. The result of the Chi Square test was disappointing because the researcher was hoping to find that the beliefs about deception for lower division criminal justice students were significantly different as compared to upper division criminal justice students. It may be that criminal justice students don’t think very much about the topic of deception since they may not learn a lot about it in their coursework.
Additional Analysis

The researcher included additional analyses in this thesis in order to examine all of the students that volunteered to participate in this study. The researcher gathered a total of 367 completed surveys from CrJ 001 and CrJ 190 classes and within the CrJ 001 classes, there were a total of 107 students that were non-CrJ intended majors included in this additional analyses. Since the focus of this study is on criminal justice majors, they were excluded from the analysis of criminal justice and intended criminal justice majors. For these analyses, the researcher compared the differences in beliefs about and the knowledge of deception between CrJ majors and non-CrJ majors. To compare the differences in beliefs, a Chi Square test was included to determine whether the relationship between beliefs and type of enrollment was significant. The results of the Chi Square test indicated that only one belief statement showed any significance. The relationship between the other belief statements and type of enrollment were not significant.

As for testing the knowledge of deception among CrJ intended majors versus CrJ non-intended majors, an independent samples t-test was performed. Out of the 107 students enrolled in CrJ 001, non-CrJ majors were only slightly more knowledgeable about the topic of deception as compared to CrJ majors, which was surprising. The results might have occurred due to the greater number of non- CrJ majors (N= 82) as compared to CrJ intended majors (N=25) in this sample.
Limitations

Although 367 surveys were collected, not all of the analyses included all of data. For example, 107 respondents were excluded from the original analysis since the hypotheses focused on criminal justice students. This resulted in a small sample size used in the analyses. Another limitation of this study was the time in which it was conducted. The data were gathered during only one semester (Spring) in 2013. If data were collected over the course or multiple semesters, the sample size would be larger and the results may be different.

Conclusion

Overall though, mean differences between CrJ 001 and CrJ 190 were not statistically different, which was disappointing to the researcher. The lack of deception knowledge among criminal justice students may be due lack of related courses offered at California State University-Sacramento. Perhaps, if the undergraduate curriculum offered more deception courses, not just as electives but required upper division courses, students may acquire more knowledge about the topic.

Future Research

In addition to addressing limitations to this study, there are some other avenues that future researchers might take. This study included data collected from only two available CrJ classes during the Spring 2013 semester. Further research could include a wider range of CrJ courses throughout the available lower division and upper division courses offered over several semesters or several years. Other research regarding criminal justice students could include whether or not more deception courses should be offered at
California State University, Sacramento and whether doing so would make a difference in the beliefs and knowledge they have from the beginning of their criminal justice coursework to the end of their coursework. One might agree that it would be interesting to conduct additional research that involves the difference in beliefs and knowledge in criminal justice students by age, not just type of enrollment. One might also wonder if age or even gender has an impact on the beliefs and knowledge a student has about deception.
APPENDIX A

Professor Script

Hello, my name is Michelle Jackson. I am a Criminal Justice graduate student here at Sacramento State University. I am currently working on my thesis entitled, Beliefs and Knowledge about Detecting Deception among Criminal Justice Students at Sacramento State University. The purpose of this research study is to determine the beliefs and knowledge about detecting deception among Criminal Justice undergraduate students at this University.

In order to conduct this study, I hope to gain access to available sections of CrJ 001-Introduction to Criminal Justice and Society and CrJ 190- Contemporary Issues in Criminal Justice. As one of the available sections, your class (specify: COURSE, SECTION, TIME) has been selected to participate in this study. Each student in your class will be asked to voluntarily participate in the study by completing a survey that covers aspects related to their beliefs and knowledge about deception and methods of detecting deception.

Each student in your class will receive a paper containing consent information and a questionnaire. The consent information will address the purpose of the study, eligibility, procedures, risks and discomforts, benefits, anonymity concerns, and voluntary participation. During my introduction, I will reinforce to each student that their participation in this study is completely voluntary, and that I will not require them to include any identifiable information on the survey. I will inform the students that they can keep the consent form for their future reference should they need to contact me or the research sponsor about any questions they may have. If after reading the consent information, the student chooses to participate, s/he will complete the survey. If after reading the consent information, the student chooses not to participate, s/he will hold onto their blank questionnaire until you or a student collects all surveys. All surveys will be collected once all students who are willing to participate have completed the survey. All surveys will be placed in a sealable manila envelope by you or a student volunteer. You or the student volunteer will then hand the envelope to the researcher waiting in the hallway.

This process, which includes my introduction to this study, distribution of the surveys, and completion of the survey, will take approximately 15 minutes. I have also included copies of all documents (professor script, student script, consent information, and survey) for your review. Upon your approval, we will discuss an agreed upon time to distribute the surveys.
Hello, my name is Michelle Jackson and I am a Criminal Justice graduate student here at Sacramento State University. I am currently working on my thesis entitled, Beliefs and Knowledge about Detecting Deception among Criminal Justice Students at Sacramento State University. The purpose of this research study is to gauge the beliefs and knowledge about detecting deception among undergraduate Criminal Justice students at this University.

I will be handing out documents, which contain consent information and a survey to each student that is present today in this class. The front page is consent information and the remaining pages are the survey. Please read the consent information before deciding to participate or not participate in this research study. After reading the consent information, you may remove it and keep it for your own record or if you should need to contact me with any questions. Although your participation in this study is valued and appreciated, it is also completely voluntary. Because completing this survey is entirely voluntary, you may choose not to participate without any adverse consequences to you in this class. If after reading the consent information, you choose to participate, please complete the attached survey. If after reading the consent information, you choose not to participate, please hold onto your blank survey until all surveys are collected. Each student who chooses to participate will only fill out one survey. All surveys will be collected by the professor or a student volunteer and placed in a sealable manila envelope. The professor or student volunteer will then hand the envelope to the researcher waiting in the hallway.

Once I have completed the data collection process, I will analyze the collected data and form conclusions from the results. My thesis, including the results of this study, will be made available in the Sacramento State University Library within one year of its submission to the University. Once my thesis has been published, I will destroy all of the surveys. If you have any comments, concerns or questions regarding the conduct or analysis of this research please contact me and/or the research sponsor listed on the consent information document.
APPENDIX C

Consent to Act as a Human Research Subject

Researcher:  
Michelle Kathleen Jackson  
Graduate Student  
Division of Criminal Justice  
6000 J Street Sacramento, CA  
95819-6085  
xxxxxxxxxx@xxxxxx.com

Research Sponsor:  
Dr. Yvette Farmer  
Thesis Advisor  
Division of Criminal Justice  
6000 J Street Sacramento, CA  
95819-6085  
drfarmer@saclink.edu

Purpose of the study: This research study will determine the beliefs and knowledge about detecting deception among Criminal Justice undergraduate students at this University.

Eligibility: You are eligible to participate in this study if you are at least 18 years of age or older and are enrolled in any of the randomly selected sections of either CrJ 001 – Introduction to Criminal Justice and Society OR CrJ 190 – Contemporary Issues in Criminal Justice during the current semester.

Procedures: You will be asked to provide answers to a series of questions related to your beliefs and knowledge about deception. The survey is also designed to collect demographic information, including age, ethnicity, declared major and educational level. The study will include at least 250 participants from either CrJ 001 or CrJ 190 and will require up to 15 minutes of your time.

Risks and Discomforts: This study doesn’t pose any risks or discomforts to students.

Benefits: You may not personally benefit from participating in this research. The results of the study may help determine if Criminal Justice departments should increase the understanding and knowledge of deception among Criminal Justice students.

Anonymity: To preserve the anonymity of the data, the researcher will not require you to include any personally identifiable information. Your responses on the survey will remain unidentifiable or anonymous. The data you provide will be used for research purposes only and the information provided will be reported in aggregate form. All research records will be stored in a locked bag in a locked file cabinet during the duration of the study and only the researcher and the research sponsor will have access to the completed surveys. After the thesis has been published, the researcher will destroy all data, including the completed surveys.

Voluntary Participation: Your participation in this study is entirely voluntary. You may choose not to participate without any adverse consequences to you. However, should you
choose to participate and later wish to withdraw from the study, there is no way to identify your anonymous document after it has been turned into the researcher.

Questions: If you have any comments, concerns or questions regarding the conduct of this research please contact the researcher and/or the research sponsor at the top of this form.

STATEMENT OF CONSENT: Completion and return of the attached survey implies that you have read the information in this form and consent to participate in the research. Please keep this form for your records or future reference should you need to contact the researcher or research sponsor.
APPENDIX D

Survey of Beliefs and Knowledge about Deception

Directions: Please make every effort to answer the following questions accurately and to the best of your ability.

Part I- Introduction
For the following questions, circle the appropriate response.

1. In what class are you currently enrolled? (circle one)  CrJ 001  CrJ 190

2. Do you have beliefs or knowledge about deception or methods of detecting deception?
   a. Yes
   b. No (skip ahead to “Part V- Background Information”)

3. How did you learn about deception? – Circle all that apply.
   a. Criminal Justice Lower Division coursework
   b. Criminal Justice Upper Division coursework
   c. Employment
   d. Family or Friends
   e. Internet
   f. News
   g. Other: (Please specify) ________________________________

Part II. Beliefs about Deception
For the following questions, rate how strongly you agree or disagree with each of the following statements by circling the appropriate response.

SD = strongly disagree
D = disagree
U = undecided/neutral
A = agree
SA = strongly agree
4. Criminal Justice students have been informed of the topic of deception.

5. California State University-Sacramento offers a range of courses covering the topic of deception.

6. Criminal Justice students are interested in the topic of deception and methods of detecting deception.

7. Any student who is interested in a career in law enforcement, law, or investigations would benefit from taking a course in detecting deception.

8. It is easier to detect deception in someone of your own gender.

9. Every person who lies is able to successfully detect deception in others.

<table>
<thead>
<tr>
<th>Part III. Knowledge about Deception</th>
</tr>
</thead>
<tbody>
<tr>
<td>For the following questions, choose the best answer from the multiple choice and true/false options.</td>
</tr>
</tbody>
</table>

10. Which of the following is a verbal cue to detecting deception?
    a. Speech pitch
    b. Speech rate
    c. Breath count
    d. a & b
    e. All of the above
11. Which of the following is a non-verbal cue to detecting deception?
   a. Cognitive Load
   b. Lack of eye contact
   c. Gaze Aversion
   d. Too much eye contact
   e. b & c
   f. All of the above

12. Interviewers who build rapport with a suspect are more likely to detect deception than those who don’t.
   a. True
   b. False

13. Lack of eye contact is a successful way to detect when a person is lying.
   a. True
   b. False

14. Hypnosis and Polygraph Tests are utilized by law enforcement agencies to detect deception in a suspect during investigative interviews.
   a. True
   b. False

Part IV - Research on Deception

For the following questions, choose the appropriate response or indicate your answer using the lines provided.

15. Have you researched deception or methods of detecting deception before?
   a. Yes
   b. No (please skip ahead to question 17).

16. If yes, why did you research deception or methods of detecting deception?

________________________________________________________________________
________________________________________________________________________
_____________________________________________

17. If no, would you research deception by choice to learn more about the methods of detecting when a person is lying to you?
   a. Yes
   b. No
   c. Don’t know
Part V - Background Information

For the following questions, circle the appropriate response or indicate your answer in the space provided.

18. What is your gender?
   a. Male
   b. Female

19. What is your age today? __________

20. What is your Undergraduate Class Level?
   a. Freshman- (up to 30 units completed)
   b. Sophomore- (31- 60 units completed)
   c. Junior- (61- 90 units completed)
   d. Senior- (more than 90 units completed)

21. What is your declared major?
   a. Criminal Justice
   b. Psychology
   c. Sociology
   d. Undeclared, please specify your intended major_____________________
   e. Other, please specify __________________________________________

22. During your undergraduate college career, have you ever taken CrJ 143 or CrJ 152, Interviewing and Detection of Deception at Sacramento State University?
   a. Yes
   b. No

23. What is your Racial/Ethnic Background? (circle all that apply)
   a. American Indian or Alaskan Native
   b. Asian
   c. Black or African American (Not Hispanic)
   d. Hispanic or Latino
   e. Native Hawaiian or other Pacific Islander
   f. White or Caucasian (Not Hispanic)
   g. Other, please specify_______________________________
APPENDIX E

Codebook

<table>
<thead>
<tr>
<th>VARINAME</th>
<th>SURVEY QUESTION</th>
<th>CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLASSENR</td>
<td>1. In what class are you currently enrolled?</td>
<td>1 - CJ 001</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 - CJ 190</td>
</tr>
<tr>
<td>BELORKNO</td>
<td>2. Do you have beliefs or knowledge about deception or methods of detecting deception?</td>
<td>1 – No, skip to Part V</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 - Yes</td>
</tr>
<tr>
<td>LRNDECPLD</td>
<td>3a. How did you learn about deception? (Upper Division)</td>
<td>1 - No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 - Yes</td>
</tr>
<tr>
<td>LRNDECEPUP</td>
<td>3b. How did you learn about deception? (Lower Division)</td>
<td>1 - No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 - Yes</td>
</tr>
<tr>
<td>LRNDECEPE</td>
<td>3c. How did you learn about deception? (Employment)</td>
<td>1 - No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 - Yes</td>
</tr>
<tr>
<td>LRNDECEPFF</td>
<td>3d. How did you learn about deception? (Family or Friends)</td>
<td>1 - No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 - Yes</td>
</tr>
<tr>
<td>LRNDECEPI</td>
<td>3e. How did you learn about deception? (Internet)</td>
<td>1 - No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 - Yes</td>
</tr>
<tr>
<td>LRNDECEPN</td>
<td>3f. How did you learn about deception? (News)</td>
<td>1 - No</td>
</tr>
<tr>
<td></td>
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<td>2 - Yes</td>
</tr>
<tr>
<td>LRNDECEPO</td>
<td>3g. How did you learn about deception? (Other-please specify)</td>
<td>1 - No</td>
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<tr>
<td></td>
<td></td>
<td>2 - Yes</td>
</tr>
<tr>
<td>LRNDECEPOT</td>
<td>3h. How did you learn about deception? (Other-please specify text)</td>
<td>1 - No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 - Yes</td>
</tr>
<tr>
<td>CRJINFDEC</td>
<td>4. Criminal Justice Students have been informed of the topic of deception.</td>
<td>1- Strongly Disagree</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2- Disagree</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3- Undecided</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4- Agree</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5- Strongly Agree</td>
</tr>
<tr>
<td>RNGCLDEC</td>
<td>5. California State University, Sacramento offers a range of courses covering the topic of deception.</td>
<td>1- Strongly Disagree</td>
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<tr>
<td></td>
<td></td>
<td>2- Disagree</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3- Undecided</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4- Agree</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5- Strongly Agree</td>
</tr>
<tr>
<td>Questions</td>
<td>Answers</td>
<td></td>
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<td>-----------</td>
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<tr>
<td><strong>INTMETDEC</strong></td>
<td>6. Criminal Justice Students are interested in the topic of deception and methods of detecting deception.</td>
<td></td>
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<tr>
<td></td>
<td>1- Strongly Disagree&lt;br&gt;2- Disagree&lt;br&gt;3- Undecided&lt;br&gt;4- Agree&lt;br&gt;5- Strongly Agree</td>
<td></td>
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<tr>
<td><strong>STUCARBEN</strong></td>
<td>7. Any student who is interested in a career in law enforcement, law, or investigations could benefit from taking a course in detecting deception.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1- Strongly Disagree&lt;br&gt;2- Disagree&lt;br&gt;3- Undecided&lt;br&gt;4- Agree&lt;br&gt;5- Strongly Agree</td>
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<tr>
<td><strong>DETOWNGEN</strong></td>
<td>8. It is easier to detect deception in someone of your own gender.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1- Strongly Disagree&lt;br&gt;2- Disagree&lt;br&gt;3- Undecided&lt;br&gt;4- Agree&lt;br&gt;5- Strongly Agree</td>
<td></td>
</tr>
<tr>
<td><strong>LIEDETDEC</strong></td>
<td>9. Every person who lies is able to successfully detect deception in others.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1- Strongly Disagree&lt;br&gt;2- Disagree&lt;br&gt;3- Undecided&lt;br&gt;4- Agree&lt;br&gt;5- Strongly Agree</td>
<td></td>
</tr>
<tr>
<td><strong>VERCUEDEC</strong></td>
<td>10. Which of the following is a verbal cue to deception?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1- Speech Pitch&lt;br&gt;2- Speech Rate&lt;br&gt;3- Breath Count&lt;br&gt;4- A&amp;B&lt;br&gt;5- All of the above</td>
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</tr>
<tr>
<td><strong>NONVERCUE</strong></td>
<td>11. Which of the following is a non-verbal cue to detecting deception?</td>
<td></td>
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<tr>
<td></td>
<td>1- Cognitive load&lt;br&gt;2- Lack of eye contact&lt;br&gt;3- Gaze aversion&lt;br&gt;4- Too much eye contact&lt;br&gt;5- B&amp;C&lt;br&gt;6- All of the above</td>
<td></td>
</tr>
<tr>
<td><strong>BUILDRAP</strong></td>
<td>12. Interviewers who build rapport with a suspect are more likely to detect deception than those who don’t.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1- False&lt;br&gt;2- True</td>
<td></td>
</tr>
<tr>
<td><strong>EYECONT</strong></td>
<td>13. Lack of eye contact is a successful way to detect when a person is lying</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1- False&lt;br&gt;2- True</td>
<td></td>
</tr>
<tr>
<td><strong>HYPNPOLY</strong></td>
<td>14. Hypnosis and polygraph tests are utilized by law enforcement agencies to detect deception in a suspect during investigative interviews.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1- False&lt;br&gt;2- True</td>
<td></td>
</tr>
</tbody>
</table>
| RESMETDEC | 15. Have you researched deception or methods of detecting deception before? | 1- False  
2- True |
| WHYRESDEC | 16. If yes, why did you research deception or methods of detecting deception? (enter text) | |
| RESCHOICE | 17. If no, would you research deception by choice to learn more about the methods of detecting when a person is lying to you? | 1- No  
2- Yes  
8- Don't Know |
| YOURGEND | 18. What is your gender? | 1- Male  
2- Female |
| AGETODAY | 19. What is your age today? (enter numerical value) | |
| UNDCLALEV | 20. What is your undergraduate class level? | 1- Freshman (up to 30 units completed)  
2- Sophomore (31-60 units completed)  
3- Junior (61-90 units completed)  
4- Senior (more than 90 units completed) |
| DECLMAJOR | 21. What is your declared major? | 1- Undeclared, please specify intended major  
2- Criminal Justice  
3- Psychology  
4- Sociology  
7- Other, please specify  
12- Undeclared-criminal justice  
23- Criminal Justice and Psychology  
24- Criminal Justice and Sociology  
27- Criminal Justice and Philosophy |
| TAKINTDEC | 22. During your undergraduate college career, have you ever taken CrJ 143 or CrJ 152, *Interviewing and Detection of Deception* at Sacramento State University? | 1- No  
2- Yes |
| RACETHBACAA | 23a. What is your racial/ethnic background? (American Indian or Alaskan Native) | 1- No  
2- Yes |
|-------------|---------------------------------------------------------------------------------|--------|
| RACETHBACA | 23b. What is your racial/ethnic background? (Asian) | 1- No  
2- Yes |
| RACETHBACB | 23c. What is your racial/ethnic background? (Black or African American- Not Hispanic) | 1- No  
2- Yes |
| RACETHBACH | 23d. What is your racial/ethnic background? (Hispanic or Latino) | 1- No  
2- Yes |
| RACETHBACNH | 23e. What is your racial/ethnic background? (Native Hawaiian or Pacific Islander) | 1- No  
2- Yes |
| RACETHBACW | 23f. What is your racial/ethnic background? (White or Caucasian) | 1- No  
2- Yes |
| RACETHBACO | 23g. What is your racial/ethnic background? (Other) | 1- No  
2- Yes |
| RACETHBACOT | 23h. What is your racial/ethnic background? (Other, please specify text) | 1- No  
2- Yes |
References


