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The Roles of Interrogation, Perception, and Personality in Producing Compliant False Confessions

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# THE ROLES OF INTERROGATION, PERCEPTION, AND PERSONALITY IN PRODUCING COMPLIANT FALSE CONFESSIONS

by

John Peterson Blair

# A DISSERTATION

Submitted to Michigan State University in partial fulfillment of the requirements for the degree of

> DOCTOR OF PHILOSOPHY School of Criminal Justice

## ABSTRACT

# THE ROLES OF INTERROGATION, PERCEPTION, AND PERSONALITY IN PRODUCING COMPLIANT FALSE CONFESSIONS

By

# John Peterson Blair

The Leo and Ofshe model of compliant false confessions is currently the dominant model of false confessions in the literature; yet, extant research has provided only partial validation of limited parts of the model. No research to date has attempted to simultaneously validate the entire model. This study features an experimental design that tests the entire model simultaneously. Additionally, the Leo and Ofshe model focuses only one the roles that specific interrogation tactics and situational perceptions play in producing false confessions. This study expands upon the Leo and Ofshe model of false confessions by examining the role that personality may play in producing false confessions. The results of this study did not support the Leo and Ofshe model. An alternate model that was supported by the data was developed. The results also indicated that personality may play a large role in producing false confessions. These findings have important implications for compliant false confession theory. These implications are discussed.

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#### **CHAPTER 1 - INTRODUCTION**

False confessions that result from interrogations are often cited as one of the major causes of wrongful convictions (Bedau & Radelet, 1987; Gudjonsson, 2003; Huff, 2002; Huff, Rattner, & Sagarin, 1986; Huff & Sagarin, 1996; Leo, 2001; Scheck, Neufeld, & Dwyer, 2000; Westervelt & Humphrey, 2001). Bedau and Radelet (1987) reported that 14% of the hundreds of wrongful conviction cases in their study resulted from false confessions. Scheck et al. (2000) stated that 22% of the 74 wrongful conviction cases reported in their book resulted, at least in part, from false confessions. These findings suggest that a significant proportion of wrongful convictions are due, at least in part, to false confessions. Research has also shown that confessions are powerful pieces of evidence that often lead to the charging and conviction of the confessors (Cassell & Hayman, 1996; Leo, 1996). It logically holds, therefore, that a false confession may increase the chance that an innocent suspect will be charged with and convicted of a crime that the suspect did not commit. These findings have led critics of modern interrogation tactics to suggest that sweeping changes should be made to the legal system (Leo, 2001; Leo & Ofshe, 1998; Scheck et al., 2000).

At the same time, true confessions play a critical role in criminal investigations and court cases (Cassell, 1999; Horvath & Meesig, 1996; Inbau, Reid, Buckley, & Jayne, 2001; O'Hara & O'Hara, 2003; Rutledge, 1994; Walters, 2002; Zulawski & Wicklander, 2001). While there is a common perception that most cases are solved through the use of direct physical evidence, research suggests that the police collect physical evidence in less than 10% of cases (Horvath & Meesig, 1996), and that many criminal cases would

not be solved by the investigators or result in the conviction of the perpetrator if not for the confession of the guilty party (Cassell, 1999; Horvath & Meesig, 1996; Inbau et al., 2001; Rutledge, 1994; Zulawski & Wicklander, 2001). Additionally, in many cases of wrongful conviction, it is the confession of the actual perpetrator of the crime that results in the exoneration of the wrongly convicted (Cassell, 1998).

These findings suggest that interrogation is a useful investigative tool that, like many other investigative tools, is imperfect. Usually an interrogation will result in a correct outcome (e.g., a true confession or correct information) and occasionally an interrogation will result in an incorrect outcome (e.g., false confession). Due to the importance of interrogations in the investigative process, it is not reasonable to simply ban interrogations in an attempt to protect individuals from miscarriages of justice. What is needed to protect individuals is a more thorough understanding of the interrogation process. This includes an understanding of the factors that contribute to successful and unsuccessful interrogations and the factors that could lead to false confessions. The purpose of this study was to enhance our understanding of interrogation by focusing on false confessions.

## CHAPTER 2 - LITERATURE REVIEW

In order to set the stage for the study proposed in chapter 1, it is necessary to discuss the modern interrogation process and then put the problem of false confessions into perspective. The interrogation process will be discussed first.

# Interrogation

There are two ways to examine the modern interrogation process. The first is to review the interrogation manuals that are currently in print, and the second is to observe actual interrogations. The findings of both methods will be discussed next.

## What Interrogation Manuals Teach

One way to assess what occurs during interrogations is to explore what interrogators are taught to do. A search for criminal interrogation on Amazon.com revealed seven books that purport to teach investigators how to conduct interrogations and are currently in print (Aubry & Caputo, 1980; Hess, 1997; Holmes, 2002; Inbau et al., 2001; MacDonald & Michaud, 1992; Walters, 2002; Zulawski & Wicklander, 2001). Because *Interrogations and Confessions* (Inbau, Reid, Buckley, & Jayne, 2001) is the most frequently referred to manual in the literature (Gudjonsson, 2003; Kassin, Goldstein, & Savitsky, 2003; Kassin & McNall, 1991; Leo, 2001) and has been mentioned in major court decisions ("Stansbury v. Arizona," (1994) for an example), it will be used as the comparison point for all of the manuals. Several commonalities about interrogations can be derived from the manuals. These are presented next.

Table 1. Interrogation T	actics					:	
Source	Interview /Interro.	Persuasion	Direct Confront.	Themes	Resistance	Alternative Ouestion	Developing Details
Inbau et al. (2001)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Aubry & Caputo (1980)	Yes	Yes	Yes	Yes	No	No	Yes
Hess (1997)	Yes	Yes	Yes	Yes	Yes	Yes	No
Holmes (2002)	Yes	Yes	Yes	Yes	No	Yes	Yes
MacDonald & Michaud (1992)	No	No	No	No	No	No	No
Walters (2002)	Yes	Yes	Yes	Yes	Yes	No	Yes
Zulawski & Wicklander (2001)	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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#### Interviewing is Different from Interrogation

Chapter 1 of the Inbau et al. (2001) manual discusses and clearly distinguishes the differences between interviews and interrogations. An interview is a non-accusatory dialogue used to develop information that is relevant to a case. An interrogation is an accusatory monologue, dominated by the interrogator that is used to get the truth from an individual suspected of committing a crime. Five of the other six interrogation manuals make similar distinctions between interviews and interrogations (See Table 1). However, the Holmes (2002) manual uses the terminology accusatory or non-accusatory interrogation to delineate what the other manuals refer to as interrogation or interviewing respectively.

#### Interrogation is Persuasion

Inbau et al. (2001) suggest that interrogation is a persuasive activity wherein the interrogator attempts to move the suspect toward confession by altering the suspect's perceptions of the situation and consequences. The interrogator is trying to convince the suspect that telling the truth is the best thing to do. As a result of this general orientation (and contrary to the portrayal of interrogation in the popular media), the interrogation is sympathetic (not hostile) in nature. All of the other interrogation manuals assert that interrogation is a persuasive activity (See Table 1).

### Interrogation Tactics

Several basic interrogation tactics can be derived from the manuals. These are direct confrontation, theme development, dealing with resistance, alternative questions, and developing details. Each of these tactics will be discussed next.

# Direct confrontation.

The interrogation begins with the direct positive confrontation of the suspect (Inbau et al., 2001). The interrogator enters the room and states, "Our investigation clearly indicates that you did X," where X represents the crime in question. The interrogator then pauses for a few seconds to observe the suspect's reaction, repeats the accusation, and begins to transition to the next step. Inbau et al. (2001) also present an alternate confrontation procedure wherein the interrogator begins by stating the suspect cannot be eliminated from suspicion and slowly moves toward a direct accusation if the suspect's behavior is considered by the interrogator to be indicative of guilt. If the suspect's behaviors are not indicative of guilt, the interrogator can back out of the interrogation and not directly accuse the subject of committing the crime. As can be seen in Table 1, five of the other six interrogation manuals suggest that the interrogation should begin with a confrontational procedure that is similar to the one that is suggested by Inbau et al. (2001).

#### Theme development.

The next step in the Inbau et al. (2001) interrogation procedure is referred to as theme development. This step is primarily concerned with offering the suspect a moral excuse, rationalization, or crutch that will make it easier for the suspect to confess. Inbau et al. (2001) stress that interrogators must not make explicit threats or promises to the suspect during theme development. For offenders that Inbau et al. (2001) identify as emotional, themes can involve stating that most people in a similar circumstance would have done the same thing or suggesting that the victim deserved what they got. Another common tactic involves contrasting the suspect's crime against a more severe crime. For

example, if the suspect committed a robbery, the interrogator might contrast the robbery with a murder. Different themes are suggested by Inbau et al. (2001) for non-emotional offenders. These can include suggesting that there was a non-criminal intent behind the act, getting an admission that the suspect has lied about some incidental aspect of the crime, and pointing out that it is futile not to tell the truth. The interrogator is advised to pay attention to whether or not the suspect appears to be accepting the theme during the interrogation. If the suspect appears to be accepting the theme, the interrogator should continue using it. However, if the suspect appears to be rejecting the theme, the interrogator should try a different one. This means that interrogators will often use several themes during an interrogation. Additionally, Inbau et al. (2001) state that it is legally acceptable to deceive suspects, and that presenting false evidence is a risky but acceptable tactic.

As can be seen in Table 1, five of the other six manuals suggest theme development procedures that are similar to the one suggested by Inbau et al. (2001). A few points are worthy of note here. The first is that several of the other manuals do not use the term "theme development" to describe this procedure. The most common alternate terminology is to refer to themes as "arguments" or "rationalizations". The second point is that while the theme development process is similar between the different manuals, the manuals often present specific themes that are different from the examples given in the Inbau et al. (2001) manual. The third is that many of the manuals neither explicitly state that it is acceptable for the interrogator to deceive the suspect nor do they state that it is unacceptable.

#### Dealing with resistance.

The Inbau et al. (2001) manual also contains explicit instructions detailing how to overcome resistance on the part of the suspect during the interrogation. Three types of resistance are recognized by Inbau et al. (2001). The first is a denial. A denial is defined as any attempt to say that an allegation is false. Inbau et al. (2001) advise that the suspect should not be allowed to voice denials during the interrogation. The interrogator can accomplish this by dominating the interrogation and not giving the suspect time to talk. If a denial is stated, the interrogator is told to restate his or her confidence in the suspect's guilt and change the particular theme that was being used, as the denial is a sign that the subject is not accepting the theme.

The second type of resistance is an objection. An objection is not a direct statement of innocence; rather it is a reason why the accusation of guilt is incorrect. In a case involving an armed robbery with a gun, an objection might involve the suspect stating that he or she does not own a gun. Inbau et al. (2001) advise that when a suspect makes an objection, the interrogator should draw the objection out, and then use it to form a new theme. In the example given above the interrogator might say,

> I hope that it is true that you don't own a gun. That tells me that you aren't a violent type of person, and that you didn't want to hurt anyone. It is important that we bring this point out because a person who doesn't want to hurt anyone during a robbery is different from one that does. We don't want people to have an inaccurate picture of who you are because ...

After the interrogator turns the objection into a theme, he or she is advised to use the new theme to move the suspect beyond their resistance.

The third type of resistance occurs when the suspect attempts to withdraw and stop paying attention to the interrogator. According to Inbau et al. (2001), this sometimes occurs when the suspect realizes that his or her denials and objections are not deterring the interrogator from continuing the interrogation. At this point, the suspect may attempt to "tune out" the interrogator. Inbau et al. (2001) advise that when this happens, the interrogator can do several things to get the suspect reengaged. Because it is difficult to ignore someone who is in your field of vision or invading your personal space, the interrogator is advised to move his or her chair closer to the suspect and attempt to establish eye contact. The interrogator may also ask questions that require a response from the suspect. For example, the interrogator might ask, "You care about this don't you?" When the suspect answers these questions, the suspect is no longer "tuning out" the interrogator.

Information concerning how to deal with resistance on the part of the suspect is not as wide spread in the manuals as the use of themes. As can be seen in Table 1, only three of the six manuals specifically address how to deal with resistance. These manuals generally recognize the three types of resistance presented in the Inbau et al. (2001) manual. However, the Walters (2002) manual focuses on resistance as a function of the suspect's personality type.

## Alternative question.

Once the suspect has been confronted, a theme has been accepted, and resistance has been overcome, the suspect is on the verge of confessing. Inbau et al. (2001), however, state that directly stating "I did it" will still be difficult for the suspect. Therefore, they advise interrogators to use an alternative question to get the suspect's

first admission of guilt. The alternative question is essentially a compressed theme that presents the suspect with a choice between two possible explanations for why the crime was committed. One of the choices is more psychologically attractive than the other. For example, in a theft case, the suspect may be asked, "Did you take the money because you needed it for bills or for drugs?" If the suspect accepts either alternative, this represents their first admission about committing the crime. The alternative question is often presented several times to the suspect with slight variations each time. For example, in the case above, the suspect could also be asked, "You needed the money for bills, right? It wasn't for drugs. Was it? You just needed the money for bills. Didn't you?"

As can be seen in Table 1, half (3) of the other manuals present the alternative question as a way of gaining the first admission of guilt. The other half (3) do not clearly discuss how the suspect's first admission of guilt occurs.

### Developing details.

Inbau et al. (2001) state that after the suspect makes his or her first admission of guilt, the interrogation is not finished. The interrogator must develop a complete description of how and why the crime was committed before the initial admission can be considered a full confession. At this point, the interrogation changes modes and becomes more like an interview. The interrogator will ask the suspect non-leading questions about the crime, and the suspect will be allowed to give detailed answers and explanations. Inbau et al. (2001) also insist that the information developed during the interrogation should be corroborated with the facts of the case to ensure that the confession is true. Four of the other six manuals also explicitly suggest that the interrogator should develop

the details of an admission before it is considered a full confession and that these details should be compared to case facts (See Table 1).

#### Some Final Comments on the Manuals

The manuals reviewed here present a consistent picture of interrogations. However, this is not to say that the manuals are identical. Because this review is attempting to draw generalities from the manuals, the information that is presented here is very general in nature. As a result, many of the nuances that distinguish the manuals from each other have been omitted. It is not the intention of the author to suggest that the manuals are not distinct from each other; rather the author's intent is to show that some general points about interrogation can be derived from the corpus of the manuals.

Two of the manuals reviewed for this manuscript deserve special notice. While the end result may be similar to the other manuals, the theoretical orientation underlying the Walters (2002) manual is very different from the others. The Walters (2002) manual focuses on the analysis and use stress-response states and personality types to guide the interrogation. The other manuals all use observed verbal and nonverbal behaviors as the primary guide for the interrogation. The MacDonald and Michaud (1992) manual does not present a general interrogation system like the others; rather it presents different types of crimes and strategies for dealing with the criminals involved in each of these crimes. The focus of the MacDonald and Michaud (1992) manual is also almost entirely on what would be considered interviewing tactics by most of the other manuals.

It should also be noted that the authors of at least three of the manuals (Inbau et al., 2001; Walters, 2002; Zulawski & Wicklander, 2002) currently conduct interrogation training for numerous criminal justice agencies. The largest of these training

organizations (John E. Reid and Associates, Inc.) has trained in excess of 150,000 people. The next section will review empirical observations of police behavior and compare them to what is taught in the manuals.

#### What the Police do during Interrogations

Another (and perhaps superior) way of assessing what occurs during the interrogation process is to actually observe what interrogators do during interrogations. Unfortunately, only one study in the last 20 years has done this (Leo, 1996). Leo (1996) directly observed 122 interrogations conducted by 45 different detectives at one police department and 60 videotapes of interrogations conducted by two other police departments (30 tapes per department) that were geographically near the first. Each interrogation was coded for numerous variables including the tactics used, the length, and outcome of the interrogation. Leo (1996) observed that most interrogations began with the detective confronting the suspect with his or her guilt and then attempting to develop what would be referred to as themes by Inbau et al. (2001). Detectives in the Leo (1996) study also used many of the themes that were presented in the Inbau et al. (2001) and other manuals. The most commonly used tactics were suggesting the suspect that it was in his or her best interest to confess (which occurred in 88% of the cases) and confronting the suspect with actual evidence of guilt (which occurred in 85% of cases). It is also interesting to note that in 30% of the cases, the interrogator presented false evidence to the suspect. Interrogators used a mean of 5.62 tactics per interrogation with the range being 0 to 15 tactics. Of the interrogations that Leo (1996) observed, 35% lasted less than 30 minutes, 36% lasted between 30 and 60 minutes, 21% lasted between 1 and 2 hours, and 8% lasted for more than 2 hours. The interrogators in this study were

successful in gaining incriminating statements. Specifically, 24% of the interrogations resulted in a full confession (the suspect admitted to all of the elements of the crime), 18% resulted in partial confessions (the suspect admitted to some of the elements of the crime), 23% resulted in an incriminating statement (the suspect did not admit the any of the elements of the crime, but gave some information that implicated him or her in the crime), and the remaining 35% did not produce any incriminating information. These data suggest that interrogators are using at least some of the interrogation tactics that are taught in the manuals and that the tactics presented in the manuals are successful at eliciting confessions. Because the Leo (1996) study only contains a sample from a single geographically limited area, generalizations must be made carefully. However, the results of this study and the review of the manuals present a picture of modern interrogation that is consistent with what is taught in the Inbau et al. (2001) manual. The next section will address false confessions.

#### **False Confessions**

In order to understand how the interrogation process may lead to false confessions, it is necessary to develop a thorough understanding of false confessions. To accomplish this, several questions must be answered. These are: do false confessions occur; how often do they occur; and what is the role of interrogations in causing false confessions?

#### Do False Confession Occur?

One of the major difficulties in attempting to classify a confession as true or false involves determining whether or not the suspect actually committed the crime (this is often referred to as ground truth). Contrary to what is portrayed in popular television

shows, in many cases the evidence suggesting the guilt or innocence of a suspect is circumstantial at best. It is rare that direct evidence, such as DNA or fingerprints, is available. This can make the determination of the guilt or innocence of a confessor a largely subjective exercise. The difficulty in determining ground truth is illustrated in a debate that revolved around a collection of 29 cases in which Leo and Ofshe believed that a false confession led to the conviction of an innocent person. Leo and Ofshe (1998) stated that to reduce potential disagreement over the ground truth of the cases that they included only those cases in which no substantial evidence of guilt existed. Cassell (1999), however, reanalyzed these cases and made convincing arguments that in at least 9 of the 29 cases that substantial evidence of factual guilt existed and that the individuals involved were in all probability properly convicted. Cassell additionally noted that in 11 of the 20 remaining cases, either the prosecutor or the police still believed that the convicted party was factually guilty. This leaves only 9 of Leo and Ofshe's (1998) 29 "false confessions" as undisputed. Others have responded to Cassell's (1999) analysis and suggested that he too readily accepted the official police accounts of the cases in question (Gudjonsson, 2003). This debate is just one example of how difficult it can be to come to an agreement about the ground truth of an individual case. However, the 9 undisputed cases in the Leo and Ofshe (1998) study [in addition to other cases of confessions that have been refuted by direct evidence of innocence (i.e., DNA exclusion)] that have been reported in the literature, make it extremely unlikely that all of the confessors in these cases were guilty in fact (Cassell, 1999; Leo & Ofshe, 1998; Scheck et al., 2000). Therefore, it is reasonable to conclude that false confessions do occur. This brings us to the next question.

#### How often do False Confessions Occur?

It is extremely difficult to determine the frequency with which false confessions occur. In addition to the problem of identifying the actual guilt or innocence of the suspect that was mentioned above, we do not know how many interrogations the police conduct every year because this information is not reported to any central location. Also there are only two studies from geographically limited areas to rely upon to develop an estimate of how often police interrogations produce confessions (Cassell & Hayman, 1996; Leo, 1996). Additionally, most researchers have explored the rate of false confessions by looking at wrongful convictions that were produced at least in part by confessions. This adds the additional difficulty of attempting to determine how often wrongful convictions occur and what proportion of wrongful convictions are due to false confessions. This is no simple task, and because of the lack of accurate data to use in performing calculations, estimates are likely to contain a large amount of error. However, using national estimates of interrogations, index crime arrests, index crime convictions, and error rates, researchers have arrived at estimates of wrongful convictions resulting from false confessions that range from a low of 10 (.001% of all index crime convictions) to a high of 840 (.04% of all index crime convictions) per year (Cassell, 1998; Huff et al., 1986).

Another methodology for attempting to determine the frequency of false confessions resulting from interrogations is to select a random sample of cases and then look for false confessions in the sample. Cassell (1998) examined a sample of 173 cases from a previous study (Cassell & Hayman, 1996) and did not find evidence of false confessions. Additionally, Leo (who is a known critic of modern interrogation tactics

and believes that current interrogation tactics can result in false confessions) did not report any false confessions in his systematic 1996 study of 182 police interrogations. One would assume that if evidence of any false confessions had surfaced in his study, he would have reported it. A limitation of this methodology is that if false confessions occur at an extremely low rate (as is suggested by the national estimates in the above paragraph), a very large sample would be needed to detect any false confessions.

As was mentioned before, it is difficult to determine how often false confessions occur, but the above data suggest that they are rare. It should be noted that some authors have rejected the above methodologies and suggested that it is impossible to accurately determine the rate of false confessions for many of the methodological reasons that were mentioned above (Leo & Ofshe, 1998). However, Leo and Ofshe (1998) also state that the problem of false confessions is severe enough that sweeping changes should be made in the judicial system. This conclusion appears to be unsound given that Leo and Ofshe do not believe that the frequency of false confessions (and therefore the scope of the problem) can be accurately estimated. It is inappropriate to make policy recommendations that will enact sweeping changes across the judicial system without substantial evidence to support the changes. The next section will discuss the role that interrogations play in producing false confessions.

# The Role of Interrogations in Producing False Confessions

It has been suggested that interrogations can cause two types of false confessions (Gudjonsson, 2003; Leo, 2001). The primary difference between these two types of false confession is whether or not the confessor actually believes that he or she committed the act to which he or she confessed. When the false confessor believes that he or she

committed a crime that he or she did not commit, the confession is commonly referred to as an internalized false confession (Gudjonsson, 2003; Kassin & Wrightsman, 1985; Ofshe & Leo, 1997b). When an innocent person does not believe that they committed the crime to which they confessed, the confession is commonly referred to as a compliant false confession (Gudjonsson, 2003; Kassin & Wrightsman, 1985; Ofshe & Leo, 1997b). The word "coerced" can also be added to either of the types of false confession if the police engage in tactics that the courts would describe as coercive, such as beating the suspect or using explicit threats of punishment or promises of leniency (Gudjonsson, 2003). The two types of interrogation induced false confessions will be discussed in detail next.

# Internalized False Confessions

An internalized false confession is generally believed to follow a three-step process. First, the interrogator attacks the suspect's confidence in his or her memory. Next, the interrogator suggests that the suspect committed the crime and does not remember it due to amnesia or a blackout. Finally, after the suspect accepts that he or she must have committed the crime, the interrogator and suspect work together to produce a detailed confession (Gudjonsson, 2003; Leo, 2001). Gisli Gudjonsson has conducted extensive research into this type of false confession and has found some evidence that suggests that younger children, those with low IQs, and substance abusers may be particularly vulnerable to this type of false confession (See Gudjonsson, 2003 for a thorough review of internalized false confession research). Because numerous studies

have explored the causes of internalized false confessions and there is general agreement about the causation of this type of false confession, this study will not focus on them.

#### Compliant False Confessions

False confessions that occur when the suspect does not believe that she or he committed the crime are commonly referred to as compliant false confessions (Gudjonsson, 2003; Inbau et al., 2001; Kassin & Wrightsman, 1985; Ofshe & Leo, 1997b). This type of confession is believed to occur because the suspect seeks some form of benefit as a result of the confession, to avoid some form or negative consequence if he or she does not confess, or both (Gudjonsson, 2003; Inbau et al., 2001; Kassin & Wrightsman, 1985; Leo, 2001). The only model specifically purported to explain compliant false confessions was developed by Ofshe and Leo (1997b). This model will be discussed next.

#### The Ofshe-Leo Model

The Ofshe-Leo model posits that modern interrogation tactics, as were reviewed earlier, routinely cause compliant false confessions in ordinary people (Leo, 2001; Leo & Ofshe, 1998; Ofshe & Leo, 1997a). According to the model, this type of false confession is believed to be induced through a two-step process (Leo, 2001). The first step requires the interrogator to convince the suspect that his or her situation is hopeless. This hopelessness is primarily the result of the suspect's belief that negative consequences are unavoidable. Suspects become convinced that negative consequences are unavoidable through repeated accusations of guilt, the presentation of real or fictitious evidence, and by not allowing the suspects to deny guilt. Of great concern to proponents of this model is the presentation of false evidence, which they believe is particularly likely to lead to

false confessions (Leo, 2001). Once a suspect is convinced that the situation is hopeless, the interrogator proceeds to step two.

During step two, suspects are presented with inducements to confess. These inducements are believed to move suspects to confess by convincing them that the benefits of confessing outweigh the costs of a continued claim of innocence (Leo, 2001). These inducements generally fall into two categories (Kassin & McNall, 1991). The first is a "hard sell" technique that is referred to as maximization. According to this perspective, maximizations attempt to increase the subject's perceptions of the negative consequences of continuing to deny committing the crime. According to Kassin and McNall (1991), maximizations involve tactics such as exaggerating the seriousness of the offense (e.g., suggesting that more money was stolen than was actually taken during a robbery) and suggesting that others will think poorly of the suspect if he or she does not confess. The second category of modern interrogation tactics is a "soft-sell" technique that is referred to as minimization. Minimizations seek to reduce the target's perceptions of the negative consequences of confessing. Common minimization tactics include offering face-saving excuses, blaming the victim, or citing extenuating circumstances. The use of both types of tactics together is often referred to as the min / max technique (Kassin & McNall, 1991). Proponents of the Ofshe-Leo model believe that the min / max statements commonly used by interrogators to induce confessions communicate promises of leniency and threats of punishment to suspects that are similar to the explicit threats of punishment and promises of leniency that are not allowed under the law. It is therefore believed that the use of these inducements will cause both innocent and guilty suspects to

confess because both perceive that they will receive fewer negative consequences if they confess and more negative consequences if they do not confess.

The Ofshe-Leo model is a direct attack on some of interrogation tactics that most of the interrogation manuals that were reviewed earlier teach, and according to Leo's (1996) data are used by interrogators during interrogations. Specifically, step one of the model is Ofshe and Leo's interpretation of the direct accusation, dealing with resistance phases, and false evidence themes that many of the interrogation manuals teach, and step two of the model is Ofshe and Leo's interpretation of theme development during interrogations. If Ofshe and Leo are correct, then it would appear that several commonly used interrogation tactics increase the likelihood that false confessions will occur, and therefore it logically follows that corrective action should be taken. In fact, Ofshe and Leo suggest several changes to the legal system on the basis of their model. However, before any action is taken, it is necessary to validate the model, and for this to occur, the model must be stated in a testable format. This is done next.

While no discussion to date has specifically stated it, the Leo-Ofshe model of compliant false confessions can be interpreted as a path model. Three arrangements of the variables in the Leo-Ofshe model are possible. The first, and the one that seems to be most strongly suggested in Leo and Ofshe's presentation of the model, suggests that the variables may be related in a moderated fashion. The primary path of this moderated model suggests that the use of the min / max technique (interrogation themes) will alter the suspect's perceptions of the severity of the consequences of confession and that this in turn will cause false confessions; however, the step nature of the Ofshe-Leo model suggests that this will may only occur when the suspect believes that consequences are

unavoidable; therefore, the moderated model predicts that it is the interaction of the subjects' perceptions of the unavoidability of consequences with the subjects' perceptions of the severity of consequences that leads to the decision to falsely confess. The first step of the model also suggests that presenting false evidence can cause innocent people to believe that consequences are unavoidable. The moderated model is presented in Figure 1.



Figure 1. Moderated Model

The second interpretation of Leo and Ofshe's model is that the perception of the severity of consequences moderates the relationship between the perception of the unavoidability of consequences and false confession. This model is presented in Figure 2. This figure suggests that the presentation of false evidence will cause subjects to believe that the consequences are more unavoidable, which will cause the subjects to perceive that the consequences are less severe. This, in turn, will cause more false confessions to occur. Additionally, the use of min / max statements may also cause

subjects to perceive that the consequences are less severe, and this may cause more false confessions<sup>1</sup>.





The variables in the Leo-Ofshe model may also combine in an additive way to produce false confessions this possibility is depicted in Figure 3. This model suggests that the use of false evidence will cause subjects to perceive that the consequences are unavoidable. At the same time, min / max statements may cause subjects to perceive that the consequences of confession are less severe than the consequences of not confessing, and this may cause the subjects to falsely confess. Thus, both the perceptions of unavoidability and the perceptions of severity may combine in an additive fashion to produce false confessions. Research into variables in these models will be discussed next.

<sup>&</sup>lt;sup>1</sup> The author has placed the variables in this order because the step nature of the Leo-Ofshe model suggests that the perception of unavoidability must come before the perception of severity.





#### Research into The Ofshe-Leo Model

To date no research has attempted to validate the entire Ofshe-Leo model. Instead, Leo points to several pieces of research that have tested only portions of their model as evidence that the model is correct (Leo, 2001). These experiments have been primarily concerned with the impact of specific interrogation tactics on either subject perceptions or their rates of false confession. The two tactics that have been explored are the presentation of false evidence and the use of the min / max technique. Research into the effect of min / max statements will be discussed first.

#### The effect of min / max statements.

One series of two experiments has explored the impact of min / max statements on subject perceptions of consequences and confessions (Kassin & McNall, 1991). These experiments were designed to explore whether or not legally permissible minimization and maximization messages were perceived as communicating expectations about punishment that were similar to legally impermissible threats and promises through the pragmatic implication mechanism. The pragmatic implication mechanism posits that the meaning of a message to a receiver is often different from the literal translation of the words. In other words, Kassin and McNall (1991) hypothesized that minimization and maximization messages would have the same meaning to subjects as explicit threats and promises and that this could cause false confessions.

The first experiment in this study involved having subjects read one of five versions of a transcript that was developed from an actual murder interrogation. One version of the transcript contained a minimization, one contained a maximization, one contained an explicit promise, one contained an explicit threat, and one did not contain any of the previously listed statements. After reading the transcript, participants were asked to indicate how much punishment the suspect would receive if they confessed on a ten-point scale (with 1 being the least amount of punishment and 10 being the most) and what percentage of people would falsely confess. Kassin and McNall (1991) found that suspects who read the interrogation transcript that contained a maximization message reported that they thought the suspect would receive significantly more punishment (M =(6.60) than participants who were exposed to control (M = 5.40), minimization (M = 5.70), threat (M = 5.83), or promise (M = 5.53) messages. Kassin and McNall interpret these results as supporting their hypothesis that through pragmatic implication, maximization messages increased subjects' perceptions of the negative consequences of confession. Recall that the process of pragmatic implication should have made the impact of the maximization messages on participant perceptions of punishment similar to the impact of explicit threat messages. This was not the case. Explicit threats were not perceived as communicating more punishment than the control condition. Kassin and McNall did not offer an explanation for this finding.

Kassin and McNall (1991) also had the subjects in this experiment indicate what percentage of innocent people who were interrogated in the manner of a particular
transcript would confess. Their findings produced a marginally significant effect, which suggested that subjects exposed to the promise transcript thought that a greater percentage of people would falsely confess and that those exposed to the minimization would be less likely to falsely confess. This result supports neither Kassin and McNall's (1991) contention that min / max statements will increase the likelihood of false confessions nor Ofshe and Leo's contention that min / max statements will alter perceptions of punishment, which will cause false confessions. In fact, it suggests the opposite. It is also possible that the result is a product of random chance as the participants probably had no reasonable way to estimate what percentage of innocent people would falsely confess when exposed to a particular interrogation tactic.

Kassin and McNall (1991) conducted a second experiment to retest the hypothesis that minimization messages would alter participant perceptions of punishment in a manner that was similar to explicit promises. In this experiment, 36 participants in a fully counterbalanced design read transcripts that contained an explicit promise of leniency, a minimization, or a control message for one of three crimes. One crime involved a murder, one involved a theft, and the last crime involved a hit-and-run accident. After reading the transcripts, participants indicated on a 10-point scale how much punishment they felt the suspect would receive if the suspect confessed to the crime. Low numbers indicated lenient punishment and high numbers indicated more severe punishment. No significant differences in conditions were found for the murder transcript. In the hit-and-run condition, all of the message conditions were significantly different from each other. Specifically, the most punishment (M = 6.25) was in the

minimization condition, and the least punishment (M = 4.33) was indicated in the promise condition. In the theft condition, significantly less punishment was recommended in the minimization ( $\underline{M} = 3.92$ ) and promise ( $\underline{M} = 2.92$ ) conditions than in the control condition ( $\underline{M} = 5.67$ ). The minimization and promise conditions were not significantly different from each other.

Kassin and McNall (1991) combine the results of the three transcript conditions and report that significantly less punishment was perceived in the minimization (M =4.83) and promise (M = 4.17) conditions as compared to the control condition (M =6.00), while the minimization and promise conditions did not significantly differ from each other. Kassin and McNall state that these results indicate that, "... minimization communicated leniency expectations as effectively as did an explicit promise" (pp. 241). This conclusion was not justified by the results. The three transcript conditions all presented different relational patterns between the message conditions and perceived punishment. It appears that there were some unknown (and uncontrolled) differences in the features of the different transcripts that may have been affecting the relationship between message and perceptions of punishment. In light of these results, a more accurate conclusion would have been that minimization messages appeared to sometimes produce effects on perceptions of punishment that were similar to explicit promises and sometimes they did not. Additional research is needed to identify the situations in which the effect of minimization messages is similar to the effect of explicit promises and more importantly, to explain why this is the case.

An additional pattern exists in the data that was not commented upon by Kassin and McNall (1991). In each of the three transcript conditions, the most punishment was

perceived in the control condition, the next most punishment in the minimization condition, and the least punishment was perceived in the promise condition. While the overall differences in message conditions were not significant in this small sample, this pattern suggests that minimization messages may reduce perceptions of punishment in a manner that is somewhat weaker than making an explicit promise. This could indicate that weaker minimizations are sufficient to move guilty subjects to confess, but not the innocent. It is also unfortunate that Kassin and McNall (1991) did not report effect sizes or standard deviations so that effect sizes could be determined. This would have allowed us to assess the magnitude of the different statements on perceptions and better inform us about the impact of minimization and maximization statements on perceptions

The measurement in the Kassin and McNall (1991) study limits the amount of confidence that we can have in their results. Participant perceptions of punishment and confession were measured using single items. This makes it impossible to determine if these measures were either reliable or valid, and therefore it is difficult to have confidence in the internal validity of the study.

The Kassin and McNall (1991) studies also have questionable external validity. Specifically, the design of the studies makes generalizing the findings of the studies to what occurs during actual interrogations questionable at best. The participants read transcripts of interrogations and indicated how much punishment they thought that the suspect would receive. It is possible the subjects of actual interrogations would have very different perceptions about how much punishment they would receive because they are both actively involved in the interrogation process and are making decisions that could have serious consequences for their future. Additionally, the Kassin & McNall

(1991) study did not demonstrate a direct link between perceptions of punishment and false confessions. Therefore, it is not clear that, even if minimization and maximizations alter perceptions of punishment in a way that is similar to explicit promises of leniency and threats of punishment, that these altered perceptions can result in false confessions. Their design also featured the use of only a minimization or a maximization statement when both are commonly used together. It is possible that the techniques used together could produce an interaction on perceptions of punishment that is very different from the effect of either technique individually. Kassin and McNall's (1991) data do not allow us to examine this possibility.

These above mentioned limitations, in addition to the fact that the study has never been replicated, indicate that the question of whether or not the use of minimization and maximization techniques can cause false confessions is far from settled. This study will attempt to correct for several of the previously discussed limitations by placing the subjects directly in an interrogation situation, using minimization and maximization techniques together, and using multiple items to measure perceptions. Four possible relationships between min / max statements and false confessions will be tested.<sup>2</sup>

- H1a: The min / max technique will be positively correlated with false confessions.
- H1b: The use of the min / max technique will be positively correlated with participant perceptions of the severity of consequences.

<sup>&</sup>lt;sup>2</sup> The use of the term "cause" in this dissertation is to denote that the author's thinking is causal in nature. The author recognizes that he will be making causal inferences and not proving causation. However, the author also believes that the experimental design of this study will make these casual inferences reasonably strong in nature for three reasons. 1) The time order of the relationship will be controlled by the design. 2) The data will be able to show correlation (assuming that one is present). 3) Random assignment to conditions, the inclusion of a control group, and several control variables will allow the researcher to exclude several potential alternative explanations.

- H1c: Participant perceptions of the severity of consequences will be positively correlated with false confessions.
- H1d: The use of the min / max technique will be positively correlated with participant perceptions of the severity of consequences which will in turn be positively correlated with false confessions.

## The effect of false evidence on false confessions.

Kassin and Kiechel (1996) conducted an innovative experiment to explore the effect of the presentation of false evidence on false confessions. Subjects were told that they were participating in a reaction time study and asked to type letters that were being read by a confederate, who was posing as participant, into a computer. Altering the speed at which the confederate read the letters varied the vulnerability of the participants. The participants were also instructed not to press the alt key because this would cause the computer to crash, and all of the data would be lost. The computer was programmed to crash after a certain amount of time had elapsed regardless of whether or not the participant pressed the alt key. After the computer crashed, the participants were accused by the experimenter of pressing the alt key. In the false evidence condition, the confederate stated in front of the participant that the participant had pressed the alt key. Significantly more participants confessed in the false evidence conditions (95%) than in the no false evidence conditions (50%), and more subjects confessed in the high vulnerability (fast typing) conditions (83%) than in the low vulnerability (slow typing) conditions (62%). The most participants (100%) confessed in the high vulnerability and false evidence condition. The effect size of false evidence on confession was equivalent

to a product moment correlation of .50. Kassin et al. (1996) interpret these results as evidence that the presentation of false evidence can cause innocent criminal suspects to confess and this study is often cited as evidence that false evidence can cause false confessions (Gudjonsson, 2003; Leo, 2001).

A replication of Kassin and Kiechel's (1996) study found high rates of false confession (82%), but the replication did not vary the presentation of false evidence, so that it is impossible to determine the effect of false evidence on false confessions from the data (Horselenberg, Merckelbach, & Josephs, 2003). Another replication failed to find the false evidence main effect reported by Kassin and Kiechel (Redlich, 1999). Redlich (1999) reasoned that the false evidence effect reported by Kassin and Kiechel (1996) might have been confounded with the characteristics of the confederate who claimed to have seen the participant press the alt key. For example, it may have been that the participant found the confederate to be attractive rather than the false evidence itself that caused the participant to confess. In order to avoid this confound, Redlich (1999), in the false evidence condition, had the experimenter present the confederate with a printout that indicated that the participant had pressed the alt key. Redlich (1999) did not find any differences in the number of false confessions based on the presence or absence of false evidence (r = 0). However, an interaction between age and false evidence was found (Redlich & Goodman, 2003). Specifically when 15 and 16 year olds were presented with false evidence, significantly more false confessions resulted. The effect size of false evidence on the 15-16 year olds was equivalent to a produce moment correlation of .35. Redlich and Goodman (2003) do not offer a clear explanation as to why false evidence had the impact it did on 15 and 16 year olds, but not on 12 and 13 year olds in their study.

The power of the Redlich (1999) study to detect the .50 false evidence main effect reported in the Kassin and Kiechel (1996) study was approximately .98. The failure of Redlich (1999) to detect any false evidence main effect suggests that the false evidence effect in the Kassin and Kiechel (1996) may have been an artifact of the specific procedure that was used in the false evidence conditions in that study, and that minor variations in the procedure could eliminate the effect of false evidence on false confessions. It may be that the false evidence effect reported by Kassin and Kiechel (1996) was due to the characteristics of the confederate as was suggested by Redlich (1999). Another explanation for the differences in the two studies is also possible. In the Kassin and Kiechel (1996) study, not signing the confession after the confederate claimed to have seen the participant pressing the alt key, may have been interpreted by the participant as equivalent to calling the ostensibly neutral and objective confederate a liar. Obviously, this would violate the rules of polite social interaction and create an uncomfortable tension between the participant and the confederate. Therefore, the participants may have confessed in Kassin and Kiechel (1996) study in an attempt to avoid creating this uncomfortable social situation.

The design of Kassin and Kiechel's (1996) study also brings into question whether or not the false evidence effect would generalize to compliant confessions. Recall that a prerequisite for compliant false confessions is that the subject is certain that he or she did not commit the crime to which he or she is confessing. The ambiguous nature of pressing the alt key in both of these studies may have rendered many of the subjects genuinely uncertain as to whether or not they had pressed the key. Because of

this, whether or not the false evidence effect observed by Kassin and Kiechel (1996) would generalize to compliant false confessions is uncertain.

As is evident from this discussion, the extant research does not provide strong support for the Kassin and Kiechel's (1996) contention that false evidence will cause false confessions. Rather, it suggests that the effect of false evidence on false confessions may be limited to a very narrow set of conditions. Therefore, before suggesting that false evidence may cause false confessions, the presentation of false evidence should mirror field conditions as closely as possible. This experiment will attempt to do this by presenting evidence in the manner discussed in the methods section. The following possible direct relationships between false evidence and false confessions will be tested:

- H2a: The presentation of false evidence will be positively correlated with false confessions.
- H2b: The presentation of false evidence will be positively correlated with subjects' perceptions of the unavoidability of consequences
- H2c: Participants' perceptions of the unavoidability of consequences will be positively correlated with false confessions.
- H2d: The presentation of false evidence will be positively correlated with participants' perceptions of the unavoidability of consequences, which will, in turn, be positively correlated with false confessions.

# The full Ofshe-Leo model.

As was mentioned earlier, no research to date has explored the sufficiency of the full Ofshe-Leo model. Rather the existing studies have examined isolated parts of the model. One of the primary features of this study, therefore, will be a test of the three

variants of the full Ofshe-Leo model as presented in Figures 1-3. This leads to the following hypotheses:

- H3a: The use of min / max techniques will induce subjects to perceive that the severity of the consequences of confession are lessened, which will cause more false confessions, but this relationship will be moderated by subject's perceptions of the unavoidability of consequences. Specifically, more false confessions will occur when subjects both perceive that consequences are unavoidable and that the severity of the consequences of confession are less severe (See Figure 1).
- H3b: The use of false evidence will induce subjects to perceive that negative consequences are more unavoidable, which will cause subjects to perceive that the severity of the consequences is less severe. In turn, perceptions of less severity will result in fewer false confessions. Also, the use of min / max statements may have an indirect effect on false confessions through its impact on perceptions of severity in such a way that min / max statements will reduce perceptions of severity, which will cause more false confessions (See Figure 2).
- H3c: The use of min / max techniques will induce subjects to perceive that the severity of the consequences of confession are lessened, which will cause more false confessions, and the use of false evidence will induce subjects to perceive that negative consequences are more unavoidable, which will cause more false confessions (See Figure 3).

#### Expanding the Ofshe-Leo Model

#### Adding a Second Route to Compliance

One limitation of the Ofshe-Leo model is that it operates almost entirely from a rational actor perspective. In other words, it assumes that the subject carefully listens to the interrogator's persuasive messages, evaluates them, weighs the positive and negatives of the available courses of action, and chooses the action that has the best ratio of positives to negatives. While the rational actor model has been used to successfully explain some human behaviors, it has also been shown to have many limitations (Nisbett & Ross, 1980; Thaler, 1991; Tversky & Kahneman, 1974). Recent models of persuasion and human behavior often contain two paths to compliance, both of which may operate during an interaction (Chaiken, Liberman, & Eagly, 1989; Petty, Cacioppo, Sedikides, & Strathman, 1988). For example, the Elaboration Likelihood model (Chaiken et al., 1989) features a central channel of persuasion that is based on the assumptions of a rational actor and a peripheral route that focuses less on cognitive processing and more on affective states as a path to compliance. Something similar to this two-channel model may also occur during interrogations. The suspects may be actively evaluating the interrogator's statements (as is suggested by the Ofshe-Leo model) and this could motivate them to confess, and the suspects may be experiencing some affective processes, which are motivating them to confess at the same time. Thus, it may be cognitive processes, affective processes, or the combination of cognitive and affective processes that results in a false confession. Specifically, two affective processes might be occurring during an interrogation. One is anxiety and the other is guilt. Both of these are hypothesized to affect confessions through the process of Negative State Relief (Cialdini,

Darby, & Vincent, 1973). Simply stated, the Negative State Relief model posits that negative affective states such as guilt, anxiety, and shame are not desirable, and that if a negative state becomes extreme enough, a person will take action to relieve the negative state. Figure 4 illustrates how these processes may fit into the moderated variant of the Ofshe-Leo model. The other variants of the model could also be substituted for the moderated variant. How anxiety and guilt may specifically relate to Negative State Relief will be discussed next.

Figure 4. Combined Cognitive and Affective Model



#### State Anxiety

Regardless of the innocence or guilt of a suspect, being interrogated is an unpleasant social interaction and could cause the subject to experience considerable state anxiety. Under the Negative State Relief model, this state anxiety will be perceived as a negative state. If this anxiety becomes severe enough, the subject may confess because he or she believes that a confession will stop the interrogation and thereby relieve the negative state. It is therefore predicted that:

H4: Reported state anxiety during interrogation will be positively correlated with false confession.

Guilt

Subjects who actually committed the act that they are being interrogated about may experience considerable feelings of guilt. Several experiments have also found that inducing guilt is an effective way to increase compliance (Boster et al., 1999; Carlsmith & Gross, 1969; Cialdini et al., 1973; Konecni, 1972). Under the Negative State Relief model, guilt would be considered a negative state, and confessions may occur because a subject perceives that confessing will allow the subject to get the issue off of his or her "chest" and relieve the negative state. Even innocent suspects may experience some feelings of guilt during an interrogation. This could be because they feel somewhat responsible for the situation that occurred. For example, in the Kassin and Kiechel (1996) study, the subjects did not directly cause the computer that they were working on to crash. However, the subjects were working on the computer when it crashed, and this may have caused them to feel some responsibility for the crash. This feeling of responsibility may have caused the subject to feel some guilt. However, the guilt

experienced by innocent subjects may be much less than the guilt that they would have experienced if they felt that they had actually committed a prohibited act, which caused the computer to crash. Yet it may be possible that even low-level feelings of guilt experienced by innocent subjects could be noxious enough to motivate them to confess. It is predicted that:

H5: Reported guilt during interrogation will be positively correlated with false confession.

## The Effects of Individual Differences

While the Ofshe-Leo model does not address the impact that individual differences may have on compliant false confessions, research into internalized false confessions has found that some individual differences may be important in predicting internalized false confessions. It, therefore, is reasonable to believe that some individual differences may also be useful in predicting compliant false confessions. This study will explore how several trait-like individual differences may be related to compliant false confessions. These traits are a subject's interrogative compliance, self-esteem, anxiety, fear of negative evaluation, and locus of control. Each of these will be discussed in turn.

# Interrogative Compliance

Interrogative compliance is defined as the general tendency of a subject to comply with requests or obey instructions that they would rather not comply with for some form of instrumental gain, and is considered to be a trait-like attribute (Gudjonsson, 2003). One measure has been developed that is purported to be a measure of individual

differences with regard to interrogative compliance. This measure is the Gudjonsson Compliance Scale (GCS)(Gudjonsson, 1989). This scale consists of twenty, true-false items. The scale has exhibited acceptable split-halves reliability ( $\alpha = .71$ ) and the testretest reliability at 1-3 months apart was 0.88. The scale was also validated by using it to measure the interrogative compliance of nine groups of people. The most important of these groups were alleged false confessors and those who had previously resisted confessing during police interrogation. As predicted by Gudjonsson (1989), alleged false confessors were found to have the highest score on this scale ( $\underline{M} = 14.4$ ,  $\underline{SD} = 3.1$ ) and resisters had the lowest score ( $\underline{M} = 6.8$ ,  $\underline{SD} = 2.3$ ). The other groups fell between these two extremes. Gudjonsson believes that this compliance scale should be positively related to compliant false confessions.

In their replication of the Kassin and Kiechel (1996) study, Horselenberg et al. (2003) measured individual compliance using GCS and did not find any relationship between false confessions and measured interrogative compliance. Horselenberg et al. (2003) hypothesized that false confessions in the laboratory may be primarily context and not individual difference dependent. Another possibility is that because the GCS is designed to measure compliance, it is not suitable for predicting the internalized-type false confessions that were the focus of the Horselenberg et al. (2003) study. This study will test the relationship of the GCS to compliance.

H6: The GCS will be positively correlated with false confession. Self-Esteem

Self-esteem can be defined as the amount that one values or likes oneself (Blascovich & Tomaka, 1991). It can also be thought of as ones' attitude toward

themselves (Rosenburg, 1965). Because people with low self-esteem do not highly value themselves, they may also doubt their own judgment. This means that it is possible that people with low self-esteem will be more likely to accept the statements of the interrogator, and therefore be more likely to falsely confess. It is therefore predicted that:

H7: Subjects with low self-esteem will be more likely to falsely confess. Trait Anxiety

As was discussed earlier, subjects who experience more anxiety during an interrogation may be more likely to falsely confess because they desire to relieve the negative state. It may be that a person's trait anxiety is related to the state anxiety that they experience during interrogation. Specifically, subjects with higher trait anxiety may experience more state anxiety and this state anxiety may lead to false confessions (See Figure 3). It is therefore hypothesized that:

H8: Higher trait anxiety will lead to more false confessions.

## Fear of Negative Evaluation

Gudjonsson (2003) has suggested that people who exhibit a pathological need to please others may be more likely to falsely confess. This is related to the concept of fear of negative evaluation. Fear of negative evaluation is defined as "apprehension about other's evaluations, distress over their negative evaluations, and the expectation that others would evaluate oneself negatively" (Watson & Friend, 1969). People who fear negative social evaluations may be more likely to falsely confess because they find the thought that the interrogator may think poorly of them very distressing. This may cause the subject to confess in the hope of pleasing the interrogator. It is predicted that:

H9: Subject's fear of negative evaluation will be positively correlated with false confession.

## Locus of Control

Locus of control is a generalized expectancy about the relationship between personal characteristics or actions and outcomes (Lefcourt, 1991). People with an internal locus of control tend to believe that their actions can affect outcomes, and those with an external locus tend to believe that the outcome of situations is generally out of their control. It may be that people who have a high internal locus of control believe that they can resist the interrogator and that by resisting; they can achieve a desirable outcome. On the other hand, people with a low internal locus may feel that no matter what they do during the interrogation, they have no control over the result. This perception may cause subjects with a low internal locus of control to simply give in to the interrogator's requests. Therefore, it is predicted that:

H10: Subject's internal locus of control negatively correlated with false confession.

As is evident from the above discussion, our knowledge about compliant false confessions is currently very limited. What little research has been conducted has often contained serious methodological flaws and produced conflicting results. This study will attempt to improve our knowledge about compliant false confessions using the method described below.

#### CHAPTER 3 – METHODOLOGY

#### Rationale

The primary purpose of this study is to provide a complete test of the Ofshe-Leo model. To accomplish this, the design of Kassin and Kiechel (1996) will be used as a starting point. However, two changes to the design will be implemented to allow the design to be used to test the Ofshe-Leo model. First, to allow for a test of the interaction of False Evidence and Min / Max statements, the Kassin Kiechel design will be modified to fully crossed 2 Evidence (No false evidence - False evidence) by 2 Min / Max (No Min / Max - Min / Max) design. Second, to reduce the subject's uncertainty and make the design applicable to compliant false confessions, the participants will be told not to press the control, alt, and delete keys simultaneously as this will cause the computer to crash. Also, the subjects will be using the mouse as the input device for the task so that they will not need to touch the keyboard at all. These changes should make the subjects certain that they did not cause the computer to crash by pressing the control, alt, and delete keys, and this should make any false confessions compliant.

Several changes will also be made to improve the external validity of the study. A specific consequence for confession (the loss of credit) was included. While this consequence is small compared to the potential consequences of a confession in an actual interrogation, it is an improvement over some of the previous studies, which did not feature any negative consequences for a confession. The false evidence in this study will consist of the experimenter stating that the server indicated that the subject pressed the prohibited keys instead of having a confederate state that they saw the subject press the keys or actually presenting a printout that shows that the subject pressed the keys. This

will be done because it is extremely unlikely that an interrogator would bring a phony eyewitness into the interrogation room, and if the interrogator manufactures a written report, a confession resulting from the interrogation may be excluded from evidence in court (See State v. Cayward, 1994 for an example of one such case). Because interrogations feature the use of minimization and maximization statements in conjunction with each other, the subjects in the min / max conditions were exposed to both a minimization and a maximization statement. The crossing of min / max statements with false evidence also makes this design more externally valid than previous studies because the two often occur together during actual interrogations.

The secondary purpose of the study is to expand upon the Ofshe-Leo model. By measuring the impact of trait-like individual differences and perceptions on false confessions, this design will allow the experimenter to test the hypothesized expansions that were discussed above. Additionally, the use of multiple measures for each construct will allow for the validity and reliability of measurements to be assessed (a feature that is missing from previous studies).

#### Design

The basic design of this study is based on the work of Kassin and Kiechel (1996). The design of the study features a fully crossed 2 Evidence (False evidence - No false evidence) X 2 Min / Max statements (min / max statements - No min / max statements) factorial design (See Figure 5). An additional offset control condition will be included (No false evidence – No Min / Max statements and no loss of credit) to suggest areas for further study.

Figure 5. Design of the Study

	No Min / Max	Min / Max
No False Evidence	n = 49	n = 49
False Evidence	n = 49	n = 49

#### Procedure

The experiment will be run several weeks after the GCS is administered. The experimenter will recruit participants for the experiment by posting sign-up sheets on the COMM 100 research participation board. The sign-up sheets will state that the purpose of the study is to test the participant's ability to serve as an eyewitness. Participants will be offered course credit for their participation. Upon arrival at the lab, the participants will fill out a questionnaire that contains various demographic questions, some general questions about their memory and computer skills, and four short personality trait scales (See the Pre-Study Questionnaire in the Appendix A). The participants will then be introduced to the task. They will be informed that a picture of a person would appear on a computer screen for five seconds and then disappear. Next, ten pictures will appear on the screen at the same time. The participants will be instructed to use the mouse to select the picture that featured the person that the subject had previously viewed. No time limit will be placed on the selection of the matching picture. The participants will be told that this viewing and selection process would occur ten times. Additionally, subjects will be instructed not to press the control, alt, and delete keys at the same time, as this will cause the program to crash, and the data will be lost. The subjects will be told that if they cause the computer to crash, they will not receive any participation credit. After starting the task for the participant, the experimenter will leave the room. The computer program is

designed so that it will automatically crash after the participant completes the third trial. After the crash, the experimenter will re-enter the room and accuse each subject of intentionally pressing the control, alt, and delete keys. In the false evidence conditions, the experimenter will tell the participant that a computer server in another room kept track of the keys that the subject pressed. The experimenter will then leave the room for 15 seconds. When the experimenter re-enters the room, he will indicate that the server clearly showed that the subject had pressed the control, alt, and delete keys. In the min / max conditions, the experimenter will say, "Look, there is no doubt that you pressed the control, alt, and delete keys. That is the only way that this could happen. When someone messes up an experiment there are only two reasons for it. Either they were just goofing around or they were trying to ruin the experiment. I want to believe that you were just goofing around, but the only way I can know it is if you tell the truth and sign this paper. Otherwise, I have to assume that you did it to ruin the experiment." (See Interrogation Scripts in the Appendix A for complete scripts). Immediately after the false evidence and/or min / max inductions are presented, the experimenter will ask the subject to sign a confession statement that was handwritten by the experimenter and reads, "I pressed the control, alt, and delete keys. Data was lost. I understand that I will receive no credit for participation in this study." If the suspect declines to sign the statement, the experimenter will say, "I need you to sign this," and present the confession statement to the participant again. Regardless of the subject's response, the experiment will end after the participant responds to the second request. The participants will be immediately debriefed and asked to complete the post experiment questionnaire (See the Debriefing Form in Appendix A).

The offset control condition for this experiment will be similar to the no false evidence / no min / max condition with the following exception. The participants in this condition will not be told that they will not receive credit if the computer crashes. This difference will be included because, if the false confession rate of these participants is different from the control condition, it will suggest that future research could benefit from altering the negative consequences of false confessions.

## Instrumentation

## **Pre-Experiment Questionnaire**

The pre-experimental questionnaire is designed to collect demographic information and measure three personality traits. Additionally, the questionnaire included some questions that are designed to make the subjects believe that they were participating in an eyewitness study (See The Pre-Experiment Questionnaire in the Appendix A). The three personality measures were self-esteem, fear of negative evaluations, and locus of control. Each of these is discussed below.

## Self-Esteem

The Self-Esteem Scale (Rosenburg, 1965) was selected to measure self-esteem in this study. This scale consists of 10 items that were scored using a four-point response format. The choices are Strongly Agree, Agree, Disagree and Strongly Disagree (See The Pre-Experiment Questionnaire in the Appendix A). This scale has been used in a variety of experiments and has demonstrated to have internal consistencies that range between .77 and .88 and test-retest correlations that range between .82 and .85 (Blascovich & Tomaka, 1991).

#### Trait Anxiety

The brief version of the Trait Anxiety Inventory was used to measure trait anxiety (Spielberger, Gorsuch, & Lushene, 1970). This scale consists of 8 items that are answered using 4-point agreement-type scales bounded with the options not at all / very much. The scale has been used in more than a thousand studies investigating the links between anxiety and such diverse topics as depression, performance, and delinquent behavior. The inventory has also has exhibited acceptable internal (Cronbach's  $\alpha = .84$ ) and test-retest reliability (.71) (Spielberger et al., 1970).

# Fear of Negative Evaluation

The Brief Fear of Negative Evaluation Scale (Leary, 1983) which is based on the Fear of Negative Evaluation Scale (Watson & Friend, 1969) was selected to measure subjects' fear of negative evaluation. The scale contains 12 items that are answered using 5 point scales that are bounded with the options not at all characteristic of me / extremely characteristic of me (See The Pre-Experiment Questionnaire in the Appendix A). This scale has been widely used and demonstrated to have an internal consistency of .90 and test retest correlation of .75 (Leary, 1991). The brief scale is also highly correlated with the original scale (r = .96).

# Locus of Control

The internality subscale of the Internality, Powerful Others, and Chance Scales (Levenson, 1981) was selected for this study. The subscale is intended to measure the level of control over outcomes that a person believes that he or she has, and consists of eight items that are answered using seven-point Likert-type scales (See The Pre-Experiment Questionnaire in the Appendix A). The subscale has demonstrated an

internal consistency of .64 and test-retest correlations ranging from .60 to .79 (Lefcourt, 1991).

## Post Experiment Questionnaire

The post experiment questionnaire was designed to measure four concepts (See Appendix). These were the unavoidability of consequences, the severity of consequences, anxiety, and guilt. Each of these is discussed below.

# Unavoidability of consequences

Seven items were designed to measure this construct. These items include questions such as, "Did you think that you could avoid losing extra credit points?" and "How much proof did you think that the experimenter had that you had pressed the control, alt, and delete keys?" These questions were answered using five-point Likerttype scales. Other questions ask the participants to indicate their agreement (ranging from strongly agree to strongly disagree on a five-point scale) with statements such as, "There was no way for me to avoid being held responsible for pressing the control, alt, and delete keys," and "The researcher could prove that I pressed the control, alt, and delete keys."

# Severity of consequences

Ten items were designed to measure this construct. The questions, "How much trouble did you think that you would be in if you confessed?" and "How much trouble did you think that you would be in if you did not confess?" are answered using five-point Likert-type scales with the anchor points of "extreme trouble" and "no trouble". Additionally, participant perceptions of the severity of consequences were measured by asking their agreement with the following statements, "I felt that I would have been in

less trouble if I said that I pressed the control, alt, and delete keys," and "I felt that I would have been in more trouble if I did not say that I pressed the control, alt, and delete keys."

#### State Anxiety

State anxiety was measured using a brief version of the State Anxiety Inventory (Spielberger, Gorsuch, & Lushene, 1973). This scale consists of 8 items that are answered using 4-point agreement-type scales bounded with the options "not at all" / "very much". The scale has been used in a variety of studies and has exhibited acceptable internal and test-retest reliability (.75 and .87 respectively).

# Guilt

Two items were included to measure participant's perceptions of guilt. The first item, "How guilty did you feel when the experimenter was questioning you about pressing the control, alt, and delete keys," is answered using a five-point Likert-type scale with extremely guilty and not at all guilty as the anchors. The second item asks for the participant's agreement with the statement, "I felt a lot of guilt when the experimenter was questioning me about pressing the control, alt, and delete keys."

## Interrogative compliance

Interrogative compliance was measured using the GCS (Gudjonsson, 1989). This scale consists of 20 true-false questions. The scale has also been shown to have acceptable internal reliability (.71) and a test-retest reliability of .88 with three months between tests (Gudjonsson, 1989).

# Experimental Compliance

Participant compliance was measured by coding the suspect as compliant (1) if they signed the confession and non-compliant (0) if they refused to sign the confession.

#### **CHAPTER 4 – ANALYSIS**

This chapter presents the analysis of the data was collected using the methodology discussed in chapter 3. This chapter will proceed by presenting the sample, developing measurement models, comparing the two experimental runs, examining the possibility of treatment leakage, and finally, testing the hypotheses developed in chapter 2.

#### Sample

Two hundred and forty-five subjects completed the experiment<sup>3</sup>. Forty-nine subjects were randomly assigned to each of the conditions. One hundred and seventy-three (71%) of the subjects were female and seventy-two (29%) were male<sup>4</sup>. The mean age of the subjects was 19.09 (SD = 1.28).

#### Measurement Models

#### Personality Measures

Internal consistencies were computed for each of the personality measures using Chronbach's  $\alpha$ . The self esteem scale consisted of 10 items and resulted in an  $\alpha$  of .85. The fear of negative evaluation scale consisted of 12 items and the  $\alpha$  of these items was .86. The scale for locus of control consisted of 8 items and had a reliability of .60. An  $\alpha$  of .82 was obtained for the 8 items that constituted the trait anxiety scale. Finally, the Gudjonsson Compliance Scale consisted of 20 items and resulted in an  $\alpha$  of .79. All of

<sup>&</sup>lt;sup>3</sup> Twenty-three participants indicated during the debriefing that they thought the computer was rigged to crash and that the crash was a part of the experimental design. These subjects were excluded from the analysis because they were not fooled, and, therefore, their responses could not be considered valid. Subjects were also asked if they were certain that they had not pressed the control, alt, and delete keys. All of the subjects indicated that they were positive that they had not; therefore, none of the subjects were excluded as a result of this question.

<sup>&</sup>lt;sup>4</sup> None of the hypotheses in this study dealt with the role of gender in producing false confessions, so detailed analysis of the effects of gender on false confessions are not reported here. Analysis of the variables by gender suggested that women experienced more state anxiety, guilt, and unavoidability of consequences; however, almost identical percentages of men and women signed the confession. Future research should explore the impact that gender may have on false confessions.

these scales yielded reliability coefficients above the commonly accepted standard of .70 with the exception of the locus of control scale.

The  $\alpha$  of .60 found for the locus of control scale is consistent with previous research, which found the internal consistency of the scale to be .62 (Lefcourt, 1991). Additional analysis was also performed to explore whether or not the deletion of items could improve the reliability of the locus of control scale. This analysis did not result in an increase in the internal consistency of the scale. Therefore, all of the items were retained for purposes of analysis. The low  $\alpha$  suggests that there is significant room for improvement in the measurement of this construct.

Because all of the personality scales used for this study had been researched previously, confirmatory factor analysis to explore validity was not conducted. Additionally, all of the items for each of the scales were summed to produce a composite score for each of the constructs. All of the scores were normally distributed. The means and standard deviations of these composite scores are reported in Table 2.

	N	Min	Max	М	SD
Self Esteem	244	17	42	33.10	4.43
Fear Neg. Eval.	244	15	59	34.21	8.10
Internal Locus	244	-14	23	7.76	6.15
Trait Anxiety	245	8	29	14.21	3.98
Compliance	140	2	19	10.22	3.95

 Table 1. Descriptive Statistics for Personality Measures

#### Perception Measures

#### Unavoidability of Consequences

Seven items were used to measure the subject's perceptions of the unavoidability of consequences. The internal consistency of the scale was calculated using Chronbach's  $\alpha$  and resulted in an  $\alpha$  of .72. Confirmatory factor analysis was performed to determine whether or not the seven items were representative of the same construct. This analysis indicated that the error of the correlations between two of the items with other items was more than would be expected from sampling error; therefore, these measures (post test items 12 and 21, both of which dealt with proof) were excluded from the analysis. The resulting CFA indicated that all observed errors were within sampling error (p > .05). The reliability of the remaining five items was calculated and resulted in an  $\alpha$  of .75. These results indicated that the 5 remaining items measured the same construct with acceptable validity and reliability. Therefore, the items were summed for each of the subjects to form a composite measure of each subject's perceptions of the unavoidability of consequences. As can be seen in Table 3, the resulting unavoidability score ranged from a low of 5 to a high of 25 and had a mean of 13.73 (4.56 SD). This variable was also approximated normality.

Reliability was computed for the two proof related items that were excluded from the unavoidability scale. This analysis resulted in an  $\alpha$  of .77. Confirmatory factor analysis was not conducted because there were only two items for this construct. The two items were summed to produce a composite perception of proof variable. As can be seen in Table 2, scores ranged from a low of 2 to a high of 9 with a mean of 4.00 (1.88 SD). This variable was normally distributed.

## Severity of Consequences

Two aspects of the subject's perceptions of the severity of consequences were measured on the posttest questionnaire. These were the subject's perception of how severe the consequences were if they confessed and how severe the consequences were if the subject did not confess. Four items measured the suspect's perceptions of the severity of consequences if he or she confessed. The internal consistency of these items was .53. Additional reliability analysis indicated that if item 22 was excluded, the  $\alpha$  increased to .78. Therefore, item 22 was excluded. Confirmatory factor analysis (assuming equal variances) was conducted on the remaining 3 items. This analysis indicated that the observed inter-item correlations were within sampling error of the expected values. The 3 items were then summed to form a composite measure for the subject's perceptions of the severity of consequences if they confessed. As can be seen in Table 3, the resulting measure ranged from a low of value of 3 to a high value of 15. The mean of this measure was 7.50 (2.87 SD). Tests of skewness also indicated that the variable was normally distributed.

Four items were included to measure the subjects' perceptions of the severity of consequences if they did not confess. The internal consistency of these items was .78. Confirmatory factor analysis indicated that the observed inter-item correlations were within the sampling error of the expected observations for all 4 items; therefore, the 4 items were summed to form a composite measure that reflected the subjects' perceptions of the severity of consequences if they did not confess. As can be seen in Table 3, this variable ranged from a low of 4 to a high of 18 with a mean of 8.98 (3.40 SD). This measure was normally distributed.

Because the model discussed earlier deals only with the subject's overall perceptions of the severity of consequences, it was necessary to combine these measures into a single scale. Under the logic of the rational actor model, it is reasonable to assume that if a subject thinks that the consequences for confession are less severe than the consequences for non-confession, he/she will be motivated to confess; therefore, an overall measure of the subject's perceptions of the severity of consequences was constructed by subtracting the non-confession severity measure from the confession severity measure. Because the ranges of the two measures were not the same, the subject's scores on each measure were divided by the number of items in the measure and then subtracted. A positive score on this measure indicated that the subject thought that the consequences of confessing were more severe than the consequences of nonconfession, and the suspect should be motivated to not confess; however, if the score was negative, it indicated that the consequences for confession are less severe than nonconfession and the subject should be motivated to confess. As can be seen in Table 3, this measure was normally distributed and ranged from a high of 3 to a low of -2 with a mean of .25 (.94 SD).

## State Anxiety

The subjects' perceptions of state anxiety were measured using 8 items. The reliability of these measures was equivalent to an  $\alpha$  of .83. Because this scale had been previously validated, confirmatory factor analysis was not conducted. The eight items were summed to form a composite measure of state anxiety. As can be seen in Table 3, this measure ranged from a low of 9 to a high of 32 with a mean of 21.26 (5.80 SD). The measure was also normally distributed.

The subjects' perceptions of guilt were measured using 2 items. Internal consistency analysis resulted in an  $\alpha$  of .68. While this value was slightly lower than the conventional standard of .70, the value was not surprising being that there were only two items in the scale. Future measurement of this construct may benefit from the addition of new items. Because there were only two items, confirmatory factor analysis was not conducted. The items were summed to form a composite measure of perceived guilt. As can be seen in Table 3, this measure ranged from a low of 2 to a high of 10 with a mean of 3.62 (1.88 SD). Additionally, the measure approximated normality.

	N	Min	Max	Μ	SD
Unavoidability	244	5	25	13.73	4.56
Proof	244	2	9	4.00	1.88
Confession Sev.	244	3	15	7.50	2.87
Non-Conf. Sev.	244	4	18	8.98	3.40
Severity	244	-2	3	0.25	0.94
State Anxiety	244	9	32	21.26	5.80
Guilt	244	2	10	3.62	1.88

 Table 2. Descriptive Statistics for Perception Measures

# Comparison of Runs

The data collection for this study was conducted in two runs. This was done because not enough subjects completed the first run to provide the desired power for some of the tests. The two runs occurred approximately three months apart. It was

possible that students who participated in the first run would discuss the experiment with the participants in the second run and that this could affect the results. To limit this possibility, all of the subjects were asked during the debriefing if they had heard about the design of the study from other participants before they participated. Only one subject indicated that they had. This subject was excluded from analysis. All of the other subjects indicated that they had not; nevertheless, it was still possible that discussion between participants, the separation in time of the two runs, or other unknown factors affected the results. To explore this possibility, t-tests that compared the means of the two runs on various variables were conducted (See Table 4). This analysis indicated that there was a significant difference between runs on two of the measures. The participants reported more state anxiety during the first run than the second (r of the difference = .14), and participants in the second run felt that consequences were less unavoidable (r of the difference = .20). If contamination between the two runs had occurred, we would have expected to see differences between all of the perception variables (e.g. state anxiety, unavoidable consequences, proof, severity of consequences, and guilt) from run 1 to run 2. This pattern was not observed. Additionally, if the subjects had heard about the experiment before they participated, one would also expect fewer false confessions to occur. A comparison of the false confession rates indicated that they did not vary significantly from the first to the second run. The data from the two runs were combined for rest of the analysis because identical procedures were used for both runs, there were few differences between the two groups, the observed differences were small in magnitude, and the differences did not follow a predictable pattern of contamination.

	Run 1		Rur	Run 2	
Variable	M	<u>SD</u>	M	<u>SD</u>	<u>t</u> (242)
Self Esteem	32.94	4.20	33.36	4.78	72
Fear of Neg. Evaluation	34.27	8.13	34.13	8.09	.13
Internal Locus of Control	7.69	5.91	7.99	6.55	24
Trait Anxiety	14.49	4.05	13.77	3.87	1.41
Compliance Scale	10.31	4.09	10.07	3.75	.46
State Anxiety	22.13	5.40	20.30	7.25	2.25*
Unavoid. of Consequences	14.48	4.46	12.54	4.49	3.29**
Proof	3.99	1.94	4.02	1.81	14
Severity if Confess	7.47	3.01	7.53	2.63	16
Severity if Not Confess	9.17	3.32	8.68	3.52	1.08
Guilt	8.29	1.80	8.54	1.99	-1.02

Table 3. Comparison of Run 1 and Run 2

## Treatment Leakage

Two-way ANOVAs were conducted to explore the possibility that the treatment conditions had effects on perceptions beyond those that were specified in the hypotheses. ANOVAs are presented only for those perception variables on which the treatment conditions were not hypothesized to have an effect. This was done to confirm that the treatments did not unexpectedly leak into other variables. The ANOVAs for the perception variables for which a specific effect was hypothesized are presented in later sections. Table 5 presents the means and standard deviations for state anxiety by experimental condition. As can be seen from Table 6, the ANOVA for state anxiety did not find a significant main effect for Min / Max (F = .01, p = ns), a significant main effect for False Evidence (F = .05, p = ns), or a significant interaction between Min / Max and False Evidence (F = 1.09, p = ns). This suggests that the subjects' perceptions of state anxiety did not differ by treatment condition.

Table 4. Mean and Standard Deviations for State Anxiety

	No False Evid.		False Ev	idence
	M	<u>SD</u>	M	<u>SD</u>
No Min / Max	22.00	5.56	21.86	5.28
Min / Max	21.67	6.07	21.02	6.04

 Table 5. ANOVA Results for State Anxiety

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
Min / Max	1	16.68	16.68	.51
False Evidence	1	7.59	7.59	.23
Min / Max x False Evidence	1	3.09	3.09	.09
Within cells	191	6303.65	33.00	
Total	195	6331.01		

The means and standard deviations for guilt by treatment condition are presented in Table 7. As can be seen from Table 8, the ANOVA for the perception of guilt did not find a significant main effect for Min / Max (F = .16, p = ns), a significant main effect for False Evidence (F = 1.64, p = ns), or a significant interaction between Min / Max and False Evidence (F = .00, p = ns). This suggested that none of the treatment conditions had a significant impact on the subject's perceptions of guilt.

	No False Evid.		False E	vidence
	<u>M</u>	<u>SD</u>	M	<u>SD</u>
No Min / Max	3.69	1.86	3.37	1.50
Min / Max	3.59	1.84	3.27	1.91

Table 6. Means and Standard Deviations for Guilt

# Table 7. ANOVA Results for Guilt

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
Min / Max	1	.51	.51	.16
False Evidence	1	5.24	5.24	1.64
Min / Max x False Evidence	1	.00	.00	.00
Within cells	192	611.18	3.18	
Total	196	616.92		

## Hypotheses

# Hypotheses 1a-d

Hypotheses H1a thorough H1d dealt with the relationships between the Min /

Max treatment, perceptions of severity, and false confessions. H1a predicted that the Min / Max treatment would be positively associated with false confessions. As can be seen in Table 9, a  $\chi^2$  analysis of the min / max treatment and false confessions did not reveal a significant relationship between the two ( $\chi^2_{(1)} = .92$ , p = ns). H1a was not supported by

the data. This suggested that the use of Min / Max statements did not affect the rate of false confessions.

	Confess		
	No	Yes	
No Min / Max	68	30	
Min / Max	74	24	
$\chi^2_{(1)} = .92, p = ns$			

Table 8. Cross Tabulation of Min / Max and False Confession

H1b predicted that the Min / Max treatment would be negatively associated with the subjects' perceptions of the severity of consequences. Table 10 presents the means and standard deviations for severity by condition. As can be seen from Table 11, the ANOVA for the perception of the severity of consequences did not reveal a significant main effect for Min / Max treatment (F = 2.22, p = ns), did not find a significant main effect for False Evidence (F = .15, p = ns), or a significant interaction between Min / Max and False Evidence (F = .38, p = ns). This indicated that the Min / Max treatment did not effect the subjects' perceptions of the severity of punishment; therefore, Hypothesis 1b was not supported.

Table 9. Means and Standard Deviations for Severity

	No False Evid.		False E	vidence
	M	<u>SD</u>	M	<u>SD</u>
No Min / Max	.03	.78	.16	1.01
Min / Max	.30	.88	.27	.90
Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
----------------------------	-----------	-----------	-----------	----------
Min / Max	1	1.78	1.78	2.22
False Evidence	1	.12	.116	.15
Min / Max x False Evidence	1	.30	.30	.38
Within cells	191	153.35	.80	
Total	195	155.55		

Table 10. ANOVA Results for Severity

\*\* p < .01

Hypothesis 1c predicted that perceptions of the severity of consequences would be positively associated with false confessions. As can be seen in Table 12, a t-test comparing the perceptions of severity for confessors and non-confessors failed to reveal as significant difference between the two groups (t  $_{(193)} = 0.71$ , p = ns). This hypothesis was not supported.

	No Confession		Confession			
Variable	M	<u>SD</u>	M	<u>SD</u>	<u>t</u> (193)	
Severity	.22	.89	.11	.90	0.71	

Table 11. Perceptions of Severity by Confession

Hypothesis 1d involved testing the path model presented in Figure 6. This model predicted that the Min / Max induction would cause subjects to perceive that the consequences of confessing were less severe, which would, in turn cause more false confessions to occur. Path modeling involves two steps. First, the path parameters are

assessed. Second, the fit of the model is assessed. Parameter size for the path model is determined by regressing each endogenous variable onto its causal antecedent(s). If the resulting standardized beta weight is not substantial (significant at the .05 level), the causal antecedent must be removed from the model, and the model must be reconfigured until all of the beta weights are substantial before the fit of the model can be assessed. If a satisfactory arrangement of variables cannot be obtained, the fit of the model cannot be assessed.

Model fit is tested by comparing the correlations that were observed in the data with the correlations that are reproduced from the path model (see Hunter and Gerbing, 1982, for information on this process). If the differences between the observed and reproduced correlations are attributable to sampling error, the model is said to be consistent with the data. If the differences are too large to be attributed to sampling error, the model is said to be inconsistent with the data

Table 13 presents the zero order correlations of all of the variables involved in Hypothesis 1d. The path coefficients that were used to test this model, after correcting for measurement error are featured in Table 14. Examination of the link between Min / Max treatment and perceptions of severity revealed that the path was not substantial, .12,  $P(-.04 \le \rho \le .28) = .95$ . This suggested that the Min / Max induction did not affect the participants' perceptions of severity as was also suggested by the results of the test of Hypothesis 1b. The link between perceptions of severity and false confession was also not found to be substantial, -.06.  $P(-.22 \le \rho \le .10) = .95$ ; therefore, none of the links were substantial and the fit of the model could not be evaluated. This also indicated that the data was not consistent with the model proposed in Hypothesis 1d; therefore, min / max

statements did not cause subjects to perceive that the consequences of false confession were more severe, and the perception of the severity of consequences was not associated with false confessions.

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Figure 6. Path Model of Hypothesis 1d
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## Table 12. Correlations of Min /Max, Severity, and False Confessions

Measure	1.	2.	3.				
1. Min / Max							
2. Severity	.11						
3. False Confession	07	05					
Table 13. Path Coefficients for Hypothesis 1d							
	1.	<i></i>	3.				
1. Min / Max							
2. Severity	.12						

#### Hypotheses 2a-d

Hypotheses 2a-d dealt with the relationships between the false evidence treatment, perceptions of unavoidability, and false confession. Hypothesis 2a predicted that false evidence would be positively associated with false confessions. As can be seen in table 15, a  $\chi^2$  analysis of false evidence and false confession failed to support this hypothesis ( $\chi^2_{(1)} = 0.10$ , p = ns).

	Confess		
Group	No	Yes	
No False Evidence	70	28	
False Evidence	72	26	
$\chi^2_{(1)} = 0.10, p = ns$			

Table 14. Cross Tabulation of False Evidence and False Confessions

Hypothesis 2b predicted that the presentation of false evidence would cause subjects to perceive that consequences were unavoidable. Table 16 presents the means and standard deviations for unavoidability by condition. As can be seen from Table 17, the ANOVA for the perception of unavoidability did not produce a significant main effect for Min / Max (F = 1.47, p = ns), a significant main effect for False Evidence (F = 1.75, p = ns), or a significant interaction between Min / Max and False Evidence (F = .24, p = ns). This suggested that none of the treatment conditions had a significant impact on the subject's perceptions of the unavoidability of consequences. Hypothesis 2b was not supported.

Table 15. Means and Standard Deviations for Unavoidability

	No False Evid.		False Evidence	
	M	<u>SD</u>	M	<u>SD</u>
No Min / Max	14.82	4.64	13.59	4.74
Min / Max	13.67	5.29	13.10	4.14

Source	<u>df</u>	<u>SS</u>	MS	<u>F</u>
Min / Max	1	32.76	32.76	1.47
False Evidence	1	39.01	39.01	1.75
Min / Max x False Evidence	1	5.31	5.31	.24
Within cells	191	4248.34	22.24	
Total	195	4325.41		

 Table 16.
 ANOVA Results for Unavoidability

Hypothesis 2c predicted that perceptions of the unavoidability of consequences would be positively associated with false confession. As can be seen in Table 18, a t-test comparing the perceptions of unavoidability by false confession status revealed a significant positive relationship between the two variables (t  $_{(193)}$  = -4.98, p < .01). This finding supported hypothesis 2c. Subjects who confessed indicated that they felt that negative consequences were more unavoidable than those who did not confess.

	No Con	fession	Confe	ession	
Variable	М	SD	М	SD	<u>t</u>
Unavoidability	12.82	4.38	16.40	4.66	-4.98**
<b>**</b> p < .01					

 Table 17. Perceptions of Unavoidability by Confession

Figure 7 presents the path model predicted by Hypothesis 2d. This model predicted that the false evidence treatment would cause subjects to perceive that consequences were more unavoidable, which would, it turn, cause more false confessions. The observed zero order correlations for all of the variables included in this model are presented in Table 19. These correlations were corrected for measurement error using the standardized item alphas reported previously. The corrected path coefficients are presented in Table 20. The coefficient linking false evidence and perceptions of the unavoidability of consequences (-.12) was not substantial,  $P(-.28 \le \rho \le .04) = .95$ . This indicated that this link must be removed from the path model and suggested that the induction did not manipulate perceptions of the unavoidability of consequences. Unfortunately, when this link was removed from the model, the relationship between the remaining variables was a simple correlation and could not be tested as a path model; therefore, the fit of the data to the model was not assessed and Hypothesis 2d was not supported.

Figure 7.	Path	Model	of Hy	pothesis	2d
			<u> </u>	p 0 010010	



Table 18. Correlations of False Evidence, Unavoidability, and False Confession

Measure	1.	2.	3.
1. False Evidence			
2. Unavoidability	10		
3. False Confession	02	.34**	
<b>**</b> p < .01			

Measure	1.	2.	3.
1. False Evidence			
2. Unavoidability	12		
3. False Confession		.39	

Note: Coefficients corrected for attenuation due to measurement error

Recall that a new measure called "proof" was formed in the measurement section of this chapter from two items that were not valid measures of the perception of unavoidability of consequences construct. Examination of the relationships between proof and the variables from the previous model seemed to suggest that false evidence caused subjects to perceive that proof of guilt was available, which altered the subjects' perceptions of the unavoidability of consequences, which in turn, led to false confessions. Figure 8 presents the hypothesized model. The zero order correlations of all of the variables in the model are presented in table 21. Table 22 presents the corrected coefficients that were used to test the model.

Table 20. Zero Order Correlations of the Variables in Figure 8

Measure	1.	2.	3.	4.	5.
1. False Evidence					
2. Proof	.32**	k			
3. Unavoid Conseq.	10	.23**			
4. False Confession	02	.13	.34**		

Measure	1.	2.	3.	4.	5.
1. False Evidence					
2. Proof	.36				
3. Unavoid Conseq.		.30			
4. False Confession			.39		

Table 21. Path Coefficients Used to Test the Model Predicted in Figure 8

Note: Correlations corrected for attenuation due to measurement error.

As can be seen in Table 22, all of the path coefficients were substantial and in the direction predicted. The coefficient linking the presentation of false evidence and perception of proof was .36,  $P(.22 \le \rho \le .50) = .95$ . This indicated that the false evidence induction had a substantial effect on perceptions of proof. Perceptions of proof, in turn, had a substantial effect on perceptions of unavoidable consequences (path coefficient = .30) such that the more proof that the participant perceived, the more that the participant perceived consequences to be unavoidable,  $P(.12 \le \rho \le .48) = .95$ . The coefficient linking perceptions of unavoidable consequences with false confession was .39 indicating that the more unavoidable the consequences were perceived to be the more likely the participant was to confess,  $P(.25 \le \rho \le .53) = .95$ .

Since all of the path coefficients were substantial, the fit of the model was evaluated next. The differences between predicted and obtained coefficients for all unconstrained bivariate relationships in the model were tested and found to be within sampling error. The global test for goodness of fit also indicated that the data were consistent with the model,  $\chi^2_{(3)} = 4.26$ , p = .24. Given that the path coefficients were substantial and that the model and parameter estimates predicted accurately the

unconstrained correlations, the revised model and the data were judged to be consistent with one another. The revised model was supported. This model, with coefficients, is presented in figure 8 and suggests that the false evidence induction cause subjects to perceive that there was more proof of guilt. This perception, in turn, appears to have caused the subject to perceive that consequences were unavoidable, and the perception of unavoidable consequences was positively related to false confession.

Figure 8. Revised False Evidence Path Model



#### Hypotheses 3a-c

#### Hypothesis 3a

Hypothesis 3a predicted that the Min / Max treatment would induce participants to perceive that the consequences of confession would be less severe than the consequences of not confessing. In turn, these altered perceptions of consequences would increase the likelihood that the participant would falsely confess; however it was also hypothesized that this relationship would be moderated in such a way that false confessions would be much more likely when the subject also believed that negative consequences were unavoidable. This hypothesis was tested in two ways. In the first way, the path model featured in Figure 9 was tested after splitting the subjects on the basis of whether or not they received the false evidence treatment. If the findings indicated that the path model fit the data for only the false evidence group or if the path model worked for both groups but the coefficient linking the perceptions of severity with false confessions was substantially larger for the false evidence group, this would provide support for the hypothesis. The path coefficients were computed for each group and examined to determine if they were substantial. Table 23 presents the zero order correlations for the false evidence group and Table 25 presents the zero order correlations for the no false evidence group. Tables 24 and 26 respectively present the path coefficients (corrected for measurement error) that were used to test the models. Neither the coefficient linking perceptions of severity with false confessions for the false evidence group [-.15,  $P(-.37 \le \rho \le .07) = .95$ ] nor the coefficient linking perceptions of severity with false confessions for the no false evidence group [.05,  $P(-.17 \le \rho \le .27) =$ .95] was substantial; therefore, the data were not consistent with the model for either group, and hypothesis 3a was not supported.

Figure 9. Path Model of Hypothesis 3a



Table 22. C	correlations	for the	False	Evidence	Group
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Measure	1.	2.	3.	
1. Min / Max				
2. Severity	.06			
3. False Confession	05	13		

Table 23. Path Coefficients for the False Evidence Group

Measure	1.	2.	3.
1. Min / Max			
2. Severity	.07		
3. False Confession		15	

Table 24. Correlations for the No False Evidence Group

Measure	1.	2.	3.
1. Min / Max			
2. Severity	.16		
3. False Confession	09	.04	

Table 25. Path Coefficients for the No False Evidence Group

Measure	1.	2.	3.
1. Min / Max			
2. Severity	.18		
3. False Confession		.05	

The second method for testing Hypothesis 3a involved dichotomizing the sample on the basis of the perceived unavoidability of consequences. The mean for the unavoidability of consequences for this sample was 13.79. Subjects who were above the mean were placed in the high unavoidability group (N = 96) and those below were placed in the low unavoidability group (N = 100). Tables 27 and 29 present the correlations of the variables by group membership. Tables 28 and 30 present the corrected path coefficients that were used to test the models. Again, path coefficients were evaluated for each group. Neither the coefficient linking perceptions of severity with false confessions for the high unavoidability group  $[.12, P(-.12 \le \rho \le .36) = .95]$  nor the coefficient linking perceptions of severity with false confessions for the low unavoidability group  $[-.18, P(-.40 \le \rho \le .04) = .95]$  was substantial; therefore, the fit of the model could not be evaluated. This also indicated that data were not consistent with the model for either the high or low unavoidability group; therefore, Hypothesis 3a was not supported by this analysis either.

Table 26. Correlations for the High Unavoidability Group (N = 96)

Measure	1.	2.	3.
1. Min / Max			
2. Severity	.20		
3. False Confession	.03	.11	

Table 27. Path Coefficients for the High Unavoidability Group

Measure	1.	2.	3.
1. Min / Max			
2. Severity	.23		
3. False Confession		.12	

Table 28. Correlations for the Low Unavoidability Group (N = 100)

Measure	1.	2.	3.
1. Min / Max			
2. Severity	03		
3. False Confession	14	16	

Measure	1.	2.	3.
1. Min / Max			
2. Severity	03		
3. False Confession		18	

Table 29. Path Coefficients for the Low Unavoidability Group

Hypothesis 3b

Hypothesis 3b predicted that severity of consequences moderated the relationship between unavoidable consequences and false confession. This original hypothesis was modified to incorporate the revised path model that was found to be consistent with the data in Hypothesis 2d. Figure 10 depicts this model. The zero order correlation matrix of the variables in this model is presented in Table 31. Table 32 presents the path coefficients (corrected for measurement error) that were used to test the model. The coefficients linking severity with false confession and Min / Max with severity were not substantial [-.06,  $P(-.22 \le \beta \le .10) = .95$  and .09,  $P(-.07 \le \rho \le .25) = .95$  respectively]. It was therefore necessary to remove the antecedents of both of these links. The resulting path model was identical to the revised model that was supported in Hypothesis 2d. Hypothesis 3b was not supported by the data.

Figure 10. Path Model of Hypothesis 3b



## Table 30. Correlations for Hypothesis 3b

Measure	1.	2.	3.	4.	5.
1. False Evidence					
2. Proof	.32**	:			
3. Unavoid Conseq.	10	.23**	ŧ		
4. Severity	.03	08	24**		
5. False Confess.	02	.13	.34**	.05	
6. Min / Max	.00	.02	09	.11	07

# Table 31. Path Coefficients Used to Test Hypothesis 3b

Measure	1.	2.	3.	4.	5.
1. False Evidence					
2. Proof	.36				
3. Unavoid Conseq.		.30			
4. Severity			30		
5. False Confess.				.06	
6. Min / Max				.09	

### Hypothesis 3c

Hypothesis 3c predicted that the perceptions of unavoidable consequences and the severity of consequences would have an additive effect on the decision to confess. The path model of this hypothesis is presented in Figure 11 and has been modified to comport with the revised path model in Hypothesis 2d. The zero order correlations for Hypothesis 3c are identical for those in Table 31. The path coefficients (corrected for measurement attenuation) used to test Hypothesis 3c are presented in Table 33. The coefficient linking perception of the severity of consequences with false confession [.07, *P* (-.11  $\leq \beta \leq .25$ ) = .95] was not substantial, and the coefficient linking the Min / Max treatment with perceptions of severity [.12, *P* (-.04  $\leq \rho \leq .28$ ) = .95] was also not substantial. When these links were removed, the resulting model was again identical to the revised model featured in Hypothesis 2d. Hypothesis 3c was not supported by the data in this study.





Measure	1.	2.	3.	4.	5.
1. False Evidence					
2. Proof	.36				
3. Unavoid Conseq.		.30			
4. Severity					
5. False Confess.			.42	.07	
6. Min / Max				.12	

Table 32. Path Coefficients Used to test Hypothesis 3c

#### Additional analysis

Additional analysis of the relationships between the variables in Hypotheses 3a-c suggested that the data might fit the path model presented in Figure 12. The zero order correlations of these variables are the same as those presented in Table 31. The corrected path coefficients used to test the model are presented in Table 34. The link between the false evidence treatment and perception of proof (.36) was substantial [ $P(.22 \le \rho \le .50) =$  .95]. The links between proof and unavoidable consequences and the link between perception of the severity of consequences and the unavoidability of consequences were both substantial [.27,  $P(.09 \le \beta \le .45) = .95$  and  $-.29 P(-.47 \le \beta \le -.11) = .95$  respectively]. Finally, the coefficient linking perceptions of the unavoidability of consequences and false confession was also substantial [.39,  $P(.25 \le \rho \le .53) = .95$ ]. Because all of the path coefficients were substantial, the fit of the model was evaluated next. The analysis of the missing links indicated that the differences between observed and reproduced coefficients were within sampling error. The global test of fit was non-

significant ( $\chi^2_{(5)} = 6.51$ , p = .26), which indicated that the model was consistent with the data; therefore, the alternative path model was accepted. The effect of false evidence on false confessions appeared to be mediated by both perceptions of proof and the unavoidability of consequences, while the effect of the perception of the severity of consequences on false confession appeared to be mediated by perceptions of the unavoidability of consequences. This suggested that the presentation of false evidence could enhance perceptions of proof, which could increase the perception that consequences were unavoidable. The perception that consequences were unavoidable could, in turn, increase the likelihood that a person would falsely confess. At the same time, the more severe that a person thought that the consequences to be, and in turn, the less likely they were to confess. Figure 13 presents this model with the observed coefficients.



Figure 12. Path Model of the Additional Analysis

Measure	1.	2.	3.	4.	5.
1. False Evidence					
2. Proof	.36				
3. Unavoid Conseq.		.27			
4. Severity			29		
5. False Confess.				.39	

Table 33. Coefficients Used to Test the Additional Path Model

Figure 13. Path Model of the Additional Analysis with Coefficients



#### **Bivariate Hypothesis Tests**

This section of the results chapter features bivariate tests of hypotheses four through ten. Multivariate analysis of these hypotheses will be featured in the section following this one.

#### Hypothesis 4

Hypothesis 4 predicted that reported state anxiety during the interrogation would be positively correlated with false confession. As can be seen in Table 35, a t-test comparing that state anxiety means for false confessors and non-false confessors revealed a significant relationship (t (193) = -2.12, p < .05). Therefore, hypothesis 4 was supported. Subjects who reported higher state anxiety were more likely to falsely confess.

	No Cor	fession	Confe	ession	
Variable	M	<u>SD</u>	M	<u>SD</u>	<u>t</u> (193)
State Anxiety	21.11	5.80	23.04	5.28	-2.11*
<b>*</b> = p < .05					

Table 34. State Anxiety by Confession

Hypothesis 5

Hypothesis 5 predicted that guilt would be positively correlated with false confession. As can be seen in Table 36, a t-test comparing reported guilt for those who did or did not confess did not suggest that the difference between the groups was significant (t  $_{(76.06)} = -1.43$ , p = ns); therefore, this hypothesis was not supported by the data.

Table 35. Guilt by Confession

	No Con	fession	Confe	ession	
Variable	M	<u>SD</u>	M	<u>SD</u>	<u>t</u> (76.06)
Guilt	3.35	1.60	3.81	2.16	-1.43

Note: Equal variances not assumed

#### Hypothesis 6

The Gudjonsson Compliance Scale was hypothesized to be positively associated with false confession. As can be seen in Table 37, a t-test of the compliance scores for the false confessors and non-false confessors found a significant difference in compliance between the two groups (t  $_{(181)} = -6.26$ , p < .001). The data supported hypothesis 6, and suggested that subjects who rated themselves more highly on the GSC were more likely to falsely confess.

	No Coi	nfession	Confe	ession	
Variable	M	<u>SD</u>	M	<u>SD</u>	<u>t</u> (181)
Compliance	8.93	3.44	12.47	3.32	-6.26***
*** p < .001					

Table 36. Interrogative Compliance by Confession

Hypothesis 7

The seventh hypothesis posited that self-esteem would be negatively associated with false confessions. As can be seen in Table 38, the t-test comparing the self-esteem needs of the two groups failed to find a significant difference (t  $_{(193)} = 1.25$ , p = ns). Hypothesis 7 was not supported.

 Table 37.
 Self Esteem by Confession

	No Con	fession	Confe	ssion	_
Variable	M	<u>SD</u>	M	<u>SD</u>	- <u>t</u> (118)
Self-esteem	33.27	4.23	32.39	4.82	1.25

## Hypothesis 8

Hypothesis 8 predicted that trait anxiety would be positively correlated with false confessions. As can be seen in Table 39, a significant difference between confessors and non-confessors was not observed ( $t_{(194)} = -0.32$ , p = ns). This indicated that the data failed to support hypothesis 8.

Table 38. Trait Anxiety by Confession

	No Con	fession	Confe	ession	
Variable	М	SD	M	SD	t <sub>(194)</sub>
Trait Anxiety	14.04	3.88	14.24	4.40	-0.32

## Hypothesis 9

Fear of negative evaluation was predicted to be positively related to false confession. As can be seen in Table 40, a t-test of means for the confessors and non-confessors failed to find a significant difference between the two groups ( $t_{(193)} = 0.21$ , p = ns). Therefore, Hypothesis 9 was not supported.

	No Con	fession	Confe	ssion	_
Variable	M	<u>SD</u>	M	<u>SD</u>	<u>t</u> (193)
Fear of N. Eval.	34.16	8.28	33.89	8.02	0.21

 Table 39. Fear of Negative Evaluation by Confession

#### Hypothesis 10

Hypothesis 10 posited that internal locus of control would be positively associated with false confession. A t-test comparing the internal locus of control means for the false confessors and non-false confessors failed to find a significant difference between the two groups (See Table 41). Hypothesis 10 was not supported by the data.

	No Cor	nfession	Confe	ession	
Variable	M	<u>SD</u>	M	<u>SD</u>	<u>t</u> (193)
Internal Locus	7.81	6.45	8.31	5.91	-0.51

Table 40. Internal Locus of Control by Confession

#### Multivariate Analysis

To explore the impact of multiple variables on the participants' decisions to falsely confess four logistic regression models were calculated. Variables were divided into three categories (process variables, perception variables, and personality variables) and logistic regression model was estimated for each set of variables. A forth model was estimated by entering all of the variables simultaneously. Table 42 presents the zero order correlations of all of the variables included in the regression models.

.....

Measure	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Min /Max											
2. False Evidence	.00										
3. Proof	- .09	- .10									
4. Unavoidability	.02	.32**	.23**								
5. Severity	.11	.03	-** .24	- 08.							
6. State Anxiety	- .05	- .04	.36**	.19**	.09						
7. Guilt	- .03	- .09	.26**	.34**	- .06	.37**					
8. Compliance	- .10	.08	.30**	.33**	- .04	.30**	.29**				
9. Self-Esteem	.05	.01	- .09	- .04	- .01	- .02	- .04	- <b>**</b> .27			
10. Fear Neg. Eval.	- .12	- .08	.03	.09	.05	.17*	.10	.39**	-** .43		
11. Internal Locus	- .01	.13	.04	.18*	.04	.09	.06	- .06	.19**	- .08	
12. Trait Anxiety	- .08	- .04	.10	.03	- .01	.15*	.03	.35**	-** .68	.58**	- <b>**</b> .20

Table 41. Correlations of All Variables Included in the Regression Models

#### Model 1 – Process Variables

The process set consisted of two variables. These were min / max treatment and false evidence treatment. Multicollinearity diagnostics found the lowest tolerance to be 1.00, which suggested that multicollinearity was not a significant problem in this model. The overall model was not significant ( $\chi^2_{(2)} = 1.02$ , p = ns), and explained a trivial amount of variance in false confessions (Nagelkerke R<sup>2</sup> = .01). The -2 Log likelihood of the model was 229.73. As can be seen in table 43, none of the individual variables were significant. Also, there were not any outliers that exhibited a significant influence on the model.

Table 43. Logist	tic Regre	ssions on F	alse Confession			
	Pro	cess	Perception	Personality	Combined	Reduced
Variables	b (SE)	Exp(b)	b (SE) Exp( $b$ )	b (SE) Exp(b)	b (SE) Exp(b)	b (SE) Exp(b)
Min / Max	-31	0.74			79 0.46	
False Evidence	(.32) 10	06.0			(.44) 20 0.82	
Unavoidable	(75.)		.16*** 1.18		(.40) .12* 1.13 .05)	.12** 1.13
Proof			(.04) .07 1.08		(cu.) .04 1.04	(cn.)
Severity			(80.) .01 1.01		(.12) .01 1.01	
State Anxiety			(12.) .01 1.01		.01 1.01 .05)	
Guilt			.00 1.00		10 0.91	
Compliance			(01.)	.42*** 1.52	(c1.) .42*** 1.52	.35*** 1.42
Self-Esteem				(.00) 11 0.90	(.00) 11 0.89	(70.)
Fear Neg. Eval.				(.00) 08* 0.93	08* 0.92	07** .93
Internal Locus				(co.) .01 1.01	.02 1.02 .02 1.02	( co.)
Trait Anxiety				(.08) (.088 (.08) (.088	(.08) 12 0.89 (.08)	
Nagelkerke R <sup>2</sup>	у.	11	.17	.34	.42	.36
-2 Log likelihoo	d 229	0.73	201.85	165.12	146.91	159.25

#### Model 2 – Perception Variables

Five variables were analyzed in the perception variable logistic regression. These variables were unavoidability of consequences, proof, severity of the consequences, guilt, and state anxiety. Several of the variables in this model were significantly correlated, but none of the correlations exceeded a magnitude of .37. Multicollinearity diagnostics found the lowest tolerance to be .76, which suggested that multicollinearity was not a significant problem in this model. The overall model was significant ( $\chi^2_{(5)} = 23.70$ , p < .001) and explained a moderate amount of the variation in false confessions (Nagelkerke  $R^2 = .17$ ). The -2 Log likelihood of this model was 201.85 and suggested that this model was a better fit to the data than model 1. The only individual variable that was significant in the analysis was the unavoidability of consequences (b = .16, SE = .04, p < .001). The Exp(b) of this variable was 1.18 which indicated that, for every 1 unit increase in this measure, the participant was 1.18 times more likely to falsely confess. Six outliers were observed. Examination of these cases did not suggest a data entry error, and the elimination of these cases did not significantly impact the overall results of the model; therefore, these cases were retained in the analysis.

#### Model 3 – Personality Variables

The personality set consisted of 5 variables. These variables were interrogative compliance, self-esteem, fear of negative evaluation, internal locus of control, and trait anxiety. As can be seen in Table 42, several of the variables were significantly correlated with the largest relationship being between trait anxiety and self-esteem (r = -.68). Multicollinearity diagnostics found the lowest tolerance to be .41, which suggested that multicollinearity was not a significant problem in this model. The overall model was

significant ( $\chi^2_{(5)} = 48.88$ , p < .001) and explained a moderate amount of the variation in false confessions (Nagelkerke R<sup>2</sup> = .34). The -2 Log likelihood of this model was 165.12 which indicated that this model was a better fit to the data than either models 1 or 2. The interrogative compliance variable was significant in this model (b = .42, SE = .08, p < .001). The Exp(b) of this variable was 1.52 which suggested that, for every 1 unit increase in this measure, the participant was 1.52 times more likely to falsely confess. The slope of the fear of negative evaluation variable in this model was also significant (b = -.08, SE = .03, p < .05). The Exp(b) of this variable was .93, which indicated that for every 1 point increase on the fear of negative evaluation scale, subjects were 1.07 times less likely to falsely confess.

#### Model 4 – All Variables

The all variables model analysis consisted of all of the variables from the three previous models. An evaluation of the intercorrelations of the independent variables did not reveal any items that were correlated at a level that would be high enough to suggest multicollinearity problems. Additionally, multicollinearity diagnostics found the lowest tolerance to be .40, which suggested that multicollinearity was not a significant problem in this model. Seven outliers were observed in the data. Examination of these outliers did not suggest data entry errors and elimination of these cases did not appear to significantly impact the analysis; therefore, these cases were retained in the analysis. The overall regression model was significant ( $\chi^2_{(12)} = 61.86$ , p < .001). The model also explained a large amount of the variance in false confession (Nagelkerke R<sup>2</sup> = .42). The -2 Log likelihood of the model was 146.91, which indicated that this model was a superior fit to the data when compared to all of the previous models. Three individual variables

were significant in this model. The first was interrogative compliance (b = .42, SE = .08, p < .001). The Exp( $\beta$ ) of this variable was 1.52 which suggested that, for every 1 unit increase in this measure, the participant was 1.52 times more likely to falsely confess. The second variable with a significant slope was perception of unavoidable consequences (b = .12, SE = .05, p < .05). The Exp(b) of this variable was 1.13, which indicated that for every 1 point increase on this measure, subjects in this study were 1.13 times more likely to falsely confess. The third was fear of negative evaluation (b = -.08, SE = .03, p < .05). The Exp(b) of this variable was .93, which indicated that for every 1 point increase on this variable was .93, which indicated that for every 1 point increase on this variable was .93, which indicated that for every 1 point increase .

A fifth model was computed to examine the explanatory power of only those variables that were found to be significant in at least one of the previous models. These variables were perceptions of unavoidable consequences, interrogative compliance, and fear of negative evaluation. None of the correlations between these variables was exceptionally large, and multicollinearity diagnostics indicated that the lowest tolerance was .75. These findings suggested that multicollinearity was not a significant problem in this model. Six outliers were observed in the data. Examination of these outliers did not suggest data entry errors and elimination of these cases did not appear to significantly impact the analysis; therefore, these cases were retained in the analysis. The overall regression model was significant ( $\chi^2_{(3)} = 52.14$ , p < .001). The model also explained a moderate amount of the variance in false confession (Nagelkerke  $\mathbb{R}^2 = .36$ ). The -2 Log likelihood of the model was 159.25, which indicated that this model was a superior fit to the data when compared to models 1 through 3 but not when compared to model 4. All

three variables included in this model were significant. The first was interrogative compliance (b = .35, SE = .07, p < .001). The  $\text{Exp}(\beta)$  of this variable was 1.42 which suggested that, for every 1 unit increase in this measure, the participant was 1.42 times more likely to falsely confess. The second was perception of unavoidable consequences (b = .12, SE = .05, p < .01). The Exp(b) of this variable was 1.13, which indicated that for every 1 point increase on this measure, subjects in this study were 1.13 times more likely to falsely confess. The third was fear of negative evaluation (b = -.07, SE = .03, p < .01). The Exp(b) of this variable was .93, which indicated that for every 1 point

#### Comparison of the Control and Offset Control Groups

Recall that an offset control group was included to explore the impact of altering the severity of consequences. The offset control group was identical to the control group with the exception that the offset control group was not told that they would not receive credit if the pressed the control, alt, and delete keys and the statement that they were asked to sign did not include the line "I will receive no credit" that was present in the regular control group. Table 44 presents the number of confessions for both groups. The difference in these conditions was not significant in this sample ( $\chi^2_{(1)} = 1.55$ , p = ns) The effect size of this small change in consequences on false confessions was equivalent to an r of .13. To increase the power to detect a potential difference based upon the consequences for confession, all of the subjects who were in the main experiment were combined into one group and compared to the offset control group. This was done because none of the differences in false confessions by treatment were significant in the main experiment. As can be seen in Table 45, this analysis did reveal a significant difference in the number of confessions by group ( $\chi^2_{(1)} = 5.51$ , p < .05). The effect size that corresponded with this difference was .15, which suggested that the small change in consequences in this study produced a small change in the number of false confessions.

	Gro	oup
Confess	Control	Offset Control
No	33	27
Yes	16	22
$\chi^2_{(1)} = 1.55, p = ns,$	r = .13	

Table 42. False Confessions by Control Group

	Group	
Confess	Main Experiment	Offset Control
No	142	27
Yes	54	22

 Table 43. False Confessions by Experimental Group

## Qualitative Analysis

This section of the analysis chapter presents a brief summary of the answers to the qualitative questions that were asked on the posttest questionnaire. Where the quotations of specific subjects are reported, they were not corrected for grammatical errors. Those subjects who did not confess were asked why they didn't. The participant answers to this

question were very uniform and almost always indicated something to the effect that they did not confess because they did not do the act of which they were being accused.

Subjects who did confess were asked why they did. The participants' answers to this question were much more varied. Five major themes were apparent. The most common statements were to the effect that there was no way to avoid the negative consequences or that the subject could not prove their innocence. Subject 194's answer " ...because I felt that there was no other choice and that I wasn't going to get the credit anymore anyway," was typical of this theme.

The second most commonly appearing theme involved statements to the effect that the experimenter was an authority figure and told them to sign the statement. Subject 178 wrote, "... because the experimenter said that I needed to, regardless of my plea. I knew that I didn't do it, but it seemed as though I couldn't leave if I didn't sign the confession." Subject 243's answer was also typical of this theme. She stated, "... because I trusted the experimenter and felt that if he asked me to sign the form, and since he is the authority, it would be wrong of me not to sign it."

The third theme involved statements that the subject was upset or frightened. Subject 247 wrote, "I did it because I was upset nervous, and just wanted to get out of the situation at any cost." Subject 262's answer was also representative of this theme. She wrote, "I was nervous and upset after he accused me. So when he said, 'sign this' I did because I hadn't been paying attention to what I was asked to sign."

The forth theme included statements the confession was easier or that the subject just wanted to "get it over with". Subject 28 said, "I tried to convince the man that I didn't again and again, but no luck. I just wanted to get it over with." Subject 83's

answer was also typical of this theme. She wrote, "At that time I didn't care, so I was going to sign and be done with it."

The final theme involved statements that the subject was confused. Subject 204's answer was typical for this theme. She wrote, "I was confused. I read what he wrote, but it really didn't sink in. Then I wished that I hadn't [signed the confession] because I knew that I hadn't pressed the keys."

It is worthy of note that many of the participants indicated they confessed for more than one reason. For example, subject 166 said, "I felt I was being accused by an authority figure who knew what went on. I was a little confused as to why someone would press control, alt, delete in the first place, and had no way for him or myself to back our side up." Subject 152 said, "... because I wasn't sure what happened and I asked the experimenter if he was serious and that I'm really losing credit. I was upset and figured that's what I had to do."

#### CHAPTER 5 – DISCUSSION

This chapter will discuss the results of this study and the implications that they have for the body of false confession knowledge. First, the impact of interrogation tactics and situational perceptions on false confessions will be discussed. Second, the impact of personality on false confessions will be considered. Third, the ability of the interrogation tactics, perceptual variables, and personality traits to explain the variance in false confessions will be considered. Fourth, some conclusions drawn from this research as a whole will be presented. Fifth, the limitations of this study will be discussed, and finally, the policy implications of this project will be considered.

#### Interrogation Tactics and Perceptions

This section of the discussion will consider the impact of interrogation tactics and perceptual variables on false confessions. This consideration will begin by discussing how min / max statements and perceptions of the severity of consequences appear to relate to false confessions. Next, the relationship of false evidence and the unavoidablity of consequences will be assessed. Finally, the sufficiency of the Leo-Ofshe model will be discussed.

#### Min / Max, Severity, and False Confessions

This section of the discussion addresses the roles that min / max statements and the perceptions of the severity of consequences may play in producing false confessions. No association was found between the min / max treatment and perceptions of severity. This suggests that the simple min / max statement used in this study did not cause participants to perceive that the consequences of confession were less than the consequences of not confessing. In fact, the observed data (while not significant)

suggested a small positive effect for the use of the min / max technique on perceptions of punishment, which suggests that the use of the min / max statement may have had an effect that was opposite of that which was predicted, and caused the innocent participants to perceive that the consequences of false confession were more severe. In line with this observation was the finding that, while no significant differences existed by condition, the fewest false confessions occurred in the min / max only group. A possible explanation for this may be that the innocent subjects experienced a form of reactance when exposed to the min / max statement. It is possible that they felt that the min / min max statement was forcing them toward an action that they did not want to take. This may have caused those receiving the min / max treatment to perceive that the consequences of confession were more severe, and in turn, this may have caused fewer of them to confess.

Whether or not this was the case, the findings of this study directly contradict those of Kassin and McNall (1991) who suggested that the use of min / max statements could cause people to perceive that the severity of confession was less severe. There were important differences between the Kassin and McNall design and the design used for this study that may explain the differences in the findings. Recall that Kassin and McNall had subjects read a transcript that contained either a minimization or maximization statement and then suggest how much punishment the suspect in the transcript would receive. The current study placed the subjects directly in the interrogation situation and asked them what their perceptions were. This design is much closer to what a suspect may experience during interrogation than the Kassin and McNall (1991) design. It could be argued that the nature of the Kassin and McNall (1991) design

was more akin to how a juror may perceive a confession that resulted after a min / max statement was used by the interrogator than what the subject of an interrogation would perceive. The minimization statement, in particular, would allow the confessor to put a positive spin on his crime, which could have caused the observer to view the confessor in a more positive light and suggest less punishment. The design of the Kassin and McNall (1991) study did not allow this possibility to be eliminated. The present study was a more direct test of the perceptions of the subjects of interrogations and failed to find that min / max statements affected either perceptions of the severity of consequences or the likelihood of false confession. This suggests that min / max statements may not alter perceptions of punishment and thereby increase the likelihood of a false confession occurring. No study to date has demonstrated that the use of min / max statements increases the likelihood that a person will falsely confess.

#### False Evidence, Unavoidable Consequences, and False Confessions

This section of the analysis considers the roles that the presentation of false evidence and the perception of the unavoidability of consequences may have in producing false confessions. The findings of this study suggest that the false evidence treatment induced innocent subjects to perceive that there was more proof of their guilt, which in turn drove the subjects to perceive that consequences were more unavoidable, and thereby, increased the likelihood that the subject would falsely confess. This is inline with what other researchers have suggested (Gudjonsson, 2003; Kassin & Kiechel, 1996; Leo, 2001; Redlich & Goodman, 2003); however, the double mediated nature of this relationship deserves some attention. With each mediator in a causal chain, the impact of the exogenous variable on the final endogenous variable will be reduced. In this study,

where two variables mediated the relationship between false evidence and false confession, the relationship between false evidence and false confession was not significant. Even if the false evidence induction was improved to the point that the link between it and perceptions of proof was .90 (which would be very difficult to achieve, and might involve using false evidence tactics that would not be admissible in court), the expected correlation between false evidence and false confession would be still have been only .11. This suggests that false evidence might have only a small impact on the likelihood of a compliant false confession occurring; whereas, other research has suggested that the use of false evidence may have a much larger effect on false confessions (Horselenberg et al., 2003; Kassin & Kiechel, 1996). Recall that the current study was designed to make the subjects certain that they had not committed the prohibited act; whereas, previous studies (Horselenberg et al., 2003; Kassin & Kiechel, 1996; Redlich & Goodman, 2003) were intentionally designed to make the subjects uncertain about whether or not they had committed the prohibited act. It may be that the effect of false evidence on false confessions is much less when dealing with compliant false confessions (where the confessor is certain that they did not do the act of which they are being accused) than when dealing with internalized false confessions (where the confessor is uncertain about their commission of the prohibited act). In cases where subjects are uncertain that they committed the crime, false evidence may cause subjects to both be more likely to believe that consequences are less avoidable and that they committed the crime; whereas, when the subject is certain that he or she did not commit the crime, false evidence may only effect perceptions of the unavoidablity of consequences.
### The Complete Leo-Ofshe Model

The variables and their possible relationships as suggested by Leo and Ofshe were not consistent with the findings of this study. The data in this study did not support the additive, mediated, or moderated versions of the Leo-Ofshe model. While this is not conclusive proof that the Leo-Ofshe model is incorrect, this study had a power of .89 to detect effect sizes as small as an r of .20 in the additive and mediated models and a power of .92 to detect effect sizes as small as .30 in the moderated model. This suggests that if the Ofshe and Leo model is correct, the effect sizes involved in this model would be small, and thus, the explanatory power of the model would be limited. Additionally, no empirical data to date have provided support for the entire Leo-Ofshe model. Because empirical evidence supporting the Leo-Ofshe model is currently lacking, caution should be used in applying the model to explain actual cases of false confession.

The data in this study did support an alternative model. This model suggested that the impact of false evidence on false confession was first mediated by perceptions of proof and then perceptions of the unavoidability consequences, and that the impact of perceptions of the severity of consequences on false confession was mediated by perceptions of the unavoidability of consequences. Thus, the false evidence part of the model was similar to the one reported in the above section. Severity of consequences in this model had a negative impact on perceptions of unavoidability, which suggested that the more severe the subject perceived the consequences to be, the less unavoidable (more avoidable) they felt the consequences were; therefore, it appears that the more severe the consequences were perceived to be, the less likely the subject was to confess because they also perceived the consequences to be more avoidable.

Even in this alternative model, the impact of false evidence on false confessions was double mediated. Additionally, the link between min / max statements and perceptions of severity was still not substantial. Even if we were to assume that the failure of the min / max statement to impact perceptions of severity was an artifact of the situation or choice of min / max statement, the impact of min / max statements on false confessions would still be mediated first by the impact of the statement on perceptions of the severity of consequences and then by the impact of the change in perceptions of severity on the perceptions of the unavoidability of consequences. Because the impact of interrogation tactics on false confessions in this model appears to be double mediated, the end influence of these tactics on false confession would be small (if extant at all). This suggests that theories that focus on the role of legally permissible interrogation tactics in producing false confessions will have limited explanatory power. This suggestion is further supported by the logistic regression findings discussed later.

The Role of Personality Characteristics in Producing False Confessions

This study sought to expand upon the Leo-Ofshe model by exploring how personality may relate to false confessions. In bivariate analysis, only the interrogative compliance measure was significantly related to false confessions. As predicted, those who scored higher in interrogative compliance were more likely to falsely confess. This relationship remained significant even when controlling for other variables. Additionally, when controlling for other variables, the fear of negative evaluation personality measure was significantly associated with false confessions. Contrary to the hypothesized relationship, subjects who had a higher fear of negative evaluation score were less likely to falsely confess. This suggests that the subjects were still concerned about how the

interrogator perceived them, and that even though the interrogator was accusing them of pressing the keys, the participants still may have felt that the interrogator would view them in a more negative light if he or she confessed. This finding could also be considered further evidence that the min / max statement did not have the predicted effect. If the statement had produced the hypothesized effect, the participant should have thought that if they confessed the interrogator would think better of them than if they did not confess. This should have produced a positive relationship between the fear of negative evaluation and false confession. This positive relationship was not observed.

The Explained Variance of Interrogation, Perception, and Personality Characteristics

Another way to examine the roles that interrogation tactics, perceptions, and personality play in producing false confessions is to examine how much of the variation in false confessions each of these sets of variables explains. The interrogation tactics model explained a trivial amount of variance (Nagelkerke  $R^2 = .01$ ). The perception variables model explained a small amount of variance (Nagelkerke  $R^2 = .17$ ). The personality characteristics model explained a moderate amount of the variance in false confession (Nagelkerke  $R^2 = .34$ ). A model that combined all of the variables explained a large amount of the variance (Nagelkerke  $R^2 = .42$ ).

The models, when viewed together, clearly indicated that the personality variables explained much more of the variance in false confessions than either the interrogation tactics variables or the perception variables. In particular, the personality trait of interrogative compliance appeared to be a particularly good predictor of false confessions (when this variable was removed from the models, explained variance dropped by as much as .32). This suggests that personality may play a relatively large role in producing

compliant false confessions, and that personality variables should be included in models that attempt to explain compliant false confessions. These findings further suggest that models that do not include personality variables will have limited explanatory power. It is also possible that the interrogative compliance measure will prove to be an effective tool for identifying potential cases of false confession.

### Conclusions

The results of both the path and logistic regression modeling in this study clearly suggested that interrogation tactics played a very limited role in producing false confessions. More specifically, it appeared in the path modeling that the affects of the interrogation tactics on false confessions were mediated by various perception variables in such a way as to make the impact of the interrogation tactics on false confessions nonsignificant in this study. In the logistic regressions, the interrogation tactics explained almost no variance; whereas, the personality and perception variables both explained substantial amounts of the variance in false confessions. It also appeared that the personality variables (interrogative compliance in particular) were the best predictors of false confession. These findings suggest that personality is important in explaining compliant false confessions; yet, most of the compliant false confession research to date has focused only on tactics or perceptions and completely ignored the role of personality in producing false confessions. Future research must endeavor to explore the impact of personality on false confessions. Ideally, this research should also aim to develop tools that could be utilized to help identify people whose personality characteristics may make them more susceptible to falsely confessing.

#### Limitations

Several factors limited this study. These limitations were primarily related to concerns of external validity. The first was that the interrogation featured in the interactions was not a full interrogation. In order to limit the stress that was caused to the participants, the accusation phase lasted no more than one minute. Most "real" interrogations are considerably longer in duration (Leo, 1996). Longer interrogations may have changed several factors during the interrogation (e.g. amount of stress and perceptions of unavoidability) and produced different results. Also, the number of interrogation tactics that were used was limited. Only one type of false evidence and one min / max statement were used. In a normal interrogations, it is common for several types of min / max statements to be used. Leo (1996) found that on average interrogators used 5.62 tactics per interrogation. It is possible that the results reported here were artifacts of the specific statements that were used or that the use of multiple tactics could have produced different results. These limitations have also been present in other false confession studies (Horselenberg et al., 2003; Kassin & Kiechel, 1996; Redlich & Goodman, 2003).

The second limitation is that the confessions in this study were not the same as those that are developed from actual interrogations. The preferred process for developing a confession according to Inbau et al. (2001) is that the interrogator first obtains a verbal confession and then asks the confessor to write out his or her own confession. In other cases, the interrogator obtains a verbal confession and then writes out the confession for the confessor, which the confessor then signs. In this study, the subjects were simply asked to sign a statement that was written by the experimenter. None of the subjects in

this study offered a verbal confession before being presented with the statement, and many of them protested their innocence while signing the confession. If the preferred method had been used, there would have been no variation in false confession, as the false confession rate would have been 0. This suggests that simply using a statement that is signed before the subject verbally admits to guilt may not accurately reflect the false confession process that occurs in actual criminal interrogations.

The third limitation was that the consequences for falsely confessing were not particularly severe when compared with the criminal consequences that suspects in "real" interrogations face. The only consequence for confession in this study was that the subject would not get credit for participation in this experiment. All of the subjects were required to complete 2 hours of research credit as a part of their class. This study was worth 1 hour of credit. If the subject did not get credit for this experiment, she or he could simply choose other studies in which to participate, so that the only real penalty for confession was that the participant would lose the time that he or she had already spent doing this study. This averaged about half an hour per subject. An offset control group (which featured absolutely no punishment) was included to explore the impact that changing punishment could have on false confessions. The comparison of the two control groups did not reveal a significant difference in the number of false confessions, but more subjects confessed in the offset control than in the control condition (45% and 33% of the participants confessed respectively). When all of the subjects who participated in the main experiment were compared with the offset control group, this difference was significant. This suggests that a relatively small change in punishment could have a significant impact on the rate of false confessions. This could mean that

false confessions would occur at far lower rates in actual criminal cases than the rate at which they occurred in this study. This possibility is supported by the rate of false confession estimates developed by Cassell (1998) and Huff et al. (1986) which range from a low of .001% to a high of .04% of all FBI Index crime convictions respectively.

Another threat to external validity was that the sample was not randomly selected from the population. Instead, students in a lower level communications course selfselected to participate in this study. This limits the confidence that we can have in generalizing the results to the population as a whole. Because this study was largely exploratory in nature, the author does not view this as a major limitation. Recall also that the Ofshe and Leo model simply suggests a process that can cause ordinary (nonmentally handicapped) people to falsely confess. It is reasonable to call the sample in this study ordinary (non-mentally handicapped). It has also been argued that using college students (non-representative samples) to evaluate causal theories can be scientifically valid (Basil, Brown, & Bocarnea, 2002). Basil et al. (2002) note that the univariate values (means) generated from such research are not likely to reflect the actual population, and as such univariate values should not be generalized; however, the causal processes found in non-representative samples can often be generalized.

The way in which the Gudjonsson Compliance Scale was administered may also have presented a threat to validity. To avoid alerting the subjects to the true purpose of this study, the scale was administered after the experimental procedure. This could have caused some priming, as the subjects who signed the statement may have been primed to think of themselves as being more compliant; however, if interrogative compliance is truly a trait-like personality construct, this priming should have been limited.

Additionally, the means and standard deviations on the GCS in this study were consistent with those that have been reported for other college students and false confessors in other research (Gudjonsson, 1989). Finally, a path model that proposed that false evidence caused perceptions of proof, which altered perceptions of unavoidability, which caused false confessions, which finally, produced the score on the GCS was not supported by the data. These findings suggest that if the subjects' behavior during the experiment primed them to answer the questions on the GCS in a particular direction, this effect was limited.

Taken together, these limitations suggest caution should be used in generalizing the univariate findings of this study to actual interrogations; however, this study is the most externally valid experimental examination of interrogation and its impact on false confessions that has been conducted to date. Additionally, it is the only study that has featured a direct test of the Leo-Ofshe model of compliant false confessions. The failure of the study to support the Leo-Ofshe model, the development of an alternate model, and the findings regarding the role of personality in producing false confessions have important implications for false confession theory. As such, this study makes a significant contribution to the body of false confession knowledge.

## **Policy Implications**

Based upon the exploratory nature of this study, the limitations of the design, and the general lack of knowledge regarding compliant false confessions, policy recommendations must be made cautiously. This study did not suggest that the presentation of false evidence had a significant impact on the rate of false confessions. To date only one study (Kassin & Kiechel, 1996) has demonstrated a main effect for false evidence suggesting that it could increase the likelihood that a person would falsely

confess. This study was also conducted in manner that made the person uncertain about whether or not they committed the prohibited act and allowed the "confessor" to claim that the prohibited act was an accident. This makes the scenario in the Kassin and Kiechel study less externally valid than the current study. Additionally, replication has been inconsistent (Redlich & Goodman, 2003). This, in addition to the large role that these tactics may play in producing true confessions from resistant suspects (Cassell, 1998; Inbau et al., 2001; Leo, 1996), suggests that there is not sufficient cause, at this point in time, to suggest that the use of false evidence during interrogations should be prohibited.

This study also failed to find a significant relationship between the use of min / max statements and false confessions. No study to date has found such a relationship. Kassin and McNall (1991) found that reading a transcript that contained minimization or maximization tactics altered the reader's perception of the punishment and suggested that these altered perceptions could produce false confessions. This study failed to find a significant link between exposure to min / max statements and perceptions of punishment, and also did not find a significant link between perceptions of punishment, and also did not find a significant link between perceptions of punishment and false confessions. It should also be noted that the design of the current study was more externally valid than the Kassin and McNall (1991) study. These findings, in addition to the large role that these tactics may play in producing true confessions from resistant suspects (Cassell, 1998; Inbau et al., 2001; Leo, 1996), suggests that there is not sufficient cause, at this point in time, to suggest that the use of min / max statements during interrogations should be prohibited.

The results of this study and others do suggest that interrogations should be videotaped whenever possible (Gudjonsson, 2003; Huff & Sagarin, 1996; Leo, 2001; Ofshe & Leo, 1997b; Scheck et al., 2000). As was mentioned earlier, none of the subjects in this study verbally confessed and many of them protested their innocence even while signing the confession. If videotapes of these interrogations were available during a trial, jurors would have been able to see the subjects vocally denying guilt while signing the confession. This might allow the juror to correctly determine that the signed confession was false, and thereby, prevent a miscarriage of justice. Future research should explore this possibility. APPENDIX

### **Experiment Consent Form**

## Eyewitness Identification Study Consent Form

The purpose of this study is to explore how accurately college students can identify suspects from briefly shown pictures. If you agree to participate, you will receive 1 hour of research participation credit if you complete the entire process. If you choose to participate in this study, you will be asked to look at a picture for 5 seconds and then to identify that person from a set of 10 pictures. You will be asked to do this for 10 sets of pictures. You will also be asked to complete two questionnaires that measure some personality traits and your perceptions of the experiment. Full participation in this study will take 1 hour or less. You may experience mild levels of stress and anxiety during the experiment. You may refuse to answer certain questions or withdraw from the study at any time without penalty. Your privacy will be protected to the maximum extent allowable by law, and your responses will be kept confidential so that only the researcher will be able to link them to your name. If you have any questions about this study, please contact the investigator (J. Pete Blair) by phone: (517) 324-9465, by e-mail: blairjoh@msu.edu, or regular mail: 122 Baker Hall, East Lansing, MI 48824. If you have any questions or concerns regarding your rights as a study participant, or are dissatisfied at any time with any aspect of this study, you may contact - anonymously, if you wish -Dr. Peter Vasilenko, the Chairperson of the University Committee on Research Involving Human Subjects (UCHRIS) by phone: (517) 355-2180, fax: (517) 432-4503, e-mail: uchris@msu.edu, or regular mail 202 Olds Hall, East Lansing, MI 48824.

Thank you,

John "Pete" Blair

I voluntarily agree to participate in this study.

Your Signature
 Print Your Name
 Today's Date

Revised 9/22/2003

# Pre-Experiment Questionnaire (Revised 09/01/2003)

- 1. What is your year in school?
- 2. What is your age?
- 3. What is your sex?
  - 1. Male
  - 2. Female

Please circle the number that most accurately indicates your agreement with the following items.

- 4. I am a person of worth, at least on an equal basis with others.
  - 1. Strongly Agree
  - 2. Agree
  - 3. Disagree
  - 4. Strongly Disagree
- 5. I feel that I have a number of good qualities.
  - 1. Strongly Agree
  - 2. Agree
  - 3. Disagree
  - 4. Strongly Disagree
- 6. All in all, I am inclined to feel I am a failure.
  - 1. Strongly Agree
  - 2. Agree
  - 3. Disagree
  - 4. Strongly Disagree
- 7. I am able to do things as well as most other people.
  - 1. Strongly Agree
  - 2. Agree
  - 3. Disagree
  - 4. Strongly Disagree
- 8. I feel that I do not have much to be proud of.
  - 1. Strongly Agree
  - 2. Agree
  - 3. Disagree
  - 4. Strongly Disagree

- 9. I take a positive attitude toward myself.
  - 1. Strongly Agree
  - 2. Agree
  - 3. Disagree
  - 4. Strongly Disagree
- 10. On the whole, I am satisfied with myself.
  - 1. Strongly Agree
  - 2. Agree
  - 3. Disagree
  - 4. Strongly Disagree
- 11. I wish I could have more respect for myself.
  - 1. Strongly Agree
  - 2. Agree
  - 3. Disagree
  - 4. Strongly Disagree
- 12. I certainly feel useless at times.
  - 1. Strongly Agree
  - 2. Agree
  - 3. Disagree
  - 4. Strongly Disagree
- 13. At times I think that I am no good at all.
  - 1. Strongly Agree
  - 2. Agree
  - 3. Disagree
  - 4. Strongly Disagree

Please circle the number that indicates how characteristic of you the following statements are.

- 14. I worry about what people will think of me even when I know that it doesn't make any difference.
  - 1 Not at all characteristic of me
  - 2 Somewhat characteristic of me
  - 3 Moderately characteristic of me
  - 4 Very characteristic of me
  - 5 Extremely characteristic of me
- 15. I am unconcerned even if I know people are forming an unfavorable impression of me.
  - 1 Not at all characteristic of me
  - 2 Somewhat characteristic of me
  - 3 Moderately characteristic of me

- 4 Very characteristic of me
- 5 Extremely characteristic of me
- 16. I am frequently afraid of other people noting my shortcomings.
  - 1 Not at all characteristic of me
  - 2 Somewhat characteristic of me
  - 3 Moderately characteristic of me
  - 4 Very characteristic of me
  - 5 Extremely characteristic of me
- 17. I am afraid that others will not approve of me.
  - 1 Not at all characteristic of me
  - 2 Somewhat characteristic of me
  - 3 Moderately characteristic of me
  - 4 Very characteristic of me
  - 5 Extremely characteristic of me
- 18. I am afraid that people will find fault with me.
  - 1 Not at all characteristic of me
  - 2 Somewhat characteristic of me
  - 3 Moderately characteristic of me
  - 4 Very characteristic of me
  - 5 Extremely characteristic of me
- 19. Other people's opinions of me do not bother me.
  - 1 Not at all characteristic of me
  - 2 Somewhat characteristic of me
  - 3 Moderately characteristic of me
  - 4 Very characteristic of me
  - 5 Extremely characteristic of me
- 20. When I am talking to someone, I worry about what they may be thinking about me.
  - 1 Not at all characteristic of me
  - 2 Somewhat characteristic of me
  - 3 Moderately characteristic of me
  - 4 Very characteristic of me
  - 5 Extremely characteristic of me
- 21. I am usually worried about what kind of impression I make.
  - 1 Not at all characteristic of me
  - 2 Somewhat characteristic of me
  - 3 Moderately characteristic of me
  - 4 Very characteristic of me
  - 5 Extremely characteristic of me

- 22. If I know someone is judging me, it has little effect on me.
  - 1 Not at all characteristic of me
  - 2 Somewhat characteristic of me
  - 3 Moderately characteristic of me
  - 4 Very characteristic of me
  - 5 Extremely characteristic of me
- 23. Sometimes I think that I am to concerned with what others think of me.
  - 1 Not at all characteristic of me
  - 2 Somewhat characteristic of me
  - 3 Moderately characteristic of me
  - 4 Very characteristic of me
  - 5 Extremely characteristic of me
- 24. I often worry that I will say or do the wrong things.
  - 1 Not at all characteristic of me
  - 2 Somewhat characteristic of me
  - 3 Moderately characteristic of me
  - 4 Very characteristic of me
  - 5 Extremely characteristic of me
- 25. I rarely worry about what kind of impression I am making on someone.
  - 1 Not at all characteristic of me
  - 2 Somewhat characteristic of me
  - 3 Moderately characteristic of me
  - 4 Very characteristic of me
  - 5 Extremely characteristic of me

Please circle the number that most accurately indicates your agreement with the following items.

- 26. Whether or not I get to be a leader depends mostly on my ability.
  - 3 Strongly Disagree
  - 2 Disagree
  - 1 Slightly Disagree
  - +1 Slightly Agree
  - +2 Agree
  - +3 Strongly Agree
- 27. Whether of not I get into a car accident depends mostly on how good a driver I am.
  - 3 Strongly Disagree
  - -2 Disagree
  - 1 Slightly Disagree
  - +1 Slightly Agree
  - +2 Agree
  - +3 Strongly Agree

- 28. When I make plans, I am almost certain that they will work.
  - 3 Strongly Disagree
  - -2 Disagree
  - 1 Slightly Disagree
  - +1 Slightly Agree
  - +2 Agree
  - +3 Strongly Agree
- 29. How many friends I have depends on how nice a person I am.
  - 3 Strongly Disagree
  - -2 Disagree
  - 1 Slightly Disagree
  - +1 Slightly Agree
  - +2 Agree
  - +3 Strongly Agree
- 30. I can pretty much determine what will happen in my life.
  - 3 Strongly Disagree
  - -2 Disagree
  - 1 Slightly Disagree
  - +1 Slightly Agree
  - +2 Agree
  - +3 Strongly Agree
- 31. I am usually able to protect my personal interests.
  - 3 Strongly Disagree
  - 2 Disagree
  - -1 Slightly Disagree
  - +1 Slightly Agree
  - +2 Agree
  - +3 Strongly Agree
- 32. When I get what I want, it's usually because I worked hard for it.
  - 3 Strongly Disagree
  - -2 Disagree
  - -1 Slightly Disagree
  - +1 Slightly Agree
  - +2 Agree
  - +3 Strongly Agree

- 33. My life is determined by my own actions.
  - 3 Strongly Disagree
  - -2 Disagree
  - 1 Slightly Disagree
  - +1 Slightly Agree
  - +2 Agree
  - +3 Strongly Agree

A number of statements which people have used to describe themselves are given below. Read each statement and then select the appropriate one to indicate **how you generally** feel. Please answer every question. There are no right or wrong answers.

# 34. I feel nervous and restless

- 1 Not at all
- 2 Somewhat
- 3 Moderately
- 4 Very much

# 35. I feel satisfied with myself

- 1 Not at all
- 2 Somewhat
- 3 Moderately
- 4 Very much
- 36. I feel that difficulties are piling up so that I cannot overcome them.
  - 1 Not at all
  - 2 Somewhat
  - 3 Moderately
  - 4 Very much
- 37. I feel like a failure.
  - 1 Not at all
  - 2 Somewhat
  - 3 Moderately
  - 4 Very much
- 38. I have disturbing thoughts.
  - 1 Not at all
  - 2 Somewhat
  - 3 Moderately
  - 4 Very much

- 39. I lack self-confidence.
  - 1 Not at all
  - 2 Somewhat
  - 3 Moderately
  - 4 Very much
- 40. I feel secure.
  - 1 Not at all
  - 2 Somewhat
  - 3 Moderately
  - 4 Very much
- 41. I worry too much over something that really does not matter.
  - 1 Not at all
  - 2 Somewhat
  - 3 Moderately
  - 4 Very much

42. How many years of experience using computers have you had?

- 43. How good is your memory in general?
  - 1 Very Good
  - 2 Good
  - 3 Average
  - 4 Poor
  - 5 Very Poor

44. How good are you at remembering faces?

- 1 Very Good
- 2 Good
- 3 Average
- 4 Poor
- 5 Very Poor
- 45. How good are you at remembering names?
  - 1 Very Good
  - 2 Good
  - 3 Average
  - 4 Poor
  - 5 Very Poor
- 46. Have you ever been an eyewitness to a crime?
  - 1 Yes
  - 2 No

47. If you answered yes to the above question, how many times have you been a witness?

#### Accusatory Script

#### No false evidence / No min / max condition

The experimenter enters the room and says, "You pressed the control, alt and delete buttons." The experimenter writes "I pressed the control, alt, and delete buttons. Data was lost. I understand that I will receive no credit for participation," on a piece of paper, and asks the subject to sign it. The experimenter waits for the suspect to respond. If the subject declines, the experimenter says, "I need you to sign this" and waits for the participant's response. Regardless of the response, the subject is immediately debriefed.

#### False evidence / No min / max condition

The experimenter enters the room and says, "You pressed the control, alt and delete buttons." Then experimenter says, "The server in the other room tracks keyboard inputs, I am going to check it." The experimenter leaves the room for 15 seconds. When he reenters, he says, "The server clearly shows that you pressed the control, alt, and delete buttons." Next, the experimenter writes "I pressed the control, alt, and delete buttons. Data was lost. I understand that I will receive no credit for participation," on a piece of paper, and asks the subject to sign it. The experimenter waits for the suspect to respond. If the subject declines, the experimenter says, "I need you to sign this" and waits for the participant's response. Regardless of the response, the subject is immediately debriefed.

#### No false evidence / Min / max condition

The experimenter enters the room and says, "You pressed the control, alt and delete buttons." The experimenter then says, "There are only two ways that this can happen. Either you were just goofing around and wanted to see what would happen, or you were trying to ruin the experiment. I want to believe that you were goofing around, but the only way that I can is if you tell me the truth. Otherwise I have to assume that you were trying to ruin the experiment. If you were just goofing around, I need you to sign this." Next, the experimenter writes "I pressed the control, alt, and delete buttons. Data was lost. I understand that I will receive no credit for participation," on a piece of paper, and asks the subject to sign it. The experimenter waits for the suspect to respond. If the subject declines, the experimenter says, "I need you to sign this" and waits for the participant's response. Regardless of the response, the subject is immediately debriefed.

#### False Evidence / Min / max condition

The experimenter enters the room and says, "You pressed the control, alt and delete buttons." Then the experimenter says, "The server in the other room tracks keyboard inputs, I am going to check it." The experimenter leaves the room for 15 seconds. When he reenters, he says, "The server clearly shows that you pressed the control, alt, and delete buttons." Next, the experimenter says, "There are only two ways that this can happen. Either you were just goofing around and wanted to see what would happen, or you were trying to ruin the experiment. I want to believe that you were goofing around, but the only way that I can is if you tell me the truth. Otherwise I have to assume that you were trying to ruin the experiment. If you were just goofing around, I need you to sign this." Next, the experimenter writes "I pressed the control, alt, and delete buttons. Data was lost. I understand that I will receive no credit for participation," on a piece of paper, and asks the subject to sign it. The experimenter waits for the suspect to respond.

If the subject declines, the experimenter says, "I need you to sign this" and waits for the participant's response. Regardless of the response, the subject is immediately debriefed.

# The Effects of False Evidence and the Min / max Technique on False Confessions Debriefing Form

We deceived you about the nature of this experiment. The real reason that we conducted this experiment was to explore the impact of different interrogation tactics on false confessions. We are trying to find out if different types of statements have an impact on the likelihood that a person will falsely confess to doing something that they did not do. We did not tell you the true nature of the experiment because it would have altered your reactions. You did not press the control, alt, and delete keys. No data was lost. You will receive full credit for participation. Whether or not you confessed, your behavior was entirely normal. In fact in other studies like this one, up to 70% of the participants have confessed. We are trying to figure out why normal people do or do not falsely confess in the hope of preventing false confessions in the future.

Do you have any questions for me?

Thank you for your time. If you have any questions about this study, please contact the investigator (J. Pete Blair) by phone: (517) 324-9465, by e-mail: <u>blairjoh@msu.edu</u>, or regular mail: 122 Baker Hall, East Lansing, MI 48824. If you have any questions or concerns regarding your rights as a study participant, or are dissatisfied at any time with any aspect of this study, you may contact – anonymously, if you wish -Dr. Ashir Kumar, the Chairperson of the University Committee on Research Involving Human Subjects (UCHRIS) by phone: (517) 355-2180, fax: (517) 432-4503, e-mail: <u>uchris@msu.edu</u>, or regular mail 202 Olds Hall, East Lansing, MI 48824. If you feel unsettled by this experience, you can contact University Counseling Services by phone at (517) 355-8270. Revised 7/09/2003

# Post Experiment Questionnaire

Please circle the number that most closely matches what you thought and/or felt <u>when</u> <u>the experimenter accused you of pressing the control, alt, and delete keys</u>. There are not right or wrong answers.

- 1. I felt calm
  - 1 Not at all
  - 2 Somewhat
  - 3 Moderately
  - 4 Very much
- 2. I felt tense
  - 1 Not at all
  - 2 Somewhat
  - 3 Moderately
  - 4 Very much
- 3. I felt upset
  - 1 Not at all
  - 2 Somewhat
  - 3 Moderately
  - 4 Very much
- 4. I felt frightened
  - 1 Not at all
  - 2 Somewhat
  - 3 Moderately
  - 4 Very much
- 5. I felt nervous
  - 1 Not at all
  - 2 Somewhat
  - 3 Moderately
  - 4 Very much
- 6. I was relaxed
  - 1 Not at all
  - 2 Somewhat
  - 3 Moderately
  - 4 Very much

- 7. I was worried
  - 1 Not at all
  - 2 Somewhat
  - 3 Moderately
  - 4 Very much
- 8. I felt confused
  - 1 Not at all
  - 2 Somewhat
  - 3 Moderately
  - 4 Very much
- 9. Did you think that you could avoid losing your extra credit points?
  - 1 Absolutely Yes
  - 2
  - 3 Uncertain
  - 4
  - 5 Absolutely Not
- 10. Did you think that you could avoid being held responsible for pressing the control, alt, and delete keys?
  - 1 Absolutely Yes
  - 2
  - 3 Uncertain
  - 4
  - 5 Absolutely Not
- 11. How likely did you think that it was that you could avoid losing credit?
  - 1 Very likely
  - 2 Somewhat Likely
  - 3 Uncertain
  - 4 Somewhat Unlikely
  - 5 Very Unlikely
- 12. How much proof did you think that the experimenter had that you had pressed the control, alt, and delete keys?
  - 1 Overwhelming
  - 2 Strong
  - 3 Moderate
  - 4 Weak
  - 5 None

- 13. How guilty did you feel when the experimenter was questioning you about pressing the control, alt, and delete keys?
  - 1 Extremely Guilty
  - 2 Very Guilty
  - 3 Moderately Guilty
  - 4 Somewhat Guilty
  - 5 Not at all Guilty
- 14. How much trouble did you think that you would be in if you confessed?
  - 1 Extreme Trouble
  - 2 A lot of Trouble
  - 3 Moderate Trouble
  - 4 Some Trouble
  - 5 No Trouble
- 15. How much trouble did you think that you would be in if you did not confess?
  - 1 Extreme Trouble
  - 2 A lot of Trouble
  - 3 Moderate Trouble
  - 4 Some Trouble
  - 5 No Trouble
- 16. How severe did you think that the consequences would be if you said that you pressed the control, alt, and delete keys?
  - 1 Extremely Severe
  - 2 Very Severe
  - 3 Moderately Severe
  - 4 Somewhat Severe
  - 5 Not at all Severe
- 17. How sever did you think that the consequences would be if you did not say that you pressed the keys?
  - 1 Extremely Severe
  - 2 Very Severe
  - 3 Moderately Severe
  - 4 Somewhat Severe
  - 5 Not at all Severe
- 18. How important was it to you to keep your credit for participating in the experiment?
  - 1 Extremely Important
  - 2 Very Important
  - 3 Moderately Important
  - 4 Somewhat Important
  - 5 Not at all Important

Please indicate your agreement with the following statements.

- 19. I felt that there was no way for me to avoid losing extra credit points.
  - 1 Strongly Agree
  - 2 Agree
  - 3 Undecided
  - 4 Disagree
  - 5 Strongly Disagree
- 20. I felt that there was no way for me to avoid be held responsible for pressing the control, alt, and delete keys.
  - 1 Strongly Agree
  - 2 Agree
  - 3 Undecided
  - 4 Disagree
  - 5 Strongly Disagree
- 21. I felt that the researcher could prove that I pressed the control, alt, and delete keys.
  - 1 Strongly Agree
  - 2 Agree
  - 3 Undecided
  - 4 Disagree
  - 5 Strongly Disagree
- 22. I felt that I would have been in less trouble if I **did** say that I pressed the control, alt, and delete keys.
  - 1 Strongly Agree
  - 2 Agree
  - 3 Undecided
  - 4 Disagree
  - 5 Strongly Disagree
- 23. I felt that I would have been in more trouble if I **did not** say that I pressed the control, alt, and delete keys.
  - 1 Strongly Agree
  - 2 Agree
  - 3 Undecided
  - 4 Disagree
  - 5 Strongly Disagree
- 24. I felt that the consequences for **admitting** to pressing the keys would be severe.
  - 1 Strongly Agree
  - 2 Agree
  - 3 Undecided
  - 4 Disagree
  - 5 Strongly Disagree

- 25. I felt that the consequences for not admitting to pressing the keys would be severe.
  - 1 Strongly Agree
  - 2 Agree
  - 3 Undecided
  - 4 Disagree
  - 5 Strongly Disagree
- 25. It the credit that I would earn for participating in the experiment was important to me.
  - 1 Strongly Agree
  - 2 Agree
  - 3 Undecided
  - 4 Disagree
  - 5 Strongly Disagree
- 26. I felt a lot of guilt when the experimenter was questioning me about pressing the control, alt, and delete keys.
  - 1 Strongly Agree
  - 2 Agree
  - 3 Undecided
  - 4 Disagree
  - 5 Strongly Disagree
- 27. If you signed the confession, why did you do it?

28. If you did not sign the confession, why didn't you?

Please circle the answer that most accurately describes you.

1.	I give in easily to people when I am pressured.	Т	F
2.	I find it very difficult to tell people when I disagree with them.	Т	F
3.	People in authority make me feel uncomfortable and uneasy.	Т	F
4.	I tend to give into people who insist that they are right.	Т	F
5.	I tend to become easily alarmed and frightened when I am in the		
	company of people in authority.	Т	F
6.	I try very hard not to offend people in authority	Т	F
7.	I would describe myself as a very obedient person	Т	F
8.	I tend to go along with what people tell me even when I know that		
	they are wrong.	Т	F
9.	I believe in avoiding rather than facing demanding and frightening		
	situations.	Т	F
10.	I try to please others	Т	F
11.	Disagreeing with people often takes more time than it is worth.	Т	F
12.	I generally believe in doing as I am told.	Т	F
13.	When I am uncertain about things, I tend to accept what people		
	tell me.	Т	F
14.	I generally try to avoid confrontation with people.	Т	F
15.	As a child, I always did what my parents told me.	Т	F
16.	I try hard to do what is expected of me.	Т	F
17.	I am not too concerned about what people think of me.	Т	F
18.	I strongly resist being pressured to do things I don't want to do.	Т	F

19.	I would never go along with what people tell me in order to please		
	them.	Т	F
20.	When I was a child, I sometimes took the blame for things that I		
	had not done.	Т	F

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