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Bluffed by the dealer: Distinguishing false pleas from false confessions

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by

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ABSTRACT

The United States convicts over one million people of felonies each year without affording the resources of a trial. Instead, these convictions are attained in plea bargains. The current research investigated potential differences between pleas and confessions to determine whether new experimental research on plea-bargaining is warranted, or whether the research on false confessions can be extended to pleas as well. Given the exploratory nature of this work, multiple theoretically-relevant variables were measured so that multiple potential differences between pleas and confessions could be explored. The study employed a 2 (innocent or guilty) x 2 (plea or confession) x 2 (evidence-bluff or no-bluff) between-participants design. Participants were recruited for a study described as examining problem solving. Once at the lab, all participants were paired with a confederate posing as another participant. The participant and confederate were asked to complete problems both independently (individual) and together (team). Guilty participants were asked to provide help on one of the individual problems by the confederate. Innocent participants were never asked for help. All participants were later accused of cheating on an individual problem. Participants in confession conditions were then asked to sign a statement admitting guilt. Participants in plea conditions were asked to sign a statement agreeing to work 20 hours in the research lab in exchange for dropping the accusation. Participants in evidence-bluff conditions were told that a video camera recorded the problem-solving phase of the study and could reveal whether cheating actually occurred. The theoretically-relevant individual difference variables did not consistently differentiate pleas from confessions. A hypothesized interaction between the evidence-bluff and plea-confession conditions on acceptance outcomes did not materialize either. Nevertheless, some evidence emerged indicating that pleas and confessions might involve different processes. Specifically,

innocent participants gave different reasons for refusing to sign a plea statement than they did for refusing to sign a confession statement. Similarly, the plea and confession conditions prompted guilty participants to provide significantly different reasons for agreeing to sign the statement. In conclusion, the current research provides support for a new line of research on plea-bargaining.

CHAPTER 1. INTRODUCTION

Every day in the United States, an average of 2,964 people are presented with a profoundly difficult decision—a plea dilemma (Bureau of Justice Statistics, 2007). They can choose a certain conviction by plea or an uncertain conviction by trial. Of course, the choice to opt for a trial comes with a cost. Namely, if convicted by trial, the punishment will be of a much greater magnitude than the punishment for conviction by plea. Faced with this dilemma, most people opt for certainty. In fact, 95% of criminal convictions in the United States are attained in plea negotiations, not in courtrooms (Burke, 2007; Ross, 2006). In other words, the majority of criminal suspects accept pleas and forgo the risk of greater punishment if convicted by trial. That means an average of 2,816 people are convicted of a felony by plea deal every day, which adds up to 1,024,974 people every year (Bureau of Justice Statistics, 2007).

Decision-making in a plea negotiation context is unique and complex. The vast literature on decision-making is thereby limited in its generalizability to plea contexts. Theory and research on people's decision-making preferences or biases have been predominately tied to financial outcomes (i.e., decisions involving money). From both a measurement and economic standpoint, this focus makes perfect sense (Kahneman, 2011). Money is extremely fungible and can be easily quantified. Plea outcomes on the other hand, especially in a criminal context, can rarely be measured in dollars and cents. While monetary outcomes are measured on the same quantitative scale, time in prison, time on probation, time with a criminal record, and time as a convicted criminal, represent outcomes that cannot be readily compared. An outcome of 500 dollars is objectively better than an outcome of 50 dollars; an outcome of 500 days on probation is not objectively better or worse than an outcome of 50 days in prison, especially when combined with the accompanying differences in legal costs, criminal records, and other related

variables. Thus, plea-bargaining represents a novel and needed extension to the broader decision-making domain.

A Unique Social Psychological Question

Plea-bargaining also represents a unique and dynamic social situation that involves a number of potential psychological phenomena. Social psychology has demonstrated the frequency with which people can make decisions and engage in behaviors that seem completely inexplicable to outside observers. Thus, the question as to why an innocent person would accept a plea bargain seems perfectly suited to social psychology—historically, social psychologists have asked many questions that seem to share a common thread. Why would normal students choose to subject a stranger to shocks of up to 450 volts (Milgram, 1963)? Why would a sample of mentally stable individuals transform into seemingly sadistic prison guards (Haney, Banks, & Zimbardo, 1973)? The answer to all these questions seems to involve one of the central tenets of social psychology—situations are powerful. Certain situations can cause people to act in strange ways (Zimbardo, Haney, Banks, & Jaffe, 1973). The famous Stanford Prison Experiment epitomizes this central tenet (Haney et al., 1973). A random sample of mentally stable male college students were transformed into sadistic prison guards and docile prisoners in a period of just six days. Further, the researchers found that initial measures of personality and disposition accounted for a minute amount of variation in the behaviors exhibited during the experiment (Haney, et al., 1973). The prison situation was powerful enough to limit individual differences such that guards and prisoners became what their role demanded.

Findings such as these have led researchers to propose an interactionist perspective to account for people's behaviors. Essentially, although not everyone reacts to situations in the same way, certain situational variables can have a more predictable impact on the behaviors of

most people (Haney & Zimbardo, 2009). Social psychology has long recognized the power of novel situations to affect people's behaviors in 'unnatural' ways. So, why would an innocent person accept a plea? Social psychology provides the context for recognizing the situational variables that could contribute to answering this question.

More specifically, research on conformity and obedience can provide clear insight into plea negotiation contexts. A State or prosecuting attorney—an individual who criminal suspects could perceive as an authority figure—orchestrates plea negotiations. People have a general propensity to cooperate with authority (Milgram, 1963). Thus, it seems possible that people in a plea situation would be more willing to accept the agreement to cooperate with a perceived authority. Additionally, it is common practice for prosecutors to convey extreme confidence in their ability to 'get convictions' when engaged in plea negotiations (Bibas, 2004). This assured persona could perpetuate further social influence by biasing defendants' perceptions of their cases and the strength of evidence against them. The State attorney could also be perceived to possess an experiential knowledge of the legal system that the defendant lacks. Defendants could consequently be led to believe exactly what the prosecutor appears to believe—that going to trial would simply mean a worse punishment because conviction is assured either way (Wegener & Carlston, 2005). Further, research has shown that people are more prone to relying on these types of cognitive biases when the situation is ambiguous (Cialdini, 2001). Thus, the numerous unknowns in the plea context (e.g., probability of conviction, jury composition, etc.) could exacerbate the impact of social influence.

Finally, people tend to have a bias toward convergence (Sherif, 1935). One could imagine a situation in which an innocent defendant has been implicated with two or more co-defendants (e.g., they have all been suspected of committing a theft together). If multiple co-

defendants accept plea deals, this could greatly increase the propensity of the remaining defendant to accept a plea. The last defendant might feel pressured to converge upon the same decision as the other defendants. Further, the decision of the co-defendants to plea might also affect the perceptions of the remaining defendant regarding the probability of conviction at trial. Perceptions can be altered to match the perceptions of others, especially if there are multiple others in agreement (Asch, 1952). Given the various psychological phenomena that can be connected to plea bargains, social psychology is the ideal domain with which to examine behaviors that occur in this context.

A New Research Domain?

Plea decisions involve a vast array of complex variables that are not easily translated to existing decision frameworks and paradigms. Further, despite the number of social variables involved in plea negotiations, experimental investigations into plea behaviors have been sparse (Redlich, 2010a). This fact is especially troubling when considering the predominance of plea-bargaining in the American criminal justice system. A handful of researchers have recently taken interest in plea-bargaining. Some have even made explicit calls for further experimental plea research (Redlich, 2010a). In fact, the 2014 American Psychology-Law Society conference included three full symposia dedicated to plea-bargaining from a psycho-legal perspective (that is in contrast to previous years in which there were no sessions entirely dedicated to plea-bargaining). It is possible, however, that this recent drive to create a new domain of research on plea-bargaining is unwarranted.

Plea decisions share several characteristics with confession decisions (Redlich, 2010a). Both involve a situation in which suspects accused of an offense are pressured to sign a legal statement by a perceived authority (e.g., police, prosecutors). It is possible that the similarities

between confessions and pleas render separate research domains moot. Perhaps psychological and legal variables impact plea and confession outcomes in parallel ways. If pleas and confessions are largely the same, researchers should emphasize these connections and bridge the two fields. If, on the other hand, certain variables impact plea outcomes and confession outcomes differently, then current pushes for plea research will be further justified. Thus, to effectively establish the importance of plea-bargaining as its own research domain, it must be demonstrated that it has unique properties separate from the seemingly-related confession domain.

The current research investigated whether certain variables would impact or interact with plea and confession outcomes differently. To accomplish this, I altered an experimental confession manipulation and examined whether it had the same impact on plea and confession behaviors in a modified *cheating paradigm*. I also measured theoretically-relevant individual difference variables to determine whether they exhibited distinct relationships with plea and confession outcomes. This introduction is organized into three primary parts. The first part will review the impact of plea-bargaining on American criminal procedure. This review will also include a history of the U.S. Supreme Court decisions that have contributed to the predominance of plea-bargaining today. The second part will compare and contrast pleas and confessions more broadly. It is important to note that this part relied on several theoretical assumptions due to the lack of existing experimental research on pleas. The hypothesized similarities of pleas and confessions will be examined first followed by their hypothesized differences. The third and final section will review the plea-bargaining literature in both legal and psychological domains.

Legal Foundation

Rules of Criminal Procedure

The Federal Rules of Criminal Procedure provide guidelines for the legal prosecution of criminal suspects. They are regularly amended to reflect the most recent rulings made by the United States Supreme Court (Judicial Conference of the United States, 2010). These 32 rules detail all of the components of a criminal case and the constitutional protections guaranteed to every suspect at each step of the process. Accordingly, every criminal suspect is afforded the right to these procedures. One such suspect, processed through the American criminal justice system, is named Kerry Max Cook.

Kerry Max Cook was arrested on August 5th, 1977 for the rape and murder of Linda Jo Edwards (Cook, 2007). Two weeks after his arrest, Cook was presented before a judge in an examination hearing—these hearings serve to acquire an initial plea of guilty or not guilty from the suspect and to retain legal counsel if the defendant has not done so already (in accordance with Rule 5 of the Federal Rules of Criminal Procedure). At this initial hearing, the judge denied Cook bail terms due to the violent nature of the crime for which he was accused. This decision guaranteed that he could not be released from custody prior to his trial. On September 20th, 1977, a bond hearing was held during which a grand jury officially charged Cook with Capital Murder—a crime punishable by lethal injection (in accordance with Rule 5.1).

On June 22nd, 1978, almost one year after Kerry Max Cook's initial arrest, his trial finally began. During the trial, Cook was presented with all the evidence the State had collected against him (Rule 16), and his attorneys were provided the opportunity to cross-examine all adversarial witnesses (Rule 26). He was also allowed to call his own witnesses, build his own evidence, and present his own theory of the facts (Rule 27). After the State and his defense rested their cases,

he was granted the right to receive a final verdict from a jury of his peers (Rule 31). After a verdict of guilty was returned, a separate sentencing judgment was rendered following the presentation of evidence supporting the State's recommended sentence (Rule 32). On June 29th, 1978, Kerry Max Cook was sentenced to death by lethal injection.

Cook spent 19 years on death row. For 19 years he was subjected to physical abuses, rapes, and attempted suicide twice—the second time he left a note stating, "I really was an innocent man…". In November of 1996, the Texas Court of Criminal Appeals overturned Cook's conviction citing repeated episodes of prosecutorial misconduct. This decision effectively wiped away all legal procedures occurring after Cook's arrest in 1977. After 20 years of imprisonment, Cook was subjected to a second round of criminal procedure. He was presented before a judge who set the terms of bail (bail terms were granted to him the second time around). After meeting his bail requirement, Cook was released to await his trial. During this time, the State prosecutor offered Cook several plea deals—he rejected all of them, adamantly refusing to claim responsibility for a crime he did not commit. On the first day of jury selection, the State offered Cook a plea deal that required no admission of guilt and included a sentence for time served. The deal would release Cook from incarceration immediately. Cook reluctantly agreed to the deal, but only after altering the evidentiary form to reflect his innocence—a stipulation that his defense team assumed would be a deal-breaker. The State prosecutor agreed to accept the amended plea.

Shortly after, the court upheld and approved the final plea. This illustrates an important component of plea deals. Once a State attorney and defendant have agreed upon the terms of a plea, the deal must be evaluated and approved by a court. Depending on the jurisdiction and the type of crime, either a judge or jury could be responsible for evaluation of the plea deal.

However, it must be noted that the procedure required for a judge or jury to render a final plea judgment does not resemble a trial in any way. The process is much less rigorous than full trial proceedings and requires very little time. Case in point, the court took less than ten minutes to approve the plea deal in Cook's case (Cook, 2007)—the only plea deal accepted in a Capital Murder case without an admission of guilt in Texas history. It was also the only plea deal accepted in a criminal case that did not include a signed stipulation of evidence form in U.S. history.

This plea deal effectively replaced several of the previous rules of criminal procedure. Cook was not afforded a second trial—consequently depriving him of all the related benefits of a trial such as: confronting his accusers, cross-examining adversarial witnesses, receiving a verdict from a jury of his peers, etc. The procedure followed for Cook's second time through the justice system resembled the procedure for most criminal defendants. The full *Federal Rules of Criminal Procedure* (2010) represent the exception to the criminal justice process rather than the rule (despite the title). For most suspects, the procedural process ends at the examination or bond hearing—both of which provide an opportunity for the accused to enter a plea. Once suspects have entered a plea of guilty or accepted a plea deal, the process is over. All other constitutional rights are waived. The State has won. The conviction is made. Although it is an excepted truism that every recommended procedure will realistically have its exceptions, the current rule of law has shifted dramatically. Plea bargaining is no longer an exception to the general rules of law. Plea bargaining is the new rule (Fisher, 2000).

Supreme Court Cases

Plea-bargaining has served an influential role in our justice system for decades. Its legal recognition by the courts, however, is fairly recent. Prior to the U.S. Supreme Court's

legitimization of plea-bargaining, it is a well-accepted fact that plea deals were still regularly made—they just occurred outside public record or knowledge (Fisher, 2000). State prosecutors would offer suspects explicit promises of leniency in exchange for their waiver of certain rights, primarily the right to a trial. Suspects who wanted to plea were consequently, required to trust the word of a lone prosecutor. This trend toward backdoor dealings began to transform in the late-1960s when the U.S. Supreme Court made a series of rulings legitimizing plea bargaining practices (Fisher, 2000). These decisions helped pave the way for plea-bargaining's dominance in today's criminal justice system.

In 1969, the Supreme Court ruled that the State was required to record a defendant's waiver of rights prior to accepting a plea deal (*Boykin v. Alabama*, 1969). Specifically, the Court ordered that defendants be reminded that a guilty plea waives their right against self-incrimination, right to a trial by jury, and right to confront one's accusers (a previous decision had already required the recording of a defendant's waiver of the right to counsel upon entering a plea, *Moore v. Michigan*, 1957). *Blackledge v. Allison* (1977) furthered the requirement for plea records. The Court ruled that a verbatim transcript had to be created to document in-court plea bargain proceedings. The Court reasoned that determining whether plea deals were unfulfilled would be nearly impossible in the absence of such documentation.

Brady v. United States (1970) was one of the most important decisions in authorizing the practice of plea-bargaining. In this case, the defendant pled guilty to kidnapping but later claimed his plea was the result of coercion—he only pled guilty due to promises of sentence reduction and clemency. This case required the Supreme Court to judge the constitutionality of plea-bargaining's most fundamental component. Determining whether the practice of providing explicit promises of leniency in exchange for a waiver of fundamental rights was constitutional.

The leniency offered during plea negotiations is typically referred to as the plea discount or trial penalty—these two titles illuminate an important distinction. If plea negotiations resolve to punish defendants who would choose to exercise their rights to a trial, the practice should be ruled unconstitutional (in accordance with *United States v. Jackson,* 1968[1]). If instead, plea bargaining is the inevitable result of an overburdened court system willing to offer benefits to defendants who freely choose to expedite their cases, it should be deemed constitutional. This decision officially legitimized plea-bargaining by viewing it in the latter perspective—plea deals simply offer discounts to those willing to accept them, not punish those who are not. Further, the decision encouraged that prosecutors only pursue pleas for crimes they can support by probable cause.

Bordenkircher v. Hayes (1978) expanded this decision by allowing prosecutors to bargain not only with sentencing outcomes but also with filed charges. Hayes was indicted for forgery in the amount of $88.30, a crime punishable by a two to ten year prison sentence. The prosecutor offered Hayes a plea deal for which he would recommend a jail term of five years. He also said that if Hayes rejected the deal, he would pursue an indictment under a habitual criminal act based on Hayes' previous two felony convictions. This charge would result in mandatory life imprisonment. Hayes rejected the plea and the prosecutor kept his word pursuing an indictment for fraud as a habitual criminal. The Supreme Court upheld his conviction stating that, "Plea bargaining flows from 'the mutuality of advantage' to defendants and prosecutors… acceptance of the basic legitimacy of plea bargaining necessarily implies rejection of any notion that a guilty plea is involuntary in a constitutional sense simply because it is the end result of the bargaining process. By hypothesis, the plea may have been induced by promises of a recommendation of a

[1] In this case the Court ruled a provision of the Federal Kidnaping Act unconstitutional because it indiscriminately imposed the death penalty upon defendants who chose to assert their right to a trial by jury and were consequently convicted.

[2] On its face, this study appears identical to Wilford (2012). Unfortunately, the researchers altered their study in

lenient sentence or a reduction of charges, and thus by fear of the possibility of a greater penalty upon conviction after a trial" (p. 364). The Court also compares plea bargains to many other "give-and-take" negotiations and states that no form of punishment or retaliation could be seen in a prosecutor's actions as long as the defendant maintains the freedom to accept or reject the offer. The Court also argued that the prosecution and defense are on relatively equal grounds in making these concessions and gains. The Court later affirmed and furthered this decision by concluding that acts of prosecutorial vindictiveness were essentially impossible during the plea-bargaining phase of criminal procedure (*United States v. Goodwin*, 1982). These decisions ultimately led to the nearly limitless capacity of prosecutors to get pleas by threatening defendants.

Santobello v. New York (1971) furthered plea recording requirements stating that final plea deals must be written and maintained on public record. This decision was the first to recognize a plea deal as a type of contract between the prosecutor and the defendant. A judge or jury always has the power to reject the terms of that contract in which case defendants should be granted the opportunity to withdraw their pleas. *Ricketts v. Adamson* (1987) solidified the perception of plea deals as a contractual agreement by allowing a defendant to be re-tried after he breached his plea agreement (i.e., the defendant was denied an appeal for protection under the Double Jeopardy Clause). Although the Court has recognized the requirement of the state to abide by plea deals, it has also ruled that the state has no obligations to abide by any plea offer until it is finalized. Prosecutors are free to withdraw any proposed plea offer and present offers with less favorable terms at any time until a judge or jury approves the deal (*Mabry v. Johnson*, 1984). The Court has essentially legitimized plea deals as a public contractual agreement

between the suspect and the State—unfortunately, the State has been provided numerous indulgences that practically guarantee the upper hand at the bargaining table.

The Court has also recognized plea-bargaining to be such a crucial stage in criminal justice proceedings that defendants engaged in plea-bargaining are extended the right to effective and competent counsel (*Hill v. Lockhart*, 1985). *Strickland v. Washington* (1984) created a two-prong test to determine whether counsel was ineffective at trial and this same test has been extended to plea negotiations. Defendants may undermine the entrance of a guilty plea on the grounds that "but for ineffective assistance of counsel," the defendant would have rejected the plea deal and insisted on a trial. In two major cases just decided in 2012, the Court also extended this test to situations in which defendants reject a plea deal due to improper legal counsel (*Lafler v. Cooper*; *Missouri v. Frye*). Consequently, defendants can now seek habeas relief for rejected plea deals if those rejections resulted from poor legal advice (Rufo, 2009).

In summary, the U.S. Supreme Court has an interesting history of plea-bargaining opinions. These decisions have succeeded in legitimizing plea-bargaining practices thereby extending their recognition to the courtroom (and promoting them from secret backdoor dealings by prosecutors). Final deals must now be recorded and made public so that both sides can be held to their agreements. Defendants must be provided with an explicit review of the rights they are waiving and must have access to effective counsel during the process. These decisions have also granted the State a limitless capacity to define the terms of such deals. According to these decisions, the Court has affirmed that as long as the defendant has the freedom to reject the plea, the State cannot be guilty of coercion.

Pleas Versus Confessions

Plea and Confession Similarities

Plea negotiations occur in a context that seems very similar to interrogations. Both pleas and confessions are secured by State representatives—attorneys or legal officials. Further, methods used by the State to secure both pleas and confessions have elicited concerns that the processes are unduly coercive and could assuage both the guilty and the innocent. Relatedly, many scholars believe that the number of cases involving false confessions or false plea convictions is vastly underestimated (Redlich, 2010a). The term false plea convictions will be used to refer to incidents in which an innocent defendant accepts a plea deal and is consequently convicted. Documented cases of both false confessions and false plea convictions are difficult to uncover and even more difficult to verify. Further, both pleas and confessions are damning to a defense. Plea deals, by definition, result in a conviction. However, confessions have been considered equally damaging—defendants are rarely acquitted after confessing. Identifying and discussing these similarities is an important component in determining if and how pleas and confessions are distinguishable from each other.

Documented Cases

The current number of known false confession cases is thought to represent a small fraction of the total number of false confession cases (Kassin, 2005). Similarly, the even smaller number of documented false plea convictions is considered a gross underestimation of the actual number of false plea convictions (Redlich, 2010a). Despite this general similarity, it is notable that the number of documented false confession cases is significantly higher than the number of documented false plea convictions. False confessions have contributed to approximately 25% of wrongful convictions exposed by the Innocence Project (Kassin, Bogart, & Kerner, 2012).

Given this exposure, it is no surprise that confessions have been such a well-researched phenomenon (Kassin & Gudjonsson, 2004; Kassin, 2005; Kassin, 2008; Kassin, 2012).

Only a handful of documented wrongful convictions involved false plea convictions (Redlich, 2010a). However, a number of variables could be potentially contributing to this difference in documentation. First, the Innocence Project (and similar organizations) serves as the primary source for reporting factors that contribute to wrongful convictions. Due to the volume of cases that the Innocence Project receives, stringent criteria must be applied to determine the cases they choose to pursue. This often means that cases in which the defendant accepted a plea deal are excluded from consideration (Redlich, 2010b.). Second, exonerating evidence, like DNA, tends to only exist for severe crimes (e.g., rape, murder) and plea deals are less common for severe crimes. In 2006, for instance, the proportion of murder convictions resulting from plea deals was only 52%. Driving-related convictions, on the other hand, were the result of pleas 96% of the time (Bureau of Justice Statistics, 2010). Third, plea convictions are extremely difficult to overturn. By accepting a plea deal, defendants waive their right to several types of appeal (e.g., challenges of coerced confession, claims of improper grand jury selection, prosecutorial defects, claims of illegal search and seizure, denial of due process rights to a speedy trial, and challenges based on an entrapment defense, Eisen & Rooney, 2002). To provide an example, I will return to the case of Kerry Max Cook discussed earlier. Two months after Cook was released, his defense attorney filed a request for results from a DNA test of semen found on the murder victim's underwear (Cook, 2007). The test matched a man with whom the victim had been having an affair—a man who denied having had any sexual contact with her for weeks prior to the murder. Although this evidence might normally be considered exonerating, Smith County continues to assert that Cook is guilty, and that his decision to accept

a plea supports his guilt. Today, over 15 years after these DNA results were released, Cook is still the convicted murderer of Linda Jo Edwards and the actual culprit is still at-large (Grissom, 2012; Hall, 2012).

Despite these hurdles, a number of overturned plea convictions have been documented. In 1998, an LAPD officer named Rafael Perez was arrested and charged with drug possession, forgery, and grand theft auto. Perez reluctantly agreed to a plea deal that led to the exposure of the Rampart scandal—a widespread pattern of corruption and illegal behaviors by a special unit of the LAPD known as the Rampart CRASH (Community Resources Against Street Hoodlums) unit (Kaplan, 2009). Police were found to have secured convictions by engaging in perjury and planting evidence. As a result, over 100 criminal convictions have since been reversed (Williams, 2001). In at least 32 cases, police were found to have completely fabricated evidence and 25 of those cases were settled in plea negotiations (Covey, 2011). Defendants who did not accept a plea deal suffered punishments five times greater when sentenced at trial. Another police misconduct scandal occurred in Tulia, Texas—Tulia defendants who refused plea deals suffered sentences 13 times harsher than those who accepted plea convictions (Covey, 2011).

Shortly after Tulia, a similar scandal unfolded in Hearne, Texas. On November 2nd, 2001, 27 people were arrested in a drug sweep predicated primarily on testimony provided by a confidential informant (Bikel, 2004). Seven of the suspects pled guilty and were then released from prison. Those who could not make bail and refused to plea remained in jail for over five months. After a single day of trial, the critical testimony of the confidential informant was discredited. Shortly after the informant's dismissal, the charges against all the suspects were dropped, except for the seven suspects who accepted plea deals. Those seven people remain convicted (Bikel, 2004). Sadly, that caveat disqualifies the Hearne scandal as a true example of

overturned plea convictions. Regardless, these scandals show that the innocent do accept pleas. They also illuminate some of the factors that can drive them to do so (e.g., prison time, distrust of the system, large plea discounts, etc.).

Both plea and confession research benefit from anecdotal cases that support the need for systematic reform, and illuminate potential variables to be researched. Documented false confessions are more plentiful in number than documented false plea convictions, but researchers in both camps assert that these known cases represent a small fraction of the full problem.

Waiving Your Rights

When defendants confess, they effectively waive several of their constitutional rights (e.g., the right against self-incrimination). Similarly, defendants who accept a plea deal must verbally assent to waiving several of their constitutional rights (e.g., the right to a trial). As previously discussed, the Supreme Court has required that defendants waive these rights voluntarily, knowingly, and intelligently. Further, the waiver of these rights must be noted on public record. Unfortunately, these guidelines seem to be more formalities than safeguards. Although Federal guidelines require that certain procedures be followed, they do not include any explicit script or instruction regarding how these rights should be waived (Rogers, Harrison, Shuman, Sewell, & Hazelwood, 2007). *Miranda* rights, for instance, are only required to include certain components (e.g., the right to remain silent) but no exact structure is enforced. This freedom for jurisdictions to format *Miranda* rights independently has resulted in extreme variation across the country. In some jurisdictions, *Miranda* rights comprehension would require a high-school reading level whereas others would only require elementary reading levels (Rogers, Hazelwood, Sewell, Harrison, & Shuman, 2008). This is particularly problematic considering the large proportion of criminal suspects who possess little formal education.

One study has surveyed defendants' comprehension of the rights waived when accepting plea deals (Redlich & Summers, 2012). Defendants were asked a series of questions regarding their understanding of the rights they waived when entering a plea and the consequences of accepting a plea deal. The average performance on the questions was 55% and two-thirds of the respondents were correct on less than 60% of the items. Thus, it seems unclear whether defendants convicted of crimes by plea deal, waived their rights voluntarily, knowingly, and intelligently.

Regardless of whether rights are accurately comprehended, of more direct relevance to both confessions and pleas is whether rights are waived. As previously reported, 95% of criminal convictions in the United States are the result of plea convictions (Bureau of Justice Statistics, 2007). Thus, a large proportion of defendants choose to waive the constitutional rights necessary to accept a plea. From the confession context, Kassin and Norwick (2004) conducted a study in which participants were either innocent or guilty of a theft. All participants were then asked to waive their *Miranda* rights and submit to questioning about the offense. Overall, 58% of the total participants waived their *Miranda* rights thereby permitting the experimenter to interrogate them. Similarly, in a field study on interrogation, 74.7% of criminal suspects waived their *Miranda* rights and never re-invoked them (Leo, 1996). Thus, although both plea and confession contexts invoke safeguards that require explicit waivers of rights, research and reality have shown that the majority of people in both contexts still waive their rights.

Strength Toward Conviction

Plea deals, by their very definition, guarantee a conviction outcome. False confessions, although not definitively equivalent to convictions, are known to be associated with a high likelihood of conviction. Investigators have been known to overlook any evidence that

contradicts a confession, furthering their belief that the suspect who confessed is the guilty suspect (Martin, 2011). In one such case, the district attorney responded to exonerating DNA evidence by stating that "… I know because I trust my detective and my tape-recorded confession. Therefore the results [of the DNA test] must be flawed until someone proves to me otherwise" (p. 433, Kassin, 2012). Even in the face of mismatched DNA, the perceived veracity of confessions often cannot be toppled.

Expectedly, participant-jurors confronted with a confession produce a conviction rate that is significantly greater than those who hear the same case without a confession. More interestingly, when participant-jurors are presented with a confession that they themselves recognize to be coerced, the coerced confession still increases conviction rates (from 19% when there was no confession to 47% when there was a coerced confession; Kassin, 2008). Another study showed that even DNA can be trumped by a false confession (Kassin, 2012). When participants were presented with a case in which the suspect confessed, but the defense presented exculpatory DNA evidence (e.g., semen not matching the suspect), participants' propensity to convict the defendant was relatively low (10%). This conviction rate jumped back up to 33% however, when the prosecution produced a theory "explaining" why the DNA evidence did not match the suspect (e.g., the discovered semen was left from a consensual lover and the defendant could not ejaculate during the crime). This finding is particularly troubling given the tendency for prosecutors to actually produce theories like the one used in this study (known now in some legal circles as the "unindicted co-ejaculator" theory; Martin, 2011). In one particularly egregious case, after a DNA test excluded the convicted rapist and murderer (who confessed only after 24 hours of interrogation), the prosecutor argued at re-trial that the 11-year-old victim was sexually active and that the DNA belonged to one of the victim's previous lovers. This

seemingly outrageous theory convinced a jury to re-convict the suspect despite the mismatching DNA. The almost unfaltering belief in confessions has led researchers to hypothesize that a confession (even if coerced) biases the entire investigation—the confession-corruption hypothesis (Kassin et al., 2012). In effect, once a confession is secured, a legal investigation is transformed to a legal confirmation. Officials are simply motivated to collect additional evidence to support what they believe they already know from the confession. In support of this hypothesis, analyses of exoneration cases have shown that false confession cases, when the confession is secured first, are more likely to lead to multiple investigation errors (e.g., eyewitness mistakes, invalid or improper forensic science; Kassin et al., 2012). Thus, in theory, confessions do not always end cases with convictions; in practice, however, the preponderance of evidence shows they often do.

Interestingly, research has shown that cases in which a defendant confesses are also more likely to be resolved with a plea deal. In an analysis of exoneration cases, Redlich (2010a) found that exonerees who had falsely confessed were four times more likely to accept a plea deal than those who had not confessed. In another analysis of a separate pool of exonerees, this general pattern was replicated—false confession cases were significantly more likely to be resolved by a plea deal than cases not involving a confession (Kassin, 2012). Thus, plea deals end investigations and secure convictions. Confessions bias investigations and almost universally secure convictions.

Experimental Paradigms

The methods with which to experimentally examine confession and plea behaviors also appear similar. Both plea and confession contexts require a participant-suspect to be accused of wrongdoing and urged to cooperate by agreeing to sign a statement. It is worth nothing that such

paradigms would seem to harken back to the days of classic social psychology. Milgram's (1965) obedience study and the Stanford Prison Experiment (Haney et al., 1973) are foundational examples of classic social psychology paradigms. These paradigms create a high-stakes situation in which participants become fully engaged and behave in accordance with the 'reality' of the experiment. This type of high-deception research has become less prominent in social psychology more recently. But, only this type of deception research can accurately assess confession and plea behaviors in an experimental setting. Confession research has already successfully created experimental paradigms that can mimic a high-stakes interrogation scenario. It follows that plea-bargaining research can benefit greatly from the experimental paradigms created by confession researchers.

The first of such paradigms is known as the ALT key paradigm (Kassin & Kiechel, 1996). In these studies, participants are asked to complete a task for which the experimenters are interested in examining reaction times. Participants are given a list of letters to enter into the computer and are explicitly told not to press the ALT key; doing so would cause the computer to crash. Although none of the participants actually press the forbidden ALT key, the computer automatically crashes during the experiment. All the participants are then accused of having ignored the experimenter's warning and crashing the computer. In the first of these studies, 69% of participants falsely confessed to the accusation of pressing the ALT key and crashing the computer (Kassin & Kiechel, 1996). In another study using this paradigm, 70% of participants signed the false confession despite being told that doing so would require them to return to the lab for approximately ten hours to reenter data lost in the crash (Redlich & Goodman, 2003).

The ALT key paradigm made direct research of false confessions possible. Unfortunately, it did not allow a comparison of confession behaviors between the innocent and

the guilty. Another novel paradigm resolved these issues—the cheating paradigm (Russano, Meissner, Narchet, & Kassin, 2005). This was the first paradigm to create a situation in which participants could be randomly assigned to guilt or innocence. Participants are recruited for a study examining team versus individual problem solving. Upon arriving to the lab, all participants are paired with a confederate who poses as another participant. As part of the study, participants are told to complete individual and team logic problems. Confederates ask participants randomly assigned to be guilty for help on an individual problem (in direct contradiction to the experimenter's instructions). Innocent participants are not asked for help on any of the individual problems. All participants (regardless of condition) are later accused of cheating on the individual problem by the experimenter. In the first study to use this paradigm, confession rates in the conditions not using coercive interrogation techniques were 6% for the innocent and 42% for the guilty (Russano et al., 2005).

These experimental paradigms have helped to illuminate the processes underlying confession behaviors and have allowed researchers to measure the impact of certain variables on confession outcomes. The contexts that these paradigms have mimicked are extremely similar to plea bargain contexts. Thus, this line of research can greatly inform plea-bargaining research and has already started to do so.

Plea and Confession Differences

Pleas and confessions share a number of characteristics, but they have their differences as well. Pleas are a type of conviction and confessions are a type of evidence. Although confessions are considered damning evidence, confessors have still not been convicted—they can still demand trials thereby requiring the State to continue their discovery for further evidence. Consequently, the decision to plea is very different from the decision to confess.

Prosecutors are legally required to outline the consequences of accepting a plea to suspects. Investigators are not legally permitted to outline the consequences of confessing (or not confessing) to suspects. Thus, it has been argued that accepting a plea, even when innocent, can represent a rational decision (Bibas, 2004). Confessions, on the other hand, can rarely be considered rational because no explicit benefits can be guaranteed. Due to these differences, it seems plausible that certain individual difference variables could have a distinct impact on plea versus confession behaviors. Also, confessions must be predicated on some form of admission. Pleas, on the other hand, do not constitutionally require any admission of guilt.

Plea Components

Interestingly, although documented cases of the innocent accepting a plea are rare, documented cases of people accepting a plea without admitting guilt are not at all rare. The Supreme Court has legitimized two types of plea deals that can be entered and accepted by the State without a confession. Thus, pleas, unlike confessions, do not require any explicit admission of guilt.

A *nolo contendere* plea or a plea of no contest allows the defendant to refuse entering any explicit plea of guilt or innocence (*Hudson v. United States*, 1926). According to the Court, plea bargains are typically predicated on a guilty plea, but a guilty plea is not a constitutionally required component of plea deals. This decision opened the door to another ruling, which allows defendants to accept a plea deal while maintaining their innocence. In *North Carolina v. Alford* (1970), the U.S. Supreme Court admitted that accepting a plea deal could potentially be in the best interests of even an innocent person; thus, the innocent should not be required to lie in order to accept a plea deal. Interestingly, when courts are determining whether to accept a plea deal, they are supposed to judge whether sufficient evidence exists to support the defendant's guilty

conviction (Eisen & Rooney, 2002). In standard plea agreements, defendants enter a guilty plea that can serve as sufficient evidence of their guilt. Alford and nolo contendere pleas include no guilt admission, which means that they should require a higher criterion for evidence. This is a legally-accepted supposition—Alford and nolo contendere pleas do require a higher benchmark for evidence than standard guilty pleas. Unfortunately, the depth of this analysis is unclear—there are no standards regarding the type of evidence that can be considered or should be excluded; nor are there standards describing the process by which this assessment should be made (Schneider, 2013). Returning to the case of Kerry Max Cook, it took the court less than ten minutes to decide that sufficient evidence existed to accept his nolo contendere plea and convict him of Capital Murder. Despite the ambiguity regarding how these types of pleas should be evaluated, 47 states and the District of Columbia accept Alford pleas and 38 states and the District of Columbia accept nolo contendere pleas (Redlich & Ozdogru, 2009; Schneider, 2013).

Decision Outcome Structures

Plea deals represent a choice between a known outcome and a probabilistic outcome. In contrast, the decision to confess involves no explicitly-known outcomes. Plea deals are predicated on an explicit guarantee of less severe sentences or charges than would otherwise be faced at trial. Confessions, on the other hand, can never legally result from any explicit promise of less severe sentences or charges. Suspects confronted with the decision to confess cannot be assured that confessing will reap any benefit; nor can they be assured that not confessing will produce any cost. This ambiguity in decision outcomes renders confession decisions incompatible to classic decision-making models that have explicit probabilities and specified outcome values. This is not to say that confessions are never rational or that certain decision-making biases cannot be meaningfully applied to confession decisions. But rather, systematic

decision preferences (such as those delineated by decision-making models) cannot be easily translated to decisions for which the outcomes are entirely unknown. In other words, if neither option is absolutely more risky than the other, risk preferences cannot be determined. In contrast, pleas involve a choice between two explicitly articulated outcomes—Option A: certain negative punishment; or, Option B: uncertain negative punishment that is worse than Option A. Consequently, pleas can be more meaningfully examined through the lens of decision-making models than confessions can.

Prospect theory, for instance, emphasizes the importance of a reference point (Kahneman, 2011). The potential value of an outcome must be measured against this reference point—whether the ultimate outcome will be a gain or a loss. Under the assumption of the Supreme Court, plea offers should be considered a gain, at least by the guilty. The reference point for the guilty should be conviction and punishment. Thus, guilty individuals should see the offers made during plea negotiations as potential gains to their otherwise more severe punishment. In accordance with prospect theory, individuals faced with a highly probable gain should be risk averse (Kahneman, 2011):

A) A certain gain of $900, or
B) A 90% chance of gaining $1,000 and a 10% chance of gaining nothing

Thus, people faced with this choice typically choose option A. In the context of pleas, the risk averse choice would seem to correspond to accepting a plea deal (i.e., the certain outcome) over the risk of going to trial. This conclusion, if true, could help to explain the high rate of plea acceptance.

Innocent individuals on the other hand, should possess a different reference point. Because of their innocence, they should perceive any punishment as an undeserved loss.

Prospect theory would then predict that their preference would be risk seeking (i.e., prefer probabilistic loss over certain loss). Thus, reframing the previous example:

A) A certain loss of $900, or
B) A 90% chance of losing $1,000 and a 10% chance of losing nothing

Presented this choice, people will typically opt for option B. In other words, innocent people facing potential losses should choose to reject plea offers and risk the greater loss at trial. Thus, under these framing assumptions, prospect theory generally seems to lend support to the efficacy of plea bargaining practices. Decision-making biases should favor plea acceptance for the guilty and plea rejection for the innocent. However, these predictions are based on patterns of preferences and biases. Patterns have limits. According to prospect theory, there is a point at which probabilistic losses become so large that a risk seeking preference can be overcome. Increasing the cost of risk reduces the number of people who choose to be risk seeking:

A) A certain loss of $900, or
B) A 90% chance of losing $9,000 and a 10% chance of losing nothing

In this example, people would most likely opt for the certainty of A rather than risk much greater loss by choosing B.

The point at which a preference for risk (or aversion to risk) can be overcome varies by individual. Some people have a greater tolerance for loss than others. Thus, it is unclear at what point threats could loom so large that the majority of innocents could ignore their preference for risk and opt for the certainty of a plea. One could imagine an innocent defendant being faced with this decision:

A) Plea and serve 6 months in jail, or
B) Go to trial and potentially serve 12 months in jail or be acquitted

Here it seems likely that the innocent defendant would maintain a risk preference and choose B. On the other hand, an innocent defendant could also be faced with this decision (an equally legal plea bargain):

A) Plea and serve 6 months in jail, or
B) Go to trial and potentially serve 12 years or be acquitted

Now, even within the framework of prospect theory, the outcome becomes much less predictable. Only by examining plea decisions within the framework of prospect theory can the average "value" of certainty (or plea deals) across individuals within the legal system be estimated. Once such estimates are calculated, meaningful recommendations regarding the size and magnitude of sentencing differentials can be made. However, it is important to note that this value will likely not be a single 'magic number.' Different crimes can pose drastically different sentences. Such variability will likely require a range of values or proportions for which plea discounts must be offered to be effective.

In sum, traditional decision-making models can offer an interesting framework with which to examine plea outcomes. Because of the required parameters inherent in plea negotiations, they represent a clear decision between certainty and risk. In contrast, confessions are entirely ambiguous and consequently cannot be easily translated to decision-making models. Thus, the choice to confess cannot be systematically applied to decision models because the decision weights (or at least the relative weights) are unknown.

Individual Differences

*Intelligence***.** Previous research on confessions has examined a number of individual difference variables that could affect one's willingness to confess. Higher suggestibility ratings and anxiety levels have been found to be predictive of a higher propensity to falsely confess (Kassin & Gudjonsson, 2004). Lower self-esteem and assertiveness have also been found to

correlate with higher false confession rates. Research has also shown that individuals with lower cognitive abilities or less education tend to exhibit higher rates of false confession (Redlich, 2010a).

In contrast, it is widely recognized that accepting a plea deal rather than going to trial, even when innocent, can be the more rational decision (*North Carolina v. Alford*, 1970). Thus, it follows that intelligence should not necessarily be a predictor of plea behaviors. The current study sample was composed entirely of undergraduate students rendering a broad exploration of the effects of cognitive abilities on plea or confession decisions impossible. However, the study did include measures to examine post-graduate aspirations and ACT scores. It is important to note that ACT scores are traditionally defined as a measure of achievement, assessing one's readiness for post high-school education. Thus, ACT scores are not a direct measure of cognitive abilities. But, given the restricted study sample of individuals currently enrolled in higher education, ACT scores serve as a good proxy to measure variation in cognitive abilities within the sample. These variables are considered exploratory in nature, but could be informative if found to be a significant predictor of one behavior (e.g., confessions) but not the other (e.g., pleas).

*Belief in a Just World***.** Belief in a just world refers to the propensity for one to feel that the world is a fair place in which people get what they deserve and deserve what they get (Lerner, 1965). Belief in a just world has also been characterized as a belief in karma—faith that "what goes around comes around." High endorsement of belief in a just world has been found to correlate with several attitudes and behaviors directed at the subjects of unfortunate events. For instance, individuals who believe the world is just are more likely to engage in victim-blaming or victim-derogation; this behavior preserves the belief in justice by asserting that the victims

deserved what happened to them (Dalbert, 2009). On a more positive note, people who believe in a just world are also less likely to exhibit 'road rage' or engage in aggressive driving behaviors (Nesbit, Blankenship, & Murray, 2012). Apparently, belief in a just world can buffer against retaliatory driving actions by providing assurances that bad drivers will be punished (e.g., they will get a ticket, get in an accident). Belief in a just world has also been found to correlate with general trust in institutions (e.g., the government, security agencies).

In keeping with these trends, it seems logical to believe that high endorsement of belief in a just world could impact legal decisions. In accordance with this hypothesis, Wilford (2012) found that high belief in a just world impacted plea decisions among the guilty but not the innocent. Guilty participants with high endorsement of belief in a just world were more likely to accept the plea deal than those with low endorsement of belief in a just world. Wilford (2012) posited that the reason for this asymmetric finding is that belief in a just world includes two dimensions—positive belief in a just world and negative belief in a just world. Positive belief in a just world reflects the belief that good things happen to good people. In contrast, negative belief in a just world refers to the belief that bad things happen to bad people. In the Wilford (2012) study, all participants were accused of cheating (i.e., something bad happened). Hence, it seems plausible that only negative beliefs in a just world were engaged. This would explain why high belief in a just world only affected plea decisions among the guilty (those who had actually done something wrong) and not the innocent.

Thus, the current research included a newly-constructed scale designed to measure positive and negative just world beliefs. The scale was factor analyzed to determine whether the design succeeded in capturing the two potentially distinct dimensions of belief in a just world. I hypothesized that negative (but not positive) belief in a just world would be a significant

predictor of plea outcomes among the guilty but not the innocent. More specifically, people who report high negative belief in a just world would be significantly more likely to accept the plea when guilty. This hypothesis stemmed from the Wilford (2012) result. I further predicted that positive belief in a just world would not be a significant predictor of plea outcomes among the guilty or the innocent. Because all participants are accused of cheating, high endorsement of positive belief in a just world among the innocent will be seriously challenged—despite the innocents' good behavior, they will be confronted with a negative outcome. It is currently unclear what effect this direct affront to positive belief in a just world among the innocent could have. In contrast, I hypothesized that negative and positive just world beliefs would not be significant predictors of confession behaviors among the guilty or the innocent. Guilty individuals with high negative just world beliefs should be inclined to believe that they deserve punishment for their behavior, but confessing does not satisfy this inclination. Unlike the plea situation in which a potentially 'just' punishment is clearly delineated, the confession situation offers more ambiguous consequences. Although belief in a just world might not directly predict confession behaviors, a related phenomenon has been proposed to explain why the innocent confess.

*Phenomenology of innocence***.** Confession researchers have long posited that one of the greatest menaces to the legal decision-making of the innocent is innocence itself (Kassin, 2005). Innocent people seem to perceive their innocence as a shield that can protect them—this bias has been termed the phenomenology of innocence. Beliefs in a just world and illusions of transparency have both been considered potential contributors to this phenomenology (Kassin 2005). The illusion of transparency refers to the notion that people tend to overestimate the degree to which their internal states are obvious to outsider observers (Gilovich, Savitsky, &

Medvec, 1998). The proposed mechanism underlying this effect is the intensity of one's own internal state (in this case intense awareness of one's own innocence) along with the anchoring-and-adjustment heuristic (Tversky & Kahneman, 1974). The internal state serves as an anchor from which the person makes adjustments when trying to assume the perspective of an outside observer. However, "the 'adjustment' that one makes from the 'anchor' of one's own internal experience is likely to be insufficient" (pg. 332, Gilovich et al., 1998). Consequently, judgments of how easily one's internal state can be perceived by others tend to be overestimated. This illusion of transparency has clear implications for the plea and confession domains. The phenomenological experience of an innocent person is qualitatively different than the phenomenological experience of a guilty person. The 'anchors' or starting points they adjust to determine the likelihood that others will detect their guilt or innocence are completely different. Thus, innocent individuals should be biased toward believing that the outcome of a legal investigation will reveal their innocence. This bias could lead them to waive their rights or submit to investigative procedures that are not in their best interest (e.g., interrogation, search of personal property). Although there is currently no direct measure of the illusion of transparency or the phenomenology of innocence, Gilovich and colleagues (1998) did find that the illusion of transparency correlated with the Private Self-Consciousness scale (Fenigstein, Scheier, & Buss, 1975). People who rate high in Private Self-Consciousness tend to focus on their internal states and spend a lot of time reflecting on themselves. Consequently, Private Self-Consciousness tends to cause an overvaluation of one's internal state (the anchor), which could result in a stronger bias among the innocent to assume that their innocence will be apparent to others.

Related to this idea, research has shown that innocent individuals are generally more likely to cooperate with legal officials and accede to their requests. For instance, one study

found that innocent participants waived their *Miranda* rights significantly more than the guilty participants (Kassin & Norwick, 2004). All participants were accused of stealing $100 and were then asked to waive their rights and submit to questioning. Eighty-one percent of innocent participants chose to waive their rights versus 36% of the guilty participants. In another study, innocent participants were also more likely to allow a witness to be shown their picture alone (i.e., as a show-up) than guilty participants who preferred that their picture be part of a lineup (100% versus 47%, respectively; Kassin, 2005). This research supports the idea that the phenomenology of innocence impacts legal decisions. The innocent are more willing to make decisions that are consistent with the idea that their innocence will prevail. This phenomenon is not limited to the research lab. Kerry Max Cook also appeared to be subject to this phenomenon. Immediately after his arrest he signed a waiver to allow police to search his home without getting a warrant (Cook, 2007). He also allowed police to question him up until his attorneys recommended he invoke his right to silence.

The phenomenology of innocence can also be strengthened by other legal variables. In another study, Perillo and Kassin (2011) examined the effect of an evidence "bluff" on the propensity of both innocent and guilty individuals to sign a confession. This manipulation was designed to mimic real-world cases in which investigators lie to suspects during interrogations. These lies typically involve the fabrication of potentially exonerating evidence that has yet to be tested; a technique aimed at sweating out the guilty and motivating them to cooperate. For instance, an investigator might tell a suspect that DNA was found at the crime scene and that the results of the testing could be released at any moment—thus, it is in the best interest of the suspect to cooperate immediately. Interestingly, the results of Perillo and Kassin (2011) showed that the evidence-bluff had little effect on the guilty, but led to a large increase in confessions

from the innocent. The evidence-bluff appears to validate and strengthen the phenomenology of innocence because the innocent know that the evidence being bluffed will help reveal their innocence. This increased confidence from the evidence-bluff leads the innocent to believe their decision to confess will have little or no impact on the outcome of their case.

The current research capitalizes on the finding of Perillo and Kassin (2011), which showed that an evidence-bluff increases confessions among the innocent. Specifically, I hypothesize that an evidence-bluff would have the opposite effect on pleas among the innocent. In other words, instead of the evidence-bluff increasing plea acceptance among the innocent (as it does with confessions), evidence-bluffs should decrease pleas among the innocent. The key difference between pleas and confessions concerns the *fate* of the bluffed evidence. If one signs a confession, the legal process continues and the evidence that could prove one's innocence is preserved and analyzed. If one signs a plea, in contrast, the legal process is terminated, and there is no attempt to preserve or analyze evidence that could prove one's innocence—instead, the plea assures conviction. Hence, an evidence-bluff should reduce the innocent's resistance to confessing, but increase their resistance to accept pleas.

The Plea Bargaining Literature

Legal Discussion and Statistics

In 2004, approximately 1,024,947 people accepted a plea deal and were consequently convicted of felonies—this number represents 95% of the total felony convictions in America (Bureau of Justice Statistics, 2007). Ninety-seven percent of 2008 U.S. district court convictions were attained via plea negotiations (Bureau of Justice Statistics, 2010). Although pleas have always been a dominant force in our justice system, these numbers represent a growing trend. The proportion of convictions resulting from pleas has risen 3% from 2005 to 2009; this trend is

complemented by a decrease in the number of cases tried by a judge or jury from 3,930 in 2005 to 3,140 in 2009 (Bureau of Justice Statistics, 2011). Since the 1980s, plea convictions have been on the rise (Oppel, 2011). For decades, plea convictions represented approximately 80% of total criminal convictions; now, reports predominantly cite the proportion of plea convictions at 95% or higher.

Many legal scholars have questioned whether plea-bargaining is inherently coercive. These questions have gained further traction with the continued increases in plea convictions. Although the Supreme Court has ruled that pleas cannot be coercive so long as the defendant has the right or freedom to reject the plea, some attorneys have questioned the value of that freedom. When threats for rejecting a plea deal are unrestrained and can loom so large, is the freedom to reject really a form of protection (Gazal-Ayal, 2006; Covey, 2008)? Further, it is difficult to assess the impact of these threats on the advice of defense attorneys—advice that can greatly impact final plea outcomes (Winick, 1999). Legal reviews have even made reference to theories of rational decision-making arguing that prosecutors have the power to create deals that any rational person would choose to accept—even if the rational person is innocent (Bar-Gill & Ben-Shahar, 2000; Bibas, 2004).

Survey/Archival Data

There is very little plea-bargaining research. What does exist has been largely limited to surveys of previously or currently incarcerated individuals. One such analysis examined reasons for accepting a plea bargain provided by convicted defendants (Bordens & Bassett, 1985). A factor analysis revealed seven primary factors present in defendant's reasons for accepting a plea deal: prosecutorial pressure, sentence-related reasoning, expediency, perceived likelihood of conviction, indirect pressure, remorse, and acquiescence/cooperation. A separate study tested

the supposition that plea-bargaining is necessarily coercive, since suspects are often threatened with incarceration if they choose to go to trial (Smith, 1986). This study attempted to estimate what the rate of incarceration would have been if those who took a plea had gone to trial instead (.45). This estimate was compared with the proportion of those who were incarcerated despite accepting a plea deal (.42). Because no difference between these proportions was found, the author concluded that suspects are not unduly coerced into pleas by the threat of incarceration. Unfortunately, the author did not include any information regarding differences in the average duration of imprisonment, which greatly weakens his conclusions. Although no difference in incarceration was found, differences in the duration of incarceration are commonly found. In 2003, the average federal sentence resulting from a plea deal was about one-third the sentence that those convicted at trial typically received (Burke, 2007). Further, the author failed to emphasize the fact that these estimates were constructed between groups. The sample of people who took the plea deal would differ in a number of potentially systematic ways from a sample of people who went to trial (e.g., amount of evidence, type of crime). Thus, for the conclusions of this analysis to be at all tenable, numerous variables would need to be controlled (that were not).

A later study addressed some of these weaknesses by examining the impact of plea decisions on sentence duration rather than incarceration probability (Bushway & Redlich, 2012). Based on data from 1,593 plea cases and 305 tried cases, the researchers estimated that those who accepted a plea deal served an average of 72.2% of the sentence they would have received at trial. Those who went to trial served a sentence that was 29.6% greater than the plea sentence would have been.

A sparse amount of research has used surveys to examine individual differences that could have an impact on plea bargaining decisions. In one study of juvenile defendants,

researchers measured multiple demographic, criminological, and situational variables including a cognitive assessment, psychiatric rating, fitness test, *Miranda* comprehension measure, etc. Analyses explored the relationship of all these measures to plea outcomes—the only consistently significant predictor of plea decisions was the perceived strength of the prosecution's evidence (Viljoen, Klaver, & Roesch, 2005). Interestingly though, this variable did not predict plea decisions among younger defendants (aged 11 – 14). This study also showed that juvenile defendants advised to accept a plea by their parents, attorneys, and peers were more likely to report intending to do so. Defendants who rated lower on measures of cognitive ability were significantly more likely to report not wanting to accept a plea bargain. Adults, on the other hand, do not exhibit a relationship between years of education and plea decisions among the innocent (Redlich, Summers, & Hoover, 2010).

One study found that the presence of physical evidence was a strong predictor of plea decisions among an adult sample (Albonetti, 1990). This study also found that race was a significant predictor of plea behaviors—black defendants were significantly less likely than white defendants to accept a plea deal. In contrast, another survey found that minorities were significantly more likely to accept a plea bargain despite being innocent (Redlich, Summers, & Hoover, 2010). This study also found that defendants who reported severe mental illness symptoms were more likely to report accepting a plea bargain despite being innocent.

Other studies have examined the rates of charge bargaining—plea offers that involve a reduction of charges that can, but do not necessarily, include a sentence reduction. One such study assessed a sample of 2,578 offenders who accepted a plea in 1993 (Ball, 2006). This study found that the type of criminal charge was the most significant predictor of count reductions; more severe charges resulted in a higher likelihood of a count reduction. Another analysis of

charge bargaining found that charge reductions could result in a 22.2% sentence reduction (based on sentences expected at arraignment, Piehl & Bushway, 2007). Unfortunately, examinations of charge bargaining practices are difficult due to routine overcharging (Piehl & Bushway, 2007). Overcharging refers to a common prosecutorial practice in which they threaten defendants with as many charges as possible to get plea deals. What defendants do not know, however, is how many of the charges would actually be pursued if the defendant chose to go to trial (in which the standard of evidence for each charge is greater). It is not uncommon for prosecutors to threaten charging defendants with two or three crimes when only one would be supported with enough evidence to pursue at trial.

A historical analysis of 4,000 criminal cases occurring in the state of Massachusetts attempted to isolate the cause for the rise of plea-bargaining from the mid-1800s to today (Fisher, 2000). The author concludes that plea-bargaining's rise can be largely attributed to the growing benefits this system of justice confers on the most powerful legal actors (i.e., prosecutors and judges). "Finally, plea bargaining grew so entrenched in the halls of power that today, though its patrons may divide its spoils in different ways, it can grow no more. For plea bargaining has won" (p. 1075, Fisher, 2000).

Vignette/Scenario-Based Research

Some studies have examined plea negotiations experimentally, but these have been primarily restricted to vignette methods. An early and complex vignette study employed a 4 (punishment: probation, six months in prison, one year in prison, or three years in prison) x 3 (defense attorney's estimated likelihood of conviction: 10%, 50%, or 90%) x 2 (plea discount: one year or five years) x 2 (role: innocent or guilty) between-participants design to illuminate the decision strategy employed by people deciding whether to accept or reject a plea deal (Bordens,

1984). As with all the vignette studies, these conditions corresponded to information provided in the vignettes (e.g., one participant could read a vignette in which the potential punishment was six months in prison with a conviction probability of 50%). This study found that innocent participants were generally less likely to accept a plea deal than guilty participants (20.3% versus 79.6%, respectively). The defense attorney's estimated likelihood of conviction appeared to have the strongest impact on plea outcomes resulting in more rejections (even among the guilty) at 10% and more acceptances (even among the innocent) at 90%.

In another vignette study, participants were asked to imagine being accused of cheating on an exam (Avishalom, Gazal-Ayal, & Garcia, 2010). Participants were told that their case would be presented before an ethics committee. If convicted, they could be suspended from school. They were also provided the option of contesting the accusation, which would result in their failure of the class but save them the possibility of suspension. Some of the participants were told that they were actually innocent whereas others were told they were guilty. The plea acceptance rate among the guilty was 67% versus 20% among the innocent—this difference was found despite the equivalent probability of conviction (60%) and exoneration (40%) presented to all participants. In a follow-up study, the researchers examined the effects of perceived fairness on plea decisions. Participants were provided with the same vignette but were told that the plea deal they were being offered was better, similar to, or worse than those typically offered. They found that perceived fairness affected the willingness of both innocent and guilty people to accept a plea.

Another vignette study used a 2 (sentence severity: two years or five years) x 3 (conviction probability: 20%, 50% or 80%) between-participants design (McAllister & Bregman, 1986). Participants were asked to report whether or not they would accept a plea deal for a one-

year sentence under these manipulated conditions. This experiment found that participants' decisions were fairly rational as plea rates increased with both sentence severity and conviction probability. A second experiment used the same design but asked participants to take the role of the defense attorney rather than defendant. In this experiment, participants' decisions were still affected by the probability of conviction but were unaffected by sentence severity.

Another study recruited a sample of only defense attorneys (Kramer, Wolbransky, & Heilbrun, 2007) to assess how they would advise clients given certain vignettes. This study also found that the probability of conviction (based on the strength of the evidence) impacted attorneys' decisions to recommend a plea to their clients. In contrast to the previous study, this study found that the potential sentence at conviction did affect how attorneys would advise their clients. Interestingly, defendants' wishes did not have a strong impact on the way attorneys would advise them except in cases for which they disagreed (e.g., if the defendant did not want to plea despite there being strong evidence against him). Another study examined potential racial disparities in plea-bargaining practices among defense attorneys finding that when a hypothetical defendant was black, he was more than three times more likely to be encouraged to accept a plea deal than when he was white (Edkins, 2011).

A more recent study provided one of four potential vignettes to both defense and prosecuting attorneys in the state of California (Pezdek & O'Brien, 2014)—the vignettes differed in whether the eyewitness identification was the same- or cross-race and whether the eyewitness and suspect were familiar with one another. The results showed that each factor seemed to impact defense and prosecuting attorneys in complementary ways (e.g., prior familiarity with the eyewitness made prosecutors less likely to offer a plea unless the sentence was still severe, and defense attorneys more likely to advise clients to accept a plea even if the sentence was severe).

These experimental factors however, exhibited a stronger impact on defense attorneys than prosecuting attorneys. Prosecuting attorneys reported propensities toward plea-bargaining that were near ceiling, which made it difficult to significantly impact their decisions. Essentially, prosecutors appeared to exhibit more confidence in the control they had over the outcome of the case regardless of the evidence.

Experimental Research

Only three studies have examined plea-bargaining behaviors with an experimental paradigm that actually involves an accusation of wrongdoing. In the first of these studies participants were asked to take a difficult exam that was designed to evaluate certain teaching strategies and instructors in the department (Gregory, Mowen, & Liner, 1978). Participants were motivated to do well by the promise of an extra course research credit for superior performance. Prior to taking the test, half of the participants were given false information about the exam by a confederate—the confederate claimed to possess prior knowledge of the test and knew that most of the correct answers were 'B'. Innocent participants were not told anything about the test. All participants were then accused of cheating on the exam due to their surprisingly high performance—they were told that they had exceeded the top score by five (on a 30-question test). The experimenter then told participants that they would have to present their case to an ethics committee. If the committee found the participant innocent, he would be awarded the extra credit for superior test performance. If he was found guilty however, he would lose a research credit and be deducted a letter grade in his class. Participants were then offered a plea deal—if they admitted to having cheated and agreed to receive no credit for the study, the accusation would be dropped. In this study, zero of eight innocent participants accepted the plea deal versus six of eight guilty participants.

Another study used a modified confession paradigm to examine plea behaviors (Dervan & Edkins, 2013; Edkins & Dervan, 2013). The study used a method known as the *cheating paradigm*, which will be discussed in further detail later (Russano et al., 2005)[2]. Participants were accused of cheating during the research study and told that they would face punishment if found guilty. Some participants were told the punishment would be a semester-long ethics course while others were told the punishment would include a three-week long ethics course. Participants were also offered a plea deal, which would result in them receiving no credit for their study participation. Overall, 89.2% of guilty participants accepted the plea offer versus 56.4% of the innocent. When broken down by condition, guilty participants given the harsher punishment accepted the plea deal at a rate of 94.1% and innocents accepted the plea at a rate of 61.1% versus 85.0% and 52.4% in the more lenient conditions, respectively.

My Master's degree thesis was the only other study to experimentally examine plea-bargaining behaviors in an ecologically valid context (Wilford, 2012). Using a modified cheating paradigm, Wilford (2012) examined the rates of plea acceptance for the innocent and the guilty (Russano et al., 2005). All participants were recruited for a study examining team versus individual problem solving. Upon arriving to the lab, participants were paired with a confederate who acted as a second participant. As part of the study, participants were asked to complete individual and team logic problems. The confederate requested help on an individual problem from participants randomly assigned to be guilty (in direct contradiction to the experimenter's instructions). Innocent participants were not asked to cheat. All participants

[2] On its face, this study appears identical to Wilford (2012). Unfortunately, the researchers altered their study in ways that reduce the ecological validity of their results. For instance, participants were required to admit guilt as part of accepting the plea deal (as in Gregory et al., 1978). This requirement is problematic because Alford and nolo contendere pleas do not require a guilt admission and are accepted in most jurisdictions (Redlich & Ozdogru, 2009). Additionally, all participants were told that the probability of conviction was very high (i.e., like 80 – 90%), which limits the generalizability of these results to many individual cases. They also told participants that they were found to have had the same wrong answer on two individual questions (not just one). This change created a situation in which even guilty participants were partially innocent of the offense for which they were being accused.

were later accused of cheating on the individual problem. After the accusation, participants were told that the professor was willing to drop the cheating accusation if the participant agreed to work in the research lab 20 hours over the next month. If they rejected the deal, they would be charged with academic dishonesty through the Dean of Students Office, and if found guilty they would receive a failing mark in their course and be put on indefinite academic probation. In this exploratory study, 79% of the guilty accepted the plea, which was significantly greater than the proportion of the innocent who accepted the plea. However, the rate of plea acceptance among the innocent was still alarmingly high at 52%.

The Current Research

The current research was designed to examine potential differences between confession and plea behaviors. The study employed an adapted version of the cheating paradigm to manipulate guilt and innocence (Russano et al., 2005). After participants were accused of cheating, they were asked either to sign a confession or accept a plea deal. To my knowledge, this was the first experiment to examine both plea and confession behaviors. Some participants were then presented with an evidence-bluff whereas others received no bluff. This evidence-bluff manipulation could reveal whether the phenomenology of innocence impacts confession and plea decisions differently (Perillo & Kassin, 2011).

The evidence-bluff manipulation involved telling participants that a hidden camera could definitively reveal whether they cheated or did not cheat. However, the video from the camera was not immediately accessible; thus, the experimenter had to move forward with the cheating accusation process. I predicted that although the evidence-bluff would increase false confessions (replicating Perillo & Kassin, 2011), it would actually decrease false pleas. Upon receiving an evidence-bluff, innocent individuals' resistance to confess decreases, because the bluff provides

them with reassurance that the confession poses no threat (i.e., the evidence-bluff strengthens the phenomenology of innocence)—the bluff-evidence will be preserved and analyzed proving them innocent later despite their confession. The strengthening of the phenomenology of innocence (via the evidence-bluff) should cause a different outcome in the context of a plea. Innocent individuals should be more resistant to falsely pleading upon receiving an evidence-bluff, because the bluff provides them with reassurance that their innocence will be discovered once the bluff-evidence is preserved and analyzed. If they accepted the plea however, the process would be terminated and the bluff-evidence would not be preserved and analyzed, robbing them of their opportunity to be proven innocent. The innocent should therefore be motivated to preserve the opportunity for their innocence to be discovered, and consequently reject the plea to keep the legal process moving forward. If data from the current research supports this hypothesis, it will further substantiate the contention that further research on plea bargaining is warranted.

This study also examined whether certain individual differences would moderate the rate of plea acceptance. The current research further examined the surprisingly asymmetric effect of just world beliefs on plea behaviors found in previous research (Wilford, 2012). I explored the reliability of a new belief in a just world measure separating the construct into two dimensions—positive belief in a just world and negative belief in a just world. I predicted that these two measures (if both emerged in a factor analysis) would show distinct predictive relationships with plea behaviors as opposed to confession behaviors.

Participants were recruited for a study that claimed to be examining individual versus team problem solving. Upon arrival, they were paired with a confederate posing as another participant. During the problem-solving phase of the study, guilty participants were asked to

provide their answer to an individual problem by the confederate. Participants in the innocent conditions were not asked for their answers to the individual problems. All participants were later accused of cheating on the individual problems. Experimenters were kept blind throughout the session as to who had and who had not actually cheated.

During the accusation phase of the study, participants in the evidence-bluff conditions were told that a hidden camera recorded the entire session, and could reveal whether they actually cheated. Participants in the no-bluff conditions were not told about a camera. All participants were told that the case could be handed to the Department of Psychology's Human Research Ethics Review, which is responsible for handling cheating when it occurs in research studies. They were then told that if this review found them guilty of cheating, they would lose all their research credits and future research privileges and could be put on indefinite academic probation. After the accusation, participants in the plea conditions were offered a plea deal—they could agree to work in the lab 20 hours over the next month and the accusation would be dropped. Participants in the confession conditions were asked to sign a written admission of guilt. In sum, this research examined the differences between confession and plea behaviors among the innocent and the guilty in a modified cheating paradigm. It also included individual difference variables to determine whether confession and plea behaviors are moderated differently by certain traits or characteristics.

CHAPTER 2. METHOD

Participants

Four hundred and twenty-two undergraduate students enrolled in introductory courses at Iowa State University participated in this experiment in exchange for two course research credits. All participants were treated in accordance with the American Psychological Association (APA) ethical guidelines.

Design

This study employed a 2 (innocent or guilty) x 2 (confession or plea) x 2 (evidence-bluff or no-bluff) between-participants design. Each participant was randomly assigned to one of the eight potential conditions.

Materials

*Global Belief in a Just World Scale***.** The Global Belief in a Just World Scale (GBJWS) is a seven-item questionnaire designed to measure people's general belief in a just world (refer to Appendix A; Lipkus, 1991). The scale includes seven statements for which participants are asked to respond with the number that corresponds to their level of agreement or disagreement with each statement. All the items are presented with a six-point, Likert-type scale that ranges from 1 (*Strongly disagree*) to 6 (*Strongly agree*). Higher scores indicate stronger belief in a just world. The GBJWS has been tested against both the Just World Scale and the Just World Scale Revised—it achieved higher reliability scores than both (Hellman, Muilenburg-Trevino, & Worley, 2008). Despite disagreements concerning the construct validity of just world measures in general (Furnham, 2003; Whatley, 1993), it is assumed that the GBJWS will provide the best measure for the present study. GBJWS is the best available measure of general belief in a just

world—not personal belief in a just world (Dalbert, 2009)[3]. Global belief in a just world has been found to be the most predictive belief in a just world measure of behaviors in situations that pose risks controlled by others, which would make it more relevant to legal situations.

*Rosenberg Self-Esteem***.** The Rosenberg Self-Esteem scale is an eight-item questionnaire designed to measure people's personal beliefs about themselves (refer to Appendix B; Rosenberg, 1965). The scale includes ten statements for which participants are asked to provide the number corresponding to their level of agreement or disagreement. Each statement is measured with a Likert-type scale ranging from 1 (*Strongly disagree*) to 7 (*Strongly agree*). Half of the items are reverse scored and higher total scores correspond to higher self-esteem. Numerous studies have used this scale and it consistently achieves high reliability, Cronbach's $\alpha \geq .8$ (Gerrard, Gibbons, Reis-Bergan, & Russell, 2000; Campbell, Bonacci, Shelton, Exline, & Bushman, 2004).

*Positive-Negative Belief in a Just World***.** The Positive-Negative Belief in a Just World (PNBJW) scale is a 12-item questionnaire I constructed to measure people's positive and negative beliefs about fairness (refer to Appendix C). The scale includes 12 statements for which participants are asked to write the number expressing their level of disagreement or agreement. Each statement is presented with a Likert-type scale ranging from 1 (*Strongly disagree*) to 6 (*Strongly agree*). Half of the items were designed to be reverse coded and higher total scores indicate higher endorsement of belief in a just world (either positive or negative). The unique component of this scale is that it can be broken up into two subscales. One subscale measures people's endorsement of negative belief in a just world, which is that bad things happen to bad people. The other subscale measures people's endorsement of positive belief in a

[3] Personal or self-belief in a just world refers to the belief that the world is just for the individual self whereas global or general belief in a just world refers to the belief that the world is fair for everyone (Bégue & Bastounis, 2003).

just world; how much they believe that good things happen to good people. Essentially, this scale attempts to examine whether people endorse the idea of punishment or reward differently when determining whether the world is just.

Private Self-Consciousness Scale. The Private Self-Consciousness Scale measures individual differences in self-consciousness; specifically, the attention one pays to inner (private) thoughts and feelings (Fenigstein, Scheier, & Buss, 1975; refer to Appendix D). The measure includes ten items for which participants are asked to indicate the level at which the statement describes them. Each item is rated on a 0 (*extremely uncharacteristic*) to 4 (*extremely characteristic*) Likert scale. Private self-consciousness has been shown to be distinguishable from a more public self-consciousness construct, which focuses more on the self as a social being (Fenigstein, 1987). This scale has also been shown to produce strong test-retest correlations (Fenigstein et al., 1975). A discriminant validity analysis demonstrated that the Private Self-Consciousness Scale does not reliably correlate with need for achievement, IQ, Temperament (i.e., Emotionality, Activity Level, Sociability, and Impulsivity), or test anxiety (Carver & Glass, 1976).

Demographic Information. Demographic measures were primarily included to provide a description of the study sample (refer to Appendix E). Additionally, demographic items served as possible independent variables with which to compare other dependent measures. For instance, men are often found to endorse higher just world beliefs than women (Whatley, 2003); thus, including a gender variable allowed me to examine whether this trend was preserved with the new PNBJW measure.

Political endorsements were measured with two items. Each item included its own seven-point Likert-type scale. The first question asked participants to rate their party

identification from 1 (*Strong Republican*) to 7 (*Strong Democrat*)—"Generally speaking, do you usually think of yourself as a Republican, a Democrat, or an Independent?" A "neutral" response of 4 indicated a preference of Independent. The second item asked participants to rate themselves on a political ideology spectrum, "Which of these opinions best represents your views?". This scale ranged from 1 (*Extremely Liberal*) to 7 (*Extremely Conservative*) with a neutral response of 4 to indicate "*Moderate/Middle of the Road*".

Education-related items included four questions. The first question asked participants to report an estimate of their composite ACT score. The second question asked participants to provide a rating of their score relative to others (e.g., higher than average). One open-ended question requested participants to write-in their major. A final, two-part question asked participants to indicate whether they intend on going to graduate school. If they answered, "Yes", they were asked to indicate what type of degree they planned to pursue: Masters, Ph.D., J.D. M.D. (or other medical degree), or Other (write-in).

*Big Five-Aspect Scale***.** The five-factor model of personality has been validated in years of research (refer to Appendix F; John, Naumann, & Soto, 2008; McCrae & Costa, 1987; McCrae & Costa, 1997). The model essentially posits that all individual personality traits derive from five overarching factors. The five factors of personality are typically labeled as: neuroticism, agreeableness, openness, extraversion, and conscientiousness. Recently, the five-factor model has been broadened to include an aspect-level of personality in which each factor includes two more specific and distinguishable aspects (DeYoung, Quilty, & Peterson, 2007). For instance, neuroticism has been found to include aspects of both volatility and withdraw; these aspects are not entirely orthogonal to each other but are not entirely related either. Thus, some individuals could score as mildly neurotic on a Big Five measure because they are very

withdrawn but not volatile or vice versa. Only by measuring traits at the aspect level, can we determine the specific characteristics that might be driving certain responses.

The Big Five Aspect Scale is designed to measure the ten aspects found to be subsumed in the five factors: volatility and withdraw (neuroticism), politeness and compassion (agreeableness), orderliness and industriousness (conscientiousness), enthusiasm and assertiveness (extraversion), and openness and intelligence (openness; refer to Appendix E). The scale includes 100 statements accompanied with Likert-type scales from 1 (Strongly disagree) to 7 (Strongly agree). Participants are asked to respond with the number that corresponds to their level of agreement or disagreement with each statement. The Big Five Aspect Scale was primarily included to determine whether the new Positive-Negative Belief in a Just World scale correlated significantly with theoretically-relevant personality traits. For instance, individuals with high Negative Belief in a Just World should believe that victims of misfortune deserve that misfortune; thus, Negative Belief in a Just World should theoretically correlate negatively with the compassion aspect of agreeableness. Completion of the scale also served as a good distractor task between the problem-solving and accusation phases of the study.

Procedure

This procedure has been further adapted from the *cheating paradigm*, which was first introduced by Russano et al. (2005). All participants were recruited via the online research participation system, SONA. The study posting informed participants of the study title, "Problem Solving with Personality," and that the researchers were interested in examining how people solve problems individually and with a partner.

Upon arriving at the research lab, participants were paired with a confederate who posed as another participant. The experimenter requested informed consent from both the participant

and the confederate. During the consent process, the experimenter reminded participants of the study criteria—all participants had to be 18 years of age or older and be native English speakers. Participants were then taken to a room with the confederate and asked to fill out the first questionnaire. The first questionnaire included the belief in a just world measures, the Rosenberg Self-Esteem Scale, the Private Self-Consciousness Scale, and the demographic questions (Appendices A-E). The experimenter left the room while the participant and confederate filled out the first questionnaire. Once the questionnaire was completed, the participant or confederate opened the door to the room (in accordance with the experimenter's instructions) signaling to the experimenter that they were ready for the next phase of the study.

The experimenter returned to the room with two blank nametags. He or she explained to participants that people who are asked to solve problems together are typically not total strangers; they are often peers, co-workers, or collaborators. Thus, in keeping with the study's cover story, participants were asked to engage in a rapport-building session with the confederates. Once the participant and confederate put on their nametags, the experimenter left the room for three minutes.

The experimenter later returned with three logic problems packets—two individual problems packets and one team problems packet (refer to Appendices G and H, respectively). Each packet contained two open-ended problems. The packets were placed with an individual packet in front of both the participant and confederate, and the team packet in between. The experimenter then provided explicit instructions that the individual problems were to be solved alone and the team problems were to be solved together. The experimenter also requested that the problems be solved in an alternating pattern such that every other problem was an individual problem then a team problem. After the experimenter finished the instructions and assured that

there were no questions, the participant and confederate were left alone again. Participants assigned to the guilty condition were induced to cheat on the second individual problem—hereafter referred to as the triangle problem. Confederates said they were experiencing difficulty with the problem and asked the participants what answer they wrote down. Participants who refused to provide their answer were asked up to two more times (never exceeding three total requests). Participants in the innocent conditions were never asked for help on individual problems. After the problems were completed, the confederate or participant once again opened the door to the room to inform the experimenter.

Upon returning, the experimenter collected the logic problems packets and explicitly stated that he or she would move on to scoring the problems. In the mean time, the experimenter requested that the participant and confederate fill out a personality questionnaire (Big Five Aspects Scale; refer to Appendix F). After the questionnaires were completed, the experimenter returned looking distracted, with the logic problems in hand. The experimenter stated that he or she needed to go check on something, and then closed the door to the room with the participant and confederate. Two minutes later the experimenter returned stating that there was a problem and requested to speak to the participant and confederate separately. The experimenter first asked the confederate to come to another room. Three minutes later the experimenter walked the confederate back and led the participant to another room.

After asking the participant to sit down, the experimenter explained that an issue arose during the scoring of the logic problems. The issue was that the participant and the confederate had the same wrong answer on the triangle problem—an extremely statistically unlikely event. The experimenter went on to say that he or she was unsure how to handle the situation and decided to contact the professor in charge of the study. The experimenter explained that the

professor sounded pretty upset and thinks the case might have to be turned over to the Department of Psychology Human Research Ethics Review—a committee set up to handle cheating when it occurs in research studies. The experimenter then recited one of four possible statements depending on the condition to which the participant was randomly assigned.

In evidence-bluff conditions, participants were told that potentially exonerating or damning evidence exists:

> My professor reminded me that there is a hidden camera set up in the other room that recorded the whole session. It could reveal whether you cheated or didn't cheat. The video is automated and only exists for security reasons. Because, I guess the lab had a break-in last year or something. Unfortunately, the camera feeds directly into a locked server that records video, but is limited to a 24-hour loop due to data storage limitations. This server is only accessible by an off-campus security firm…

This script was adapted from a confession experiment, Perillo and Kassin (2011)—the first study to include an evidence-bluff manipulation.

Importantly, the evidence-bluff manipulation was slightly altered between confession and plea conditions. To mimic real-world procedures, participants in the confession conditions were told that the professor was in the process of contacting the security firm at that time. They were told that regardless of what they decided, the professor would save the video in order to turn it over to the Human Research Ethics Review. Participants in the plea conditions were told that if they chose to accept the plea, the professor would not go to the trouble of saving the video. By accepting the plea, they were essentially ending the matter and signaling that no further investigation was necessary. Participants were told that if the professor did not save the video, it would be erased within 24 hours (because the server records on a continuous loop that is limited to a 24 hour cycle). This difference accurately mimics real-life situations in which a confession does not end an investigation. After securing a confession, investigators have to continue

pursuing evidence to try the suspect. When a plea is accepted however, the investigation is over and no other evidence will be gathered or evaluated.

Experimenters provided the participants with one of two handwritten statements to sign. In the confession conditions, participants were presented with this statement:

> I admit to having shared answers on the individual triangle problem in the Problem-Solving with Personality study.

In the plea conditions, participants were instead presented with this statement:

> I agree to work 20 hours on the Problem Solving with Personality study by (write in month after date).

If participants did not initially sign the statement, the experimenter requested that they sign up to two more times (three total times). After participants had refused or signed, the experimenter left again stating that the professor had to be updated. Two minutes later, the experimenter returned with a final questionnaire to measure the participant's impressions of the confederate (refer to Appendix I). At that point the experimenter exited again to let the participant complete the questionnaire. When the experimenter returned and the participant had completed the questionnaire, the experimenter requested that the participant answer a few more questions about the cheating accusation. They were told that the professor requested the participant answer each question so that he could be totally informed regarding the situation (Post-Accusation Measures; refer to Appendix J). The experimenter then completed a funnel debriefing in which the participants were gaged for suspicion while the true purposes of the study were slowly revealed.

During the debriefing process, participants were asked whether they had any questions about the study and what they believed the study was examining. As part of the debriefing, participants were told that the research was actually investigating plea and confession behaviors. They were then told that the confederate was part of the research team and was instructed to ask

some of them for help on one of the individual problems. They were assured that most people cooperate with this request and in this context complying with the request should be perceived as helping rather than cheating. They were also asked to verbally agree to not share the true purpose of the experiment with anyone; the experimenter then recorded their verbal response to that request. When the debriefing process was complete and all of the participants' questions had been answered, the experimenter left the participant with a blank informed consent and an informational sheet on the free counseling services offered on campus (refer to Appendix K). The experimenter stated that the participant was free to take either of the forms with them, or leave them behind to be reused. On their way out of the lab, participants were asked a second time to not talk about the study with other people.

CHAPTER 3. RESULTS

Four hundred and twenty-two undergraduate students participated in the current study in exchange for course research credit. Two hundred and thirty-three of the participants were female (54.3%) and 189 were male (44.1%). The mean age was 19.3 years with a range of 18 to 51 years of age. Data from 94 of the 422 participants (22.2%) had to be excluded from all data analyses. Participants' data were most commonly excluded due to suspicion. The exclusion criteria for suspicion were: 1) participants who reported that the confederate-participant was in on the study and/or, 2) participants who stated the study's true purpose was to examine whether people would be willing to sign a statement following an accusation. 46 participants (10.9%) met one or both of these criteria—a proportion that has increased significantly from previous plea studies; unfortunately, the increasing exposure of undergraduate students to the cheating paradigm is causing higher levels of suspicion in the participant pool. Data from another 20 participants (4.7%) were excluded due to early suspension of the study session; study sessions were suspended primarily due to observable emotional distress. Ten participants' (2.4%) data were excluded because their behaviors did not comport to their randomly assigned conditions—guilty people who refused to cheat and innocent people who cheated (e.g., who were seen by the confederate peeking at the confederate's responses). Data from eight participants (1.9%) were excluded because they made statements that were inconsistent with the study parameters or instructions. For instance, some participants falsely reported that the bluff-video (filmed during the problem-solving phase of the study) would be watched despite their acceptance of the plea deal. Data from another eight participants (1.9%) were excluded after participants admitted that they had prior knowledge of the study protocol. Finally, two participants' data were excluded

because the participant did not fulfill the requirements of study participation and due to experimenter error.

All inferential analyses used an alpha level of .05. When appropriate, effect sizes and confidence intervals around those effect sizes are reported. The effect size metric *r* was used. Cohen (1977) considers small, medium, and large effect sizes for *r* to be .10, .30, and .50, respectively. Data examining the impact of the manipulated independent variables on acceptance outcomes will be presented first. Second, a quantitative analysis of the qualitative data produced by participants explaining why they refused or agreed to sign the statement. That analysis will be followed by ANOVAs examining the impact of the experimental variables on (continuous) post-accusation measures. Analyses will also be presented assessing the reliability and validity of the new Positive-Negative Belief in a Just World measure. Finally, data for the belief in a just world measures as moderators of acceptance outcomes will be presented.

Acceptance Outcomes

The leading purpose of this research was to determine whether the manipulated variables would have a differential impact on plea versus confession decisions among the guilty and the innocent. First, as expected, innocent participants were significantly less likely to sign a confession (32.5%) than guilty participants (88.4%), X^2 (1, N=166) = 54.61, $p < .001$, $r = .57$ [CI: .45, .68]. Innocent participants were also less likely to accept a plea deal (40.7%) than guilty participants (73.8%), X^2 (1, N=161) = 17.91, $p < .001$, $r = .33$ [CI: .18, .47]. Because this is the first experimental study to include conditions with both plea and confession manipulations, it was important to establish the validity of the experimental paradigm. The impact of the innocence-guilt condition on acceptance outcomes supports the validity of the cheating

manipulation as a method to randomly assign study participants to guilt or innocence for both confession and plea studies.

Innocent participants who heard the evidence-bluff exhibited a false confession rate that was somewhat higher (40.5%) than innocent participants who did not hear the evidence-bluff (23.7%), X^2 (1, N=80) = 2.56, p = .086, r = .18 [CI: -.04, .38]. The r effect size was moderate and in the predicted direction. Unfortunately, the confidence interval around the effect size included a possible effect of zero, which was consistent with the non-significant p-value. Thus, the direction of the effect of evidence-bluffs on confession behaviors among the innocent is not entirely clear. More interestingly, in contradiction to what was hypothesized, the evidence-bluff manipulation had no significant impact on plea decisions among the innocent, X^2 (1, N=81) = .003, p = .570, r = .006 [CI: -.21, .22]. The evidence-bluff manipulation also had no impact on the guilty in either the confession or plea conditions, X^2 (1, N=86) = .000, p = .631; X^2 (1, N=80) = 1.61, p = .155, r = .14 [CI: -.08, .35]. However, acceptance outcomes among the guilty were near ceiling consequently minimizing any potential impact of the evidence-bluff manipulation (refer to Table 1).

Table 1.

Rates of acceptance (i.e., statement signing) among all eight experimental conditions.

Pleas				Confessions			
Innocent		Guilty		Innocent		Guilty	
No Bluff (N = 42)	Bluff (N = 39)	No Bluff (N = 40)	Bluff (N = 40)	No Bluff (N = 38)	Bluff (N = 42)	No Bluff (N = 43)	Bluff (N = 43)
40.5% (n = 17)	41.0% (n = 16)	80.0% (n = 32)	67.5% (n = 27)	23.7% (n = 9)	40.5% (n = 17)	88.4% (n = 38)	88.4% (n = 38)

Note. The actual number of participants represented by each percentage is listed in parentheses.

The diagnosticity ratio of plea acceptance over all conditions was 1.81 (73.8% true plea acceptance / 40.7% false plea acceptance), which is very low. In other words, among the current sample, someone who accepted a plea was only 1.81 times more likely to be guilty of cheating than someone who rejected a plea. This ratio is close to the 1.52 diagnosticity ratio of plea acceptance found in Wilford (2012). The diagnosticity of a signed confession was higher than the diagnosticity of plea acceptance at 2.72, which still seems low. In fact, there was a significant interaction between innocence-guilt and confession-plea on acceptance outcomes showing that when participants were in plea conditions, acceptance rates were less affected by actual innocence-guilt relative to confession conditions, $\beta = -1.37$, Wald = 6.43, $p = .011$. To summarize, in the current study, a signed confession was more diagnostic of guilt than a signed plea, but neither were highly indicative of guilt.

Reasons for Acceptance/Rejection

The driving motivation behind this work was to examine the potential differences between plea and confession behaviors. Consequently, it was important to include a measure to illuminate the factors that led participants to accept or reject plea deals versus the factors that led participants to accept or reject confession statements. If participants in plea conditions are found to produce different reasons for their decisions than participants in confession conditions, the reasons provided could reveal some of the distinctions between these two constructs.

Reasons for Signing the Confession or Plea Deal. After the experimenter returned from calling the professor to report what had happened during the accusation phase of the study (i.e., whether the participant had agreed to accept the plea deal or sign the confession), participants were asked to report their reason for signing or refusing to sign the plea or confession statement. All participants were asked the question in an open-ended format. The wording only differed

with regards to framing the question according to whether they agreed or refused to sign the statement written out for them. Consequently, the results will be presented separately for participants who were asked why they agreed to sign the statement versus participants who were asked why they refused (refer to Table 2 and Table 3, respectively).

Table 2.

Frequency of reasons for acceptance of the plea agreement or confession statement among the guilty and innocent participants

	Innocent			Guilty	
	Plea	Confession		Plea	Confession
Easier Alternative	20.6% (7)	23.1% (6)	Easier Alternative	42.4% (25)	6.7% (5)
Pressure	47.1% (16)	38.5% (10)	Pressure	10.2% (6)	26.7% (20)
Fear	11.8% (4)	0.0% (0)	Fear	22.0% (13)	0.0% (0)
Miscellaneous	20.6% (7)	38.5% (10)	Guilty	15.3% (9)	52.0% (39)
			Miscellaneous	10.2% (6)	14.7% (11)

Note. N = (x).

All of the reasons participants provided for signing the statement were coded into categories. Due to the open-ended format of the question, several categories were initially identified. In order to conduct an omnibus chi-square analysis however, categories with expected values less than five had to be collapsed into a "Miscellaneous" category. Among the guilty, the pattern of responses provided for signing the statement varied significantly by plea and confession conditions, X^2 (4, N=134) = 59.94, $p < .001$. The pattern of responses for signing the statement did not vary significantly among the innocent, X^2 (3, N=60) = 5.01, $p = .17$. It should be noted, however, that the number of innocent participants who accepted the statement was dramatically

lower ($N = 60$) than the number of innocent participants who rejected the statement ($N = 134$) thereby limiting the potential for a significant chi-square value.

Reasons for Rejecting the Confession or Plea Deal. Participants who refused to sign the confession or plea deal were asked to provide their reasoning for their refusal. The question was framed with reference to their refusal to sign the statement and participants were asked the question in an open-ended format.

Table 3.

Frequency of reasons for rejection of the plea agreement or confession statement among the guilty and innocent participants

	Innocent			Guilty	
	Plea	Confession		Plea	Confession
Innocent	74.5% (35)	79.6% (43)	Innocent	57.1% (12)	80.0% (8)
Untrue	0.0% (0)	14.8% (8)	Miscellaneous	42.9% (9)	20.0% (2)
Vague Deal	8.5% (4)	1.9% (1)			
Miscellaneous	17.0% (8)	3.7% (2)			

Note. $N = (x)$.

The reasons produced by innocent participants for refusing to sign the statement in plea versus confession conditions varied significantly, X^2 (3, N=101) = 13.80, p = .003. The reasons for refusal did not differ significantly among the guilty, X^2 (1, N=31) = 1.55, p = .202, r = .22 [CI: -.13, .53]. Again, the number of participants included in each of the analyses was dramatically different due to the higher proportion of guilty participants accepting the statement. Overall, these findings provide some evidence that the factors driving plea and confession outcomes differ.

Post-Accusation Measures

All participants were asked a series of questions after they agreed/refused to sign the plea agreement or confession statement during the accusation phase of the study (refer to Appendix J). These questions were designed to measure participants' perceptions of the situation (e.g., likelihood of the cheating charge, willingness to sign the statement, strength and plausibility of the evidence, etc.). It is important to note that these measures are exploratory in nature, and data gathered during this phase of the study could be affected by the participants' increasing suspicion that the entire accusation could be a ruse. That said, the data can still be informative and the analyses provide some interesting results. This particular series of questions included 12 items although three of these items were only administered to participants in evidence-bluff conditions. Those items are presented separately. This section will summarize the impact of the experimental independent variables on participants' responses to these post-accusation measures. Non-significant measures will not be discussed, but a summary of the means and standard deviations in each condition for the post-accusation measures can be found in Appendix M. Nine 2 (innocent or guilty) x 2 (confession or plea) x 2 (evidence-bluff or no-bluff) ANOVAs were conducted—each of the post-accusation measures were included as the dependent variable in separate ANOVAs.

Likelihood of Charge. This question was measured on a ten-point Likert-type scale from 1 (*Extremely Unlikely*) to 10 (*Extremely Likely*). Innocent participants perceived the chances of them being charged with cheating as significantly less likely than guilty participants, $F(1, 325) = 118.72$, $MSE = 591.33$, $p < .001$, $r = .51$ [CI: .42, .60]. Participants in the no-bluff conditions viewed their chances of being charged with cheating as higher than participants in evidence-bluff conditions, $F(1, 325) = 5.85$, $MSE = 29.16$, $p = .016$, $r = .30$ [CI: .20, .40].

Willingness to Sign. Participants were asked to indicate how willing they were to sign the statement (either the plea deal or confession statement). This question was measured on a six-point Likert-type scale from 1 (*Not at all Willing*) to 6 (*Totally Willing*). Not surprisingly, innocent participants were less willing than guilty participants to sign the statement presented to them, $F(1, 326) = 80.14$, $MSE = 162.16$, $p < .001$, $r = .44$ [CI: .34, .53].

Evidence Strength. Participants were asked how strong they felt the evidence against them was. This question was measured on a seven-point Likert-type scale from 1 (*Very Weak*) to 7 (*Very Strong*). Guilty participants felt the evidence against them was stronger than innocent participants, $F(1, 325) = 60.45$, $MSE = 204.58$, $p < .001$, $r = .39$ [CI: .29, .49]. More interestingly, participants in plea conditions rated the strength of the evidence against them as being stronger than did participants in confession conditions, $F(1, 325) = 7.79$, $MSE = 26.35$, $p = .006$, $r = .16$ [CI: .05, .26]. Participants' perceived strength of the evidence against them was also impacted by a three-way interaction among innocence-guilt, confession-plea, and the evidence-bluff, $F(1, 325) = 6.03$, $MSE = 20.41$, $p = .015$, $r = .34$ [CI: .24, .43]. A linear regression was conducted to determine the pattern of this three-way interaction (refer to Figure 2). Innocent participants in the plea conditions viewed the evidence as weaker when exposed to the evidence-bluff whereas innocent participants in confession conditions viewed the evidence as stronger when exposed to the evidence-bluff. Guilty participants in the no-bluff conditions viewed the evidence as stronger when in the confession conditions, but weaker when in the plea conditions. Before reading too deeply into this finding, it is important to remember that as previously mentioned, while these post-accusation questions are being asked, participants are likely growing increasingly suspicious of the study objectives.

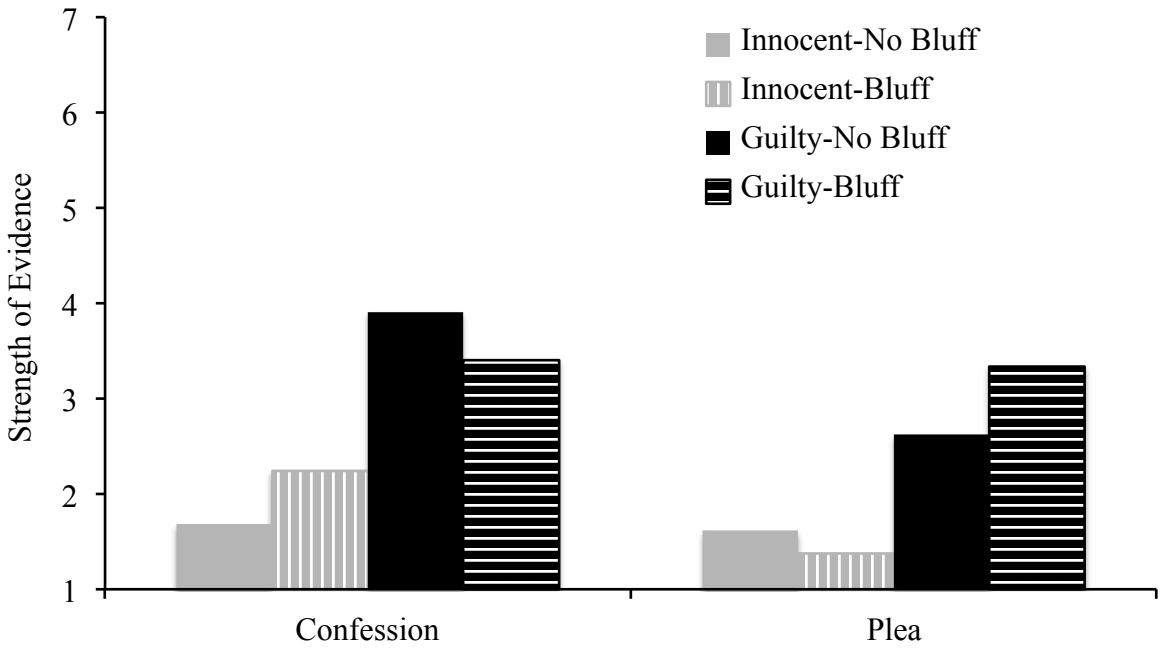


Figure 1. Three-Way Interaction of Innocence-Guilt, Confession-Plea, and the Bluff on Participants' Perceived Strength of Evidence

Evidence Plausibility. Participants also reported the plausibility of the evidence against them. This question was measured on a five-point Likert scale from 1 (*Not at all Plausible*) to 5 (*Very Plausible*). Evidence plausibility was perceived as higher by guilty participants than innocence participants, $F(1, 325) = 38.63$, $MSE = 75.65$, $p < .001$, $r = .33$ [CI: .22, .42]. Participants in plea conditions also rated the evidence as more plausible than participants in confession conditions, $F(1, 325) = 4.09$, $MSE = 8.01$, $p = .044$, $r = .11$ [CI: .00, .22].

Trapped into Signing. Experimenters asked participants how trapped they felt into signing the statement (either a plea deal or confession statement). This question was measured on a five-point Likert scale from 1 (*Not at all Trapped*) to 5 (*Totally Trapped*). Guilty participants felt more trapped into signing the statement than innocent participants, $F(1, 324) = 4.93$, $MSE = 11.04$, $p = .027$, $r = .12$ [CI: .01, .23].

Scared of Consequences. Participants were also asked to indicate how frightened they were of the potential consequences of the cheating accusation. This question was measured on a five-point Likert scale from 1 (*Not at all Frightened*) to 5 (*Very Frightened*). Guilty participants were more frightened of the consequences than innocent participants, $F(1, 325) = 27.74$, $MSE = 57.06$, $p < .001$, $r = .28$ [CI: .17, .37]. Participants in plea conditions were more scared of the consequences of the cheating accusation than participants in confession conditions, $F(1, 325) = 9.39$, $MSE = 19.32$, $p = .002$, $r = .17$ [CI: .06, .27].

Anxiety During Accusation. Participants were asked to report how anxious they felt during the accusation phase of the study. This question was measured on a five-point Likert scale from 1 (*Not at all Anxious*) to 5 (*Totally Anxious*). Innocent participants reported being less anxious during the cheating accusation than guilty participants, $F(1, 325) = 27.63$, $MSE = 48.42$, $p < .001$, $r = .28$ [CI: .17, .38]. Innocence-guilt interacted with the presence/absence of the evidence-bluff to impact participants' anxiety during the accusation phase of the study, $F(1, 325) = 3.93$, $MSE = 6.88$, $p = .048$, $r = .28$ [CI: .18, .38]. In order to investigate the direction of this two-way interaction, a linear regression was conducted and graphed (refer to Figure 1). It appears that innocence-guilt had a larger impact on reported anxiety in evidence-bluff conditions than in the no-bluff conditions.

Figure 2. Two-Way Interaction of Innocence-Guilt and the Bluff on Participants' Reported Anxiety

Pressure to Sign. Experimenters asked participants to estimate how much pressure they felt to sign the statement. This question was measured on a ten-point Likert-type scale from 1 (No Pressure at All) to 10 (Most Pressure I Could Imagine). Guilty participants reported feeling more pressured to sign the statement than innocent participants, $F(1, 325) = 20.69$, $MSE = 111.22$, $p < .001$, $r = .24$ [CI: .14, .34].

Relief After Debriefing. Finally, participants were asked how relieved they were after finding out the cheating accusation was false. This question was measured on a five-point Likert scale from 1 (Not at All Relieved) to 5 (Extremely Relieved). Guilty participants were more relieved than innocent participants upon hearing the accusation was fake, $F(1, 324) = 11.53$, $MSE = 17.50$, $p = .001$, $r = .19$ [CI: .08, .29]. Participants who heard the evidence-bluff were less relieved upon finding out the accusation was false than participants who did not hear the bluff, $F(1, 324) = 4.09$, $MSE = 6.21$, $p = .044$, $r = .11$ [CI: .00, .22].

The Bluff. Separate pair-wise comparisons were conducted to examine the impact of the evidence-bluff on post-accusation measures for the innocent versus the guilty. Non-significant measures will not be discussed, but the means and standard deviations for each post-accusation measure separated by condition can be found in Appendix M. Among the innocent, participants who heard the evidence-bluff manipulation reported the chances that they would be charged with cheating as significantly less likely than those that did not receive the bluff manipulation, $t(160) = -3.72$, $p < .001$, $r = .28$ [CI: .13, .42]. This difference is consistent with the idea that innocent participants would view the bluff-video as potentially exonerating thereby decreasing the perceived threat of the cheating charge. Innocent participants who heard the evidence-bluff were less anxious than those that did not hear the bluff, $t(159) = -2.70$, $p = .008$, $r = .21$ [CI: .06, .35]. Guilty participants who heard the evidence-bluff felt more trapped into signing the plea or confession than those that did not hear the bluff, although the effect was not significant, $t(161) = 1.97$, $p = .051$, $r = .15$ [CI: .00, .30].

In a more direct measure of the impact that the bluff-video had on participants' decisions to sign or not sign the plea deal or confession statement, participants were asked whether the video made them less or more willing to sign the statement; they were also given the option of stating that the video had no impact on their willingness to sign the statement. Innocent participants reported that the video made them less willing to sign the statement 24.3% of the time; guilty participants said it made them less willing only 13.9% of the time. Further, guilty participants reported that the video made them more willing to sign the statement (48.1%) more often than innocent participants (18.9%). Thus, it does seem like the evidence-bluff manipulation was having the generally expected differential effect on innocent versus guilty participants, X^2 (2, N=153) = 14.62, $p = .001$ (Table 4). Guilty participants were typically more

willing to sign the plea deal or confession statement when in evidence-bluff conditions whereas the innocent were typically less willing to sign the plea deal or confession statement.

Table 4.

Did the existence of the video make you more willing to sign the statement, less willing, or did it not have an effect on your decision?

	Less	No Effect	More
Innocent	24.3% (18)	56.8% (42)	18.9% (14)
Guilty	13.9% (11)	38.0% (30)	48.1% (38)

Note. N = (x).

Positive-Negative Belief in a Just World

Scale Validation. Because the Positive-Negative Belief in a Just World scale is new, it was also administered to a separate sample of students as part of a mass scale validation survey. This second sample was not taken for the purpose of validating the current version of the scale for inclusion in the larger study (due to time constraints a re-draft of the scale was impractical), but rather to have an independent source of data separate from the study sample. One hundred and twenty-two participants provided complete responses to the Positive-Negative Belief in a Just World scale. This sample size meets the minimum general recommendation for exploratory factor analyses of five to ten cases per measure (although this recommendation does not account for variation in the communalities of the variables; Russell, 2002). A principal factor analysis with Oblimin rotation was conducted on both the Positive and Negative Belief in a Just World scales (Brown, 2006; Widaman 1993). Unfortunately, the communalities among both the Positive and Negative items are extremely variable with some scoring moderate to low (below .50; refer to Table 5). Consequently, a larger sample size is necessary to ensure the findings in the exploratory factor analyses are stable (Russell, 2002).

Table 5.

Communalities among the items in the Positive- and Negative-Belief in a Just World scale.

	Communalities			Communalities	
	Initial	Extraction		Initial	Extraction
PBJW1	.497	.580	NBJW1	.140	.104
PBJW2rev	.034	.182	NBJW2rev	.221	.550
PBJW3rev	.144	.190	NBJW3	.456	.938
PBJW4	.362	.394	NBJW4	.415	.424
PBJW5	.589	.918	NBJW5rev	.027	.033
PBJW6rev	.017	.016	NBJW6rev	.234	.379

Note. Principal axis factoring.

The number of factors represented in the Positive-Belief in a Just World and Negative-Belief in a Just World scales were evaluated using two different methods (Russell, 2002). First, the principal axis factoring analysis included in the SPSS statistical software program provided factor loadings. Second, the scree test was done with a scree plot constructed with the eigenvalues of each factor. The Positive-Belief in a Just World measure produces two factor loadings, but only one item is included on the second factor—all factor loadings above .30 are shown in bold (Table 6; Floyd & Widaman, 1995). The scree plot, on the other hand, appears to have its only substantial drop after one factor (Figure 3).

Table 6.

Factor loadings for the Positive-Belief in a Just World Measure

	Factor	
	1	2
PBJW1	**.748**	-.142
PBJW2rev	-.051	**.423**
PBJW3rev	**.406**	-.160
PBJW4	**.627**	.023
PBJW5	**.940**	.182
PBJW6rev	.105	.071

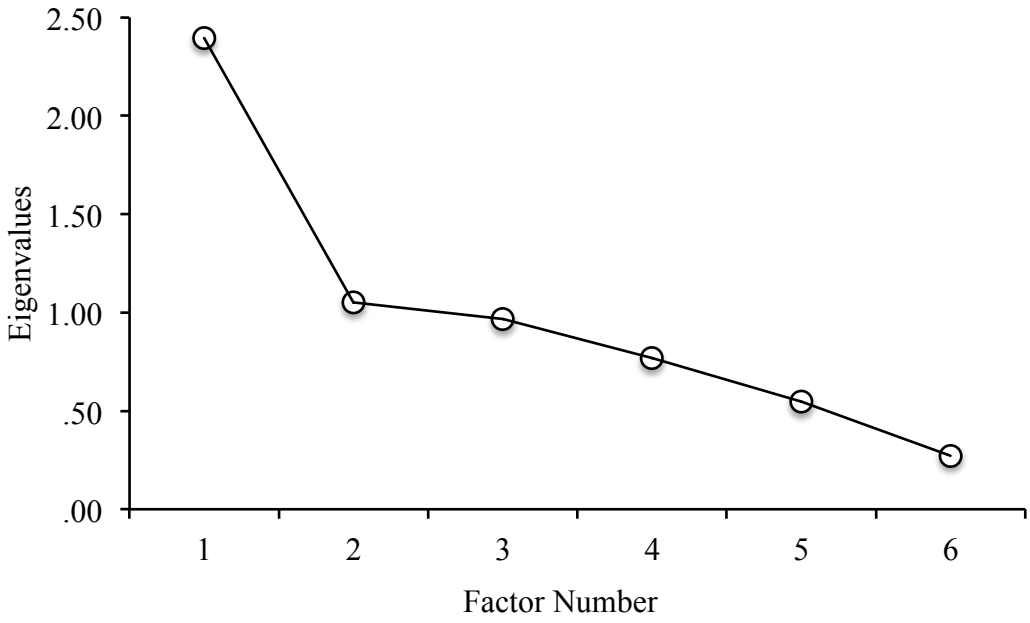


Figure 3. Positive-Belief in a Just World Scree Plot of Principal Axis Factor Eigenvalues.

The Negative-Belief in a Just World measure appears to be more split than the Positive-Belief in a Just World Measure. Two factors are produced in the factor loadings and all factor loadings above .30 are shown in bold (Table 7). Further, the scree plot appears to plateau after three factors (Figure 4).

Table 7.

Factor loadings for the Negative-Belief in a Just World Measure

	Factor	
	1	2
NBJW1	**.315**	.067
NBJW2rev	-.140	**.729**
NBJW3	**.946**	.205
NBJW4	**.647**	.072
NBJW5rev	-.002	.181
NBJW6rev	-.295	**.541**

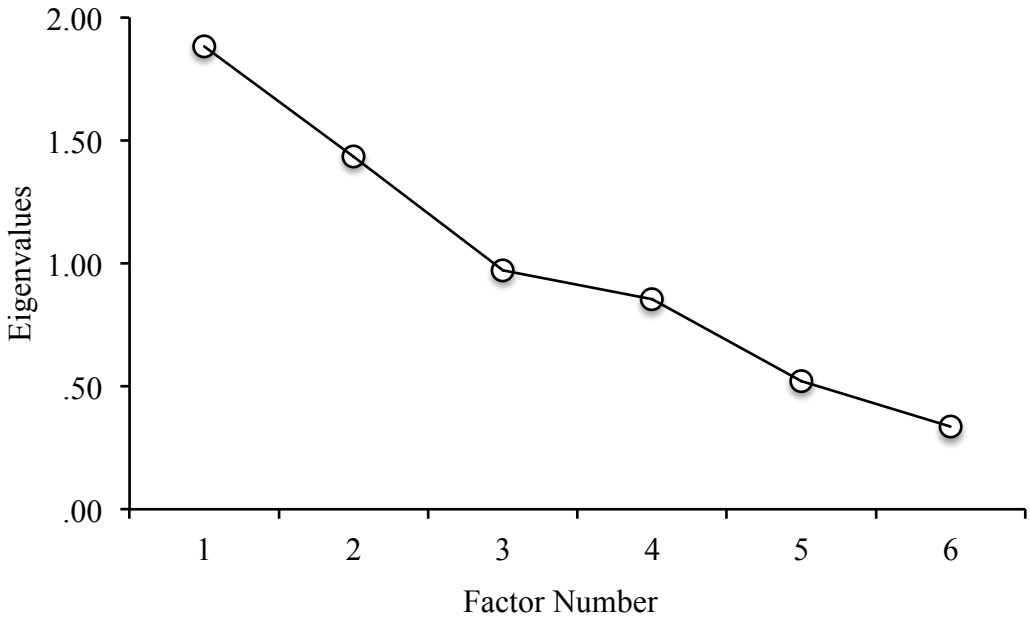


Figure 4. Negative-Belief in a Just World Scree Plot of Principal Axis Factor Eigenvalues.

Closer inspection of the factor loadings for the Positive- and Negative-Belief in a Just World scales reveals that the weakest factor loadings appear to be produced primarily by items that were reverse-coded. Thus, to determine the relation between the reverse-coded and standard-coded items, both the Positive-Belief in a Just World and Negative-Belief in a Just

World scales were each separated into reverse- and standard-coded measures (producing four separate scales). The two Positive-Belief in a Just World Scales and the two Negative-Belief in a Just World scales were then correlated with the Global Belief in a Just World Scale (refer to Tables 8 and 9). If the reverse-coded scales produced strong correlations with the standard coded scales and the Global Belief in a Just World (GBJW) scale, there would be evidence that the split factors are an artifact of how the items were measured rather than the result of a meaningful difference among the items.

Table 8.

Correlation matrix including the Positive-Belief in a Just World measure broken into reverse-coded and standard coded items along with the Global Belief in a Just World Measure

	GBJWTot	PBJWTot	PBJWTotrev
GBJWTot			
PBJWTot	.58**		
PBJWTotrev	.42**	.24*	

Note. $N = 122$. **$p < .001$; *$p < .01$

Correlation analyses showed a significant correlation between Positive-Belief in a Just World standard items and GBJW, $r(119) = .58$, CI: [.45, .69], $p < .001$. There was also a significant correlation between Positive-Belief in a Just World reverse-coded items and GBJW, $r(119) = .42$, CI: [.26, .56], $p < .001$. Finally, a significant correlation emerged between the standard and reverse-coded Positive-Belief in a Just World items, $r(119) = .24$, CI: [.06, .40], $p = .009$. These findings support the possibility that the two factors produced in the factor loadings are primarily due to some sort of measurement bias in the reverse-coded items.

Table 9.

Correlation matrix including the Negative-Belief in a Just World measure broken into reverse-coded and standard coded items along with the Global Belief in a Just World Measure

	GBJWTot	NBJWTot	NBJWTotrev
GBJWTot			
NBJWTot	.44*		
NBJWTotrev	.063	-.072	

Note. $N = 122$. *$p < .001$

The Negative-Belief in a Just World standard items were significantly correlated with the GBJW scale, $r(120) = .44$, CI: [.28, .57], $p < .001$. The reverse-coded Negative-Belief in a Just World items and GBJW scale were not significantly correlated, $r(120) = .06$, CI: [-.12, .24], $p = .49$. Nor was the standard and reverse-coded Negative-Belief in a Just World items correlated with each other. These findings seem to imply that the standard and reverse-coded Negative-Belief in a Just World items might be measuring two distinct constructs.

Reliability analyses revealed more information regarding the strength and relationships among items in both the Positive- and Negative-Belief in a Just World scales. The Positive-Belief in a Just World scale produced a Cronbach's α of .56; however, the potential reliability could increase with the removal of items two and six (refer to Appendix C). The Negative-Belief in a Just World Scale produced a Cronbach's α of .56 as well, which could be potentially increased with the removal of the fifth and sixth items.

Study Data. The previous analyses were also conducted on the Positive-Negative Belief in a Just World data collected during the actual study session. Three hundred and twenty-five participants provided complete responses to the Positive-Negative Belief in a Just World scale. This sample size greatly exceeds the minimum general recommendation for exploratory factor

analyses of 5 to 10 cases per measure (Russell, 2002). Just as with the scale validation data, principal factor analyses with Oblimin rotation were conducted on both the Positive and Negative Belief in a Just World scales (Brown, 2006; Widaman 1993). The communalities among both the Positive and Negative items were extremely variable again with some scoring moderate to low (below .50; refer to Table 10). However, it is possible that the substantial sample size might be enough to provide stable estimates despite the low communalities (Russell, 2002).

Table 10.

Communalities among the items in the Positive- and Negative-Belief in a Just World scale.

	Communalities			Communalities	
	Initial	Extraction		Initial	Extraction
PBJW1	.231	.335	NBJW1	.109	.203
PBJW2rev	.019	.031	NBJW2rev	.129	.267
PBJW3rev	.104	.210	NBJW3	.160	.434
PBJW4	.165	.231	NBJW4	.138	.253
PBJW5	.289	.607	NBJW5rev	.050	.091
PBJW6rev	.053	.280	NBJW6rev	.148	.420

Note. Principal axis factoring

The number of factors in the Positive- and Negative-Belief in a Just World scales were assessed using the same two methods as were used with the scale validation data. First, factor loadings provided in the SPSS principal axis factoring analyses were evaluated. Second, the scree test was performed with scree plots charting the eigenvalues of each factor. The Positive-Belief in a Just World measure still resulted in two factors though only one item loaded onto the second factor—factor loadings above .30 are shown in bold (Table 11). However, the scree plot still appears to have its only noticeable drop after one factor (refer to Figure 5).

Table 11.

Factor loadings for the Positive-Belief in a Just World Measure

	Factor	
	1	2
PBJW1	**.569**	-.104
PBJW2rev	.075	.160
PBJW3rev	**.363**	.280
PBJW4	**.479**	-.043
PBJW5	**.760**	-.174
PBJW6rev	.201	**.490**

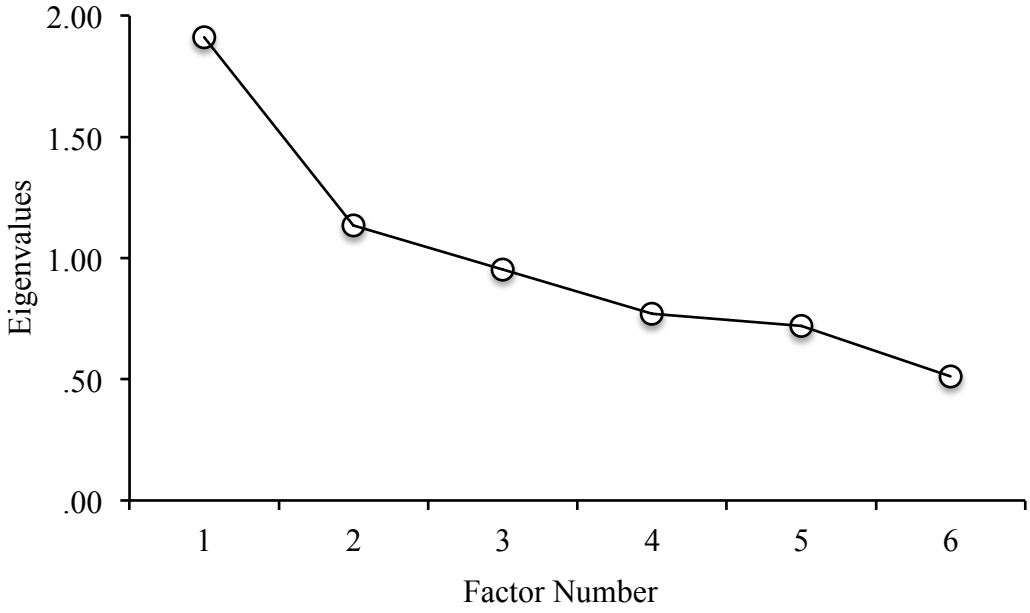


Figure 5. Positive-Belief in a Just World Scree Plot of Principal Axis Factor Eigenvalues.

The Negative-Belief in a Just World measure still appears more split than the Positive-Belief in a Just World Measure. Two stable factors emerged again and all factor loadings above .30 are shown in bold (Table 12). This time, however, the scree plot appears to level off after two (rather than three) factors (refer to Figure 6).

Table 12.

Factor loadings for the Negative-Belief in a Just World Measure

	Factor	
	1	2
NBJW1	**.363**	.267
NBJW2rev	-.295	**.425**
NBJW3	**.548**	**.366**
NBJW4	**.474**	.170
NBJW5rev	-.175	.245
NBJW6rev	-.447	**.469**

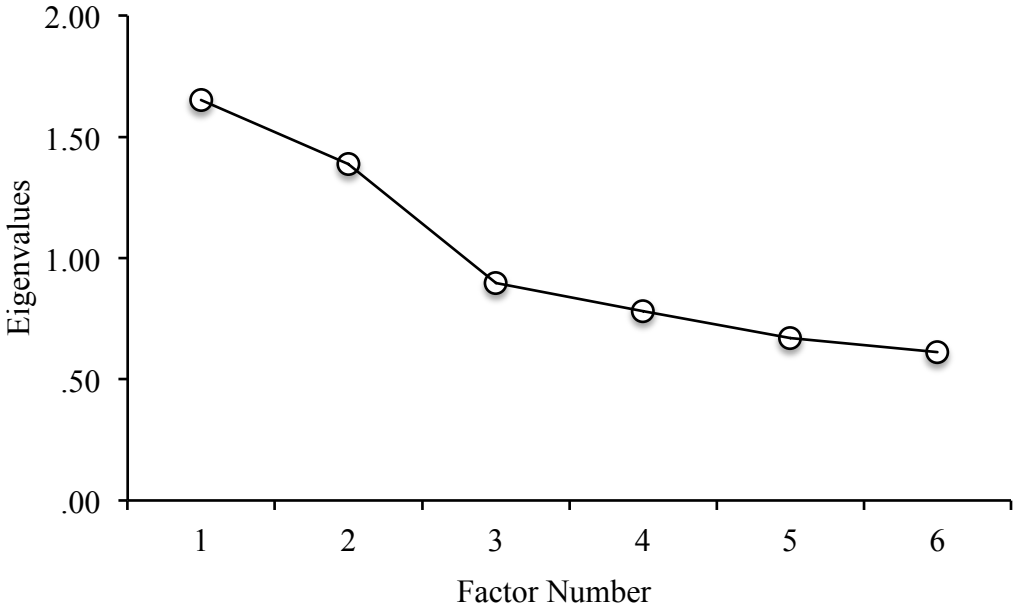


Figure 6. Negative-Belief in a Just World Scree Plot of Principal Axis Factor Eigenvalues.

Thus, it appears as if the Positive-Belief in a Just World scale consistently loads on to one primary factor with only one or two items contributing to a second factor. The Negative-Belief in a Just World scale appears consistently split between two factors although the split seems to stem from standard versus reverse-coded items. Thus, the previous correlation analyses splitting

the standard and reverse-coded items for both the Positive- and Negative-Belief in a Just World scales were done again, this time with the study data (refer to Tables 13 and 14).

Table 13.

Correlation matrix including the Positive-Belief in a Just World measure broken into reverse-coded and standard coded items along with the Global Belief in a Just World Measure

	GBJWTot	PBJWTot	PBJWTotrev
GBJWTot			
PBJWTot	.51**		
PBJWTotrev	.22**	.20**	

Note. $N = 328$. $^{**}p < .001$

The correlations of the standard and reverse-coded Positive-Belief in a Just World items with Global Belief in a Just World (GBJW) were both significant again, $r(328) = .51$, CI: [.43, .59], $p < .001$; $r(328) = .22$, CI: [.11, .32], $p < .001$, respectively. The correlation between the standard and reverse-coded Positive-Belief in a Just World items was also significant, $r(328) = .20$, CI: [.09, .30], $p < .001$.

Table 14.

Correlation matrix including the Negative-Belief in a Just World measure broken into reverse-coded and standard coded items along with the Global Belief in a Just World Measure

	GBJWTot	NBJWTot	NBJWTotrev
GBJWTot			
NBJWTot	.40**		
NBJWTotrev	.15*	-.08	

Note. $N = 328$. $^{**}p < .001$, $^{*}p < .01$

There was still no significant correlation between the standard and reverse-coded Negative-Belief in a Just World items. However, both the standard and reverse-coded items significantly correlated with GBJW, $r(328) = .40$, CI: [.30, .49], $p < .001$; $r(327) = .15$, CI: [.04, .25], $p = .007$, respectively.

The reliability analyses were also relatively consistent with the previous reliability analyses using the scale validation data. The Positive-Belief in a Just World measure produced a Cronbach's α of .49, which would potentially improve with the removal of the second item. The Cronbach's α for the Negative-Belief in a Just World scale was .33 with no clear improvement resulting from the exclusion of certain items.

Modified Positive-Negative Belief in a Just World Scale

Positive-Belief in a Just World Modified Scale. After examining the scale validation and study data, both the Positive- and Negative-Belief in a Just World scales were modified to improve their validity and reliability. Items 2 and 6 (which were both reverse-coded) were removed from the Positive-Belief in a Just World scale due to their consistently low performance in factor analyses and reliability tests (refer to Appendix C). All previous analyses were conducted using the modified version of the Positive-Belief in a Just World Scale.

Table 15.

Communalities among the items in the Modified Positive-Belief in a Just World scale.

	Communalities	
	Initial	Extraction
PBJW1	.227	.349
PBJW3rev	.066	.095
PBJW4	.163	.236
PBJW5	.286	.570

Note. Principal axis factoring

Table 16.

Factor loadings for the Positive-Belief in a Just World Measure

	Factor
	1
PBJW1	.591
PBJW3rev	.308
PBJW4	.486
PBJW5	.755

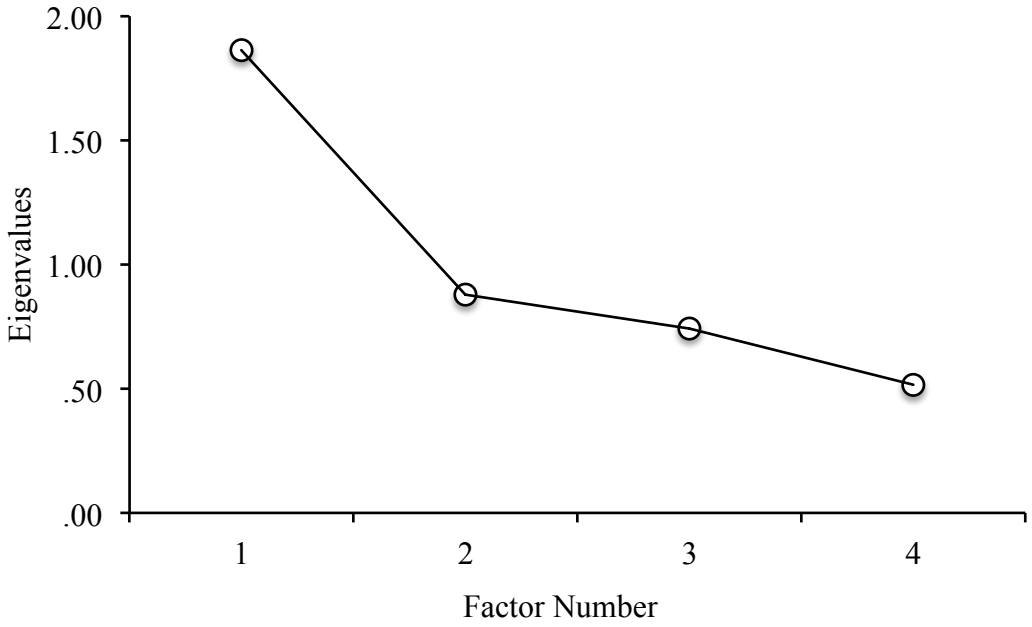


Figure 7. Positive-Belief in a Just World Scree Plot of Principal Axis Factor Eigenvalues

The modified version of the Positive-Belief in Just World scale clearly loads onto a single factor in accordance with both the factor loadings (Table 17) and the scree test (Figure 7). Further, the reliability of the Positive-Belief in a Just World scale improved to produce a Cronbach's α of .57. Although the reliability of the Positive-Belief in a Just World scale (even after the modification) is still somewhat low, this modified scale will be used in subsequent

analyses and will now be referred to as the Positive-Belief in a Just World scale (not the modified version).

Negative-Belief in a Just World Modified Scale. Items were also removed from the Negative-Belief in a Just World scale due to their consistently low performance in the reliability and factor analyses. The second, fifth and sixth items were excluded from subsequent analyses and the modified scale was evaluated again using the previous analyses (refer to Appendix C).

Table 17.

Communalities among the items in the Positive-Belief in a Just World scale excluding Item 2.

	Communalities	
	Initial	Extraction
NBJW1	.101	.194
NBJW3	.157	.432
NBJW4	.122	.245

Note. Principal axis factoring

Table 18.

Factor loadings for the Positive-Belief in a Just World Measure

	Factor
	1
NBJW1	.440
NBJW3	.657
NBJW4	.494

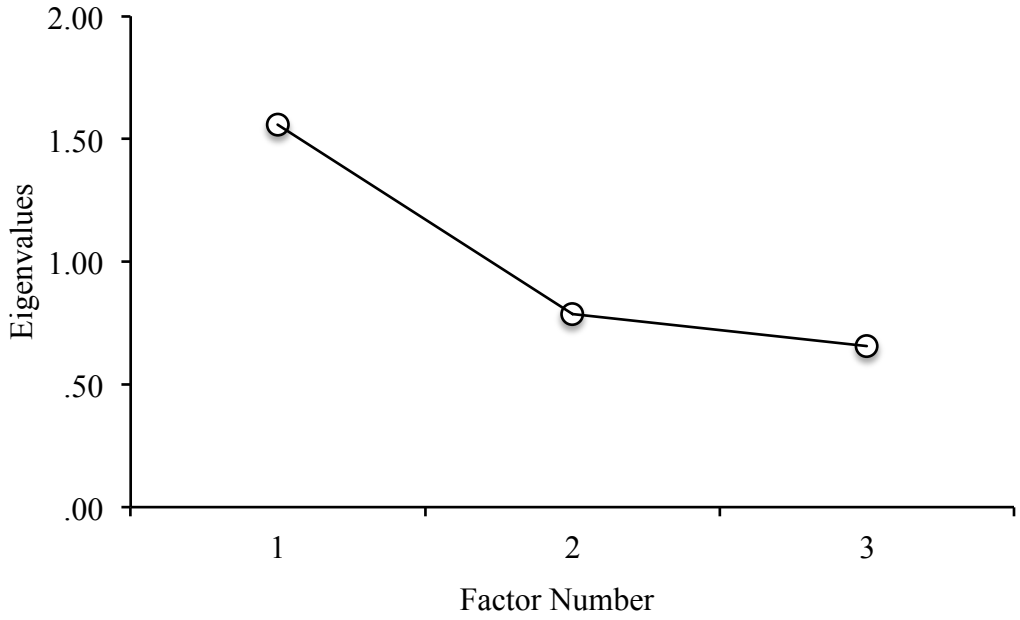


Figure 8. Negative-Belief in a Just World Scree Plot of Principal Axis Factor Eigenvalues.

The modified version of the Negative-Belief in Just World scale clearly loads onto a single factor (refer to Table 18 and Figure 8). The reliability of the modified Negative-Belief in a Just World scale has also improved to produce a Cronbach's α of .53, which is still not very high. Despite the moderate reliability of the Negative-Belief in a Just World scale, this modified scale will be used in subsequent analyses and will be referred to now as the Negative-Belief in a Just World scale (not a modified version).

Correlation analyses were performed to evaluate the relationship among the three belief in a just world measures—Global Belief in a Just World, Positive-Belief in a Just World, and Negative-Belief in a Just World (Table 19). As hypothesized both the Positive- and Negative Belief in a Just World measures correlate significantly with Global Belief in a Just World, $r(328) = .48$, CI: [.39, .56], $p < .001$; $r(328) = .40$, CI: [.30, .49], $p < .001$, respectively. The Positive- and Negative-Belief in a Just World measures correlated significantly with each other although the size of this correlation is lower than their correlations with Global Belief in a Just World,

$r(328) = .14$, CI: [.03, .24], $p = .014$. This finding supports the idea that both scales are measuring belief in a just world more broadly, but each might be capturing different aspects of the phenomenon. However, the Global Belief in a Just World construct is more reliable and has more items than both the Positive- and Negative-Belief in a Just World scales. Thus, it is also possible that each scale is more strongly correlated with Global Belief in a Just World simply because the Global Belief in a Just World scale is more reliable and stable.

Table 19.

Correlation matrix with the modified PBJW and NBJW measures and the Global BJW measure

	GBJWTot	PBJWModTot	NBJWModTot
GBJWTot			
PBJWModTot	.48**		
NBJWModTot	.40**	.14*	

Note. $N = 328$. $^{**}p < .001$, $^{*}p < .05$

Correlation analyses were also conducted to examine the relations among the Positive-Belief in a Just World scale and other individual difference measures, including the Big Five Aspects. Positive-Belief in a Just World correlated significantly with self-esteem, in accordance with previous literature, $r(328) = .24$, CI: [.14, .34], $p < .001$, (Hafer & Begue, 2005). The Negative-Belief in a Just World measure did not correlate significantly with self-esteem, $r(328) = -.03$, CI: [-.14, .08], $p = .62$. This finding could help to illuminate some of the potential differences between a positive and negative endorsement of just world beliefs. Further, as hypothesized, the Negative-Belief in a Just World measure did produce a negative correlation with the compassionate aspect of agreeableness, $r(328) = -.22$, CI: [-.32, -.11], $p < .001$. This finding fits in well with the idea that a negative endorsement of belief in a just world focuses

more on bad things happening to bad people, which could result in a lack of compassion for the suffering of other people.

Individual Difference Measures

All of the individual difference measures were tested for reliability. With the exception of the new Positive-Negative Belief in a Just World measures and the Private Self Consciousness scale, all the individual difference measures attained Cronbach's αs > .75 (refer to Appendix L).

The Global Belief in a Just World (GBJW) scale significantly correlated with the Rosenberg Self-Esteem (RSE) scale, $r(328) = .27$, CI: [.17, .37], $p < .001$, which is consistent with literature that supports a well-being function of belief in a just world (Hafer & Begue, 2005). Self-esteem was also negatively correlated with both volatility, $r(328) = -.39$, CI: [-.48, -.29], $p < .001$, and withdrawal, $r(328) = -.61$, CI: [-.67, -.54], $p < .001$)—the two aspects of neuroticism. These correlations are in line with the more positive outlook that comes with higher self-esteem. Self-esteem significantly correlated with both aspects of extraversion (enthusiasm, $r(328) = .41$, CI: [.32, .50], $p < .001$, and assertiveness, $r(328) = .35$, CI: [.25, .44], $p < .001$). Self-esteem also had strong positive correlations with the industrious aspect of conscientiousness, $r(328) = .48$, CI: [.39, .56], $p < .001$, and the intelligent aspect of openness, $r(328) = .27$, CI: [.17, .37], $p < .001$. Private self-consciousness correlated significantly with the compassionate aspect of agreeableness, $r(182) = .25$, CI: [.11, .38], $p = .001$. Private self-consciousness also correlated significantly with both openness, $r(182) = .42$, CI: [.29, .53], $p < .001$, and intelligence, $r(182) = .25$, CI: [.11, .38], $p = .001$—the two aspects of openness. The correlations between private self-consciousness and aspects of openness seem inconsistent with previous research denying a direct connection between self-consciousness and intelligence (Carver & Glass, 1976). However, in the previous study, intelligence was measured as IQ rather

than as a component of personality. Thus, it does appear as if private self-consciousness could be related to intelligence or curiosity as a component of personality.

Among the Big Five Aspects, the pattern of significant relationships was consistent, for the most part, with other research examining associations among the Big Five Aspects (DeYoung et al., 2007). The volatile aspect of neuroticism negatively correlated with the polite aspect of agreeableness, $r(328) = -.33$, CI: [-.42, -.23], $p < .001$, and the enthusiasm aspect of extraversion, $r(328) = -.23$, CI: [-.33, -.12], $p < .001$. Volatility also had a negative correlation with conscientious industriousness, $r(328) = -.29$, CI: [-.39, -.19], $p < .001$, and intelligent openness, $r(328) = -.24$, CI: [-.34, -.14], $p < .001$). Withdrawn neuroticism shared a negative relationship with intelligent openness, $r(328) = -.31$, CI: [-.40, -.21], $p < .001$, and conscientious industriousness, $r(328) = -.48$, CI: [-.56, -.39], $p < .001$. Withdraw was also negatively related to both aspects of extraversion—enthusiasm, $r(328) = -.34$, CI: [-.43, -.24], $p < .001$) and assertiveness, $r(328) = -.41$, CI: [-.50, -.32], $p < .001$. Compassionate agreeableness was positively correlated with both aspects of extraversion (enthusiasm, $r(328) = .46$, CI: [.37, .54], $p < .001$, and assertiveness, $r(328) = .22$, CI: [.11, .32], $p < .001$) and both aspects of openness (openness, $r(328) = .41$, CI: [.32, .50], $p < .001$, and intelligence, $r(328) = .24$, CI: [.14, .34], $p < .001$). Polite agreeableness was negatively correlated with assertiveness, $r(328) = -.23$, CI: [-.33, -.12], $p < .001$) and positively correlated with conscientiousness, $r(328) = .20$, CI: [.09, .30], $p < .001$. Conscientious industriousness was significantly correlated with both the enthusiastic, $r(328) = .24$, CI: [.14, .34], $p < .001$, and assertive, $r(328) = .32$, CI: [.22, .41], $p < .001$, aspects of extraversion. Intelligence was correlated with industriousness and assertiveness, $r(328) = .31$, CI: [.21, .40], $p < .001$; $r(328) = .36$, CI: [.26, .45], $p < .001$, respectively.

Belief in a Just World as a Moderator of Plea and Confession Behaviors

Multiple hierarchical logistic regressions tested whether the predicted individual difference variables interacted with innocence-guilt to moderate the rates of signing the plea or signing the confession. Separate logistic regressions were run on participants in plea versus confession conditions (i.e., each logistic regression examined the acceptance outcomes in plea conditions or in confession conditions). Logistic regressions were run only on variables that had been originally hypothesized to moderate acceptance outcomes. Step one of each regression included both innocence-guilt and the theoretically-relevant individual difference measure. Entering both variables at step one of the analyses helped to ensure that any covariance of the two (by chance) would be excluded from the model. Step two included the interaction variable, which was computed by multiplying the innocence-guilt and the individual difference variables. All of the individual difference variables were mean-centered, and all of the dichotomous variables were dummy coded with the values 1 and 2. All of the analyses controlled for variables that were moderately correlated with the individual difference variable.

The Global Belief in a Just World (GBJW) scale did not interact with innocence-guilt to affect plea outcomes, $\beta = -.40$, Wald = .41, $p = .52$. This finding was surprising in light of previous research that found a significant moderating effect of GBJW with innocence-guilt on plea outcomes (Wilford, 2012). However, as expected, GBJW also had no significant moderating effect on confession outcomes, $\beta = .31$, Wald = .36, $p = .55$.

The Positive-Belief in a Just World measure also produced a non-significant interaction with innocence-guilt in impacting confession or plea outcomes, $\beta = -.39$, Wald = .36, $p = .55$; $\beta = .32$, Wald = .45, $p = .50$, respectively. This is consistent with the hypothesis that the positive aspect of belief in a just world would not be salient in this particular research paradigm. The

Negative-Belief in a Just World measure did not interact with innocence-guilt to impact confession decisions, β = .58, Wald = 1.10, *p* = .30, which was also consistent with predictions. The Negative-Belief in a Just World measure did appear to moderate plea decisions although the impact of the effect was not significant, β = .81, Wald = 3.17, *p* = .075 (refer to Figure 7). The general pattern of this moderating effect comports primarily to what was predicted. Guilty participants who expressed a Negative-Belief in a Just World were more likely to accept the plea than guilty participants who did not express a Negative-Belief in a Just World. Interestingly, although not predicted, it appears that this effect was also present for innocent participants (though not as strongly). But, the non-significance of the effect precludes any definitive conclusions.

CHAPTER 4. DISCUSSION

Fresh attention garnered by real-life cases like Kerry Max Cook and the West Memphis Three has helped to pave the way for plea-bargaining reform. Further, recent decisions made by the Supreme Court have opened the door to further regulation in the plea system (*Lafler v. Cooper*, 2012; *Missouri v. Frye*, 2012). Now is the time to explore the processes involved in plea bargaining decisions and behaviors. Only through further research can policy be affected in a meaningful way. Social psychology, with its emphasis on social influence and decision-making, is an ideal field for this new domain of research.

The Cheating Manipulation

Due to the novelty of the current study, it was important to establish the validity of the current paradigm for experimentally studying both confession and plea behaviors. The primary strength of the cheating manipulation is that it allows innocence and guilt to be randomly assigned. However, if participants randomly assigned to be guilty do not behave differently than participants randomly assigned to be innocent, the validity of the manipulation would be questionable. Clearly, however, the innocence-guilt manipulation affected numerous measures. Most important, perhaps, is the fact that the innocence-guilt manipulation affected acceptance outcomes in both the plea and confession conditions. Further, the innocence-guilt manipulation produced significant differences in all nine of the post-accusation measures assessing participants' views of the accusation and their prospects of being charged with cheating. Three of the nine post-accusation measures dealt specifically with the phenomenological experience of the participants during the accusation phase, and upon hearing the accusation was false (i.e., feelings of anxiety, fear, relief). Reported ratings on these emotional measures were significantly lower among the innocent relative to the guilty. This finding is consistent with

previous research showing that innocent people tend to exhibit less physiological stress than guilty people when being interrogated (Guyll, Madon, Yang, Lannin, Scherr, & Greathouse, 2013). The consistency of these effects strongly supports the validity of the cheating manipulation as a way to randomly assign innocence and guilt in experiments examining both pleas and confessions.

The Bluff

Unfortunately, the impact of the evidence-bluff manipulation was somewhat less consistent than the impact of the cheating manipulation. Relative to the no-bluff conditions, the evidence-bluff manipulation reduced participants' overall perceived likelihood of being charged with cheating and the relief reported upon hearing the accusation was false. However, the evidence-bluff had no significant impact on participants' overall willingness to sign, feelings of being trapped or pressured, fear of consequences, and anxiety during the accusation. More surprisingly, the evidence-bluff had no significant impact on participants' overall perceptions of the strength or plausibility of the evidence against them.

When pair-wise comparisons were conducted to measure the impact of the evidence-bluff on the innocent and guilty separately, more effects of the bluff emerged. Innocent participants who heard the evidence-bluff viewed the chances of being charged with cheating as lower than innocent participants who did not hear the bluff. This finding is consistent with the idea that the evidence-bluff strengthens the phenomenology of innocence convincing innocent participants that the truth will prevail. Innocent participants in evidence-bluff conditions were also less anxious during the accusation than those that did not hear the bluff. Guilty participants who heard the evidence-bluff felt generally more trapped into signing the plea or confession statements than guilty participants unexposed to the bluff.

Finally, three other post-accusation measures more directly addressed the impact of the evidence-bluff. One of these measures asked participants to determine whether the evidence-bluff made them less, more, or had no impact on their willingness to sign the statement (plea or confession). Generally, guilty participants indicated that the evidence-bluff made them more willing to sign the statement at a higher rate than innocent participants; relatedly, innocent participants stated that the evidence-bluff made them less willing to sign the statement at a higher rate than the guilty. To summarize, the general impact of the evidence-bluff manipulation seems to support the idea that innocent participants view the bluff-video as a plus (i.e., evidence in favor of their innocence), whereas guilty participants tend to view the bluff-video as a negative (i.e., evidence supporting their guilt).

The evidence-bluff manipulation was primarily included in the current work as a method of distinguishing pleas from confessions. I had hypothesized that while the evidence-bluff would decrease the innocent's resistance to falsely confess, it would have the opposite effect on false plea acceptance among the innocent. Although the evidence-bluff did increase the proportion of innocent participants who signed the confession statement, the effect was not significant. The magnitude of this effect illustrates a failure to replicate the large effect of the evidence-bluff on false confessions found by Perillo and Kassin (2011). It seems like the primary source of the discrepancy between Perillo and Kassin's significant finding and the current research's non-significant finding is the surprisingly high base rate of false confessions in the no-bluff control condition. Innocent participants who did not hear the bluff never falsely confessed (0.0%) in Perillo and Kassin, but innocent participants in the current study who did not hear the bluff still falsely confessed 23.7% of the time. On the other hand, the evidence-bluff manipulation increased false confessions to 40.5% in the current research and 50.0% in Perillo and Kassin—a

more comparable proportion. In conclusion, the potential magnitude of the evidence-bluff effect was greater in the Perillo and Kassin study than in the current study. But, it is possible that with more power, the ~16.8% increase in the false confession rate in the evidence-bluff condition would remain stable and the confidence interval would narrow to exclude zero. The evidence-bluff manipulation had no significant impact on the propensity of the guilty to confess, which is consistent with Perillo and Kassin.

I had also predicted that the evidence-bluff would increase the resistance to falsely plea among the innocent relative to those who were not bluffed. Because the evidence-bluff appears to strengthen the phenomenology of innocence such that the innocent truly believe they will be exonerated, it seemed plausible that the innocent would consequently be more resistant to the pressures to plea. Why accept punishment for something you did not do, especially when your innocence will be inevitably discovered, as long as you do not accept the plea? Unfortunately, the null impact of the evidence-bluff on plea decisions among the innocent renders any interpretations inconclusive. It could be that the evidence-bluff does not strengthen the phenomenology of innocence. Or, that the phenomenological experience of the innocent is already so strong that the evidence-bluff cannot increase it any further. In other words, it is possible that innocent individuals already believe in their innocence and its inevitable discovery so strongly that the evidence-bluff could not strengthen this belief any further.

It is also possible that the alterations made to the evidence-bluff manipulation for the current research made it somehow less effective than it was in Perillo and Kassin (2011). More specifically, the addition of plea-bargaining conditions required that the evidence-bluff manipulation be modified to ensure that participants knew that their acceptance of the plea would erase any chance of accessing the video. If participants in plea conditions felt that the video

could still be accessed later even if they signed the plea, it would reduce the ecological validity of the plea manipulation. In real-world cases, once a plea bargain is accepted, no further evidence is examined or discovered. Thus, the original evidence-bluff manipulation was altered to include additional information regarding the lifespan of the security video—participants were told that the security camera was limited to a 24-hour loop. Participants in confession conditions were told that the professor was calling at that time to have the video saved. Participants in plea conditions were told that the professor would only call to save the video if they chose to reject the plea. These alterations made the bluff story more complex than it was in Perillo and Kassin (2011). The added complexity of the evidence-bluff could have consequently impacted participants in unpredictable ways thereby concealing the predicted effects.

In conclusion, the evidence-bluff manipulation did not produce the hypothesized pattern. The effect of the evidence-bluff was not significant for the innocent or the guilty in plea or confession conditions.

Pleas versus Confessions

Despite the absence of the predicted interaction between the evidence-bluff and plea-confession manipulations on acceptance outcomes, there is some evidence indicating that the factors impacting confessions are different from those impacting pleas. Specifically, participants in plea conditions perceived the evidence against them as stronger and more plausible than participants in confession conditions. Participants in plea conditions were also more afraid of the consequences of not signing than participants in confession conditions. These findings could collectively point to a difference in how pleas and confessions are perceived by participant-suspects.

Of more interest, participants' open-ended responses as to why they accepted or rejected the statement offered to them differed significantly by plea versus confession conditions. This analysis provides the best support (at least thus far) in favor of establishing a strong line of research on plea-bargaining (somewhat independent of research on confessions). When participants were confronted with the decision to sign the statement presented to them, the primary factors they considered differed by whether the statement was a plea deal or a confession. Guilty individuals who chose to accept the plea often reported that it was the easier alternative (42.4%) while guilty individuals who chose to confess rarely described it as the easier alternative (6.7%). Instead, guilty individuals who chose to confess often said that their guilt was the reason they confessed (52.0%), whereas very few guilty people who accepted the plea indicated that their guilt was the reason (15.3%). Further, several individuals (innocent and guilty) reported that they chose to accept the plea deal because they were afraid (11.8% and 22.0%, respectively), whereas no individuals (innocent or guilty) cited fear as their reason for signing the confession.

Interestingly, innocent individuals in both plea and confession conditions cited their own innocence as the predominant reason for refusing to sign the statement. However, the remaining innocent individuals who refused to accept the plea provided a greater variety of responses than innocent individuals who refused to confess. Most of the innocent individuals who refused to confess for reasons other than their own innocence cited the untrue nature of the accusation as their reason for refusal. It could be argued post hoc, however, that these two responses are different ways of saying essentially the same thing. Both responses (e.g., I'm innocent, the accusation is false) relate to the participants' phenomenological knowledge of what actually occurred. Consequently, if the Untrue and Innocent categories were collapsed together, then

almost all the innocent people who refused to confess cited knowledge of their innocence as their reason for refusal (only three individuals provided different responses). In contrast, 25.5% (12) of innocent individuals in plea conditions provided reasons other than their own innocence for choosing to reject the plea deal. In sum, it appears that one's guilt or innocence is often a salient factor in the decision to sign a confession. In contrast, a variety of decision-making and emotional factors beyond one's guilt or innocence appear to be salient in the decision to sign a plea. This finding supports the idea that plea outcomes can be impacted by different factors than confession outcomes, and are therefore deserving of separate study.

Individual Difference Variables

Positive-Negative Belief in a Just World

The current research also aimed to construct a new measure for belief in a just world. This new measure would recognize two dimensions of just world beliefs—a positive dimension and a negative dimension. Although neither the Positive- nor Negative-Belief in a Just World measure achieved high reliability (both had Chronbach's $\alpha s < .6$), factor analyses supported each scale's unidimensionality. Further, correlation analyses showed that both scales correlated positively with Global Belief in a Just World and with each other. However, the correlation between Positive- and Negative Belief in a Just World was much smaller than the correlations between each scale and Global Belief in a Just World. Neither the Positive- nor Negative-Belief in a Just World measures interacted with innocence-guilt to moderate plea or confession outcomes.

However, the Positive-Belief in a Just World measure was significantly correlated with self-esteem while the Negative-Belief in a Just World measure was not. The Negative-Belief in a Just World measure however, was negatively correlated with the compassionate aspect of

agreeableness while the Positive-Belief in a Just World measure was not. These two findings lend further support to the idea that belief in a just world can be measured on two different dimensions. Interestingly, these correlations also help to illuminate how positive versus negative just world beliefs could be manifested. Research has shown that just world beliefs can confer many prosocial behaviors such as forgiveness (Strelan, 2007; Testé & Perrin, 2013; Tomaka & Blascovich, 1994). Just world beliefs can also contribute to behaviors such as victim-blaming or victim-derogation (Correia, Alves, Sutton, Ramos, Gouveia-Pereira, & Vala, 2012; Dalbert, 2009). It seems possible that Positive-Belief in a Just World captures more of the prosocial aspects of just world beliefs while Negative-Belief in a Just World captures the more negative outcomes.

Phenomenology of Innocence

Private Self-Consciousness. I had originally hypothesized that Private Self-Consciousness could function as a proxy to the phenomenology of innocence. Kassin (2005) named the illusion of transparency as a likely contributing factor to the phenomenology and Gilovich et al. (1998) found a positive correlation between the illusion of transparency and Private Self-Consciousness. Thus, I predicted that innocent participants high in Private-Self Consciousness would be significantly more likely to reject a plea bargain than innocent participants low in Private Self-Consciousness. I predicted the same trend for confession conditions. On the other hand, Private-Self Consciousness would not have a clear impact on guilty participants' propensity to reject a plea bargain or confession statement. Unfortunately, Private Self-Consciousness did not appear to have a significant moderating impact on plea or confession outcomes, $\beta = .51$, Wald = .16, $p = .69$; $\beta = -.30$, Wald = .06, $p = .80$, respectively. Thus, Private Self-Consciousness might not be a good proxy measure for the phenomenology of

innocence; or, the conceptualization of the phenomenology of innocence might be inaccurate in some way.

In summary, it appears that none of the individual difference variables reliably interacted with innocence-guilt to moderate plea or confession outcomes. However, these null findings do not necessarily disaffirm the impact of individual differences on plea or confession decisions. Because the current study sample was composed entirely of Midwestern undergraduate college students, many potentially relevant variables could not be meaningfully examined (e.g., cognitive ability, race). For instance, college students have already exceeded the average level of education among many criminal suspects and consequently, represent a restricted range of the larger spectrum of cognitive abilities (Redlich, 2010a). College students also tend to score higher on self-esteem measures than the rest of the population. Thus, the characteristics of the study sample restrict the range of many individual difference variables thereby masking their potential impact on plea and confession outcomes.

It is also possible that data from the current study accurately reflects the trivial impact of many individual differences on plea and confession outcomes. Powerful situations can limit individuality such that the behaviors of almost everyone can be predictably influenced. Social psychologists have supported this tenet in countless research studies making participants—regardless of their innate individual differences—more aggressive, more submissive, less forgiving, more rational, less self-assured, etc. Similarly, the current research could have created such a high-stress environment that participants' personalities were overshadowed by the power of the situation. In conclusion, the homogeneity of the current study sample could have masked the impact of individual differences that do impact plea and confession outcomes in the real world; or, the power of plea and confession situations could reduce the impact of individual

differences in both the lab and in the real world. In other words, a greater diversity of participants might remain inconsequential in the face of powerful plea and interrogation situations.

Limitations of the Paradigm

Although the current research successfully captured several differences between pleas and confessions, other differences could not be measured with the current experimental paradigm. The current study could not capture the temporal and procedural differences between pleas and confessions. Defendants are typically pressured to confess during an interrogation that occurs relatively early in the investigative process. Interrogations often occur in high-stress environments in which the defendant feels trapped. It is possible that the stress of this situation disallows clear, rational decision-making. In contrast, pleas are offered to defendants much later in the investigative process. Plea negotiations 'occur in the light of day.' When defendants consider pleas, it is well after the event, well after some kind of arrest, well after any interrogation, and under conditions that are usually less time pressured. Thus, confession decisions are typically made in a more emotional, hot cognitive state whereas plea decisions are made in a more rational, cold cognitive state.

The current experimental paradigm could not be ethically modified to mimic this temporal difference. Participants in plea conditions cannot be granted days to consider the plea offer; such a change would result in delaying their debriefing by days. The stressful nature of this study requires that every participant be relieved of the belief that they are being accused of cheating as soon as possible. Leaving people in that level of stress for a period of days would be ethically untenable. This particular limitation could have reduced the potential of the current research to discover differences between pleas and confessions by making them more similar

than they are in the real world. Perhaps a future study could attempt to mimic more of the procedural differences between pleas and confessions. For instance, participants could be asked to admit their guilt prior to being offered a plea. Such a study would not be well suited toward the current research goal of examining the differences between confessions and pleas. Rather, this type of study could further illuminate the relationship between pleas and confessions. For instance, the findings could further support the notion that people who confess are more likely to subsequently accept pleas (Redlich 2010a; Kassin, 2012).

Among the social dynamics not readily captured in the proposed experimental paradigm is the role of one's own defense counsel. There are a number of pragmatic reasons for this limitation. One, it would be extremely difficult to accurately mimic the advice that a defense attorney would provide to a defendant. Two, plea negotiations do not necessarily involve a defense attorney. Defendants can decide to accept a plea without the advice of counsel *pro se*. Three, although the advice of counsel plays a role in plea negotiations, the final decision is always left to the defendant. The defendant is the person who has to stand up in court and publicly agree to the terms of the plea deal.

Finally, it is difficult to determine how readily results from the current research could be generalized to real-world cases with severe punishments. Twenty hours of lab work cannot be easily compared to 20 years in prison. Unfortunately, this limitation cannot be easily overcome with the current paradigm. It would be both difficult and ethically dubious to convince participants that they could face punishments as severe as a prison sentence. However, it is important to note that most crimes come with minimal jail sentences and sometimes include no sentences at all. Such minor cases are much more common than the severe cases that would require years of jail time. Thus, although it is unclear how easily these results could be applied

to more severe cases, they can be more readily applied to the less severe and more frequent cases.

Recommendations

The results of the current study do not offer any direct evidence for specific policy recommendations. However, the alarmingly high rate of false plea acceptance does seem to advocate for the system to be changed in some way (a comparable false plea rate was found by Wilford, 2012 as well). An analysis of participants' reported reasons for choosing to accept plea deals also provide support for reform. Of particular relevance is the surprisingly common occurrence of participant-suspects citing fear as their reason for pleading (none of the participant-suspects who confessed cited fear as their reason). The legal system assumes that pleas involve an actual bargaining process in which both parties (i.e., the State and the suspect) possess some power to ensure that a fair resolution is agreed upon. But, if fear is a common motivation among suspects accepting a plea, then perhaps the bargaining component of plea deals is more one-sided than the legal system would assume.

Importantly, some legal scholars have begun to recommend various plea bargaining reforms. Of course, these recommendations are entirely theoretical and have never been experimentally tested. One such suggestion is referred to as a 'plea-based ceiling' (Covey, 2008). These ceilings would require that the maximum penalty a defendant could face at trial be tied to the penalties offered during plea negotiations (Covey, 2008; Bar-Gill & Gazal-Ayal, 2006). More specifically, defendants could not be subjected to post-trial sentences that exceed the sentence offered during plea negotiations by some reasonable and predetermined amount (this could be a specific value or a percentage). For instance, if the plea-ceiling was set at 25%, a suspect accused of theft and offered a plea for a sentence of eight months in prison could not be

subjected to a sentence exceeding ten months if convicted at trial. This type of requirement could help to reduce the potential coercion felt by innocent suspects who are afraid of the increased risk in going to trial.

Another proposed solution involves a partial ban on plea bargains. Essentially, this proposal would not require that plea-bargaining be banned entirely, just that they be banned in "weak" cases (Gazal-Ayal, 2006). Weak cases would be those for which the State has compiled little evidence against the suspect. In contrast, stronger cases could still be resolved in plea negotiations. This proposal could better protect the innocent who would presumably have less evidence against them by ensuring that their cases are scrutinized in trials.

Other recommendations for reform focus on the aftermath of accepting a plea deal. For instance, many jurisdictions ban defendants who accept a plea from pursuing several constitutionally granted post-conviction remedies; some jurisdictions even ban post-conviction DNA testing (Stephens, 2013). These bans effectively rob defendants of their right to appeal their convictions simply because their conviction was the result of a plea rather than a trial. Given the overwhelming proportion of cases adjudicated by plea, it is frightening to consider how few convicted criminals in the United States have access to post-conviction remedies. Again, these laws seem to be justified by an assumption of the legal system that defendants who plea are typically doing so because they are guilty and just want a sentencing discount—that they would have been just as likely to confess if confessing came with perks. Unfortunately, data from the current study call that assumption into question. Very few people who pled were concerned with whether they were guilty or innocent, they were more often concerned with taking an easier alternative or were motivated by fear of suffering worse consequences. Thus, the factors that drive one to confess are distinct from those that drive one to plea and innocence-

guilt has little impact on the latter. The current results clearly show that the innocent can be coerced to accept a plea. Consequently, the results lend support to the contention that those who plea should maintain their rights to post-conviction appeals (Stephens, 2013).

Finally, in order to determine the factors that could contribute to the innocent's willingness to accept a plea deal, the plea process needs to be more transparent. All plea deals offered to a defendant (even if rejected) should be written down and kept on file; in the same way that evidence from a crime scene is recorded and preserved by the State. This could help to ensure that illegal practices (such as lying to the defendant about evidence) are not occurring.

Further, given the variability in the language and questions included in plea colloquies across jurisdictions (Redlich, 2012), it seems a sensible recommendation would be to require that plea colloquies be video-recorded. Current law requires that a verbatim transcript must be constructed to document in-court plea bargain proceedings. However, transcripts are unable to capture many in-court variables that could be relevant when evaluating a plea deal (e.g., emotion, facial expressions, long pauses, etc.). Videotaped plea colloquies would also provide some assurance that judges are not simply rubber-stamping deals without critically assessing their merit. These videos could also help to illuminate any national standards (or the absence of national standards) regarding the criterion for evidence in a standard versus nolo contendere or Alford plea case. Videotapes would also be a valuable resource to prosecutors if defendants appeal cases based on claims that their conviction was attained by questionable means. A pristine video of the plea colloquy could support any claim by the State that defendants were provided with all of their rights and that no coercion or illegal procedures occurred at the time the plea deal was accepted. Video recording is a common recommendation for legal reforms. It was one of the primary reforms included in the American Psychological Association White

Paper addressing recommendations for reform in interrogation procedures (Kassin, Drizin, Grisso, Gudjonsson, Leo, & Redlich, 2010). Steblay, Wells, and Douglass (2014) also recommend that eyewitness identification procedures be videotaped. Video recording is a valuable method for the preservation of many types of legal procedures—it is one of the best methods for ensuring that recommended procedures were followed and that no steps were skipped.

These recommendations are primarily theoretical and none were directly examined in the current study. Of course none of these potential reforms are mutually exclusive and only continued research can validate their efficacy.

Final Observations

I started this program of research because the acceptance of a plea criminally convicts United States citizens almost twenty times more often than a guilty verdict. This state of affairs has been slowly building for the last century (Fisher, 2000). By the late-1970s, the rate of plea conviction reached 80% and has continued increasing ever since (Oppel, 2011). This increase coincided with new laws that increased prosecutorial discretion, and a series of opinions from the Supreme Court recognizing and regulating plea practices (*Boykin v. Alabama, Blackledge v. Allison, Brady v. United States, Bordenkircher v. Hayes, United States v. Goodwin, Stanobello v. New York*, etc.). All of these factors have coalesced to radically alter our justice system; a justice system founded in a Constitution that makes no mention of plea-bargaining. Even our own U.S. Supreme Court has been forced to describe our justice system as "…a system of pleas, not a system of trials" (pg. 3, *Lafler v. Cooper*, 2012). As social scientists, what have we been doing to question the rapid development of this new system of justice?

This dissertation was an attempt to examine the viability of an experimental paradigm that might help to address some important questions about the plea process. The current research offers some evidence that the psychological processes involved in pleas are different from the psychological processes involved in confessions. And there is some evidence that individual differences might put some innocent people at risk more than others (Wilford, 2012). But there is abundant evidence that pleas do not do a very good job of separating the innocent from the guilty. The current research found that plea acceptance increased the likelihood of guilt by only 1.81 times, and previous research has found a diagnosticity ratio of only 1.52 (Wilford, 2012). Clearly, no one could claim that these ratios are representative of ratios in actual cases however, the factors involved in the innocent's decision to accept pleas might very well be the same in the lab and in the real world (e.g., nearly 60% of the innocent participants who accepted pleas cited fear or pressure as their reason for doing so). Just because there are limits on the generalizability of lab research to the real world does not mean that the lab cannot mimic the real world in meaningful ways.

This dissertation is not likely to have any measurable impact on the United States legal system. But, it at least provides a start to testing the assumptions on which this pervasive legal practice has been based. It is not possible to know what impact additional psycho-legal research could have on our future legal system. But, consider the rise in eyewitness research that began with seminal studies in the 1970s and 1980s. Over decades of research, social science has demonstrated the reliability of eyewitness procedures that reduce the probability of false eyewitness identifications (Steblay et al., 2014; Wells, 2014; Wells, Steblay, & Dysart, 2012). Consequently, many jurisdictions have responded to research by reforming their eyewitness procedures (e.g., the states of Connecticut, New Jersey, North Carolina, and Ohio along with

other major cities and counties; Wells, Malpass, Lindsay, Fisher, Turtle, & Fulero, 2000). Perhaps thirty years from now, plea researchers can follow in the footsteps of eyewitness researchers and share in their success.

If social science researchers do not critically test the assumptions the legal system has made to justify plea-bargaining, reforms might never materialize. Kerry Max Cook will remain convicted of the murder of Linda Jo Edwards, despite exonerating DNA evidence, because he accepted a plea (Cook, 2007). Erma Faye Stewart, a victim of the Hearne drug sweep, will remain one of seven individuals convicted of drug charges, charges that were later dismissed, because they accepted a plea (Bikel, 2004). Perhaps it is too late to spare these individuals, but in a legal system inspired by the formulation that "it is better that ten guilty persons escape than that one innocent suffer," perhaps it is time for the legal system to start rebalancing its priorities.

APPENDIX A. GLOBAL BELIEF IN A JUST WORLD SCALE (GBJWS)

Below are several statements about beliefs you may or may not have. Please read each statement carefully. Use the scale below to indicate how much you agree or disagree with each statement by writing down the number that corresponds to your level of agreement.

1	2	3	4	5	6
Strongly Disagree	**Somewhat Disagree**	**Slightly Disagree**	**Slightly Agree**	**Somewhat Agree**	**Strongly Agree**

1. I feel that people get what they are entitled to have. _____
2. I feel that a person's efforts are noticed and rewarded. _____
3. I feel that people earn the rewards and punishments they get. _____
4. I feel that people who meet with misfortune have brought it on themselves. _____
5. I feel that people get what they deserve. _____
6. I feel that rewards and punishments are fairly given. _____
7. I basically feel that the world is a fair place. _____

APPENDIX B. ROSENBERG SELF ESTEEM (RSE) SCALE

Below are several statements about how you feel about yourself. Please read each statement carefully. Use the scale below to indicate how much you agree or disagree with each statement by writing down the number that corresponds to your level of agreement.

1	2	3	4	5	6	7
Strongly Disagree	**Somewhat Disagree**	**Slightly Disagree**	**Neutral**	**Slightly Agree**	**Somewhat Agree**	**Strongly Agree**

1. I feel that I'm a person of worth, at least on an equal plane with others. _____
2. I feel that I have a number of good qualities. _____
3. *All in all, I am inclined to feel that I am a failure. _____
4. I am able to do things as well as most other people. _____
5. *I feel I do not have much to be proud of. _____
6. I take a positive attitude toward myself. _____
7. On the whole, I am satisfied with myself. _____
8. *I wish I could have more respect for myself. _____
9. *I certainly feel useless at times. _____
10. *At times I think I am no good at all. _____

Note. *Denotes items that were reverse-coded.

APPENDIX C. POSITIVE-NEGATIVE BELIEF IN A JUST WORLD SCALE

Below are several statements about beliefs you may or may not have. Please read each statement carefully. Use the scale below to indicate how much you agree or disagree with each statement by writing down the number that corresponds to your level of agreement.

1	2	3	4	5	6
Strongly Disagree	**Somewhat Disagree**	**Slightly Disagree**	**Slightly Agree**	**Somewhat Agree**	**Strongly Agree**

Positive-Belief in a Just World

1. When people are good, they are rewarded. _____
2. *Being rich or well off is not an indication of a person's character. _____
3. *Working hard often does not result in reward. _____
4. Being a good person results in having a good life. _____
5. I feel that people who do good deeds will be rewarded accordingly. _____
6. *Many people who are rich do not deserve those riches. _____

Negative-Belief in a Just World

1. I feel like bad things generally happen to bad people. _____
2. *People who commit crimes often get away with it. _____
3. People who suffer typically deserve it. _____
4. Victims of crime are often criminals themselves. _____
5. *Being raised in certain environments can cause one to commit crimes. _____
6. *I feel that those who have done wrong often avoid punishment. _____

Note. *Denotes items that were reverse-coded.

APPENDIX D. PRIVATE SELF-CONSCIOUSNESS SCALE

Below are several statements about dispositions you may or may not believe you have. Please read each statement carefully. Use the scale below to indicate how much you feel each statement describes you personally. Write down the number that corresponds to the level at which statement is characteristic or uncharacteristic of you.

0	1	2	3	4
Extremely Uncharacteristic	**Somewhat Uncharacteristic**	**Neutral**	**Somewhat Characteristic**	**Extremely Characteristic**

1. I'm always trying to figure myself out. _____
2. *Generally, I'm not very aware of myself. _____
3. I reflect about myself a lot. _____
4. I'm often the subject of my own fantasies. _____
5. *I never scrutinize myself. _____
6. I'm generally attentive to my inner feelings. _____
7. I'm constantly examining my motives. _____
8. I sometimes have the feeling that I'm off somewhere watching myself. _____
9. I'm alert to changes in my mood. _____
10. I'm aware of the way my mind works when I work through a problem. _____

Note. *Denotes items that were reverse-coded.

APPENDIX E. DEMOGRAPHIC QUESTIONS

1. Gender (check one) FEMALE_____ MALE_____

2. What is your age? _____

3. Generally speaking, do you usually think of yourself as a Republican, a Democrat, or an Independent?

1	2	3	4	5	6	7
STRONG REPUBLICAN	NOT VERY STRONG REPUBLICAN	INDEPENDENT LEANING REPUBLICAN	INDEPENDENT	INDEPENDENT LEANING DEMOCRAT	NOT VERY STRONG DEMOCRAT	STRONG DEMOCRAT

4. Which of these opinions best represents your views?

1	2	3	4	5	6	7
EXTREMELY LIBERAL	LIBERAL	SLIGHTLY LIBERAL	MODERATE/ MIDDLE OF THE ROAD	SLIGHTLY CONSERVATIVE	CONSERVATIVE	EXTREMELY CONSERVATIVE

5. What was your ACT composite score (estimate if necessary) _____. If you took this test more than once, report your highest score. If you did not take the ACT, mark this box: ☐

6. Compared to others, how high was your ACT composite score? If you took this test more than once, respond with respect to your highest score. If you did not take the ACT, mark this box: ☐

1	2	3	4	5
MUCH LOWER THAN AVERAGE	LOWER THAN AVERAGE	AVERAGE	HIGHER THAN AVERAGE	MUCH HIGHER THAN AVERAGE

7. What is your major? _____

8. Are you currently intending to go to graduate school? YES NO

   a. If so, what type of degree are you planning to pursue?

   Masters Ph.D. J.D.

   M.D. (or other medical degree) Other _____

APPENDIX F. BIG FIVE-ASPECT SCALE (BFAS)

Below are several statements about what you think about yourself. Please read each statement carefully. Use the scale below to indicate how much you think each statement describes you by writing down the number that corresponds to your level of agreement.

1	2	3	4	5	6	7
Strongly Disagree	**Somewhat Disagree**	**Slightly Disagree**	**Neutral**	**Slightly Agree**	**Somewhat Agree**	**Strongly Agree**

Neuroticism

1. I get angry easily. _____
2. I get upset easily. _____
3. I change my mood a lot. _____
4. I am a person whose moods go up and down easily. _____
5. I get easily agitated. _____
6. I can be stirred up easily. _____
7. *I rarely get irritated. _____
8. *I keep my emotions under control. _____
9. *I rarely lose my composure. _____
10. *I am not easily annoyed. _____
11. I am filled with doubts about things. _____
12. I feel threatened easily. _____
13. I worry about things. _____
14. I am easily discouraged. _____
15. I become overwhelmed by events. _____
16. I am afraid of many things. _____
17. *I seldom feel blue. _____

18. *I feel comfortable with myself. _____

19. *I rarely feel depressed. _____

20. *I am not embarrassed easily. _____

Agreeableness

21. I feel others' emotions. _____

22. I inquire about others' well being. _____

23. I sympathize with others' feelings. _____

24. I take an interest in other people's lives. _____

25. I like to do things for others. _____

26. *I am not interested in other people's problems. _____

27. *I can't be bothered with other's needs. _____

28. *I am indifferent to the feelings of others. _____

29. *I take no time for others. _____

30. I don't have a soft side. _____

31. I respect authority. _____

32. I hate to seem pushy. _____

33. I avoid imposing my will on others. _____

34. I rarely put people under pressure. _____

35. *I insult people. _____

36. *I believe that I am better than others. _____

37. *I take advantage of others. _____

38. *I seek conflict. _____

39. *I love a good fight. _____

40. *I am out for my own personal gain. _____

Conscientiousness

41. I carry out my plans. _____
42. I finish what I start. _____
43. I get things done quickly. _____
44. I always know what I am doing. _____
45. *I waste my time. _____
46. *I find it difficult to get down to work. _____
47. *I mess things up. _____
48. *I don't put my mind on the task at hand. _____
49. *I postpone decisions. _____
50. *I am easily distracted. _____
51. I like order. _____
52. I keep things tidy. _____
53. I follow a schedule. _____
54. I want everything to be "just right" . _____
55. I see that rules are observed. _____
56. I want every detail taken care of. _____
57. *I leave my belongings around. _____
58. *I am not bothered by messy people. _____
59. *I am not bothered by disorder. _____
60. *I dislike routine. _____

Extraversion

61. I make friends easily. _____
62. I warm up quickly to others. _____
63. I show my feelings when I'm happy. _____
64. I have a lot of fun. _____.
65. I laugh a lot. _____
66. *I am hard to get to know. _____
67. *I keep others at a distance. _____
68. *I reveal little about myself. _____
69. *I rarely get caught up in the excitement. _____
70. *I am not a very enthusiastic person. _____
71. I take charge. _____
72. I have a strong personality. _____
73. I know how to captivate people. _____
74. I see myself as a good leader. _____.
75. I can talk others into doing things. _____
76. I am the first to act. _____
77. *I do not have an assertive personality. _____
78. *I lack the talent for influencing people. _____
79. *I wait for others to lead the way. _____
80. *I hold back my opinions. _____

Openness

81. I am quick to understand things. _____

82. I can handle a lot of information. _____

83. I like to solve complex problems. _____

84. I have a rich vocabulary. _____

85. I think quickly. _____

86. I formulate ideas clearly. _____

87. *I have difficulty understanding abstract ideas. _____

88. *I avoid philosophical discussions. _____

89. *I avoid difficult reading material. _____

90. *I learn things slowly. _____

91. I enjoy the beauty of nature. _____

92. I believe in the importance of art. _____

93. I love to reflect on things. _____

94. I get deeply immersed in music. _____

95. I see beauty in things that others might not notice. _____

96. I need a creative outlet. _____

97. *I do not like poetry. _____

98. *I seldom get lost in thought. _____

99. *I seldom daydream. _____

100. *I seldom notice the emotional aspects of paintings and pictures. _____

Note. *Denotes items that were reverse-coded.

APPENDIX G. INDIVIDUAL PROBLEMS

Individual Problem # 1

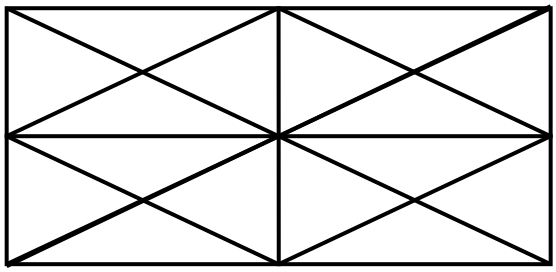
Suppose you are a bus driver. On the first stop you pick up 6 men and 2 women. At the second stop 2 men leave and 1 woman boards the bus. At the third stop 1 man leaves and 2 women enter the bus. At the fourth stop 3 men get on and 3 women get off. At the fifth stop, 2 men get off, 3 men get on, 1 woman gets off, and 2 women get on. How many men are left on the bus, how many women are left on the bus, and what is the bus driver's name?

How many men are left on the bus? _____

How many women are left on the bus? _____

What is the bus driver's name? _____

Individual Problem #2



How many triangles can you find in the figure above? Look carefully – there are more than 16!

Answer: _____

APPENDIX H. TEAM PROBLEMS

Team Problem #1

Starting with the word “COOL”, change one letter at a time until you have the word “HEAT”. Each change **must result in a proper word,** and you can use any letters in the alphabet. Keeping in mind that you can only change one letter per step, what is the minimum number of steps required to achieve this change? What are the steps?

Answer (Give Steps, i.e., the words):_____

_____

_____

Team Problem # 2

Right now Bethany is 12. You can find her older brother's age by switching the digits in Bethany's age. They'll be able to switch the digits in their ages again sometime in the future. How old will Bethany and her brother be when this happens?

How old will Bethany be? _____

How old will Bethany's brother be? _____

APPENDIX I. PARTNER IMPRESSIONS

1. Please rate your partner (the other participant) on the following characteristics:

unfriendly	1	2	3	4	5	friendly
quiet	1	2	3	4	5	talkative
dependent	1	2	3	4	5	independent
unintelligent	1	2	3	4	5	intelligent
needy	1	2	3	4	5	self-reliant
unlikeable	1	2	3	4	5	likeable
followed directions poorly	1	2	3	4	5	followed directions well

2. What did you like best about your partner? _____

_____

_____

3. What did you like least about your partner? _____

_____

_____

4. If presented with additional logic problems, would you prefer to continue working with the same partner or be assigned to a different partner? Please respond on the following scale:

1	2	3	4	5	6
Strong preference for a different partner	Moderate preference for a different partner	Slight preference for a different partner	Slight preference for the same partner	Moderate preference for the same partner	Strong preference for the same partner

Please read each below statement carefully. Use the scale below to indicate how much you agree or disagree with each statement by writing down the number that corresponds to your level of agreement.

1	2	3	4	5	6	7
Strongly Disagree	**Somewhat Disagree**	**Slightly Disagree**	**Neutral**	**Slightly Agree**	**Somewhat Agree**	**Strongly Agree**

5. My partner (the other participant) was competent. _____
6. My partner was aggressive towards me. _____
7. My partner was honest. _____
8. My partner was friendly. _____
9. The experimenter was competent. _____
10. The experimenter was aggressive towards me. _____
11. The experimenter showed humanity towards me. _____
12. The experimenter was honest. _____

Use the scale below to indicate how much you experienced the emotions listed below by writing down the number that corresponds to your level of agreement.

1	2	3	4	5	6
I didn't feel like this at all	**I felt like this a little**			**I felt like this a while**	**I felt like this a lot**

13. Guilty _____
14. Anxious _____
15. Stressed _____
16. Pressured _____
17. Defensive _____
18. Cheated _____
19. Angry _____
20. Insulted _____

APPENDIX J. POST-ACCUSATION MEASURES

QUESTIONS DIFFER BY CONDITIONS!!

1) For participants who AGREED to sign the statement: Why did you agree to sign the statement?

2) For participants who AGREED to sign the statement: What benefit do you believe you were gaining by signing the statement?

3) For participants who AGREED to sign the statement: Given the evidence in the current situation, if you hadn't signed the statement—

How likely is it that you would have been charged with cheating?

I'd like you to respond on a 10-point scale from 1 being extremely unlikely to 10 being extremely likely.

1	2	3	4	5	6	7	8	9	10
Extremely Unlikely									Extremely Likely

---

1) For participants who REFUSED to sign the statement: Why did you refuse to sign the statement?

2) For participants who REFUSED to sign the statement: What benefit do you believe you were gaining by NOT signing the statement?

3) For participants who REFUSED to sign the statement: Given the evidence in the current situation—

How likely is it that you will be charged with cheating?
I'd like you to respond on a 10-point scale from 1 being extremely unlikely to 10 being extremely likely.

1	2	3	4	5	6	7	8	9	10
Extremely Unlikely									Extremely Likely

---

4) How willing were you to accept the statement offered to you?

A. Not at all willing
B. A little willing
C. Somewhat willing
D. Pretty willing
E. Very willing
F. Totally willing

5) Did you feel the evidence against you regarding the cheating accusation was strong?

A. Very strong
B. Somewhat strong
C. Slightly strong
D. Neutral
E. Slightly weak
F. Somewhat weak
G. Very weak

6) Did you feel the evidence against you regarding the cheating accusation was plausible?

A. Very plausible
B. Somewhat plausible
C. Slightly plausible
D. Neutral
E. Not at all plausible

7) Did you feel trapped into signing the statement?

A. Totally trapped
B. Somewhat trapped
C. Slightly trapped
D. Neutral
E. Not at all trapped

8) Were you frightened by the consequences of not agreeing to the statement?

A. Very frightened
B. Somewhat frightened
C. Slightly frightened
D. Neutral
E. Not at all frightened

9) Why were you (or were you not) frightened?

10) How anxious were you when I accused you of cheating on the triangle problem? So, would you say you were…

1	2	3	4	5
Not at all anxious	Slightly anxious	Neutral	Somewhat anxious	Totally anxious

11) I'd also like to know much pressure you felt to sign the statement? I'd like you to respond on a 10-point scale again from 1 being no pressure at all to 10 being as much pressure as you could imagine.

1	2	3	4	5	6	7	8	9	10
No pressure at all									Most pressure I could imagine

NEXT QUESTIONS DIFFER BY CONDITIONS!!

12) For participants in BLUFF conditions: Did the existence of the video make you more willing to sign the statement, less willing, or did it not have an effect on your decision?

A. If they say MORE willing, ask: On a scale of 1 to 10, how much more willing were you to sign the statement because of the existence of the video?

1	2	3	4	5	6	7	8	9
Not Much More Willing				Somewhat More Willing				Much More Willing

B. If they say LESS willing, ask: On a scale of 1 to 10, how much less willing were you to sign the statement because of the existence of the video?

1	2	3	4	5	6	7	8	9
Not Much Less Willing				Somewhat Less Willing				Much Less Willing

---

13) Do you have any questions about the experiment?
I just want to make sure that you understand what the purpose of the experiment is. So, can you tell me in your own words, what we're looking at in this experiment?

14) Thinking back, which of the following statements best reflects what you were thinking at the time that I accused you of cheating?

A. I totally believed everything that you said.
B. The whole situation seemed very believable to me.
C. I thought to myself *"This might be serious"*.
D. I thought to myself *"I may be in trouble here"*.
E. I didn't know what to think.
F. I wasn't sure what was going on.
G. I really didn't think anything one way or the other, I just reacted.

H. I wasn't sure whether it was staged or real.
Follow-up: *At what point did you begin to wonder?* _____

I. I thought that it was probably an act, but wasn't sure.
Follow-up: *At what point did you begin to think that?* _____

J. I absolutely knew it was staged.
Follow-up: *At what point did you become absolutely sure?* _____

FOR PARTICIPANTS WHO AGREED TO SIGN THE STATEMENT:

15) Thinking back, which of the following statements best explains why you signed the statement.

A. I thought I would get in less trouble.
B. I thought signing would just put an end to the whole thing.
C. I was afraid of what might happen if I didn't sign.
D. I didn't think it mattered if I signed or not.

FOR PARTICIPANTS WHO REFUSED TO SIGN THE STATEMENT:

15) Thinking back, which of the following statements best explains why you refused to sign the statement.

1. I thought I would get in less trouble.
2. I thought I could convince the experimenter or committee that I did not cheat.
3. I was afraid of what might happen if I signed.
4. I didn't think it mattered if I signed or not.

---

16) How relieved were you when I told you that the whole thing was staged and you weren't in any trouble at all?

1. not at all relieved
2. a little relieved
3. moderately relieved
4. quite relieved
5. extremely relieved

APPENDIX K. COUNSELING SERVICES INFORMATION SHEET

Counseling Services

The Iowa State University Counseling Service provides counseling to Iowa State University students. Below is information about eligibility and cost. Additional information can be obtained by calling 294-5056 or visiting the counseling services website: www.public.iastate.edu/~stdtcouns/homepage.html

Eligibility for Services

- Clinical services are offered to enrolled students of ISU. This may include non-student partners in the case of couples counseling. Clinical services are offered in group mode and individual mode.
- Career counseling is offered to students and potential students.
- Consultation services are offered to students, faculty, staff and parents.
- The Testing Service serves students and non-students.

Students who are under 18 may be requested to obtain the written permission of a parent or guardian to receive treatment. Such students may be seen for an assessment without written parental release.
SCS intends to be as helpful as possible to all members of the university community on behalf of students. If you have a question, call us and ask.

Cost of Services

Most professional services of the SCS are provided by the university at **no charge** to the student. When testing is recommended, there is a minimum fee designed to recuperate the cost of the test. This fee can be charged to the student's U-bill if desired.
In order to encourage consistency of care to our clients and increase efficiency of the service to all, **SCS will charge $10 for uncancelled missed appointments, which will be charged to your ubill.**

Crisis Services

If you have an urgent matter and feel it would be important to speak to a counselor as soon as possible, please call the SCS desk at 294-5056 and let the receptionist know that you are requesting a same-day crisis appointment or simply come to our office in the Student Services Building on the 3rd floor. SCS counselors save some appointments each day for such matters. If this is after hours or on a weekend/holiday when SCS is not open, and you feel it is important to speak to someone, you may call the Richmond Center at 515-232-5811.

APPENDIX L. DESCRIPTIVE STATISTICS AND RELIABILITY MEASURES FOR INDIVIDUAL DIFFERENCE INDICES

	Range		Mean (SD)	Cronbach's α
	Low	High		
Global Belief in a Just World	1.00	5.60	3.57 (.69)	.76
Self-Esteem	2.60	7.00	5.58 (.89)	.86
Private Self-Consciousness ($N = 246$)	0.80	3.70	2.58 (.44)	.51
Neuroticism				
Volatility	1.00	6.00	3.18 (1.06)	.89
Withdrawal	1.10	6.60	3.40 (.91)	.80
Agreeableness				
Compassion	3.10	7.00	5.72 (.77)	.86
Politeness	2.60	7.00	5.43 (.78)	.77
Conscientiousness				
Industriousness	2.00	6.80	4.64 (.91)	.84
Orderliness	2.00	7.00	4.83 (.96)	.84
Extraversion				
Enthusiasm	1.30	7.00	5.40 (.97)	.89
Assertiveness	1.10	7.00	4.84 (1.00)	.90
Openness				
Openness	2.10	7.00	4.97 (1.00)	.83
Intelligence	1.90	7.00	4.68 (.95)	.85

Note. $N = 422$ (for all measures except Private Self-Consciousness, which was added later in the study and has an N of 246). All items for which strong agreement would imply lower endorsement of the relevant trait were reverse-coded. The measures were then averaged and aggregated into single indices. The Big Five Aspects and self-esteem were measured on 7-point Likert-type scales. Global Belief in a Just World was measured on a 6-point scale and Private Self-Consciousness was measured on a 5-point Likert scale.

APPENDIX M. DESCRIPTIVE STATISTICS FOR POST-ACCUSATION MEASURES BY EXPERIMENTAL CONDTIONS

Measure	Innocent-Guilty	Confession-Plea	Bluff	*N*	Mean	Std. Deviation
Likelihood of Charge						
	Innocent	Confession	No Bluff	38	2.11	1.89
			Bluff	42	1.50	1.27
		Plea	No Buff	42	2.41	2.06
			Bluff	40	1.20	.52
	Guilty	Confession	No Buff	42	5.23	2.71
			Bluff	42	4.56	2.65
		Plea	No Bluff	40	4.08	2.81
			Bluff	39	4.15	2.81
Willingness to Sign						
	Innocent	Confession	No Bluff	38	1.42	1.00
			Bluff	42	1.88	1.15
		Plea	No Buff	42	2.00	1.19
			Bluff	40	1.78	1.07
	Guilty	Confession	No Buff	42	3.57	1.67
			Bluff	42	2.98	1.51
		Plea	No Bluff	40	3.28	1.88
			Bluff	40	2.90	1.63
Strength of Evidence						
	Innocent	Confession	No Bluff	38	1.68	1.09
			Bluff	42	2.24	1.86
		Plea	No Buff	42	1.62	1.45
			Bluff	40	1.38	1.10
	Guilty	Confession	No Buff	42	3.90	2.22
			Bluff	42	3.40	2.19
		Plea	No Bluff	40	2.63	1.85
			Bluff	39	3.33	2.42

Appendix M. (continued)

Measure	Innocent-Guilty	Confession-Plea	Bluff	*N*	Mean	Std. Deviation
Plausibility of Evidence						
	Innocent	Confession	No Bluff	38	2.34	1.38
			Bluff	42	2.31	1.39
		Plea	No Buff	42	2.36	1.51
			Bluff	40	1.75	1.19
	Guilty	Confession	No Buff	42	3.45	1.21
			Bluff	42	3.21	1.47
		Plea	No Bluff	40	2.78	1.44
			Bluff	39	3.18	1.55
Trapped Into Signing						
	Innocent	Confession	No Bluff	38	2.82	1.69
			Bluff	42	2.67	1.44
		Plea	No Buff	41	2.90	1.48
			Bluff	40	2.88	1.44
	Guilty	Confession	No Buff	42	2.81	1.47
			Bluff	42	3.24	1.51
		Plea	No Bluff	39	3.59	1.39
			Bluff	161	2.94	2.55
Fear of Consequences						
	Innocent	Confession	No Bluff	38	2.58	1.41
			Bluff	42	2.31	1.46
		Plea	No Buff	42	2.95	1.48
			Bluff	40	2.78	1.44
	Guilty	Confession	No Buff	42	3.17	1.53
			Bluff	42	3.26	1.56
		Plea	No Bluff	40	3.88	1.28
			Bluff	39	3.67	1.26

Appendix M. (continued)

Measure	Innocent-Guilty	Confession-Plea	Bluff	*N*	Mean	Std. Deviation
Anxiety During Accusation						
	Innocent	Confession	No Bluff	38	3.05	1.47
			Bluff	42	2.52	1.33
		Plea	No Buff	42	2.86	1.35
			Bluff	39	2.23	1.18
	Guilty	Confession	No Buff	42	3.55	1.23
			Bluff	43	3.40	1.26
		Plea	No Bluff	40	3.33	1.40
			Bluff	39	3.49	1.35
Pressure to Sign						
	Innocent	Confession	No Bluff	38	5.45	2.75
			Bluff	42	5.17	2.32
		Plea	No Buff	42	5.64	2.59
			Bluff	39	4.93	2.42
	Guilty	Confession	No Buff	42	6.38	1.99
			Bluff	43	6.19	2.20
		Plea	No Bluff	40	6.41	2.06
			Bluff	39	6.90	2.16
Relief from Debriefing						
	Innocent	Confession	No Bluff	37	3.27	1.19
			Bluff	42	2.86	1.26
		Plea	No Buff	42	3.14	1.22
			Bluff	39	2.87	1.34
	Guilty	Confession	No Buff	43	3.81	1.12
			Bluff	42	3.41	1.27
		Plea	No Bluff	40	3.40	1.19
			Bluff	39	3.39	1.25

Note. $N = 328$. All items for which high values would imply lower endorsement of the relevant measures were reverse-coded. Evidence plausibility, trapped into signing, fear of consequences, anxiety during accusation, and relief after debriefing were measured on five-point Likert scales. Likelihood of charge and pressure to sign were measured on ten-point Likert-type scales; evidence strength was measured on a seven-point scale; willingness to sign was measured on a six-point scale.

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