The Crying Game:
An examination of how stereotypes affect witness credibility

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Abstract

Stereotypes are constantly utilized to draw inferences and evaluate information, regardless of whether or not individuals employing them are cognizant of this fact. However, when jurors who are responsible for evaluating the truthfulness and credibility of witness testimony rely on stereotypes regarding the emotional responses of men and women to judge witness testimony, the conclusions they draw may be tainted. In this study, six experimental conditions were constructed to ascertain whether witness testimony would produce different effects if male and female witnesses delivered testimony while showing emotions stereotypical of their genders or emotions unexpected of their genders. While testifying that they were the victims of an armed robbery, male and female witnesses showed fear, anger, or no emotion. It was found that when male witnesses displayed the stereotypical emotion for their gender, anger, the participants rated the guilt of the defendants significantly higher than when female witnesses displayed the same emotion. Conversely, when female witnesses displayed the emotion stereotypical for their gender, fear, the participants rated the guilt of defendants significantly higher than when men displayed fear. It was also found that female displays of anger and fear produced a much greater difference in guilt rating for defendants than male changes in emotion. Additionally, over all experimental conditions, witnesses were believed to be telling the truth most when they showed fear and least when they showed anger.
The Crying Game: An examination of how stereotypes affect witness credibility

Whether we would like to admit it or not, we all utilize stereotypes in our daily lives. They are essential frameworks from which we draw inferences and information about the world and people around us. In an everyday sense, the word “stereotype” has a negative connotation, but stereotyping is a type of cognitive shortcut through which a set of common features are held to be shared by a group. Stereotypes can be helpful when they allow us to think about the characteristics of a group without considering the nuances of individual members, but the dangerous side of stereotypes is seen when they are applied inflexibly to people or groups (Shields, 2002).

One stereotype many people hold is that men and women communicate differently. Specifically, many people think men and women express emotion differently. Overall, women are believed to be much more emotional than men; however, different sexes are seen as emphasizing different emotions. Adults tend to associate fear and happiness with women, while they associate anger with men (Kelly & Hutson-Comeaux, 1999).

These beliefs can influence important decisions. For example, stereotypes might influence a juror’s decisions about the credibility of a witness. If a male or female witness violates stereotypes associated with his or her gender will the witness be viewed as less credible by jurors? Research has shown that the typical cues receivers use to evaluate whether or not a source is being truthful, such as eye contact or fidgeting, are not accurate and do not correctly provide insight into whether or not a source is deceptive (Carlson, George, Burgoon, Adkins, & White, 2004). It is
important to discern whether potential jurors utilize stereotypes to assess credibility because stereotypes, like these other cues, may not hold true. Relying on stereotypes to calculate credibility may lead to verdicts that are incorrect and assessments of witnesses that are inaccurate simply because these witnesses do not adhere to stereotypes held by jurors.

This study manipulated testimony of both male and female witnesses who testified against a defendant who allegedly robbed them at knifepoint. Victims displayed emotions that were either stereotypical of their genders or unexpected of their genders. The female emotional stereotype was fear, and the male emotional stereotype was anger. The study then examined the differences in perceived credibility that resulted for male and female victims, allowing an investigation into whether or not the presence of a stereotypical or an unexpected emotional response for members of each gender led to greater or less source credibility for witnesses. This is of great importance, as Cassidy (1999) warns. Witnesses may express emotion differently when they face stressful situations, and this may affect the way jurors perceive them, even though they are being truthful.

Literature Review

There are many areas of research relevant to this study. These include the definition psychologists give emotion, facial expressions associated with specific emotions, male and female communication stereotypes, and how expressions of emotion affect credibility. The following topics provide background information on why the study of male and female witnesses expressing both stereotypical and
unexpected emotions is important and gives evidence that stereotypes are commonly held and can play a large role in determining witness credibility.

**Defining Emotion**

This study relied on the manipulation of two emotions that are considered male and female emotions. Anger and fear are commonly believed to be stereotypical of men and women respectively, and it is important to understand where these and other emotions originate and how researchers define them. By recognizing the situations and feelings that produce certain emotions we can begin to understand why they may be stereotypical of a certain gender and what people feel when they experience them.

One way psychologists look at emotion is that it possesses a dual nature. An emotion consists of a psychological arousal and the label we give to that emotion. The psychological arousal that provokes an emotion is a neural impulse that moves an organism to action (Smith & Lazarus, 1993).

There has been a considerable amount of research conducted to discern the link between one’s appraisal of a situation and the emotional reaction that follows. What causes a specific emotion to occur? Ellsworth and Smith (1988), as well as, Smith and Lazarus (1993) have performed various experiments to determine exactly what types of situations lead to certain emotional reactions. According to them, emotion is closely associated with an organism’s appraisal of its environment along several cognitive dimensions. These dimensions include two primary appraisal components and four secondary appraisal components. Motivational relevance, the extent to which the encounter relates to issues the person cares about, and
motivational congruence, the extent to which the encounter is consistent or inconsistent with the person’s goals, compose primary appraisal. Accountability, who or what is to receive credit or blame for the situation, problem coping potential, the person’s ability to directly act upon the situation, emotion coping potential, the prospect of psychologically adjusting to the situation, and future changes, which refers to the possibility that there will be changes in the situation to make it more or less motivationally congruent, are the secondary appraisal components (Smith & Lazarus, 1993). Along with the components of appraisal that determine which emotion a person will experience, Smith and Lazarus (1993) attempt to analyze specific emotions in terms of core relational themes, which represent the central harm or benefit that underlies each emotion. Each emotion follows from a unique core relational theme.

Anger and fear arise from specific themes and appraisal components. Anger begins with a relational theme of “other-blame” and continues in a situation that is motivationally relevant, motivationally incongruent, and has other-accountability. Anger is an emotion of “fight” or “attack.” The function of anger is to prepare and motivate people to remove the obstacles they are facing. This explains why anger is an emotion commonly felt when one does not have control in a situation. The person lacking control has a desire to remove whoever is dominant in the situation. Fear, on the other hand, occurs when there is a core relational theme of danger, followed by motivational relevance, motivational incongruence, and low emotional coping potential. Fear prepares and motivates one to escape danger. While anger is the emotion of “fight,” fear represents “flight.” Both these emotions are underscored by
perceived obstacles and uncertainty on the part of the person facing them, but they produce two very different responses and ways of dealing with a situation (Smith & Lazarus, 1993).

*Facial Expressions of Anger and Fear*

The experience of a certain emotion is expressed to others through facial expressions. In this experiment, subjects received both a textual description of the way that the witness acted while testifying, as well as, a picture illustrating the emotion he or she displayed. It was possible to provide pictures because specific emotions produce similar facial expressions across different people.

Researchers have found that there are specific facial expressions that accompany the emotions of anger and fear, and as a result, observers taking notice of a person displaying certain facial expressions are able to identify the emotion they are witnessing (Tomkins, 1980). Because there are specific and reproducible representations of certain emotions, it was possible to manipulate potential jurors’ perceptions of witnesses.

Contemporary theories of emotion postulate that physiological reactions produce innate facial responses that correspond with specific emotions, and discrete emotions can be recognized through unique facial expressions because different densities of neural firing trigger specific facial expressions. It has been found that “anger is experienced when a very high, sustained level of neural firing produces a flushed face with brows lowered and drawn together, a fixed stare, nostrils flared, jaw clenched, and teeth bared.” (Roseman, 1984). Distress or fear results from “a moderately high sustained level of neural firing, leading to a different pattern of facial
blood flow and an expression with brows arched up and drawn together, eyes partly
closed, and mouth turned down.” (Roseman, 1984). These characteristics are not only
hypothesized to be associated with the emotions of anger and fear by researchers, but
they are facial qualities that most people generally exhibit when they feel the
aforementioned emotions. Furthermore, viewers who witness these facial expressions
are able to recognize the emotion being displayed. As a result, when participants in
this experiment observed photographic depictions of certain emotions, they were able
to ascertain what emotion the witness was expressing.

Stereotypes of Male and Female Emotional Expression

In order to manipulate stereotypical and unexpected testimony from witnesses,
it is vital to understand what the commonly held stereotypes of male and female
emotional expression are. A number of studies indicate that people believe men and
women communicate differently (Popp, Donovan, Crawford, Marsh, & Peele, 2003).
Women are considered more emotional and less direct in their speech, while men are
typically viewed as less emotional and more direct in their manner of communicating
(Popp et al., 2003). Studies also indicate that many of the most salient stereotypes that
people hold regarding the differences between men and women stem from
communication stereotypes. These include speech differences that characterize males
as very loud, aggressive, blunt, and objective and women as emotional, talkative, and
gentle (Rosencrantz, Bee, Vogel, Broverman, & Broverman, 1968).

Gender stereotypes regarding emotion and emotional expression are ingrained
in our society and are the result of a combination of biological differences and
conventional labels applied to males and females. Women consistently report more
intense and frequent emotions than males; specifically, the emotions of fear, sadness, and nervousness are most often reported by women. These accounts are reflected in the significantly higher levels of anxiety and depression experienced by women than by men. Whereas, overall, women have been found to experience more intense emotions than men, the expression of anger has been found to be expressed more frequently and intensely by male communicators (Diener & Suh, 2000). Both Biaggio (1980) and Doyle and Biaggio (1981) found that men experience more anger and expressions of anger than women. This pattern of differences between genders has led some researchers to believe that women are more emotional than men, but this difference is due in part to biological differences and in part to the stereotypes and gender roles that men and women are required to fill in society. Wood, Rhodes, and Whelan (1989) state that “the roles typically filled by men and women in our society differ importantly in terms of emotional experiences.”

Stereotypes regarding male and female communication are commonly considered to be true. A study conducted by Cheris Kramer (1977) of the University of Illinois provides evidence for the belief in stereotypes. In this study, participants were asked to rate the degree to which they believed expression characteristics were typical of male or female communicators. Subjects rated fifty-one characteristics and results showed differences to be significant for thirty-six of the features. Among the types of expression showing the greatest stereotypes were elements characterizing men as aggressive and forceful and characterizing women as emotional and very expressive. On a one-hundred point scale, men were rated significantly higher than women for the stereotypes of aggression, showing anger, using demanding speech,
using swear words, and forceful speech. Women were rated as very low on each of the aforementioned categories, but were rated extremely high in emotional speech and open, self-revealing speech.

A study conducted by Birnbaum and Croll (1984) also provides evidence for the prevalence and strength of these stereotypes. Birnbaum and Croll investigated whether or not gender stereotypes were held by preschool age children and found that children as young as five years old already had pronounced sex-role stereotypes about emotionality. They viewed anger as a male emotion and fear, sadness, and happiness as female emotions. They examined possible sources of these gender constructs and found that parental stereotypes, parental reinforcement practices, television, and actual sex differences in emotionality all played a role in developing gender stereotypes.

The aforementioned studies support the notion that men and women possess stereotypes of their own sex and the opposite sex. These beliefs were manipulated in this study to see if they influenced witness credibility when gender communication stereotypes were adhered to and violated.

*Expressing Expected Emotions*

Research has demonstrated that people possess gender communication stereotypes; however, studies have qualified this claim to include the notion that gender-emotion stereotypes are context specific. Kelly and Hutson-Comeaux (1999) conducted a study in which subjects were given scenarios describing angry, sad, and happy events and were asked to judge if male and female responses to the events would be considered characteristic. The results showed that only responses to happy
and sad scenarios depended on the contextual nature of the situation and that angry emotional responses were more characteristic of men across all scenarios. In the happy and sad contexts, overreactions to events were more characteristic of women in an interpersonal context, and overreactions by men were expected when the situation was presented in an achievement context.

In my investigation, one of the stereotypical situations presented males becoming angry in a personal context, and Kelly and Hutson-Comeaux’s study indicates that response to be expected of them. This made it possible to ascertain how male witness credibility was affected when males expressed the emotion expected of them, anger, and when they violated the stereotype and did not express anger.

As men are likely to express anger in certain situations, women are expected and prone to express fear. A study conducted by Brody, Lovas, and Hay (1995) tested the emotional response of males and females to hypothetical situations. Situations that were deemed frightening or anger-provoking elicited large differences in male and female responses. Females of all age groups reported more fear than males across all three of these experimental conditions.

**Defining Credibility**

Source credibility is one of the main determinants of how receivers interpret and are persuaded by messages, and thus, it is important to understand how receivers decide what to believe (Wathen & Burkell, 2002). At its simplest, credibility can be defined as believability (Fogg, 1999). Source credibility has been determined to be composed of two features: expertise and trustworthiness. A receiver must perceive that a communicator is a valid source of information and possesses expertise in the
area he or she is presenting. A communicator must also be perceived as trustworthy. Receivers must trust that the source will communicate in an unbiased manner without intent to deceive (Wathen & Burkell, 2002). Hovland and Weiss (1951) conducted an experiment, which illustrated the importance of both expertise and trustworthiness on credibility. Subjects were presented with messages attributed to sources that were high in credibility (expert and trustworthy) or low in credibility. Results indicated that participants had faith in a message and accepted it as true when sources had high credibility as opposed to low credibility.

The Influence of Emotion on Credibility

Studies have found that perceptions of witness credibility are affected not only by the content of testimony, but by how the witness communicates the testimony, as well (Vrij, 1998). Jurors either consciously or unconsciously base their perceptions of witnesses on social stereotypes. As a result of this, judgments of witness credibility can be unreliable. The emotional state that a witness displays has been found to be an important factor in determining perceived credibility by jurors. In surveys of potential jurors, emotional expression was revealed as a main predictor of credibility, and it was shown that witnesses displaying emotional behavior were judged less credible than witnesses who did not show display emotional behavior (Bothwell & Jalil, 1992).

However, other studies conducted using testimony of rape victims have found that emotional displays increase witness credibility and the number of guilty verdicts for the defendant (Winkel & Koppelaar, 1991). In conjunction, these two studies provide support for the notion that emotional displays by a witness decrease
credibility, except when the witness has been the victim of a crime. In the latter case, emotional expression augments witness credibility.

A more recent study indicated that social stereotypes play a significant role in the perceived credibility of witnesses. While giving testimony during a rape trial, a victim displayed congruent emotions (or emotions one would expect from a rape victim, including being very serious and displaying that she was upset), neutral emotions, or incongruent emotions, such as smiling. Participants who viewed the congruent emotion scenario believed the witness was much more credible than participants who viewed either of the other scenarios (Wessel, Drevland, Eilertsen, & Magnussen, 2006). These effects were found to be equally strong for both the male and female participants. The findings correspond to how people stereotypically believe a rape victim should respond to questioning when on trial; however, Cassidy (1999) warns that this is a threat to justice because individual differences and manners of coping with stressful situations should be expected and behavior can easily vary across victims.

Emotional expression has also been found to play a role when jurors assess the credibility of child witnesses. Psychologists at the University of Kentucky (Golding, Fryman, Marsil, & Yozwiak, 2003) studied the results of witnesses showing or lacking emotion when describing a situation in which they were sexually assaulted. It was found that female children were found to be much more credible when they showed emotion through crying and were not found to be credible witnesses when they did not show emotion.

Realism
 Receivers constantly assess the realism of media and stories they encounter by considering how likely the event would be to happen in the real world. Subjects also contemplate that if this event were to occur in real life, would it happen in the same manner (Shapiro, Pena, & Hancock, 2006). My study evaluated differences in perceived realism across the manipulations of witness gender and emotional expression. It investigated whether or not expected or unexpected displays of emotion for a particular gender influenced the degree to which participants believed a scenario to be representative of how a particular event would occur in real life.

Hypotheses

Based on preliminary research, I predicted that when a witness displayed an emotion that was expected for his or her gender, the defendant would be judged guiltier than when a witness displayed an emotion that was unexpected for his or her gender. Drawing from previous research, one would presume this to be true. However, many previous studies have focused only on the emotional responses of women in traumatic situations and have neglected the emotional responses of men. I believed that the credibility of a female witness, and thus the perceived guilt of the defendants accused of attacking women, would be more affected than the credibility of a male witness when gender stereotypes were adhered to or violated. This was due to the notion that the stereotype of the “emotional female” is more prevalent than emotional stereotypes about men. I believed that subjects would be more surprised by a woman who was not fearful of an attacker than by a man who was not angry at an attacker.
I also predicted that issuances of guilty or not guilty verdicts would be affected by the displays of emotion given by the witnesses. Based on knowledge of commonly held male and female stereotypes and witness credibility studies, I believed that when men displayed anger and women displayed fear witness credibility would be augmented, and the number of guilty verdicts issued would increase. On the other hand, when men displayed fear and women displayed anger credibility would decrease, as would the number of guilty verdicts.

Additionally, I believed that the length of jail sentences issued when the victim was female would be greater than those issued when the victim was male, with the longest sentences handed out when the victim was a fearful female.

Method

This methodology was adapted from a previous study conducted by the Psychology Department at the University of Kentucky (Golding et al., 2003).

Participants

The participants in this study consisted of 180 undergraduate students at Cornell University. This provided thirty participants for each of the six experimental conditions. Participants consisted of male and female undergraduate students from Cornell University. Subjects were recruited in the Robert Purcell Community Center on Cornell’s campus. Of these students, sixty-two were men and one-hundred eighteen were female.

Design

The design of the experiment was a two (gender of witness) by three (emotional demeanor of witness: anger, fear, or no emotion) experimental design.
This resulted in six different experimental groups. Participants were randomly assigned to a group with either a male or female witness who displayed either fear, anger, or no emotion while testifying.

Pre-test

Before I distributed my experimental materials, I conducted a pre-test. The materials that I gave to participants in the actual study included a picture of the male or female witness testifying in the trial. The pictures I used were already deemed to be expressions of the three emotions being tested, as they were constructed by Ekman and Friesen (1975), who are noted psychologists and researchers of human expressions of emotion. I was confident that the pictures were accurate expressions of the emotions, but wanted to ensure that they were viewed the same way by college undergraduates. The materials given to participants in the study stated the emotion the witness was expressing, but I also wanted to ensure that participants interpreted the picture as displaying the same emotion as was stated in the reading material.

In order to ascertain this information, I selected five to ten pre-test participants to test each picture. I gave the participants a copy of the reading materials that participants in the actual study would eventually see; however, I deleted the word that explicitly stated what emotion the witness was displaying. I then instructed the participants to choose, from a list of ten emotions, which one they believed the witness was displaying. This decision was based on the picture they saw and the context clues given in the reading material. All pre-test participants selected the correct emotion. This provided assurance that the pictures used to display fear, anger, and no emotion were in fact viewed as representations of those emotions.
Materials

The participants read an excerpt of a fictional courtroom trial. They were first given background information regarding the scenario. After they read the background information the participants read an excerpt from the trial. They learned that the prosecution’s case was based solely on the identification of the defendant by the victim. The defense’s case was based on the refutation of the witness’s testimony. In each of the scenarios the male or female victim was presented as either fearful of the defendant, angry at the defendant, or displaying no emotion. Pictures were provided of the witness’s face to give participants an accurate picture of exactly how the victim’s demeanor appeared.

The following is a copy of the materials presented to participants.

Participants were given the following background information:

The victim was walking down a street in his/her neighborhood on a Sunday evening. It was approximately 7:00 pm in late summer. It was beginning to become dark, but there was significant light provided by street lamps located approximately every 50 yards down the road. Suddenly, as the victim was walking, someone surprised him/her from behind and whirled him/her around. While holding the victim by the arm, the criminal waved a knife in the victim’s face and demanded his/her money. The victim gave the criminal everything he/she had and the criminal took off running down the road.

The grand jury charges: On the 5th day of September 2006, in Tompkins County, Ithaca, New York, the defendant committed burglary in the second degree.
The prosecution alleges that the defendant robbed the plaintiff on the evening of September 5, 2006 at approximately 7pm. The defendant held a knife in his/her face and threatened to use it if he/she did not hand over all his/her money and valuable possessions (a watch). The state is charging the defendant with burglary in the second degree. The state will call the plaintiff as a witness.

The defendant has pleaded “not guilty” to the charge of burglary in the second degree. The defense attorney will argue that the defendant is a law-abiding citizen and has never been convicted of a crime before.

There is no medical or forensic evidence that will be presented in this case.

Prosecution’s Case

In each of the three scenarios, there was a description of the direct examination of the plaintiff. The fear, anger, and no emotion descriptions all varied with respect to the manner in which the plaintiff expressed himself or herself.

Direct Examination: Fear

The plaintiff is a 35 year old male/female. During both the direct and cross examination he/she was very fearful of the defendant sitting in the room with him/her. He/she could not make eye contact with the defendant and started get tears in his/her eyes when describing the robbery. He/she testified that while walking in his/her neighborhood at approximately 7pm, the defendant came up behind him/her and wielded a knife in his/her face and demanded money. He/she handed over everything he/she had and the defendant ran off down the road.

Direct Examination: Anger
The plaintiff is a 35 year old male/female. During both the direct and cross examination he/she was very angry at the defendant. As he/she gave responses, he/she glared at the defendant, clenched his/her jaw, and shook his/her fists. He/she testified that while walking in his/her neighborhood at approximately 7pm, the defendant came up behind him/her and wielded a knife in his/her face and demanded money. He/she handed over everything he/she had and the defendant ran off down the road.

Direct Examination: No emotion

The plaintiff is a 35 year old male/female. During both the direct and cross examination he/she was very calm and composed. He/she testified that while walking in his/her neighborhood at approximately 7pm, the defendant came up behind him/her and wielded a knife in his/her face and demanded money. He/she handed over everything he/she had and the defendant ran off down the road.

Cross Examination

The plaintiff told the defense attorney that he/she could see the defendant’s face during the crime.

Defendant’s Case

The defendant denied committing the crime and admitted no prior convictions. The defendant claimed to be home watching television at the time the crime took place.

Instructions to the Jurors

The judge charged the jurors with the following instructions:

“You will find the defendant guilty if and only if you believe from the evidence that the following is true:
That in this county on September 5, 2006, the defendant committed burglary in the second degree against the plaintiff.”

The figures that were provided in the participants’ materials can be found on pages thirty-eight through forty.

**Measuring Independent Variables**

The independent variables in the study consisted of: the gender of the witness, the emotion the witness displayed, the gender of the participant, the age of the participant, and the race of the participant.

The gender and emotion displayed by the witnesses were both revealed to participants in the materials provided. The text of the materials stated what gender the witness was and what emotion he or she displayed, and a picture was included that showed both variables, as well.

The gender, age, and race of participants was ascertained through a series of questions. Participants were asked to circle whether they were male or female and write their current age in years. Additionally, participants were asked to circle what race they were from a list of the following options: Black, Asian, Hispanic, Native American, White, Mixed Race, Other.

**Measuring Dependent Variables**

The dependent variables were measured after the participants read the trial material. In order to measure guilt rating, participants were asked to rate the guilt of the defendant on a scale of one to ten; one indicated that the participants believed the defendant was completely not guilty, and ten indicated that the participants believed
the defendant was completely guilty. The verdict was measured by asking the participants whether they believed the defendant was guilty or not guilty.

The dependent variable, confidence in verdict, was measured by asking the participants how confident they were that they had chosen the correct verdict; one indicated that the participants were not at all confident in their decisions, and ten indicated that the participants were completely confident in their decisions.

The prescribed jail sentence was measured by giving participants a range of the minimum and maximum number of months someone convicted of this crime would be sentenced to spend in jail. Those participants who believed the defendant was guilty were asked to decide how many months the defendant should spend in jail.

The dependent variable, belief in victim, was measured by asking the participants how much they believed that the victim was telling the truth; one indicated that the participants did not at all believe the victim was telling the truth, and ten indicated that the participants completely believed the victim was telling the truth.

The dependent variable, influence, was measured by asking the participants how much the victim’s testimony influenced their decisions; one indicated that the participants were not at all influenced by the victim’s testimony, and ten indicated that the participants were completely influenced and based their decisions on the victim’s testimony.

Finally, the dependent variable, realism, was measured by asking the participants to rate, on a scale of one to ten, whether or not this situation seemed realistic; one indicated that the situation was not at all realistic and ten indicated that
the situation was completely realistic. A copy of the questionnaire given to participants can be found on page forty-one.

**Results**

*Description of Analysis*

The results were analyzed using a two (witness gender) by three (emotion: anger, fear, no emotion) by two (participant gender) analysis of variance. All analysis were based on this model.

*Analysis of Dependent Variables*

In total, seven dependent variables were analyzed: guilt rating, verdict, confidence, prescribed jail sentence, belief, influence, and realism.

The first dependent variable, guilt rating, was a measure of how guilty the participant believed the defendant was. The effect of participant gender was the only significant main effect, while witness emotion and witness gender did not produce significant effects. The participant gender main effect produced an effect of $F(1, 167) = 17.06, p<.001, \eta^2 = 0.09$ (female = 5.63, male = 4.41). This shows that female participants rated the guilt of the defendant significantly higher than male participants over the course of all experimental conditions.

Hypothesis 1a predicted that the guilt ratings of the defendants would be higher when witnesses displayed emotions that were expected of their genders as opposed to displaying emotions that were unexpected of their genders. In order to test this hypothesis, the effect that variations in witness emotion and witness gender produced on reported guilt ratings issued by participants was measured. The interaction effect of witness emotion and witness gender produced a significant result
of $F(2,167) = 3.44, p<.05$, Partial $\eta^2 = 0.04$. The mean response levels reported by participants due to the various combinations of emotions and genders of witnesses are reproduced in the table below.

Table 1: Guilt Ratings of defendants based on witness gender and emotional display

<table>
<thead>
<tr>
<th>Witness Gender</th>
<th>Fear</th>
<th>Anger</th>
<th>No Emotion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>5.17</td>
<td>5.13</td>
<td>4.08</td>
</tr>
<tr>
<td>Female</td>
<td>5.78</td>
<td>4.60</td>
<td>5.36</td>
</tr>
</tbody>
</table>

These results show that for witnesses showing fear, participants rated defendants as significantly guiltier when the witnesses were females, as opposed to men showing fear. When the emotional response while testifying was anger, participants rated defendants significantly guiltier when men showed anger than when women showed anger. Finally, when witnesses displayed no emotion, female witnesses garnered higher levels of guilt for defendants than male witnesses.

This interaction effect supports the hypothesis. Anger was the stereotypical or expected emotional response for male witnesses, and male witnesses displaying anger resulted in significantly higher guilt ratings for defendants than female witnesses displaying anger. Furthermore, fear was the expected emotional response for females and unexpected for males, and female witnesses displaying fear resulted in a significantly higher guilt ratings for defendants than male witnesses displaying fear.

The control condition was expected to produce approximately equal ratings of guilt for both male and female witnesses; however, when witnesses displayed no emotion,
participants who viewed female witnesses showing no emotion delivered higher guilt ratings than those who viewed male witnesses showing no emotion.

Hypothesis 1b stated that, overall, the effects of women adhering to or violating gender stereotypes would affect the guilt ratings more than men adhering to or violating stereotypes. This hypothesis was tested using the same data as that used to evaluate hypothesis 1a.

Hypothesis 1b was also supported. The mean guilt ratings produced by female witnesses displaying expected or unexpected emotions for their gender were different by a value of 1.18, while the means produced by male responses were only different by a value of 0.04. This indicates that female changes in emotion influenced participants more than male changes in emotion.

The values for male and female witnesses showing no emotion differed by 1.28. This shows that out of the three experimental conditions, participants found the greatest difference between guilt of defendants to exist when comparing men and women showing no emotion; however, the highest overall guilt rating resulted when women showed fear.

Hypothesis 2 stated that the number of guilty verdicts would be greater when witnesses showed emotions considered stereotypical for their gender and would decrease when witnesses displayed unexpected emotions. This hypothesis was tested by using the dependent variable verdict and measuring the number of guilty verdicts versus not guilty verdicts issued when witnesses displayed emotions stereotypical and not stereotypical for their genders. The only significant main effect relating to the dependent variable was participant gender, F (1,168) = 16.15, p<.001, Partial η² =
0.08 (male = 0.19, female = 0.51), and thus, hypothesis 2 was not supported. The results do, however, show that female participants rated more defendants as guilty than male participants did. More than half of the female participants in the study said the defendant was guilty, but less than 20 percent of the male participants deemed the defendant guilty.

The dependent variable, confidence, did not produce any significant main or interaction effects.

Hypothesis 3 predicted that the prescribed jail sentences would be longer for female victims than male victims, and furthermore, the longest sentences for defendants would be issued when female victims displayed fear. The hypothesis was to be tested by asking participants who deemed the defendant guilty to deliver a sentence ranging from the minimum to maximum amount of jail time that someone who commits this crime can be sentenced to. This hypothesis was unable to be analyzed; however, because there was not enough data collected regarding the variable, prescribed jail sentence. Participants were only asked to issue a sentence when they delivered a guilty verdict. There were significantly more not guilty verdicts than guilty verdicts, and therefore, it did not make sense to analyze this data.

The dependent variable, belief, relates to how much the participant believed that the witness was telling the truth in his or her testimony. The only significant effect was the main effect of witness emotion. $F (2,168) = 3.62, p<.05$, Partial $\eta^2$ value = 0.04. The table below shows the means produced for the various emotions displayed by witnesses.
Table 2: Emotions displayed by witnesses and how much participants believed that those witnesses were being truthful

<table>
<thead>
<tr>
<th>Emotion</th>
<th>Belief</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Emotion</td>
<td>5.95</td>
</tr>
<tr>
<td>Anger</td>
<td>5.39</td>
</tr>
<tr>
<td>Fear</td>
<td>6.32</td>
</tr>
</tbody>
</table>

These results show that among all participants, witnesses were believed to be telling the truth the most when they showed fear. They were believed the least when they were angry, and the value for believing witnesses who showed no emotion was between these two values.

The dependent variable, influence, tested how much participants perceived that the witness’ testimony influenced their decisions. The only significant effect seen in this variable was the main effect of participant gender. $F(1,168) = 11.71$, $p<.001$, $\eta^2 = 0.06$, (male = 4.96, female = 6.14). This outcome indicates that female participants reported being more influenced by testimonies than male participants did.

There were no significant main or interaction effects from the dependent variable measuring realism.

Discussion

Summary of Results

This study produced several interesting results. The guilt rating of defendants was affected by a combination of the gender and the emotional display shown by the witnesses. Male witnesses who displayed the stereotypical emotion of their gender, anger, produced significantly higher guilt ratings for defendants than female
witnesses who displayed anger. Conversely, female witnesses who displayed the stereotypical emotion of their gender, fear, produced significantly higher guilt ratings for defendants than male witnesses who displayed fear. Additionally, the difference between guilt ratings produced by female witnesses displaying unexpected and stereotypical emotions for their gender, anger and fear respectively, was 1.18, which was much greater than the difference produced when male witnesses displayed incongruent and congruent emotions (0.04).

The control condition, in which both male and female witnesses showed no emotion while giving testimony, led to participants issuing significantly higher guilt ratings when a women displayed no emotion while testifying (5.36) as opposed to when a man displayed no emotion while testifying (4.08).

These results are very important and confirmed the hypotheses that defendants would be judged guiltier when witnesses displayed emotions congruent with gender stereotypes. This information sheds light on how receivers evaluate the credibility of sources, especially in a legal context. Are witnesses only deemed to be credible, and thus defendants are found guilty more often, when witnesses act and display the emotion a receiver expects? Some of the witnesses who displayed unexpected emotions still produced high guilt ratings and some witnesses who displayed expected emotions produced low guilt ratings, but overall, a significant effect was found that related the display of expected gender emotions to high guilt ratings for defendants.

Additionally, when no emotion was displayed in the control condition, the levels of guilt produced by male and female witnesses were expected to be equal. However, female witnesses displaying no emotion led to participants delivering
significantly higher guilt ratings. This could be due to the fact that when there were no emotions to evaluate, participants felt more sympathy for female witnesses who reported being robbed at knife point than male witnesses who experienced the same level of trauma. People may infer that a man would be less scared or vulnerable while being robbed than a woman and therefore, feel less sympathy for the man in this context. If the no emotion condition is viewed as the baseline in the experiment, it can be argued that female witnesses lead to higher guilt ratings for defendants than male witnesses when no other variables are introduced.

A result was also found that linked the participants’ belief in the witness to what emotion the witness displayed. Among all participants, witnesses were believed to be telling the truth the most when they were fearful. They were believed the least when they were angry, and the value for believing witnesses who showed no emotion was between these two values. This result seems to indicate that witnesses who evoke sympathy from receivers by showing fear are more likely to be believable witnesses than those who show anger.

Finally, there were several results produced by differences between male and female participants in the study. Significant results were found when comparing male and female responses regarding guilt rating, verdict, and influence. Female participants rated the guilt of the defendants significantly higher than male participants over the course of all experimental conditions. Female participants were also more likely than male participants to issue guilty verdicts and reported being more influenced by witness testimony.
These effects of participant gender can be explained by the stereotypes people hold regarding male and female emotional behavior. Females are deemed to be the more emotional gender and could be expected to be more influenced by emotional displays by witnesses, regardless of whether or not the displays were stereotypical of a certain gender. If this was the reason for the difference in responses, females could be expected to have a greater response than men to emotional displays across many situations.

The results could also be consequences of females having a greater fear of crime than males. Females are more likely than males to be the victims of rape and robbery and may have a higher fear of these incidents. As a result, they might be inclined to offer harsher penalties for individuals who commit those crimes. If this explanation held true, these effects may be exacerbated in a trial in which a more serious crime was committed, such as a rape or murder, and they may also be lessened in a trial where female jurors would not have a significant fear that the scenario in question would transpire in their own lives.

Regardless of the catalyst for the differences between male and female responses, these results are a caution to members of the legal community who choose jurors for trials. Women judged more defendants to be guilty than men did, but it is unknown whether female participants were too harsh or male participants were too lenient in their decisions. These effects show the importance of a balance between male and female jurors in a criminal trial.

*Unconfirmed Hypothesis*
Hypothesis 2 stated that the number of guilty verdicts would be greater when witnesses showed emotions considered stereotypical for their gender and would decrease when witnesses displayed unexpected emotions. This hypothesis was not confirmed, even though the levels of guilt rating for the defendants did increase when witnesses displayed congruent emotions and decreased when they displayed incongruent emotions for their gender. It can be surmised that the hypothesis did not follow this result because the decision of a guilty verdict in a criminal trial requires a judgment of “guilty beyond a reasonable doubt.” Most civilians are familiar with this legal ease and know that in a criminal trial the stakes are very high, and jurors must be sure of guilt before judging a defendant guilty. Even though some participants may have rated a defendant as an eight or nine on the “guilt rating” scale, indicating a high belief in the defendant’s guilt, these participants may still have issued not guilty verdicts because they were not absolutely certain of guilt.

The lack of support for hypothesis 2 could also be due to the fact that the question asking participants to declare a defendant guilty or innocent is a poor measure of their actual beliefs regarding the situation. This dichotomous measure only leaves two options for participants to choose from, and those who were confused or not absolutely certain about their belief in the defendants’ guilt or innocence may have randomly selected one of the options.

**Implications**

This study has several implications for the real world. The notion of stereotypes is very important when considering how receivers judge and interpret the information they receive. From this study, it can be understood that receivers
consider, either purposefully or not, the stereotypical manner in which men and women are thought to express feelings and information about a serious situation. This is because the guilt ratings issued by participants in the study were affected by the interaction of the gender and emotion displayed by the witness. The results indicated that defendants were in fact judged guiltier when witnesses displayed emotions stereotypical of their gender, as opposed to displaying emotions unexpected for their gender.

These results are very important when considering how receivers evaluate information they receive from sources and what factors affect the interpretation of information. The results indicate that receivers utilize stereotypes in their quest to interpret the information they receive from sources, and the implications of this should be considered by both senders and receivers of information. If senders were aware that they would be seen as more credible witnesses when displaying stereotypical emotions in certain situations, they might be inclined to manipulate this information for their benefit. Additionally, if receivers were aware of their own tendencies to employ stereotypes when judging sources, they might be able to become conscious of these habits and ultimately break them.

The context of this study limits the application of the results, but in the situation presented to participants both male and female witnesses recounted a personal situation in which they were in physical danger. This context can be extended to similar situations, and it is possible to predict how a witness could be judged in a comparable situation. Senders must consider how emotional congruence or incongruence will affect how the messages they communicate are viewed, and
receivers must be aware that they may be under the influence of the emotions displayed by the sender and not the message itself when evaluating a situation.

The results produced from testing the dependent variable belief also have serious real world implications. This variable indicated that when considering witnesses displaying all three emotions, fear, anger, and no emotion, witnesses were believed to be telling the truth most when they showed fear. This has implications regarding how receivers view information delivered by senders displaying certain emotions. In a serious context, in which harm could have resulted to the party involved, exhibiting fear may work in a sender’s favor and create credibility in the mind of the receiver.

The effects of participant gender, seen in the study, have implications for legal settings. The scenario presented to participants asked them to act as the jurors in a trial and evaluate the testimony of a witness and guilt of a defendant. The results of the study, which show that defendants were judged guiltier when male and female witnesses displayed emotions expected of their genders, as well as, the fact that female participants issued more guilty verdicts and were more influenced by witness testimony than male participants, are important notions to consider in a legal context. These results may not be applicable to all court cases that jurors hear; however, jurors and, more importantly, lawyers who are responsible for choosing jurors should be aware of the possible differences between how male and female jurors interpret emotional displays by witnesses. Jurors should be trained to listen to the information presented by witnesses and not simply fall into the trap of believing the testimony of fearful women or angry men. Conversely, jurors should not dismiss a female witness
who does not cry or a male witness who does cry when describing a traumatic event. The differences between male and female participants should signal to lawyers that it is extremely important to choose juries with a balance of male and female jurors.

**Advantages and Disadvantages of the Study**

There were several advantages to conducting the study in the manner in which it was carried out. The experimental situation and stimulus material allowed the specific gender emotion stereotypes to be manipulated, while leaving all other aspects of the situations identical. This allowed a direct comparison between how the testimony of male and female witnesses was viewed when the same witnesses displayed different emotions.

The method also presented an advantage because several dependent variables were able to be tested. Seven dependent variables were analyzed in the study and several results were found, as a result of the large number of variables that were analyzed.

There were disadvantages to the study, as well. The experimental condition only presented one message to participants and took place in one specific context. It is possible to extrapolate the results to similar contexts, but the results cannot be deemed reliable in other contexts. Additionally, the experimental conditions only presented the witness as a victim, so results can only be applied to other contexts in which the message sender is victimized.

The experiment’s methodology also presented some disadvantages. Since the participants were all Cornell University undergraduates, there is a certain level of similarity expected among participants that may not translate to the general
population. Furthermore, there were more female participants than male participants. Ideally, the study would have been composed of an equal number of male and female participants.

A portion of the experimental materials included a picture of the witness who was testifying. All these photos were taken in 1975, and the hairstyles and makeup were slightly different from present styles. Some participants found the photos somewhat amusing due to this and may not have taken the photos as seriously as they should have. Additionally, all the photos were of white men and women. This may have biased some participants.

Next Steps

This experiment produced several results, but there is more research that could be done to expand upon and clarify some findings. The experiment should be conducted a second time to determine whether or not the findings can be replicated. It would also be useful to know if the results could be replicated with participants older than college undergraduates, as most people who serve on juries are older than college students.

Other manipulations of gender stereotypes should also be studied in order to determine if the results can translate across emotions other than anger and fear. There are other emotions, which have been found in various studies to be more closely associated with one gender than another. For example, happiness has been found to be thought of as a female emotion and pride as a male emotion. It would be useful to learn if other gender stereotypical emotions produced similar results when displayed by male or female senders.
In order to test other emotions, as well as further explain the results attained in this study, it would be helpful to look at this situation in multiple contexts. The study explored witness emotions when the message sender had experienced a traumatic event in which he or she was in physical danger. It would be interesting to explore examinations of witness emotions when reporting less distressing events. For example, suppose the current scenario was replaced with a scenario in which a witness saw someone commit a less serious infraction, such as steal some merchandise from a store. Would a witness to this crime still be judged more credible by displaying stereotypical emotions for his or her gender, or would it be better for the witness to remain neutral and calm? It would also be enlightening to examine the emotional responses of a witness to a more serious crime, such as a murder.

Additionally, another experiment could be conducted to further explore the result produced by the “no emotion” condition for men and women when the dependent variable guilt rating was considered. In this condition, even though male and female participants both displayed no emotion, participants viewing female witnesses issued higher guilt ratings than those viewing male witnesses. An investigation into why this is so would be beneficial. It would be interesting to discern why females led to higher guilt ratings and what experimental conditions can equalize and intensify the differences between male and female witnesses showing no emotion.

It would be possible to change the context of the situation entirely by telling participants in the study that the stimulus material was not based on real life, but a dramatic television program. It is likely that the effects of gender emotional
stereotypes would be exacerbated if participants were told that the characters in the stimulus material were not real people, but television characters, as television characters are often based on stereotypical notions of different types of people.

Furthermore, it is necessary to look more closely at the gender issues that produced significantly different responses from male and female participants. Participant gender produced differences for the dependent variables guilt rating, verdict, and influence. The same study should be conducted with more subjects so that gender differences can be looked at for more participants, and information and scenarios should be manipulated to determine if these gender differences hold across contexts.

Finally, race should ultimately be included as an independent variable in a future study. There was no textual description of witness or defendant race in the stimulus material, but the photos that participants saw were all pictures of white men and women. It would be very exciting to replicate the study and manipulate either the race of the witness, race of the defendant, or both. In the present study, it would have also been interesting to include a question asking participants what race they envisioned the defendant to be.

Conclusion

The results found in this study are extremely important to consider in a legal setting and other real world contexts. Stereotypes can be helpful when they allow us to easily consider the characteristics of a group, but they can be harmful when they cloud our judgments and lead to fixed ideas about how a certain group should behave. In a criminal trial, such as the context of this study, it is extremely important that both
witnesses and defendants be afforded a fair opportunity to have their stories heard and impartially evaluated by juries of their peers. However, as this study has illustrated, the influence of testimony offered by witnesses is affected by the manner in which that testimony is delivered. The testimony of male and female witnesses produced different results when men and women showed stereotypical and unexpected emotions for their genders. It is important to consider the influence of witness emotion when giving testimony and the expectations that jurors have about how men and women will express themselves when discussing issues related to crime.
The figures below are representations of the photographs provided in the participant materials.

Figure 1: Male Anger

Figure 2: Male Fear
Figure 3: Male No Emotion

Figure 4: Female Anger
Figure 5: Female Fear

Figure 6: Female No Emotion
The following is a reproduction of the questionnaire given to participants.

1. How would you rate the guilt of the defendant?

Completely Not  1  2  3  4  5  6  7  8  9  10  Completely
Guilty

2. What is your verdict in this case?
Not Guilty  Guilty

3. How confident are you in your verdict in Question #2?

Not at all  1  2  3  4  5  6  7  8  9  10  Completely
Confident

4. If you ruled “Guilty” please indicate how long the defendant’s sentence should be.
(Minimum 42 months in prison, Maximum 180 months in prison)

______________ months in prison

5. How much did you believe that the alleged victim was telling the truth?

Not at all  1  2  3  4  5  6  7  8  9  10  Completely

6. How much did the testimony of the alleged victim influence your verdict?

Not at all  1  2  3  4  5  6  7  8  9  10  Completely

7. This seemed realistic to me.
Completely Disagree  1  2  3  4  5  6  7  8  9  10  Completely Agree

8. Please identify your gender.
Male  Female

9. Age ______

10. What race or ethnicity do you consider yourself? Please circle one.

1. Black
2. Asian
3. Hispanic
4. Native American
5. White
6. Mixed race
7. Other ________
Works Cited


Fogg, B.J. (1999). Persuasive technologies - Now is your chance to decide what they
will persuade us to do - and how they'll do it. Communications of the ACM., 42, 26-29.


Shapiro, M., Pena, J., & Hancock, J. (2006). Realism, Imagination, and Narrative Video Games. In Vorderer and Bryant (Eds.) Playing Video Games: Motives,


