

**JUROR PERCEPTIONS OF WITNESS CREDIBILITY  
AS A FUNCTION OF  
LINGUISTIC AND NONVERBAL POWER**

by

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## Abstract

While the effects of linguistic power on witness credibility in the courtroom as well as preliminary studies of the effects of nonverbal power on witness credibility have been studied, no research has focussed on manipulations of linguistic and nonverbal power together. For purposes of greater generalizability, the effect of different manipulations of linguistic power and nonverbal power in witness testimony is studied in this dissertation. Subjects viewed one of four videotaped versions of combined linguistic power/nonverbal power testimony and rated the witness's credibility. Through factor analysis and multivariate analysis of variance, the results showed that subjects rated the witness to be more credible in the following conditions: 1) when the witness used powerful linguistic/powerful nonverbal testimony versus powerless linguistic/powerless nonverbal testimony 2) when the witness used powerful linguistic/powerful nonverbal testimony versus mixed testimonial styles 3) when the witness used powerful nonverbal/powerless linguistic testimony versus powerless nonverbal/powerful linguistic testimony. Significant main effects were found for the powerful nonverbal condition. Preliminary gender findings suggest that the male witness was more credible overall. Interpretation of the findings, discussion of limitations of the study, and suggestions for further research are addressed.

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## Chapter One: Introduction

As social scientists increasingly turn their attention and research to our legal system and courtroom behavior, many studies center around predicting verdicts. Some researchers have focused on scientific jury selection as a means for predicting favorable verdicts. (Starr & McCormick, 1985; Schulman, Shaver, Colman, Emrich & Christie, 1973; Bonora & Krauss, 1979) Others consider the impact of jury size on verdicts. (Kerr & MacCoun, 1985; Padawer-Singer, Singer & Singer, 1977) Still others look at the effect of how jury instructions are worded. (Buchanan, Pryor, Taylor & Strawn, 1978; Strawn & Buchanan, 1976; Wrightsman, 1987). While researchers have found processes such as scientific jury selection to be minimally effective as a determinant of verdicts (Frederick, 1984; Diamond, 1990), the part of the legal process that predicts jury verdicts more consistently is the testimonial evidence that is presented in the trial. (Visher, 1987)

The vehicle for imparting that testimonial evidence is the witness. Litigants prepare witnesses so that their testimony is accurate and believable. However, the accuracy of messages alone does not necessarily ensure that the jury will believe the witness (Lind & O'Barr, 1979). Other variables influence the jurors' perceptions of a witness's truthfulness and honest intentions. Recently,

researchers have focussed on one such area called linguistic power. Linguistic power refers to the manner in which a person uses language and paralinguistic cues. A person who is linguistically powerful speaks with confidence and assertiveness. Conversely, a person who is linguistically powerless speaks with hesitance and uncertainty. Robin Lakoff (1976) first argued that linguistic power was a gender issue, linking powerlessness with females and powerfulness with males. Since then, many researchers have applied the concept of linguistic power to witness testimony and have consistently found that linguistically powerful speakers, regardless of gender, are judged to be more credible than linguistically powerless speakers (Lind & O'Barr, 1979; O'Barr, 1982; Conley, O'Barr & Lind, 1978; Johnson & Vinson, 1987).

While these findings are significant, they are limited by their methodology. Specifically, these studies have used audiotapes of trial testimony. While an effective method to isolate linguistic power and paralanguage, the use of audiotapes allows only partial exposure to the witness. The trial setting includes the visual presentation of the witness as well. However, the effect of the witness's nonverbal dimension on credibility perceptions has been minimized in legal communication literature to date.

Some researchers have conducted preliminary studies of witnesses' nonverbal demeanor in the courtroom. (Kaminski & Miller, 1984; Pryor & Buchanan, 1984) One research team studied the effect of camera angle of a testifying witness on perceptions of credibility (Kaminski & Miller, 1984). They discovered that assertive (strong) witnesses were more credible than nonassertive (weak) witnesses. They did not separate the effects of linguistic and nonverbal demeanor. Another study focussed only on manipulations of a witness's nonverbal demeanor but did not fully account for the linguistic demeanor of the witness. (Pryor & Buchanan, 1984). They also found that nonverbally assertive witnesses were more credible than nonverbally nonassertive witnesses.

Research in nonlegal settings bears out the clear significance of the importance of nonverbal behavior and its connection to the verbal message. Researchers who have focused on nonverbal behaviors and persuasion (Burgoon, Birk & Pfau, 1990; Henley, 1977; Linkey & Firestone, 1986) in nonlegal contexts have advanced a theory of nonverbal power that is synonymous with linguistic power. Persons with high nonverbal power appear confident; conversely, persons with low nonverbal power appear nervous and can give an impression of deceptiveness.

Again, while these findings for nonverbal power are

important, they artificially isolate only one facet of the witness. To date, no legal communication research has focused on nonverbal communication as a variable in conjunction with witness testimony. Since witness testimony includes visual and aural dynamics, it is critical that we study nonverbal power in conjunction with linguistic power in order to achieve a more holistic understanding of witness credibility.

Conley et al. (1978) emphasize the need for a holistic perspective of witness credibility:

A critical part of the speaker's presentational style is physical behavior, which provides the background for the words being uttered. Some aspects of this background behavior are tangible, such as gestures, facial expressions and body language, while other, intangible aspects are subsumed by such terms as "presence" and "bearing." As is obvious from experience, an unimpressive appearance and inappropriate behavior can destroy the value of testimony that is highly credible in terms of raw content, while convincing demeanor may give an appearance of substance to testimony that may in fact be devoid of meaning. (1376)

This study focuses on the effect of nonverbal and linguistic power variations on evaluations of witness

credibility. Conley et al. (1978) summarize concisely the importance of this line of research:

...[I]f it is correct to believe that the use of the powerful or powerless style is determined by the witness' social status and power in relation to the court, then the presentational effects observed in the powerful/powerless [studies] suggest that low-status witnesses, by virtue of the way they speak, have less credibility and thus a lesser chance of a fair hearing than do high-status witnesses. This, of course, is not congruent with the ideals of American justice. (pp.1392-1393)

Chapter Two consists of a comprehensive review of the literature in three main areas: linguistic power, nonverbal influence, and gender communication. It concludes with the hypotheses for this study.

Chapter Three reports the design of the study and the statistical methods employed for data analysis.

Chapter Four presents the research results, including the details of the analysis of the data.

Chapter Five includes a discussion of the research results and the conclusions drawn from this investigation. It also includes a discussion of the limitations of the study, a call for further research, and implications for social sciences and the law.

## Chapter Two: Review of the Literature

The witness's perceived credibility by a jury is key within the litigation process. The witness's testimony must be accurate and believable. However, as mentioned earlier, message accuracy alone does not necessarily ensure that the jury will believe the witness (Lind & O'Barr, 1979). Other variables of witness testimony can influence the juror's perceptions. Dating back centuries, the writings of Aristotle stressed the need for good delivery in acquiring credibility. (Cooper, 1932) The delivery of testimony in the modern courtroom is no exception.

In concert with witness testimony, two central variables that have been considered in a more anecdotal manner in trial advocacy literature are the style of the witness presentation and the gender of the witness. (Bailey & Rothblatt, 1985; Keeton, 1973) S o c i a l scientists have also paid experimental attention to these two areas. Lind and O'Barr (1979) point out that there is a growing collection of studies in social psychology that demonstrate that "individuals use information from the manner in which an oral communication is spoken to evaluate the speaker." (p.67) Conley, O'Barr, and Lind (1978) contend that legal scholars "have often speculated about various aspects of human behavior." (p.1353) However,

until recently, no empirical methods were employed to test such speculations. We now find the experimental methods of social science being applied to this area of the law.

Social science research has focussed on whether the witness presents testimony with confidence and assertiveness (powerful style) or whether the witness appears hesitant and unsure (powerless style). (Lind & O'Barr, 1979; O'Barr, 1982; Lakoff, 1975; Conley, O'Barr & Lind, 1978; Johnson & Vinson, 1987) To achieve a greater understanding of this phenomenon from a social science research perspective, I shall 1) explore the findings in the area of gender differences in communication and how it historically relates to 2) the area of linguistic power, 3) investigate empirical application to the litigation process, and 4) discuss the relevance of nonverbal communication in the study of witness power styles.

#### MALE AND FEMALE COMMUNICATION STYLES

The gender of the witness testifying cannot be ignored as an important variable in studying witness power styles. As a construct, the "effects" of gender on the communication behaviors of individuals and how they are perceived has been subject to examination for the last several years in the communication literature (Pearson, 1985). Often gender is not the focus of the research, but

is taken into account in the description of subjects and in the analysis, where scores for males and females are reported separately. Other research highlights the different effects that gender has on certain variables, such as time of talk (Eakins & Eakins, 1976; Ickes & Barnes, 1977) interruption behavior (Eakins & Eakins, 1978; Henley, 1977, as cited in Dindia, 1987) nonverbal behavior, (Mehrabian, 1972; Henley, 1977, as cited in Borisoff & Merrill, 1983), and nature of communication (tag question, hedges, qualifiers, etc.) (see Borisoff & Merrill, 1983; Pearson, 1985; Stewart, Stewart, Friedley, & Cooper, 1986) In many cases the early research supports the notion that differences in how men and women communicate exist, and that these differences in communication influence how they are perceived (Borisoff & Merrill, 1983; Stewart et al., 1986).

#### Vocalic and Verbal Characteristics

The vocal characteristics of men and women may also influence how they are perceived. Addington (1968) examined nine vocal qualities of women and found that perceptions of women's personalities are often made through judging vocal characteristics whereas men are judged by other variables. For example, if a woman's voice is breathy she is perceived as shallow; conversely, a man is perceived as young and possibly artistic. If a woman's



voice has a quality of tenseness she may be perceived as emotional, young, and lacking in intelligence. For a male tenseness is an indication of stability and maturity. Women are perceived as lazy and "masculine" if they have a throaty quality to their voices, but for men this is an indication of sophistication, maturity, positive adjustment, and a realistic attitude. This study provides evidence on vocal qualities that support the stereotypes that males are dominant, active, and independent and that females are submissive, passive and dependent. According to Borisoff & Merrill, (1983):

The masculine model is that of a speaker who is direct, confrontive, forceful and logical; whose few, well-chosen words are focused on making a particular point (p. 13.)

There is difficulty with this point of view in that it helps to perpetuate the male stereotype. According to Borisoff and Merrill this stereotype has come to be considered gender neutral and the "appropriate" model for human communication. Note that even though it is considered the "norm," women's attempts to deviate from their own expected communication behavior often results in a perception that they are masculine and pushy; they may even be punished for such assertive behavior (Borisoff & Merrill, 1983; Pearson, 1985; Stewart et al., 1986.)

### Vocabulary Differences in Gender Communication

According to Lakoff (1975, as cited in Stewart et al., 1986) there are qualities or characteristics of women's speech that are different than the speech of men. She contends that women have a larger vocabulary than men. This can be seen in the number of words women used to describe color as opposed to how men describe color. A man would see a color as blue or green, whereas a woman might describe the color as turquoise. Lakoff's contention for this difference is that women use these various color words in areas that are of little importance to men. She does contend, however, that the variety in language of women may work in their favor in that it provides them with the ability to describe things or events more accurately.

### Linguistic Power in Gender Communication

In addition, Lakoff explored powerful and powerless styles displayed in people's use of language. She proposed that women are more likely to use rising intonation at the end of a sentence, tag questions, hedges, and qualifiers, all of which can reduce their perceived credibility. According to Borisoff and Merrill, (1983) those who feel they are powerless seek others' feedback to validate their opinions, and according to Lakoff women use tag questions precisely to gain validation.

However, not all the research is supportive of

Lakoff's assertions. (see Cameron, McAlinden, & O'Leary, 1988; Stewart, et al., 1986; Thorne, Kramarae and Henley, 1983.) The problem with Lakoff's perspective on women's language and verbal behavior is that she based her assertions on little research (Cameron, et al., 1988) and that subsequent research has been contradictory when her assertions were tested (e. g. Cameron, et al., 1988 and Holmes, 1984). For example, Bradac and Mulac (1984) found that females' use of powerless speech was judged to be more credible in social settings such as parties. As will be discussed later, O'Barr (1982) discounts Lakoff's link of linguistic power with gender; rather, he found a stronger connection between social status and linguistic power.

Still, many researchers have paid experimental attention to the linguistic power and gender phenomenon with which Lakoff was credited as starting. Stereotypes that are developed and perpetuated from social and cultural expectations have influenced the perceived and actual power of women (Borisoff & Merrill, 1983; Gilligan, 1982.) Borisoff and Merrill (1983) noted that women "render themselves vulnerable" (p. 12) because they are more likely to self-disclose than men. Further, they noted that men gain power when they sound "authoritative" and communicate "facts rather than emotions" (p. 12). Borisoff and Merrill also noted that, because of this power, men are perceived

as the "favored" group (p.27), and that other groups in the social structure will adopt the communication behaviors of those in power. Thus, the male communication style is considered the norm.

Borisoff and Merrill (1983) also noted that the influence of cultural stereotypes helps to perpetuate this concept: that how men and women communicate (either through verbal or non verbal channels) influences their perceived powerfulness or powerlessness.

Men and women have been taught to use language differently. For women, speech communication is a social medium. Women have been raised to use communication as a mechanism for creating bonds. Men have been encouraged to communicate primarily to exchange information. Tag questions, qualifiers, disclaimers, and intonation patterns that sound as though the speaker is requesting rather than commanding, are strategies common to women's speech. These verbal and vocal behaviors are considered less direct, but more polite than the corresponding patterns males tend to employ. And yet, lest these be presented as two equal options, it must be remembered that the **need to be polite** is in itself a signal of a power imbalance. Subordinates who fear alienating

their superiors are required to be polite. Politeness is a strategy for gaining or maintaining favor. Those already powerful are not compelled to be polite. They can, therefore, afford to be direct (p.29).

Bradac and Mulac (1984) also found that a message's effectiveness was influenced by whether or not it was perceived as powerful or powerless. In addition, they found that the perceived intention of the communicator can affect how acceptable the communicator's attempt to be powerful or powerless is. Warfel (1984) found that those who use powerless speech patterns are perceived to be less dominant, supporting the traditional stereotype. However, she also found that powerless speakers (using qualifiers, tag questions, and disclaimers) were perceived to be **more** competent than powerful speakers. In addition, Cameron, et al., (1988) noted that the function of the tag question may be more one that is dictated by the context, the roles of the interactants, and the rules for the interaction.

Most recently, Hosman (1989) found that messages without hedges and hesitations were perceived as the most authoritative, while a message high in hedges and low in hesitations was perceived as the most sociable. Again, the context of the situation affects the perceived appropriateness of power levels.

## GENDER DIFFERENCES IN LANGUAGE IN THE COURTROOM

The themes of 1) how male and female witnesses differ in communication styles, and 2) the perceptions of powerful and powerless styles as used by the witnesses are critical ones. These points directly relate to witness credibility in the courtroom.

Indeed, trial advocacy literature conjectures about possible effects of various styles of communication on the reception of evidence by a judge or jury. More specifically, differences in the speech characteristics of men and women in the courtroom have been discussed. For example, many trial practice manuals contain special sections detailing how female witnesses behave differently from males and what special kinds of treatment they require as a consequence. They suggest such tactics as:

1. Be especially courteous to women. (Keeton, p.149)
2. Avoid making women cry. (Keeton, p.149 & Bailey, p.190)
3. Women behave differently from men and this can sometimes be advantageous. (Bailey, p.190 - 191).

In his 1971 trial practice manual, Bailey compares women to children by virtue of their "stubbornness", "evasiveness", and "unwillingness to say 'yes'". He abandoned this position in his second edition (1985) and states instead,

Jurors may become annoyed with counsel who markedly alters the manner of cross-examining women. Your demeanor should remain constant throughout the trial. Male attorneys, particularly, should not act in a condescending manner to female witnesses and should avoid becoming overly solicitous of their feelings.  
(p.324)

Aside from the examination of women, great attention has been given to the demeanor of woman as witness. William O'Barr specifically applied the theory of linguistic power to the courtroom.

POWERFUL/POWERLESS LANGUAGE RESEARCH IN THE COURTROOM

As mentioned earlier, Lakoff had posited a "women's language" which embodied the qualities of powerless language. O'Barr (1982) tested the concept of linguistic power in the courtroom by content analyzing over 150 hours of courtroom audiotape of women's and men's testimony. He concluded that:

so-called women's language is neither characteristic of all women nor limited only to women. A similar continuum of Women's Language [high to low] is found among speakers of both sexes. These findings suggest that the sex of a

speaker is insufficient to explain incidence of  
Women's Language features. (p.69)

As mentioned earlier, O'Barr's alternate explanation for differences was related to social status rather than gender. While he found that more women fall toward the high end of the continuum (powerless), he discovered that all aberrant (powerful) women and aberrant (powerful) men were typically well-educated, professional persons of middle-class backgrounds. He concluded that the correlation between lower social status and females accounted for the higher incidence in linguistic powerlessness among women.

Having concluded that powerlessness in language was more intrinsic to social status than to gender, O'Barr and his associates tested how powerful/powerless language affected the perceived competence of witnesses in the courtroom. Their rationale for studying competency was that social psychological theory and research "ha[ve] long recognized the importance of this issue of 'credibility' in the reception of social communications." (Lind & O'Barr, 1979)

To test the credibility issue in the legal setting, Conley, et al. (1978) produced a powerful direct examination audiotape between an attorney and a male/female witness and a powerless direct examination tape between an



attorney and a male/female witness. When subjects were asked how convincing the witnesses were, the powerful witnesses scored significantly higher than the powerless witnesses. Specifically, the powerful male and female witness were found to be more believable, more convincing, more competent, more intelligent, and more trustworthy than the powerless witnesses. Johnson and Vinson (1987) replicated this finding by demonstrating with audiotapes that a powerfully speaking female is perceived as significantly more credible and persuasive than the powerless witness, whether male or female.

Another study of communicator intent and linguistic power (Bradac & Mulac, 1984) found a correlation between higher acceptability of powerful language and authoritative intent. This connection could be transferred specifically to the legal setting where it is critical that a witness appear authoritative and credible on the stand.

Subjects also reported greater attraction to the witness, regardless of the sex of the witness, who used the powerful speaking style (Erickson, Lind, Johnson, & O'Barr, 1978). Interestingly enough, this effect was stronger when the subject and the witness were of the same sex than when they were of the opposite sex. However, in a study of linguistic power outside the legal context, Johnson and Vinson (1987) concluded that sex of the respondent had no

significant effect on the evaluation of communicator effectiveness.

In 1981, Bradac, Hemphill, and Tardy studied powerful/powerless language and witness impressions based on Jones and Aronson's (1973) findings that:

powerful persons who are victimized by others are judged more blameworthy than are their powerless counterparts. That is, powerful victims are likely to be seen as having provoked the act of victimage to some extent. (p.419)

Bradac et al. replicated earlier findings that higher judgments of competence were awarded to powerful witnesses. Their remaining tests of culpability of witnesses were inconclusive but suggest an interesting area for further study.

#### NONVERBAL POWER STYLES

The methodology of these courtroom communication studies share one major characteristic that precludes clear standards of generalizability. Specifically, these studies have made use of audiotapes of trial examinations. While the use of audiotapes was an effective method to isolate power and paralanguage, the trial setting includes the visual presentation of the witness as well. Nonverbal witness demeanor is also an important element of witness

testimony. We need to focus on findings for nonverbal behavior and its effect on credibility to better understand its impact on witness demeanor.

#### Perceptions of Status and Power in Nonverbal Behavior

Men and women's nonverbal communication and perceptions of credibility have been studied most thoroughly in nonlegal settings. Specifically, nonverbal power has been studied connected with visual dominance behavior and the persuasiveness of wholistic nonverbal behaviors.

#### **Visual Dominance Effects**

Nonverbal power includes the concept of visual dominance. Exline, Ellyson, and Long (1975) defined the visual dominance ratio as the ratio of the percentage of looking in two modes: the percentage of looking while speaking relative to the percentage of looking while listening. Exline, et al. demonstrated that "relatively high social power is reflected in a relatively high social dominance" ratio. (Dovidio, et al, 1988)

Dovidio & Ellyson (1985) found that high-power persons displayed higher levels of looking while speaking or equivalent levels of looking while speaking in conjunction to looking while listening (providing visual dominance ratios of 1.00 or greater) whereas low-power persons looked

significantly more while listening than while speaking.

From a gender perspective, women look significantly more while listening than while speaking which is a manifestation of low social power. Men, on the other hand, display high social power by using more equivalent levels of looking while speaking and looking while listening. Lowered eye contact, averting the gaze, and blinking are submissive nonverbal behaviors that women tend to use more than men. (Borisoff & Merrill, 1983) Regardless of gender, Linkey and Firestone (1986) found that higher social power displayed through visual dominance was more influential.

#### **The Influence of Nonverbal Behaviors**

Many researchers have focussed on the persuasive effect of isolated nonverbal behaviors. Facial expressiveness is consistently a research focus. Henley (1977) explains:

Faces are the means by which we attempt to create an impression and they will therefore be a major focus for displaying the impression of status, power, or authority. (p.169)

Several studies have determined that more gestural and facial activity is persuasive (Edinger & Patterson, 1983; Forbes & Jackson, 1980; LaCrosse, 1975; Maslow et al., 1971). They advanced Mehrabian & Williams (1986) findings

that persuasive speakers were more facially expressive. Henley (1977, p. 170) went so far as to characterize a "loss face" (furrowed brow, slightly squinted eyes, retracted neck, and conspicuously lowered chin) with the "win face" (raised brows, wide-open eyes, firmly jutting neck posture, and conspicuously raised chin).

As cited earlier, previous research linking nonverbal behavior with persuasion has isolated nonverbals to one cue (eg., speaking rate). While appraisal of one cue simplifies the analysis of the effects of the nonverbal characteristic, this artificially reflects the reality of how speakers use nonverbal behaviors.

In a rare study focussing on wholistic nonverbal behaviors and credibility, Burgoon et al. (1990) combined several nonverbal cues in "live" persuasive speech presentations and tested subjects' reactions to each speaker. They found that speakers with greater vocal and facial pleasantness were perceived to be more competent. Greater perceived persuasiveness correlated with greater vocal pleasantness, kinesic/proxemic immediacy, facial expressiveness, and kinesic relaxation. This perception of persuasiveness remains to be tested in other settings beyond the classroom speaking environment.

#### Nonverbal Behavior in the Courtroom

Only limited legal communication research has been

conducted with nonverbal witness behavior in mind. Researchers have found that the angle of a camera makes minimal difference when testing a strong versus weak witness. (Kaminski & Miller, 1984). Regardless of camera angle, the mock jurors perceived the strong witness to be significantly more composed, qualified, and dynamic than the weak witness. These jurors also retained significantly more information about the witness's testimony than jurors who were exposed to the weak witness. The researchers cite nonverbal behavior as a contributing factor to perceptions of credibility. However, they did not separate the witness's behaviors according to linguistic and nonverbal cues. Pryor & Buchanan (1984) studied witnesses' use of nonverbal anxiety. They manipulated the defendant's eye contact, low to moderate to high levels of nonverbal anxiety, and use of nonfluencies (which included paralinguistic cues such as stuttering and use of vocal fillers.) They found that witnesses who showed more "anxious" nonverbal behaviors were judged to be less credible and that witnesses who showed little or no anxiety received the highest credibility ratings. This study did not fully factor in the witness' use of linguistic power.

#### A Model of Nonverbal Power

By combining the findings from nonverbal research, I

constructed a dichotomous scale of nonverbal powerfulness and nonverbal powerlessness adapted to the courtroom setting. Table 2.1 summarizes those findings.

**Table 2.1 Polarizations of Nonverbal Power**

BEHAVIOR	POLARIZATIONS OF NONVERBAL POWER	
	POWERFUL	POWERLESS
Eye contact with attorney	Direct	Averted
Eye contact with jury	Consistently looks at jury	Avoids looking at jury
Head position	Head erect	Head lowered
Head movement	Head held steady	Head turns occasionally
Hand position	Hands held outward from body	Hands folded in lap and close to body
Shoulder position	Back straight	Rounded shoulders
Posture	Leaning forward	Leaning away

The "Generalizability Gap": The Need to Integrate Linguistic and Nonverbal Power

If a juror is to assess the credibility of a witness, he or she must fully analyze the testifier's verbal and nonverbal cues. A speaker's linguistic power affects his or her credibility; likewise, a person's use of nonverbal power also impacts his or her persuasiveness. In comparison to a person's use of language, Dovidio et al. (1988) contend that nonverbal behavior may provide more

consistent cues of power. Ekman and Friesen (1975) suggest that it is "...because people have less control over their nonverbal and paralinguistic behavior than their verbal behavior."

Further study must be made of the "complete" presentation of the witness, both audibly and visually. Only then can we generalize findings regarding credibility of witness presentations. It is the purpose of this study to offer a bridge to this generalizability gap through an analysis of different manipulations of witness presentations that involve both linguistic and nonverbal dimensions. The hypotheses stemming from this discussion will cover three major areas. The first set of hypotheses will focus on replication of major credibility findings for the separate variables of linguistic power and nonverbal power. The second set of hypotheses will concentrate on advancing answers to the gaps in the combined area of linguistic and nonverbal power. Finally, the third set will center on a preliminary investigation of gender and power issues.

As discussed, the common denominator for studies whose focus has been on linguistic or nonverbal power has rested on the premise that powerful styles are more credible than powerless styles. In an effort to replicate those earlier findings for the discrete areas of linguistic and nonverbal



power, I hypothesize the following:

H1: Witnesses who use powerful linguistic styles will be evaluated to be more credible than those who use powerless linguistic styles.

H2: Witnesses who use powerful nonverbal styles will be evaluated to be more credible than those who use powerless nonverbal styles.

Secondly, we need to examine the combined phenomenon of linguistic and nonverbal power. As cited earlier, previous research suggests that differences exist in perceptions of users of powerful and powerless language and users of powerful and powerless nonverbal communication styles. I hypothesize that witnesses who use communication styles that integrate both dimensions of nonverbal and linguistic power will also be perceived differently.

H3: Witnesses who use powerful linguistic and nonverbal styles will be evaluated to be more credible than those who use powerless linguistic and nonverbal styles.

This hypothesis will attempt to integrate the factor of nonverbal power with linguistic power for greater generalizability.

Research indicates that when a receiver perceives an inconsistency between verbal and nonverbal messages, the unspoken one carries more weight (as cited in Burgoon, et al., 1989). For that reason, we can surmise that the more consistent message will be more influential or that:

H4: Witnesses who use powerful verbal and nonverbal styles will be evaluated to be more credible than those who use mixed linguistic and nonverbal styles (powerful linguistic/powerless nonverbal and powerless linguistic/powerful styles).

Additionally, since the receiver will purportedly choose to believe the sender's nonverbal message over a contradictory verbal one, I will test whether a powerful nonverbal style will add more credibility to a powerless linguistic style. I will compare this with the effect of a powerless nonverbal style on a powerful linguistic style. If we are to believe Dovidio et al.'s (1988) assertions that nonverbal behavior carries more weight than linguistic behavior, we can hypothesize that:

H5: Witnesses who use powerful nonverbal/powerless linguistic styles will be evaluated to be more credible than witnesses who use powerless nonverbal/powerful linguistic styles.

Sex of the witness is not addressed in any of the previous hypotheses. Indeed, it is not the purpose of this study to advance a conclusive theory of witness credibility as a function of gender. However, as the design of this study will suggest, gender of the witness is a factor in the analysis. This is due to the fact that both a male and female witness are used in the experiment. As a result, it would be interesting to test how gender of the witness

affects ratings of credibility across different combinations of linguistic and nonverbal power. No previous research has focussed on gender differences when vocal and nonverbal behaviors are tested for credibility. Therefore, I will ask:

RQ1: Does the gender of the witness affect evaluations of his/her credibility?

While the findings for this question will be applicable to the witnesses in this study, I will not argue results that are generalizable beyond this research design (by virtue of the fact that it involves only one male and one female witness.) The analysis will serve as a preliminary investigation of gender differences in use of linguistic and nonverbal power.

Chapter Three will describe the methodology used to test the hypotheses and research question.

## Chapter Three: Experimental Methods and Procedures

### Subjects

Approximately 180 subjects from the basic communication program at a midwestern university volunteered to participate in the study. The subjects were placed in juries of eight to twelve people. An average of twenty juror-participants were assigned to each condition.

### Stimulus Materials

Eight video tapes were filmed using two professional actors (male and female) who portrayed witnesses. Each actor appeared in four videotaped sessions. The scripts for the videotapes were adapted from the scripts used in O'Barr (1982) that typify a fictitious direct examination between an attorney and an eyewitness to an accident between an ambulance and another car. (See appendices A and B). Two versions of the scripts exist. One script depicts the witness as linguistically powerful. The second version portrays the witness as linguistically powerless. The wording of the scripts is the same as the originals used by O'Barr in his research. Nonverbal directions (powerful or powerless) were added to each script.

The two linguistic power scripts, when combined with the nonverbal directions created four combinations of

linguistic and nonverbal power. Each actor performed in the following videotapes:

1. Powerful linguistic/Powerful nonverbal style
2. Powerful linguistic/Powerless nonverbal style
3. Powerless linguistic/Powerless nonverbal style
4. Powerless linguistic/Powerful nonverbal style

The videotapes reflect the creation of a 2 (linguistic power) X 2 (nonverbal power) X 2 (actor gender) design.

Table 3.1 lists the nonverbal behaviors that were used to depict the powerful and powerless nonverbal conditions.

**Table 3.1. Nonverbal Power Styles**

POWERFUL	POWERLESS
Eye contact with attorney	Avert gaze of attorney
Eye contact with jury	Will not look at jury
Head erect	Chin lowered to chest
Head held steady	Head turns occasionally
One arm on arm of chair	Arms close to body
Hands held outward from body	Hands folded in lap
Back straight	Rounded shoulders
Leaning forward	Leaning away

Specifically, the powerful nonverbal communication consisted of direct eye contact in the direction of the (unseen) attorney when being asked a question, seated with head erect and back straight while leaning forward to

answer, asymmetrical arms (one arm on the arm of the chair at all times), and with a general appearance of relaxed confidence.

The powerless nonverbal communication consisted of averting the gaze, looking down or around when asked a question by the attorney, looking inconsistently at the attorney when answering the question, seated with back somewhat rounded and shoulders held away and down somewhat, and with chin held somewhat down. Occasionally the "witness" turned his/her head from side to side as though thinking of an answer, while arms were held close to the body with hands crossed over each other in the lap, with a general appearance of nervous tension.

### Pretest

To determine whether the nonverbal behaviors were actually perceived as powerful and powerless, I ran a pretest to determine two things. First, I measured whether the observers actually perceived a significant difference between the nonverbal communication styles. Secondly I gauged whether those differences manifested themselves as the powerful and powerless nonverbal conditions.

Twelve observers viewed each videotaped version (96 observers total) without the sound and were tested on their general impressions of the nonverbal communication in the

tapes. They completed the polarized scale measure that follows:

**Table 3.2. Pretest Measure of Nonverbal Power**

strong eye contact	1 2 3 4 5 6 7	weak eye contact
head erect	1 2 3 4 5 6 7	head lowered
arms away from body	1 2 3 4 5 6 7	arms close to body
hands held outward from body	1 2 3 4 5 6 7	hands held close to body
back straight	1 2 3 4 5 6 7	rounded shoulders
leaning forward	1 2 3 4 5 6 7	leaning away

To test the significance of differences between the conditions, two multivariate analyses of variances were conducted. One MANOVA tested for differences in the nonverbal powerful style and the nonverbal powerless style for the female witness; the second MANOVA tested for the same findings for the male witness. For testing the levels of significance, a Bonferroni adjustment was made to the multiple dependent variables. The significance level was set at .008 for each dependent variable to help adjust for experimentwise error.

**Female Witness**

Table 3.3 summarizes the cell means and standard deviations for the nonverbal power styles of the female witness.

**Table 3.3 Cell Means and Standard Deviations for Female Witness Nonverbal Power Styles**

DEPENDENT VARIABLE	POWERFUL NONVERBAL (n=24)	POWERLESS NONVERBAL (n=24)
Eye contact	M = 6.13 SD = 1.04	M = 3.63 SD = 1.66
Head position	M = 5.96 SD = .99	M = 2.50 SD = 1.47
Arm position	M = 5.33 SD = 1.88	M = 2.54 SD = 1.53
Hand position	M = 5.42 SD = 1.59	M = 3.25 SD = 1.82
Back position	M = 5.33 SD = 1.83	M = 1.79 SD = 1.25
Leaning position	M = 4.46 SD = 1.44	M = 2.83 SD = 1.99

The MANOVA for differences in the two nonverbal power styles for the female witness proved to be significant. The MANOVA resulted in an  $F[6,41]=19.85$ ,  $p<.000$ . Follow-up univariate tests determined significant differences for each dependent measure. Table 3.4 summarizes the findings.



**Table 3.4 ANOVA Results for the Female Witness**

DEPENDENT VARIABLE	F[1,46]	p value
Eye contact	39.09	.000
Head position	90.49	.000
Arm position	31.80	.000
Hand position	19.29	.000
Back position	61.12	.000
Leaning position	10.46	.002

The nonverbally powerful female witness was found to have stronger eye contact when answering questions, to hold her head erect, and to hold her arms away from her body. She was also judged to hold her hands outward from her body, to hold her back straighter, and to lean forward more toward the attorney.

**Male Witness**

Table 3.5 summarizes the cell means and standard deviations for the nonverbal power styles of the male witness.

**Table 3.5 Cell Means and Standard Deviations for Male Witness Nonverbal Power Styles**

DEPENDENT VARIABLE	POWERFUL NONVERBAL (n=24)	POWERLESS NONVERBAL (n=24)
Eye contact	M = 5.88 SD = .99	M = 2.50 SD = 1.38
Head position	M = 5.58 SD = 1.14	M = 2.88 SD = 1.45
Arm position	M = 4.00 SD = 2.11	M = 1.83 SD = 1.31
Hand position	M = 3.92 SD = 1.93	M = 2.75 SD = 1.65
Back position	M = 5.17 SD = 1.37	M = 2.04 SD = 1.04
Leaning position	M = 3.71 SD = 1.81	M = 2.04 SD = 1.16

The nonverbal power of the male witness also proved to be significantly different in the MANOVA ( $F[6,41]=25.84$ ,  $p<.000$ ) as well as in most of the follow-up univariate tests of the dependent variables. Table 3.6 summarizes these results.

**Table 3.6 ANOVA Results for the Male Witness**

DEPENDENT VARIABLE	F[1,46]	p value
Eye contact	94.37	.000
Head position	51.61	.000
Arm position	18.33	.000
Hand position	5.06	.029
Back position	78.94	.000
Leaning position	14.48	.000

The nonverbally powerful male witness, like the female witness, was found to have stronger eye contact when answering questions, to hold his head erect, and to hold his arms away from his body. He was also judged to hold his back straighter and to lean forward more toward the attorney.

Procedure

Once the videotapes were determined to be significantly different in their portrayal of nonverbal power, the "juries" were assembled. The juror-participants reported to the courtroom at the law school. They were grouped in the jury box and immediately completed a consent form. They then heard a brief explanation of the videotaped testimony that they were about to watch. (See Appendix C.) They watched one of the following eight versions of videotape on a color monitor.

**Table 3.7 Versions of Witness Videotapes**

1. Female powerful speech/powerful nonverbal style
2. Female powerful speech/powerless nonverbal style
3. Female powerless speech/powerful nonverbal style
4. Female powerless speech/powerless nonverbal style
5. Male powerful speech/powerful nonverbal style
6. Male powerful speech/powerless nonverbal style
7. Male powerless speech/powerful nonverbal style
8. Male powerless speech/powerless nonverbal style

Each version lasted approximately twelve minutes.

### **Instrument**

After watching the videotape, subjects completed a form seeking the following demographic data: gender, age, and political affiliation. They then responded to the credibility scale described below. In previous research, the scale has consisted of five subscales: competency, extroversion, character-sociability, composure, and sociability. Research that has tested credibility measures replicates the necessity of measuring these five factors and suggests a more thorough survey procedure. (McCroskey & Young, 1981). A more thorough scale consists of the following polarizations that have been proven through principal components analysis to measure perceived credibility. (The factors upon which the variables load are in parentheses.)

**Table 3.8 Witness Credibility Scale (McCroskey & Young,**

**1981)**

<b>(Competency)</b>		
unintelligent	1 2 3 4 5 6 7	intelligent
untrained	1 2 3 4 5 6 7	trained
inexpert	1 2 3 4 5 6 7	expert
uninformed	1 2 3 4 5 6 7	informed
unconvincing	1 2 3 4 5 6 7	convincing
stupid	1 2 3 4 5 6 7	bright
incompetent	1 2 3 4 5 6 7	competent
<b>(Extroversion)</b>		
timid	1 2 3 4 5 6 7	bold
silent	1 2 3 4 5 6 7	talkative
meeek	1 2 3 4 5 6 7	aggressive
introverted	1 2 3 4 5 6 7	extroverted
not dynamic	1 2 3 4 5 6 7	dynamic
<b>(Character-Sociability)</b>		
sinful	1 2 3 4 5 6 7	virtuous
dishonest	1 2 3 4 5 6 7	honest
selfish	1 2 3 4 5 6 7	unselfish
unsympathetic	1 2 3 4 5 6 7	sympathetic
low character	1 2 3 4 5 6 7	high character
untrustworthy	1 2 3 4 5 6 7	trustworthy
<b>(Composure)</b>		
nervous	1 2 3 4 5 6 7	poised
tense	1 2 3 4 5 6 7	relaxed
anxious	1 2 3 4 5 6 7	calm
excitable	1 2 3 4 5 6 7	composed
uptight	1 2 3 4 5 6 7	cool
fearful	1 2 3 4 5 6 7	controlled
<b>(Sociability)</b>		
uncialbe	1 2 3 4 5 6 7	sociable
unfriendly	1 2 3 4 5 6 7	friendly
gloomy	1 2 3 4 5 6 7	cheerful
irritable	1 2 3 4 5 6 7	good natured

The order of items was scrambled and several polarizations were reversed. Appendix D demonstrates the instrument as it appeared to the juror-participants.

Upon their completion of the forms, the juror-participants were debriefed and thanked for their participation. Each experiment lasted approximately 20 minutes.

### Statistical Analysis

The statistical analysis of the data involved two main procedures: factor analysis and multivariate analysis of variance (MANOVA). The rationale for and execution of each procedure is explained in this section.

#### **Factor Analysis**

For replication and validity purposes, a principal components analysis was conducted on the 29-item measure. The resulting factors from this analysis composed the dependent measures to be used in the MANOVA. Because the polarization values for many of the dichotomous items had been reversed, the items were recoded so that all numeric values would be consistent. For the scale of one to seven, one represented very weak credibility, while seven represented very strong credibility.

After the recoding was completed, the 29 items were subjected to principal components analysis. The analysis included the production of eigenvalues greater than one to determine the number of factors to be extracted and orthogonal factor rotation to determine factor loadings. The factor loadings consisted of the 29 scale items.

### **Dummy Coding of the Variables**

To distinguish the independent variables within each of the eight videotaped versions/conditions of witness testimony, dummy coding was necessary. For the sex variable, the four female witness conditions were dummy coded as "1"; the four male witness videotapes were dummy coded as "2". For the nonverbal power variable, the four powerful nonverbal conditions were dummy coded as "1"; the four powerless nonverbal conditions were dummy coded as "2". Similarly, for the linguistic power variable, the four powerful linguistic conditions were dummy coded as "1"; the four powerless linguistic conditions were dummy coded as "2".

This numbering system produced a discrete coding sequence for each of the eight conditions making the versions easily distinguishable. For explanatory purposes, I will refer to this numbering system. The breakdown for each condition is listed in Table 3.9.

**Table 3.9 Dummy Coding Sequence for Eight Conditions**

CONDITION	SEX	NONVERBAL POWER	LINGUISTIC POWER
Powerful nv/powerful linguistic female	1	1	1
Powerless nv/powerful linguistic female	1	2	1
Powerful nv/powerless linguistic female	1	1	2
Powerless nv/powerless linguistic female	1	2	2
Powerful nv/powerful linguistic male	2	1	1
Powerless nv/powerful linguistic male	2	2	1
Powerful nv/powerless linguistic male	2	1	2
Powerless nv/powerless linguistic male	2	2	2

**Multivariate Analysis of Variance (MANOVA)**

The factor analysis determined the four dependent variables that were used in the MANOVA equations. For each of the hypotheses, MANOVAs were conducted as described below. Bonferroni adjustments were made for the four dependent variables to help control for experimentwise error. The level of significance for each dependent variable was set at the .012 level. A statistical adjustment was also made for unequal cell sizes. Cell means and standard deviations were generated for each condition.



### The 2 X 2 X 2 Factorial Design

For the first two hypotheses and the research question, the full 2 x 2 x 2 factorial model was utilized. The factorial design consisted of the three independent variables: sex, nonverbal power, and linguistic power. A MANOVA was conducted for the hypotheses and research question. Follow-up univariate tests were conducted for each interaction and main effect that proved significance.

For Hypotheses One and Two, effects of the independent variables of linguistic power and nonverbal power on the dependent variables were of interest. Therefore, I analyzed the main effects of linguistic power and nonverbal power produced by the factorial design. For the research question, the effect of witness gender on credibility was analyzed as an interaction with nonverbal power and linguistic power and as a main effect.

### One-Way MANOVA

For each of the remaining hypotheses (three, four, and five), the effect of testimonial style (eg. powerful linguistic/powerful nonverbal v. powerless linguistic/powerless nonverbal for Hypothesis Three) was tested on the four credibility measures (dependent variables). Using the same dependent variables produced by the factor analysis, separate one-way MANOVAs were conducted for each of the three hypotheses.

For Hypothesis Three, I tested differences between the linguistically powerful/nonverbally powerful witnesses (1/1/1 & 2/1/1) and the linguistically powerless/nonverbally powerless witnesses (1/2/2 & 2/2/2) regardless of witness sex as measured by the dependent variables.

For Hypothesis Four, significance was tested between the powerful linguistic/powerful nonverbal conditions (1/1/1 & 2/1/1) versus the mixed linguistic/nonverbal conditions (1/2/1 & 2/2/1 and 1/1/2 & 2/1/2) regardless of witness sex.

For Hypothesis Five, the effects of the powerless nonverbal/powerful linguistic conditions (1/2/1 & 2/2/1) were tested against the effects of the powerful nonverbal/powerless conditions (1/1/2 & 2/1/2) regardless of witness sex.

I will discuss the results from these analyses in Chapter Four.

## Chapter Four: Results

Based on responses from 171 subjects, the analytical techniques of factor analysis and multivariate analysis of variance produced the results that will be discussed in this chapter.

### Factor Analysis

As recommended (Tucker, 1971), the 29 items on the credibility scale were factor analyzed. They were analyzed through principal components analysis with the application of eigenvalue greater than 1 criterion. These results were then subjected to orthogonal factor rotation. As a result, six factors were initially extracted. They accounted for 65.8% of the variance.

Table 4.1 Factor Extractions from Initial Factor Analysis

FACTOR	EIGENVALUE	% OF VARIANCE	CUMULATIVE %
1	10.249	34.2	34.2
2	3.053	10.2	44.3
3	2.165	7.2	51.6
4	2.125	7.1	58.6
5	1.116	3.7	62.4
6	1.039	3.5	65.8

In a follow-up factor analysis, four factors were then extracted to produce a four factor model. This was done for two reasons: 1) the fifth and sixth factors consisted of factor loadings that were redundant with previous factors and 2) the fifth and sixth factors added minimal additional variance explanation to the model.

#### **Factor Names and Factor Loadings for the Dependent Measures**

The four factor model served as a replication of previous factor analyses of credibility measures (McCroskey & Young, 1981). The exception to this is that no distinct sociability factor emerged. The efficacy of the sociability factor as a measure of credibility has proven inconclusive in previous credibility studies. (McCroskey & Young, 1981)

Twenty eight of the original 29 items were retained. The only item that did not load on any of the four factors was "dynamic." Factor loadings were retained if they had a minimum loading value of .40. The four factors were named:

FACTOR 1: COMPOSURE

FACTOR 2: CHARACTER

FACTOR 3: COMPETENCY

FACTOR 4: EXTROVERSION

**Factor 1: Composure.** The composure factor consisted of six factor loadings. They are:

poised	(.78)
calm	(.82)
relaxed	(.78)
controlled	(.73)
composed	(.71)
cool	(.78)

**Factor 2: Character.** The character factor consisted of seven factor loadings. They are:

virtuous	(.65)
trustworthy	(.69)
unselfish	(.71)
good natured	(.53)
sympathetic	(.64)
honest	(.81)
pleasant	(.62)

**Factor 3: Competency.** The competency factor consists of ten factor loadings. They are:

intelligent	(.71)
informed	(.53)
convincing	(.51)
high character	(.46)
bold	(.56)

expert	(.62)
trained	(.43)
bright	(.68)
aggressive	(.64)
competent	(.53)

**Factor 4: Extroversion.** The extroversion factor consists of five factor loadings. They are:

extroverted	(.59)
cheerful	(.73)
sociable	(.67)
talkative	(.68)
friendly	(.60)

#### Multivariate Analysis of Variance

The four credibility factors served as the dependent measures for the multivariate analysis of variance (MANOVA) factorial design. For Hypotheses One, Two, and Research Question One, the effects of the independent variables (sex of witness, nonverbal power of witness, linguistic power of witness) were tested on the dependent variables of credibility (composure, character, competency, extroversion.) The resulting means and standard deviations are reported in Table 4.2.

**Table 4.2 Means and Standard Deviations for the Dependent Variables across All Conditions**

DEPENDENT VARIABLE	FEMALE WITNESS				MALE WITNESS			
	POWERFUL NONVERBAL		POWERLESS NONVERBAL		POWERFUL NONVERBAL		POWERLESS NONVERBAL	
	POWERFUL LANGUAGE (n=29)	POWERLESS LANGUAGE (n=23)	POWERFUL LANGUAGE (n=19)	POWERLESS LANGUAGE (n=19)	POWERFUL LANGUAGE (n=18)	POWERLESS LANGUAGE (n=20)	POWERFUL LANGUAGE (n=20)	POWERLESS LANGUAGE (n=23)
COMPOSURE M=3.78 SD=1.47	M=4.73 SD=1.14	M=4.27 SD=1.28	M=3.47 SD=1.09	M=2.71 SD=1.04	M=5.48 SD=.79	M=4.35 SD=1.14	M=2.43 SD=.70	M=2.44 SD=.95
CHARACTER M=4.68 SD=1.06	M=5.14 SD=1.06	M=5.20 SD=.73	M=4.65 SD=.83	M=4.52 SD=.98	M=5.39 SD=.60	M=4.56 SD=1.08	M=3.86 SD=1.17	M=3.88 SD=.87
COMPETENCY M=4.05 SD=1.01	M=4.68 SD=.89	M=3.91 SD=.73	M=4.22 SD=1.00	M=3.01 SD=.52	M=5.07 SD=.56	M=3.76 SD=.93	M=4.07 SD=.97	M=3.52 SD=.84
EXTROVERSION M=4.60 SD=1.03	M=5.10 SD=1.06	M=5.20 SD=.91	M=4.18 SD=.67	M=4.26 SD=.60	M=5.10 SD=.82	M=4.56 SD=.95	M=3.72 SD=1.01	M=4.25 SD=1.03

### Hypothesis One

Hypothesis One posited that the linguistically powerful witnesses would be significantly more credible than the linguistically powerless witnesses. The multivariate test for the main effect of linguistic power did prove that linguistically powerful witnesses were significantly more credible than the linguistically powerless witnesses. ( $F[4,158]=20.34, p<.000$ ) Follow-up univariate tests showed that the linguistically powerful witness was significantly more composed ( $F[1,161]=12.86, p<.000$ ) and competent ( $F[1,161]=55.75, p<.000$ ) than the linguistically powerless witness. Table 4.3 summarizes the means of the linguistic power conditions. Hypothesis One was supported.

**Table 4.3 Means of Linguistic Power Conditions**

DEPENDENT VARIABLE	POWERFUL LINGUISTIC (n=86)	POWERLESS LINGUISTIC (n=85)
COMPOSURE	4.07	3.44
CHARACTER	4.79	4.54
COMPETENCY	4.52	3.57
EXTROVERSION	4.58	4.58

### Hypothesis Two

Hypothesis Two tested the differences between witnesses who used powerful nonverbal styles and those who used powerless nonverbal styles. The multivariate test for



the main effect of nonverbal power indicated that the powerful nonverbal condition was a consistently more credible one than the powerless nonverbal condition ( $F[4,158]=38.76, p<.000$ ).

**Table 4.4 Means of Nonverbal Power**

DEPENDENT VARIABLE	POWERFUL NONVERBAL (n=90)	POWERLESS NONVERBAL (n=81)
COMPOSURE	4.68	2.74
CHARACTER	5.08	4.21
COMPETENCY	4.36	3.70
EXTROVERSION	5.01	4.11

Follow-up univariate tests showed significance on all four credibility factors. Hypothesis Two was supported.

**Table 4.5 Univariate Results for Nonverbal Power**

DEPENDENT VARIABLE	F[1,161]	p value
COMPOSURE	142.27	.000
CHARACTER	33.56	.000
COMPETENCY	25.40	.000
EXTROVERSION	32.44	.000

**Hypothesis Three**

Hypothesis Three posited that witnesses who used a combination of powerful linguistic and nonverbal behaviors would rate higher in credibility than witnesses who used a

combination of powerless linguistic and nonverbal behaviors. Table 4.6 summarizes the means and standard deviations for both styles of witness presentation.

**Table 4.6 Means and Standard Deviations for Powerful Styles v. Powerless Styles**

DEPENDENT VARIABLE	POWERFUL STYLE (n=47)	POWERLESS STYLE (n=42)
COMPOSURE	M=5.02 SD=1.08	M=2.56 SD=0.99
CHARACTER	M=5.23 SD=0.91	M=4.17 SD=0.96
COMPETENCY	M=4.83 SD=0.80	M=3.29 SD=0.75
EXTROVERSION	M=5.10 SD=0.90	M=4.26 SD=0.86

The MANOVA proved that jurors rated the powerful style of witness presentation as significantly more credible than the powerless style of the witness presentation. ( $F[4,84]=34.41, p<.000$ ) Follow up univariate tests demonstrated strong significance for each dependent variable. For each dependent variable, the powerful witness was significantly more credible than the powerless witness. Hypothesis Three was supported.

Table 4.7 Univariate Results for Powerful v. Powerless Styles

DEPENDENT VARIABLE	F[1,90]	p value
COMPOSURE	124.91	.000
CHARACTER	28.67	.000
COMPETENCY	87.86	.000
EXTROVERSION	20.26	.000

Hypothesis Four

To test the hypothesis that witnesses who used powerful verbal and nonverbal styles would be evaluated to be more credible than those who used mixed linguistic and nonverbal styles, the powerful conditions for both witnesses were tested against a combination of the powerful linguistic/powerless nonverbal condition and the powerless linguistic/powerful styles. Table 4.8 provides a summary of the means and standard deviations for the test.

Table 4.8 Means and Standard Deviations for Powerful Styles v. Mixed Power Styles

DEPENDENT VARIABLE	POWERFUL STYLE (n=47)	MIXED STYLE (n=80)
COMPOSURE	M=5.02 SD=1.08	M=3.69 SD=1.31
CHARACTER	M=5.23 SD=.91	M=4.61 SD=1.06
COMPETENCY	M=4.83 SD=.80	M=3.98 SD=.91
EXTROVERSION	M=5.10 SD=.90	M=4.47 SD=1.08

The multivariate analysis of variance proved strongly that the powerful style was significantly more credible than the mixed styles. ( $F[4,122]=11.35, p<.000$ ) The follow-up univariate tests by factor showed significance for each. (See Table 4.9.)

**Table 4.9 Univariate Results for Powerful v. Mixed Styles**

DEPENDENT VARIABLE	F[1,125]	p value
COMPOSURE	34.53	.000
CHARACTER	11.45	.001
COMPETENCY	28.27	.000
EXTROVERSION	11.58	.001

Hypothesis Four was supported.

Hypothesis Five

Hypothesis Five posited that witnesses who used powerful nonverbal/powerless linguistic styles would be evaluated as more credible than witnesses who used powerless nonverbal/powerful linguistic styles. Table 4.10 summarizes the means and standard deviations for the comparisons of styles.

**Table 4.10 Means and Standard Deviations for Mixed Styles**

DEPENDENT VARIABLE	POWERFUL NONVERBAL/ POWERLESS LINGUISTIC  (n=43)	POWERLESS NONVERBAL/ POWERFUL LINGUISTIC  (n=37)
COMPOSURE M=3.69 SD=1.31	M=4.31  SD=1.20	M=2.97  SD=1.05
CHARACTER M=4.61 SD=1.06	M=4.90  SD=.95	M=4.27  SD=1.08
COMPETENCY M=3.98 SD=.91	M=3.84  SD=.82	M=4.15  SD=.98
EXTROVERSION M=4.47 SD=1.08	M=4.90  SD=.92	M=3.96  SD=1.04

Significant differences were found for the two conditions through the multivariate analysis of variance tests. ( $F[4,75]=17.44, p<.000$ ). The powerful nonverbal/powerless linguistic version of witness testimony was more credible than the powerless nonverbal/powerful linguistic version of witness testimony. The a posteriori univariate tests proved significance on three of the four factors. The witness using the powerful nonverbal/powerless linguistic style proved to be

significantly more composed

( $F[1,78]=27.86, p<.000$ ), rated significantly higher in character ( $F[1,78]=7.87, p<.006$ ) and in extroversion ( $F[1,78]=18.63, p<.000$ ). Hypothesis Five was supported.

#### Research Question One

Sex of the witness did have a significant effect on perceptions of credibility in two cases: 1) in the two-way interaction of sex by nonverbal power and 2) as a main effect.

Significance was found for the multivariate test of the two-way interaction, sex by nonverbal power ( $F[4,158]=4.36, p<.002$ ). Follow-up univariate tests indicated that the male witness was more nonverbally composed in the powerful nonverbal condition than the female witness. ( $F[1,161]=10.79, p<.001$ ) Table 4.11 indicates the means for the significant two-way interaction of sex by nonverbal power.

**Table 4.11 Means for the Two-Way Interaction of Sex by Nonverbal Power**

DEPENDENT VARIABLE	FEMALE WITNESS		MALE WITNESS	
	POWERFUL N/V (n=52)	POWERLESS N/V (n=38)	POWERFUL N/V (n=38)	POWERLESS N/V (n=43)
COMPOSURE	4.53	3.09	4.89	2.44
CHARACTER	5.17	4.59	4.95	3.87
COMPETENCY	4.34	3.62	4.38	3.78
EXTROVERSION	5.14	4.22	4.82	4.00

The independent variable, sex of the witness, was also highly significant. ( $F[4,158]=5.47, p<.000$ ). When controlling for other independent variables, the female witness ( $M=4.92$ ) was judged to be significantly more credible than the male witness ( $M=4.38$ ) in the character mode ( $F[1,161]=9.72, p<.002$ ).

### Summary

All hypotheses were supported. For replication purposes, Hypotheses One and Two focused on analyses conducted in previous power studies. Hypothesis One posited that witnesses who used powerful linguistic styles would be rated higher in credibility than witnesses who used powerless linguistic styles. This hypothesis proved



to be true. Significance was found for the main effect of linguistic power.

Hypothesis Two argued that witnesses who used powerful nonverbal styles would be evaluated to be more credible than those who used powerless nonverbal styles. This hypothesis also proved to be true. Significance was also found for the main effect of nonverbal power proving the greater credibility of the powerful nonverbal style.

Hypothesis Three focused on the effects of the powerful linguistic and nonverbal style in comparison to the powerless linguistic and nonverbal style. The results of the analysis proved strongly that the jurors rated the linguistically and nonverbally powerful witness as significantly more credible than the linguistically and nonverbally powerless witness on all four dependent variables.

Hypothesis Four posited that witnesses who used powerful linguistic and nonverbal styles would be evaluated to be more credible than those who used mixed linguistic and nonverbal styles. This hypothesis was supported.

Hypothesis Five posited that witnesses who use powerful nonverbal/powerless linguistic styles would be evaluated to be more credible than witnesses who used powerless nonverbal/powerful linguistic styles. This hypothesis was also supported.

Additionally, the research question focused on the effect of sex of the witness on credibility ratings. When sex of the witness was factored in with nonverbal power, the nonverbally powerful male witness was judged to be more composed. As a main effect, the jurors rated the female witness significantly higher on character than the male witness in the area of character.

Chapter Five will include a discussion of the significance of these findings.

## Chapter Five: Conclusions

Based on the results in this study, I will next discuss the implications of the findings. I will first focus on the results of the statistical analyses of the three hypotheses in this study. Following this summary, I will discuss additional significant findings regarding the research question. Finally, I will discuss limitations of the present study, directions for future research, and implications for social sciences and the law.

### The Effect of Linguistic Power and Nonverbal Power on Witness Testimony

The results of this study indicate that witnesses' linguistic and nonverbal behaviors affect subjects' judgments of witness credibility. I will break down the description of this phenomenon into an analysis of the effect of the linguistic power conditions and the nonverbal power condition.

### **The Impact of Linguistic Power Styles**

The linguistic power styles of the witnesses were important considerations in the determination of testimonial credibility. The present study joins a growing list of linguistic power studies (Lind & O'Barr, 1979; O'Barr, 1982; Conley, et al., 1978; Johnson & Vinson, 1987)

in its conclusion that linguistically powerful witnesses proved to be more believable than linguistically powerless witnesses.

Specifically, the powerful witness rated higher on dimensions on which the powerful witness rated higher than the powerless witness. We can draw upon attribution theory to explain why these differences in judgments of credibility occur. Kelley (1972) suggests that a major feature of credibility is "the attribution that the communicator holds veridical beliefs about the issues he or she addresses." (pp.16-17) The use of the linguistically powerless style may undermine this attribution if listeners interpret the more tentative style as suggesting that even the witness lacks confidence in the statements he or she makes. Theorists argue that the more definite powerful style, in contrast, may lead to the attribution that the communicator (in this case, the testifier) does indeed believe the statements to be true. (Hosman, 1989)

#### **The Impact of Nonverbal Power Styles**

When considered alone, the use of a powerful nonverbal style has a significant impact on witness credibility measurements. The nonverbally powerful witness received higher evaluations in the areas of perceived competence, character, composure, and extroversion than the nonverbally

powerless witnesses.

The strength of this finding indicates that witnesses' nonverbal behavior cannot be ignored when assessing witness credibility. These findings are consistent with the previous two studies that focused on witnesses' nonverbal demeanor in the courtroom. (Kaminski & Miller, 1984; Pryor & Buchanan, 1984) As their finding and the current study's results suggest, juries are affected by how the witness presents the message.

This effect on juries troubles some who conduct research in social sciences and the law. Hocking, Miller, & Fontes (1978) argue:

The juror usually does not know the witness and consequently should not be basing important decisions on subtle nonverbal cues, the meanings of which are unclear even to experts on nonverbal behavior. (p.55)

While this study did not elicit verdicts from the jurors, the reality of the results show that the juror is influenced to some extent when rating witness credibility.

#### The Comparisons of Testimonial Styles

The major rationale for this study rests on the fact that we need to learn more about the "complete" presentation of the witness. This complete presentation involves the incorporation of linguistic and nonverbal power styles. Based on the strong support for the

hypotheses that incorporate different combinations of power styles, I will discuss three main levels of credibility effects that relate to the findings of this study.

**Level One: Comparing Consistently Powerful Testimonial Styles with Consistently Powerless Testimonial Styles**

When the linguistic and nonverbal behaviors of the witnesses were consistent with each other (either powerful or powerless), the jurors seemed to hold strong opinions about the witnesses' credibility. Jurors found the witnesses who used the powerful styles (nonverbally and linguistically) to be substantially more credible than the witnesses who used the powerless styles. Jurors rated the powerful witness as much more credible in the areas of composure, character, competence, and extroversion.

From these findings, we can conclude several things. First, it appears that the jurors were able to interpret the style of the witness clearly enough when his/her linguistic and nonverbal demeanor complemented each other to form strong opinions about witness credibility. This is consistent with many researchers' assertions that consistent messages reinforce meaning and that "mixed messages" (i.e., contradictions in linguistic versus nonverbal power styles) can confuse the perceiver (Schneider, et al., 1979).

Secondly, the reinforcement of the linguistic and nonverbal cues for each other had a dramatic impact on witness credibility ratings. Of all manipulations of testimonial style, nowhere did jurors rate witnesses more differently in credibility across all dependent variables than when the powerful linguistic/powerful nonverbal condition was tested against the powerless linguistic/powerless nonverbal condition.

The strength of significance in these findings supports the theory that the best witness presentation is a consistently powerful one, both linguistically and nonverbally. Similarly, the loss of power, linguistically and nonverbally, has detrimental effects on witness credibility. As the following levels will demonstrate, witness presentations that involve contradictory linguistic and nonverbal messages have more varying effects on credibility assessment.

**Level Two: Comparing Consistently Powerful Testimonial Styles with Mixed Testimonial Styles**

Given the previous discussion, it should come as no surprise that the witnesses who used the powerful testimonial and nonverbal style were judged to be more believable than those whose linguistic and nonverbal power styles are inconsistent with each other. This finding is meaningful for two major reasons: one dealing with the

specific factors of credibility and the other dealing with possible juror interpretations of the mixed styles.

Powerful witnesses were judged to be more competent and higher in character. As discussed earlier, some credibility scale studies have determined that factors of competence and character are most germane to assessments of ethos. (Miller & Hewgill, 1972). Clearly, consistency in verbal and nonverbal demeanor is critical to important judgments of witness credibility.

Secondly, the fact that the "mixed style" testifier was judged to be less competent and low in character suggests that subjects could have perceived lying behavior. The courtroom offers an often foreign and stress-producing environment for the testifier. This may cause a witness to be interpreted as "exhibit[ing] nonverbal displays stereotypic of lying even when the witness is testifying truthfully." (Miller & Fontes, 1979; p.176) Legal communication research has focussed on perceptions of lying behavior in the courtroom. (Hocking, Miller, & Fontes, 1978; Knapp, Hart, & Dennis, 1974; Pryor & Leone, 1981)

The judgment of witness composure and extroversion - both of which are akin to sociability - were also significantly altered in the comparison between styles. It is probable that subjects questioned the trustworthiness (character) and abilities (competence) of the testifier and



the more sociable aspects of the person. This implies that the witness's use of a mixed style of nonverbal and linguistic testimonial style will certainly damage his/her credibility.

### **Level Three: Comparing the Two Mixed Testimonial Styles**

Next let us compare the mixed testimonial styles against each other to test their effect on witness credibility. Subjects rated the witness who used a powerful nonverbal/powerless linguistic style as more credible than the witness who used the powerless nonverbal/powerful linguistic style for the dimensions of composure, character, and extroversion. Significant differences for competency of the witness did not exist between the two mixed styles. It is probable that the jurors found it difficult to assess competency when the testimony was mixed in either direction.

As hypothesized, the results suggest that the nonverbal element of the testimony outweighed the linguistic element. As early as 1967, researchers discovered that subjects relied more on nonverbal than verbal channels when communication was inconsistent (Mehrabian & Ferris). Knapp (1978) has also replicated this finding.

While it appears to be well-established that nonverbal behavior carries more weight than verbal messages, one area of interpretation dwells in the explanation for why this occurs. One logical explication draws upon the distinction between purposive and reactive attributions. Schneider et al. (1972) distinguish between the two types of attributions. They suggest that people attribute purpose to others' actions when they assume motives exist for the actor. Reactive attribution, on the other hand, occurs when we assume that:

the person did not intend to or choose to show us a behavior; we do not search for motives; we take it as a true reaction, and we search for causes that may be revealing of the person's **character**. (p.127)

Schneider et al. (1972) make a link between these facets of attribution and nonverbal behavior by arguing that nonverbal behavior doesn't usually fall under one's purposive attribution. Their baseline assumption is that nonverbal behavior is unintentional and hence uncontrolled. We make reactive attributions where nonverbal behavior is concerned because we assume that the use of nonverbals are reactive to some underlying behavior. This response is significant because we assume, according to the distinctions between attributions, that reactive behavior

is genuine. As a result, when verbal and nonverbal behaviors contradict each other (as with the mixed testimonial styles), the nonverbal behavior is trusted more. Trustworthiness is an important characteristic of character. Indeed, the powerful nonverbal/powerless linguistic testifier's composure (as well as extroversion) was rated significantly higher than the other mixed style.

#### The Effect of Sex of the Witness on Credibility Assessment

Although not a major hypothesis for this study, it is interesting to note some areas of significance that deal with the gender of the witness. This study's gender results rest on some rather complex premises. In two specific ways, perceptions of the male witness were more affected by certain conditions than the female witness.

First, perceptions of the male witness on the composure variable were more affected by the nonverbal power condition than were perceptions of the female witness. The male witness was perceived by subjects to be significantly more composed.

Secondly, when tested as a main effect, the female witness rated higher in the area of character. However, the finding that the female witness had a higher overall character rating than the male was not because she had consistently higher scores across all conditions on the

character measure.

As a matter of fact, the highest mean rating in the character variable was given to the male when he used a combination of powerful linguistic and nonverbal behavior. However, the male witness was also given the lowest character rating in the powerful language/powerless nonverbal mode. Mathematically, even with the higher rating in the powerful mode, his lower rating decreased his overall mean score. With her less extreme ratings, the manipulations of linguistic and nonverbal power had less effect on the female witness in the character mode; thus, because credibility mean scores were more consistent for the female witness, she rated higher overall on the character mode. Conversely, the male witness's change in power affected his ratings more, thereby decreasing his credibility mean scores overall.

#### **Interpretation of Credibility and Gender Ratings**

Clearly, the changes in power conditions (nonverbal and linguistic) had less effect on perceptions of the female witness and more effect on perceptions of the male witness. These results prompt a need to offer interpretation for their occurrence.

Why would such disparate findings occur between the sexes? The answer may lie in one unifying assumption: role theory (Biddle & Thomas, 1966; Katz and Kahn, 1978). Role theory focuses on expectations based on one's positions. According to the theorists, role expectations are standards of appropriate behavior that we have for others in specific contexts. They argue that it therefore follows that when an actor's behavior conforms to the observer's role expectations, then the actor's behavior is judged as appropriate. Contrary behavior is considered inappropriate.

What, then, can role theory offer in the way of explanation for the gender findings? The fact that the male witness's high extreme ratings occurred in the powerful nonverbal/powerful linguistic condition for the nonverbal power/sex interaction of composure suggests that the subjects expected him to behave in a consistently powerful manner. When his nonverbal behavior contradicted that powerful demeanor, he was sanctioned more than if he had been consistently powerless.

Other legal communication research has focused on jurors' role expectations (Matlon and Facciola, 1987) and its applicability for this study rests in how we attribute credibility. Carli (1990) talks specifically about expectations of competency and status. She states:

People with relatively high status are expected to be more competent, to perform better, and to have more desirable attributes than low status individuals.

(p.941)

High status can only have direct meaning here if interpreted in light of nonverbal and linguistic power. Dovidio et al. (1988) did find that high status men and women display a greater amount of verbal and nonverbal power.

For the sake of this argument, the more significant link occurs between status and gender. Berger and Zelditch (1985) first establish through their research that such a link does exist. As recently as 1990, the nature of that link has been defined consistently with earlier research findings. (Carli, 1990) Women are expected to be less credible than men. In this study, the female witness was rated less credible than the male in the composure mode. One researcher (Hall, 1984) specifically discussed the differences between men and women's nonverbals, citing the "oppression hypothesis" as the term for women's "subordinate social position" thereby explaining the tentativeness of women's nonverbal behavior.

By being judged lower in character, we can assume that the subjects found the male witness's contrary behavior to be questionable. While it is true that the

female received the higher overall character score, more extreme negative reactive attributions seem to have been assigned to the male witness. It thereby does not seem to be a "victory" for the female's greater credibility; rather, the male was sanctioned more severely. While the double standard of witness attributions by sex may not be fair, the results indicate a reality with which we must deal.

#### LIMITATIONS OF THE RESEARCH

Five major limitations to this study merit discussion. First, for the sake of consistency, only one male actor and one female actor were used for their respective four videotapes. This need for control sacrificed generalizability. Without additional replications with different male and female actors, the possibility exists that some of the findings were germane to the specific actor rather than to gender. Further replicating research can address that danger.

Secondly, the mode of presentation for this study was through videotape. Real juries typically see "live" witness testimony without the interference of camera angle and poor videotape or monitor quality. While it is true that many courts are experimenting with videotape in the courtroom, the predominant presentation is through in-court

appearances. For this reason, risk in generalizing to real encounters with witnesses is possible.

Thirdly, to ensure distinct powerful and powerless behaviors, the actors used extreme verbal and nonverbal cues of powerfulness and powerlessness. As a result, some of the realism of more subtle behavior, albeit still powerful or powerless, suffered. This polarized behavior may have affected subjects' perceptions.

Fourth, the subject population was not closely representative of a typical jury. The education of the typical American juror falls below college level. College students have been found to be more skeptical of simulated tests and more suspicious of deception in trial settings (Miller, 1983). It makes obvious sense to test juries who match demographic characteristic, perceptual, and attitudinal sets of real jurors. For the sake of expediency, this replication was not possible.

Finally, the selection of testimony through a fixed approach limited the generalizability of the message contained within it to other types of testimony. While random sampling of messages in a communication study is optimal, many agree that it is impossible to randomly sample communication (Morley, 1988; Jackson & Jacobs, 1983). Still, the limitations of the fixed effects model threaten external validity. Says Morley (1988):



Variable levels [of a message] used in a study may or may not be generalizable to the open-ended population of levels [of messages] not chosen by the experimenter. (p.116)

It is therefore not conscionable to generalize the findings of this study to other types of witness testimony.

#### DIRECTIONS FOR FURTHER RESEARCH

Based on the findings of the present study, the next step would be to continue the use of the visual mode, or nonverbal power, and the oral mode, linguistic power, in assessing witness credibility. Replication of the current study with different actors would be helpful in determining consistent effects of power. It would also be interesting to run the same test with representative juries.

Additionally, it would be helpful to hypothesize the effect of witness gender on credibility and test subjects' reactions to numerous male and female witnesses. As mentioned, the gender findings in this study suggest a need for study in greater detail.

With the information that we have about the influence of powerlessness in witness testimony, we need to work toward ways of decreasing or neutralizing the detrimental effects of "discredited truths". To that end, we could conjecture about what may help. However, we should use our knowledge of research methodology and theory to advance our knowledge methodically.

In an effort to more realistically ground witness testimony in the trial process, it would be helpful to manipulate the questioning style of the attorney. Does the power of the attorney affect the credibility of the interaction between attorney and witness? Does it influence the witness's use of power styles?

To address the external validity problems of the fixed effects model of testimony, it would be helpful to access other types of testimony and apply powerful and powerless structures to them. Since what we know from this study may be unique to the specific testimony used, I concur with Jackson, O'Keefe, & Jacobs' (1988) recommendation that gathering a large number of different types of testimony and applying the experimental manipulations to them would help the generalizability of these findings.

The important factor to remember is to manipulate power incrementally. Additional manipulations should build on existing research and advance gradually. This will allow overlap and replication of studies that precede it, thereby improving the chances for reliable results.

#### IMPLICATIONS FOR SOCIAL SCIENCES AND THE LAW

The bottom line of this study is that the mode of presentation affects witness credibility. Clearly, the truth does not necessarily speak for itself. This issue,

like most, does not confine itself to simulated research. The ramifications of the problem are far-reaching. In an effort to help witnesses to tell the truth more effectively, several steps should be taken jointly by social scientists and the legal system.

First, witnesses who are hindered by powerless nonverbal and/or linguistic styles should be coached. Witness preparation is becoming more common but is still not widely available to everyone. Courts and experts in social sciences and the law should make these services much more accessible on both the criminal and civil level. At the same time, clear ethical standards must be maintained to draw the line between dressing up a lie and telling the truth more effectively.

Secondly, attorneys should be cognizant of witnesses who experience difficulty and, besides preparing them, they should make efforts to inoculate the jury during voir dire and opening statements. In jury selection, the attorney can sensitize the venire to potential biases about tentative witnesses. Counsel can elicit promises from the venire to keep an open mind about varied presentation styles. While this certainly does not eliminate potential bias, it will draw jurors' attention to the effects of it. In opening statement, counsel can also address the issue of a specific witness's tentativeness to alert the attorney.

The opening statement has strong persuasive potential (Pyszczynski & Wrightsman, 1981) and use of this forum could help inoculate the jury against misattributions.

Finally, the judicial system needs to take responsibility for equalizing debilitating effects of witness demeanor. In many states, jury instructions suggest that jurors assess the demeanor of the witness. In Florida, jurors are advised:

In determining the believability of any witness, and the weight to be given his testimony, you may properly consider the demeanor of the witness while testifying, his frankness or lack of frankness, his intelligence... (Florida Standard Jury Instructions, 1977)

Whether or not the juror is given this permission, the results of this and other credibility studies suggest that jurors will take that factor into account no matter what.

While it is natural to assess a person by his/her outward behavior, jurors should be advised to take extra care in interpreting the entire presentation of the witness, whether it be negative or positive. The jury should be admonished to incorporate the witness's testimony with other facets of the trial in making their final assessments and to make every effort to do so fairly.

As long as the legal system depends on the testimony and judgment of human beings with their varied perceptions, attitudes, and communicative behavior, we will constantly

be finding new ground to break in the area of social sciences and the law. We should keep as our goal the advancement of knowledge in this applied area to advance justice as well.

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Appendix A - 5 pages  
Powerless Style (Female and Male Witness)  
Appendix B - 4 pages  
Powerful Style (Female and Male Witness)

University Microfilms International

## Appendix C

### Instructions to Subjects

#### Prior to Watching the Videotape

What you are about to watch is a videotape of a witness testifying in a civil case. You will hear the off-screen attorney ask questions to which the witness responds.

The witness will describe an accident that took place between an ambulance and another car. The witness was riding in the ambulance with an injured friend when the accident occurred.

You will hear testimony regarding what the witness believes happened before and after the accident. After you hear this testimony, you will be asked to give your impressions of the witness. Please act as if you were a juror assessing the credibility of the witness during your viewing of the testimony.

#### Prior to Completing the Instrument

Please take a few minutes to fill out the forms that I've given you. Be sure to fill out the demographic information at the beginning of the first form. Again, all of your responses will remain confidential. Please think carefully about your responses and fill this out individually. When you are finished, you may turn the forms over and I will collect them from you.

Appendix D

Please answer the following demographic information about yourself:

Gender: \_\_\_\_\_ Male \_\_\_\_\_ Female                      Age Group: \_\_\_\_\_ 18-24                      \_\_\_\_\_ 25-29                      \_\_\_\_\_ 30 and over  
 Political Affiliation: \_\_\_\_\_ Democrat                      \_\_\_\_\_ Republican                      \_\_\_\_\_ Independent                      \_\_\_\_\_ Other

**Instructions.** On the scales below, please indicate your feelings about the witness. Circle the number between the adjectives which best represents your feelings about the witness. Numbers "1" and "7" indicate a very strong feeling. Numbers "2" and "6" indicate a strong feeling. Numbers "3" and "5" indicate a fairly weak feeling. Number "4" indicates you are undecided or do not understand the adjectives themselves. Please work quickly. There are no right or wrong answers.

intelligent	1 2 3 4 5 6 7	unintelligent
extroverted	1 2 3 4 5 6 7	introverted
uninformed	1 2 3 4 5 6 7	informed
convincing	1 2 3 4 5 6 7	unconvincing
sinful	1 2 3 4 5 6 7	virtuous
high character	1 2 3 4 5 6 7	low character
timid	1 2 3 4 5 6 7	bold
expert	1 2 3 4 5 6 7	inexpert
untrustworthy	1 2 3 4 5 6 7	trustworthy
untrained	1 2 3 4 5 6 7	trained
not dynamic	1 2 3 4 5 6 7	dynamic
unselfish	1 2 3 4 5 6 7	selfish
talkative	1 2 3 4 5 6 7	silent
stupid	1 2 3 4 5 6 7	bright
sympathetic	1 2 3 4 5 6 7	unsympathetic
dishonest	1 2 3 4 5 6 7	honest
meek	1 2 3 4 5 6 7	aggressive
competent	1 2 3 4 5 6 7	incompetent
friendly	1 2 3 4 5 6 7	unfriendly
relaxed	1 2 3 4 5 6 7	tense
uncontrolled	1 2 3 4 5 6 7	controlled
excitable	1 2 3 4 5 6 7	composed
unpleasant	1 2 3 4 5 6 7	pleasant
uptight	1 2 3 4 5 6 7	cool