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ABSTRACT

A study examined truth bias, probing, and prebriefing as they relate to perception of deception, and whether nonverbal cues can be stronger predictors of the perception of deception than verbal cues. Subjects, 113 students from a large western university, responded in their classrooms to 1 of 8 inductions formed to complete a 2 (probe, no probe) x 2 (prebrief, no prebrief) x2 (neighbor versus court-like setting) factorial design. Each induction introduced subjects to a dispute involving a student who had been accused of cheating on an in-class activity. In addition to deception ratings, subjects rated the impact of several verbal and nonverbal cues on their perceptions of the "defendant" in the scenario. A measure of truth bias (presumption/assignment of burden of proof) was developed and utilized. Results indicated that: (1) deception ratings were higher in the court-like setting than in the neighbor (interpersonal) setting; (2) the setting main effect was qualified within the setting by prebriefing interaction such that the prebriefing worked to reduce deception attributions in the neighbor setting versus the court-like setting; (3) probes were most likely to reduce perceptions of deceptiveness when a prebrief was not presented; and (4) in contrast to earlier studies, verbal cues were much stronger predictors of perception of deception than nonverbal cues. (Two tables of data are included. Contains 39 references.) (Author/RS)

Appearing to deceive while answering questions: Suspicion bias, Probing effects and the Nonverbal Primacy effect in the Courtroom

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Abstract

Research on deception detection has consistently indicated the existence of a truth bias, a probing effect, and a nonverbal primacy effect. Few of the deception detection studies are set within the legal environment and fewer still allow for the simultaneous assessment of verbal and nonverbal cues that are associated with the deception attribution. 113 research participants were asked to respond to a hypothetical scenario that included text in both transcript and video-tape formats. The scenario was manipulated to form the conditions for a 2 (probe/no probe) X 2 (prebrief/no prebrief) X 2 (neighbor vs. court-like) factorial design. In addition to deception ratings, the respondents were asked to rate the impact that several nonverbal and verbal cues had on their perceptions of the 'defendant' in the scenario. A measure of truth-bias (presumption/assignment of burden of proof) was developed and utilized. The results show higher deception ratings in the court-like setting than in the neighbor (interpersonal) setting. This setting main effect is qualified by a setting by prebriefing interaction such that prebriefing worked to *reduce* deception attributions in the neighbor (interpersonal) setting vs. the court-like setting. A possible probe by prebrief interaction indicates that probes are most likely to reduce perceptions of deceptiveness when a prebrief is NOT presented. In contrast to the nonverbal primacy literature, verbal cues were much stronger predictors of perception of deception than nonverbal cues.

Appearing to deceive while answering questions:

Suspicion bias, Probing effects and the Nonverbal

Primacy effect in the Courtroom

Estimates of how often people will admit that they produce deceptive messages vary from 2 to 34 deceptive messages per week (Camden, 1984; Lippard, 1988; Hample, 1980). Research on source vs. observer differences on perceptions of message frequency (e.g., Reynolds, 1991) would suggest that such estimates are likely to be underestimated by half or more. Communication scholars (e.g., Buller, Strzyzewski, & Comstock, 1991; Buller, Strzyzewski, & Hunsaker, 1991; Stiff, Kim, & Ramesh, 1992; McCornack, & Levine, 1990; Levine, & McCornack, 1992) have now undertaken serious efforts that may help to explain. predict, and control deception events.

There are a number of trends in deception research which should be of immediate interest to communication and the law professionals. In addition to raising research questions, these research areas may inform continuing legal education course content.

The probing effect

There is increasing evidence that probing questions serve to facilitate attributions of honesty even (or, perhaps, particularly) to people who have been induced to engage in deception (Levine, McCornack, & Aleman 1993; Buller, Strzyzewski, & Comstock, 1991; Buller, Strzyzewski, & Hunsaker, 1991; Buller, Comstock, Aune & Strzyzewski, 1989; Stiff & Miller, 1986). Deceivers may be extra sensitive to a questioner's suspiciousness and increase efforts to avoid detection. This probing effect should concern those who deal with cross—examination and deposition taking. Asking questions in hopes of "tripping up" a witness may, in fact, work against gaining the attribution that a witness is not telling the truth. Making sure that a client or witness is questioned could, perhaps, insure an attribution of veracity.

The Truth Bias: Presumption

Communication and the law scholars should be concerned with the evidence that there is a generalized truth bias when research subjects are asked to decide if a person is engaged in deception. Despite early

anticipation of a lie bias, researchers have consistently found a prevailing truth bias. Previous researchers have demonstrated that the truth bias is particularly potent where there are relational ties that provide a confidence (or just a higher probability) of deception detection (McCornack & Parks, 1986; Levine & McCornack, 1992). It is important to note that while there are reliable variations in detection accuracy, the majority of the subjects across ALL conditions in the deception detection studies tend to make "honesty" attributions rather than dishonesty attributions.

The truth bias is consistent with the notion of argumentative presumption (Sproule, 1976). In the typical deception detection study, a student is induced to be deceptive or truthful and then other students are asked to judge if deception is taking place. The deception is typically about a statement the student had made (e.g., a response on a questionnaire administered earlier), an emotion the student had felt (when looking at an emotionally arousing picture the receiver cannot see), or having allowed or contributed to a cheating incident while participating in a study for extra course credit. It is little surprise, and perhaps reassuring, that students tend to hold a presumption favoring other students even when an authority figure claims (and fails to provide convincing evidence) that one or more are *known* to be engaged in deception. Communication and the law scholars can certainly think of a number of other presumptions which may operate a "truth bias" and guide the assignment of "the burden of proof".

The Nonverbal Primacy Effect

The reliance on nonverbal cues when attempting to determine if another has engaged in deception is certainly well documented (Buller & Aune, 1987; Stiff, Kim, & Ramesh, 1992). The notion that nonverbal cues offer the best evidence of deception has continued almost unchallenged through most of the recent social science research on deception detection. Kalbfleisch's (1990) review of the deception detection research indicates that verbal cues are actually stronger than nonverbal cues for discerning deception. Bavelas (Bavelas, Black, & Chovil, 1990) and Kuiken (1981) have well demonstrated that equivocal language is a reliable concomitant of deception. McCornack (1992) and Levine (McCornack, Levine, Solowczuk, Torres, & Campbell, 1992) contend that deception is most likely to be carried out by violations of pragmatic rules and that detection can be found in attempts to cast the violations in acceptable forms. Nevertheless, prior research on deception detection in the courtroom was strongly influenced by the nonverbal primacy

hypothesis. Ironically, these courtroom deception studies tend to offer some of the best evidence indicating that it is the verbal cues that should be attended to to detect deception (Miller, Bauchner, Hocking, Fontes, Kaminski, & Brandt, 1981, and deTurck & Goldhaber, 1988).

Prebriefing

One relatively enduring feature of the legal setting is the anticipation that someone may be 'found out' or charged with dissembling. Stories of such dramatic revelations are common stock for dramatic scripts and are regarded as major markers of the courtroom attorney's career. For example, few debate or law students have been spared the famous story about Abraham Lincoln catching up an eye witness to a late night murder by getting the witness to testify about the amount of moonlight and then pointing out to the witness and the jury that there had been no moon at all on the night in question. Concern for such events so pervade legal proceedings that attorneys regularly prepare and dress witnesses in ways calculated to counteract the suggestions by the opposing counsel that a problem may exist. Along the same lines, wise attorneys might present a preemptive forewarning to a jury that the opposing counsel will be attempting to create this or that perception about a witness. Preemptive efforts can be seen as a prebriefing or priming of the jurors to anticipate the perception and actively fight against it. Such forewarning efforts have generally been investigated as instilling resistance to attitude change (Miller & Burgoon, 1979; Papageorgis, 1968; Petty & Cacioppo, 1979). The resistance literature, unfortunately, is limited primarily to one-to-many contexts and public policy topics (e.g., the legalization of drugs, tuition increases, textbook adoptions) rather than forensic deliberations where testimonial evidence is heard and weighed. A prebriefing message is more than just a forewarning of an impending persuasive attack. A prebriefing message is likely to contain advice or direction on the processing of an opponent's message.

Surprisingly few research studies have been done on prebriefing strategies. A few studies have shown that priming subjects to be suspicious tends to make them more attentive and, thus, more likely to detect deception. There certainly is substantive evidence that people can be prejudiced to reason in particular ways (Thouless, 1959) and that reasoning sets affect subsequent reasoning (for a review of relevant literature see

Reynolds & Burgoon, 1983). If it is the case that the preemptive prebrief directed at counteracting the building of suspicion is common, research needs to be directed to the strategies and effects that are likely to be encountered.

Hypotheses

The thinking on the truth bias suggest that the truth/deception bias is likely to vary across contexts. DeTurck and Goldhaber (1988) convincingly argue that there should be a stronger tendency for a deception bias in the courtroom. Such an assumption is consistent with most of the writing on the truth bias (Stiff, Kim, & Ramesh, 1992; Buller, Strzyzewski, & Constock, 1991).

H1: The perception of deception will be higher in a court-like setting than in an interpersonal setting.

The effect of probing on perceptions of deception are well documented. The explanation for the probing effect is, unfortunately, still being debated (Levine, McCornack, Aleman, & Butler, 1993). The effect of prebriefing is unknown. Speculatively, if the truth bias is operative, any cue that facilitates a truth attribution would be utilized. (That is, perceptions of truth telling would be highest in conditions where both probing and prebriefing exist). If a deception bias is operative, then a prebriefing message would seem to have relatively little impact (i.e., it is no news that a person suspected of deceptive motives might be seen as engaging in deception). Under a deception bias, however, responses to probes may be a positive violation of expectations that leads receivers to reluctantly concede that such an ability to answer questions would not be likely if a person was attempting to deceive. Given the speculative nature of this reasoning, it is perhaps best to advance the implicit three-way interaction hypothesis as a research question.

RQ1: What is the relationship between truth bias, probing, and prebriefing on perception of deception?

The nonverbal primacy effect strongly suggest that nonverbal cues will be more strongly linked to perceptions of detection than will verbal cues. Conflicting evidence on the potency of verbal cues, particularly within the context of forensic decision making, militates for expecting the primacy of verbal cues. DeTurck and Goldhaber (1988) give a plausible account about the type of cognitive processing engaged in by

jurors who encounter testimony via videotape vs. transcript and how that processing might affect responses. In the courtroom, however, the respective cases are rarely presented in only video tape or transcript formats. Instead, the cases are most likely to include both texts (any of a variety of documents including transcripts of previous testimony) and visual presentations (most particularly, a witness on the witness stand responding to questions). What is needed then is a focus upon both the verbal and nonverbal cues that are likely to have a concomitant, if not complementary, impact on perceptions of deception.

RQ2: Will nonverbal cues be stronger predictors of the perception of deception than verbal cues?

Methods

Sample

Students from a large Western University were recruited from upper division speech communication course required under the university general education program or courses with a wide appeal to students from a variety of interests and backgrounds. The total number of valid responses (i.e., followed directions and completed the tasks) was 113.

Procedures

Participants responded in their classrooms to one of eight inductions formed to complete a 2 (probe, no probe) x 2 (prebrief, no prebrief) x 2 (setting: neighbor vs. court-like) factorial design. In each induction, the participants were introduced to a dispute involving a student who had been accused of cheating on an in-class activity. A rationale for the student giving an account of the situation surrounding the charges was provided. This rationale was also the vehicle for manipulating the setting (neighbor explaining the situation to a concerned roommate vs. student being interviewed by a conflict resolution center intern in preparation for a student grievance hearing) and the prebriefing. The prebriefing involved a cautionary warning by the neighbor's roommate or the conflict center intern:

> ". . . to be careful about deciding who is telling lies here. It may well be that we have multiple perceptions of the situation here. Our general nature is to think someone must be telling lies and then we start looking for who the liar is. Sometimes we think that just because someone answers questions, they must be telling the truth. Other times we think

that just because a person is nervous, they are telling lies. Lets try to wait until we are done to make up our minds about the possibility that there is a lie being told."

The probing conditions were created by presenting the student's account of the situation as either a narrative or the same material in a question and answer format. The questions were all simple single phrase interrogatives prompting for who, where, what and when information. The questioning was purposefully designed to avoid the perception that the questions grew out of a suspiciousness. Nevertheless, the roommate of the student, who did the questioning in the neighbor condition, was introduced as being concerned about guilt by association since the roommates had the same major.

Contained within the account of the cheating incident was an explanation that the student had been videotaped given an explanation about the class exercise and how the student and a partner had done so well on the in class exercise task. It was also explained that the videotaped interview took place before the student had been made aware that cheating had been suspected. The interviewer on the videotape was not introduced. The research participants then watched the videotape under the instruction that they were to view the tape as if they were actually in the setting as described.[1]

Measurement

Perception of Deception was measured with five semantic differential type items headed by the phrase "The Student was . . ." The bipolar adjectives were: Very truthful - Very Deceptive; Honest - Dishonest; Insincere - Sincere; Inventive - Genuine; Fraudulent - Trustworthy. Items were reflected to avoid a response set bias. The possible range of the scale would be 5 to 40 with a score of 40 indicating a complete conviction that the student was being deceptive. The reliability for this scale was $\alpha = .93$.[2]

The Use of Nonverbal Cues. A list of nonverbal cues commonly associated with the perception of deception (Burgoon, Buller, & Woodall, 1989, p. 271) was used to generate questionnaire items. An example of these items would be:

> The student's head nodding and ***head movement*** (or ***lack of head movement***) made me think that the student was
>
> Being dishonest __:__:__:__:__:__:__ Being honest Cue was not noticed ___

The respondents were asked to circle the cue ("head movement" or "lack of head movement") and indicate the degree the cue contributed to the perception of honesty or indicate that the cue was not noticed. The other nonverbal cues included were: Eye pupil size, looking at or away from the interviewer, amount of smiles, face changes, gestures, shoulder and arm shrugging, "adjusting position, scratching, adjusting clothes, playing with objects or moving", feet or leg movements, "moving, twisting or turning", pauses and hesitations, speech rate, speech errors, changes in vocal pitch, and response latency. Not noticing a cue was scored as zero and included in a summative score across the 17 cues to yield a nonverbal cues contributing to the perception of honesty score (possible range: 0 to 119). The reliability of the scale was α = .82.

The Use of Verbal Cues. The verbal cues that McCornack (1992) applies in information manipulation theory were drawn from Grice's (1989; Levinson, 1983) maxims. The same format used for the nonverbal cues was employed. The specific cues measured were: Vagueness, consistency, potential for producing evidence supporting claims, amount of detail, equivocation, and organized and thought out explanations. The reliability of the scale, when summed across the verbal cues, was α = .79.

Presumptions/biases. A student bias scale was developed to measure the predisposition to favor the student or the faculty member in a student cheating case. Four Likert-type items (with 1-5 agree-disagree response formats) were written to tap into a student bias and three items were written to tap a faculty bias. Items were reflected to avoid a response set bias. Since the reliability analysis revealed that the 7 items did not fit a unidimensional model, the original student or faculty bias structure was employed. The reliabilities were: Student bias, α = .67; Faculty bias, α = .62.

Statistical Analyses

The hypothesis and the first research question were tested with a 3-way ANOVA with the independent variables of probe, prebrief, and setting. The second research question was tested with multiple regression procedures.

Results

The results for the hypothesis and the first research question are presented in Table 1. The first hypothesis was clearly supported. The participants who were responding to a court like "grievance hearing" process (complete with a legal appearing document) were much more likely to think that the student was NOT

telling the truth than the participants responding as if the account was being given by a neighbor in a student housing complex. This setting main effect, however, must be qualified within the setting by prebriefing interaction: The pattern of means indicate that prebriefing worked to reduce deception attributions in the neighbor setting. In the court setting, the prebrief was actually associated with higher attributions of deceptiveness. It should also be noted that the interaction of probes with prebriefing is associated with a probability of significance equal to .08 and accounts for 3% of the variance.[3] This interaction generally indicates that the combination of prebriefing and probes may not work well. Probes without prebriefs resulted in the highest ratings of honesty. Prebriefs without probes were slightly better than no probes and no prebriefs. Prebriefs with probes were not at all different from no probes and no prebriefs.

The relative impact of verbal or nonverbal cues proved quite informative. The summary of the regression for answering research questioned 3 is presented in Table 2. Verbal cues were clearly strong indicators of perceptions of dishonesty in these data. The student and faculty biases added slightly to the prediction of perceptions of dishonesty. The nonverbal cues did not add to the equation beyond what was accounted for by the verbal cues and the biases. It should be immediately pointed out, however, that the verbal and nonverbal cues are highly correlated ($r = .61$) which suggest that if nonverbal cues were forced into the equation first, it would be the verbal cues left in the dross. Partial correlations between verbal or nonverbal cues on deceptiveness (with the reciprocal cue partialed out) indicate that verbal cues accounted for significant portions of the perception of deceptiveness ($r_{v,d.nv} = .40$) but so did the nonverbal cues ($r_{nv,d.v} = .25$).

Discussion

The results of this study clearly indicate that probes and prebriefing may well have an impact in the courtroom. Courtroom efforts at prebriefing, in particular, may well operate like objections to inadmissible testimony: The mere attempt may heighten attentiveness to possible deceptiveness taking place (Hirsch, Reinard, & Reynolds, 1978). Regardless of setting, prebriefs may not work as well as responses to probes in fostering perceptions of truth-telling. The evidence against the nonverbal primacy in a forensic like setting opens an important door for deception researchers to pass through. This door leads us to be more concerned with the complementary nature of verbal and nonverbal cues in fostering perceptions of deception.

There are a number of plausible problems with this study that should qualify the findings. The self report of verbal and nonverbal cue use needs to be substantiated with actual behavior measures. Such measures would be meaningless in this study since the actual content of the student's account does not vary across conditions. Such a future research effort would require multiple sources.

The relatively small sample size may have resulted in an unstable matrix that may be difficult to replicate. A larger sample is certainly on the agenda.

The measures of the biases had reliabilities that were disappointingly marginal. Longer and stronger measures with a larger sample can only improve the predictive value of these concepts.

Finally, the hypothetical scenarios constructed to fit the available materials were just a bit strained. There is very little stopping the movement of this research into more realistic jury scenes with 'real' cases, attorneys, and witnesses. The process of deliberation may, in fact, ameliorate any effects of potential deception by witnesses.

Reference Notes

1 The videotape segment was the same in all conditions. The videotape segment was selected from a set collected for another deception study at another university (permission to disclose the relevant information about the source of the video segment was not available when this was written). The selection criteria were: A same gender dyad; participants who looked like they might be enrolled at the campus where this study was being conducted; an interview that was ambiguous with respect to deception or truth-telling cues. The researchers on this study remain blind to the truth-telling or deception taking place on the tape so that such information could not affect their collection and interpretation of the data. The video monitor was a 27" color unit in most of the data collection periods. The research participants were instructed to move so that they could see the video clearly. In two conditions significantly smaller monitors were employed. No differences for all available measures were obtained comparing across the data collection periods. The authors wish to express appreciation to Kelly and Krystina Aune, Geoff Leatham, and Tim Levine for allowing their students to participate in this research.

2 One reader expressed concern that the attribution of deception was a nominal decision and that the continuous nature of this measure might be misleading. The authors reasoned that if this criticism were valid the data would form a bimodal distribution and that analysis of the data as a nominal choice would result in substantially different findings. The distribution was not bimodal. In fact the distribution was quite normal. Only a slight difference emerged in the analysis with the scale treated as nominal.

3 The evidence for this interaction is stronger when deception is treated as a nominal judgment; $F(df\ 1,112) = 4.582$, $p = .035$, $eta^2 = .04$. The dummy coding also changed the interaction finding slightly such that the deception attribution occured when the prebrief and probe were both present or both absent. When either appeared alone, the attribution turned to honesty.

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Table 1

Probe, Setting, and Prebrief on Perceptions of Deception

Cell Means

		No Probe		Probe	
		Prebriefing		Prebriefing	
		NO	YES	NO	YES
Court					
	Yes	16.69	21.19	18.44	19.46
		(16)	(21)	(16)	(13)
	No	14.50	14.65	20.15	15.00
		(8)	(17)	(13)	(9)

ANALYSIS OF VARIANCE

Source of Variation	Sum of Squares	DF	Mean Square	F	Signif of F	ETA²
Main Effects						
Court	236.954	1	236.954	6.123	.015	.05
Prebriefing	11.552	1	11.552	.298	.586	
Probe	49.968	1	49.968	1.291	.258	
2-way Interactions						
Court Prebriefing	175.761	1	175.761	4.542	.035	.04
Court Probe	55.993	1	55.993	1.447	.232	
Prebriefing Probe	118.724	1	118.724	3.068	.083	.03
3-way Interaction						
Court Prebriefing Probe	5.342	1	5.342	.138	.711	
Explained	701.307	7	100.187	2.589	.017	
Residual	4063.419	105	38.699			
Total	4764.726	112	42.542			

Table 2

Regression Summary

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
Verbal cues	-.30	.05	-.44	-5.62	.00
BIAS - Stu.	-.71	.15	-.37	-4.74	.00
BIAS - Fac.	-.41	.17	-.15	-2.34	.02
(Constant)	38.16	2.55	14.97	.00	

---------- Variables not in the Equation ----------

Variable	Beta In	Partial	Min Toler	T	Sig T
Nonverbal	-.16	-.17	.54	-1.81	.07