

The Dark Side of Trust: Conceptualizing and Measuring Types of Communicative Suspicion

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This paper seeks to enhance understanding of how individuals go about making truth/lie judgments. In this paper, we argue for the existence of three distinct constructs related to suspicion (generalized communicative suspicion or "GCS," situationally-aroused or "state" suspicion, and lie-bias), create and validate a measure of GCS, and provide a test of the relationship between these constructs. Results from three separate studies are reported. The first study tested the dimensionality and construct validity of a newly-developed measure of GCS. The second study provided a replication of the GCS scale's factor structure, and further tested its construct validity by examining the scale in comparison to measures of several related constructs. The third study tested the predictive utility of this measure, and allowed for a test of the relationship between GCS, state suspicion, and lie-bias. The results of all three studies are consistent with the validity of the GCS measure, and have important implications for future research in the area of deception detection.

KEY CONCEPTS Suspicion, lying, truth-telling, generalized communicative suspicion, state suspicion, deception detection

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Since McCornack and Parks (1986) first examined the relationship between intimacy, trust, and accuracy in detecting deception, several communication researchers have explored the variables that influence perceptions of deception in relationships. While much of this attention has been devoted to studying the effects of trust upon accuracy in detecting deception (e.g., Buller, 1988; McCornack & Parks, 1986), researchers have recently begun to examine a related construct, suspicion. Research on suspicion suggests that it plays a significant role in influencing individuals' attributions about the truthfulness or deceptiveness of partners' discourse (McCornack, 1988a; McCornack & Levine, 1990b; Toris & DePaulo, 1985). Furthermore, moderate levels of suspicion result in the highest levels of detection accuracy (McCornack & Levine, 1990b).

While suspicion is a topic that has received a fair amount of attention from researchers outside of communication (e.g., Cattell, 1956; Christie & Geis, 1970; Deutsch, 1958; Kee & Knox, 1970), communication scholars have failed to carefully conceptualize suspicion. For example, previous researchers have confused situationally-aroused suspicion with the

behavioral outcomes of such a state (e.g., McCornack, 1988a), and have failed to account for effects due to a predisposition toward being suspicious (e.g., Stiff, Kim, & Ramesh, 1989).

Empirical evidence now suggests that individuals possess organized and relatively enduring beliefs regarding deception that influence their perceptions of deceptive messages (McCornack, 1988b; McCornack & Levine, 1990a; 1990b). One way in which individuals systematically differ is simply whether or not they have a generally trusting outlook toward others (Cattell, 1956; Christie & Geis, 1970; Deutsch, 1958; Johnson-George & Swap, 1982; Larzelere & Huston, 1980; Rotter, 1967). Although this type of general trust has been examined previously, communication-specific suspicion has not. In the current paper, we argue that individuals systematically differ not only in whether they are generally "trusting," but also in whether or not they are suspicious of the communication of others. As a relatively enduring characteristic, a predisposition toward suspecting the communication of others should significantly influence judgments of deceptiveness as well as how individuals respond to the situational suspicion manipulations that are currently used in experimental studies. For example, individuals who are not communication-suspicious may not react as strongly to experimental manipulations of suspicion as individuals of a more suspicious nature. In addition, whereas researchers have previously attributed subjects' lie judgments to experimental manipulations (e.g., McCornack, 1988a; Stiff et al., 1989), such an effect may also be the result of a predisposition toward judging messages as deceptive. If our goal is to carefully examine the effects of suspicion upon perceptions of deception, it is necessary to carefully define communicative suspicion as a construct, and distinguish between various conceptually related types of suspicion.

In the current paper, we distinguish between two related types of communicative suspicion and the cognitive and behavioral outcomes of these types. In doing so, we create and test a measure of communicative suspicion, and show how this can be distinguished from situationally-aroused suspicion. We begin by presenting a review of previous research on suspicion.

Previous Research Examining Suspicion

Several previous researchers have examined trust and the lack of trust. Scales designed to measure interpersonal trust have been developed by Rotter (1967), Larzelere and Huston (1980), and Johnson-George and Swap (1982), amongst others. Each of these scales has focused upon the general reliability, consistency, and trustworthiness of others. For example, Rotter's (1967) Interpersonal Trust Scale includes items such as "parents can usually be relied upon to keep their promises" and "most elected public officials are really sincere in their campaign promises" (1967, p. 654). The Larzelere and Huston (1980) scale includes items such as "my partner is primarily interested in his/her own welfare" and "my partner treats me fairly and justly" (1980, p. 599).

Although several such scales have been developed, there are at least two reasons why interpersonal trust scales may not be valid measures of suspicion. First, a low score on a trust scale is not necessarily indicative of suspicion, but simply the lack of trust. As Deutsch (1958) has noted, trust and suspicion are conceptually different. Whereas lack of trust involves questioning whether or not a person will behave in a benevolent and desired fashion, suspicion involves the belief that another may behave in a negative and malevolent fashion (Deutsch, 1958). Second, trust and suspicion differ from one another in terms of the degree of certainty surrounding the projected outcome. Trust involves a certainty in beliefs about a particular positive outcome, while suspicion involves uncertainty about the possibility of a particular negative outcome (Kee & Knox, 1970).

While there has been a fair amount of work examining trust, only two previous

researchers have attempted to directly measure constructs that can be construed as "suspicion." Cattell (1956) tested the dimensionality and internal consistency of the "Sixteen Personality Factor Questionnaire," which is comprised of 15 dynamic personality factors and one general intelligence factor. Of the 26 items on this questionnaire, one item directly measured interpersonal suspicion: "I would suspect the honesty of people who are more friendly than I would naturally expect them to be" (1956, p. 211).

Christie and Geis (1970) developed and tested a measure of machiavellianism that included a "distrust in people" sub-scale. However, the items in this sub-scale were focused upon beliefs regarding the general goodness, kindness, bravery, and morality of people (see Christie & Geis, p. 376). Christie and Geis' (1970) anomic disenchantment scale also includes a single item measuring lack of trust: "anyone who completely trusts anyone else is asking for trouble" (1970, p. 364).

Taken as a whole, this research suggests that the construct of suspicion remains ill-defined and unmeasured. No previous attempt has been made to develop conceptual distinctions between various types of suspicion, nor has any attempt been made to develop an instrument for measuring communication-specific suspicion.

Previous Research on the Effects of Suspicion

Three recent studies have examined the effects that suspicion has upon perceptions of deception. Toris and DePaulo (1985) examined the effects that suspicion had upon judgments of truthfulness within actual interactions. However, they failed to clearly define their independent variable of "suspicion." They operationalized suspicion by telling subjects that the person they were about to talk with "might be lying." Thus, they examined situationally-aroused, or "state" suspicion (see below).

McCornack (1988a) examined the effect that increases in suspicion had upon accuracy in detecting deception for dating couples. Similar to Toris and DePaulo (1985), McCornack also failed to provide a clear conceptual definition of suspicion. Suspicion was manipulated by either providing subjects with no information regarding the potential for deception, informing subjects of the possibility of deception, or informing subjects that their partner was definitely lying (McCornack, 1988a). McCornack (1988a) also argued for the existence of a "lie-bias" construct, which he described as a perceptual state in which an individual presumes that a partner is behaving in a dishonest fashion. He found that subjects shifted their perceptual orientation from one of generalized truth-bias to a lie-bias when they were faced with contextual cues that aroused suspicion (McCornack, 1988a). Unfortunately, while a "lie-bias" is conceptually distinct from other forms of suspicion, McCornack failed to articulate this distinction in his paper.

Stiff et al. (1989) also characterized suspicion in terms of a situational state. As they argued:

One factor that may increase the salience of situational characteristics is suspicion. Though partners with well developed truth-biases are not likely to become suspicious on their own, information from a third party may be sufficient to arouse suspicion and influence judgments. (p. 5)

While these authors recognized the existence of a form of situationally-aroused suspicion, they failed to account for the existence of more generalized suspicion, or possible effects that could be due to such a construct.

Conceptual Distinctions

One variable that may enrich our understanding of human perceptions of deceptive communication is the general outlook that individuals possess concerning the truthfulness or deceptiveness of the communication of others. Simply put, are people generally suspicious that the messages produced by others are false? We propose that individuals will systematically vary in this regard, and that this general outlook will influence responses to truthful and deceptive communication. We will refer to this variable as "generalized communicative suspicion," or "GCS."

GCS can be defined as a *predisposition toward believing that the messages produced by others are deceptive*. Our use of the term "predisposition" implies that GCS is a relatively enduring and cross-situational tendency. We propose that GCS consists of a system of related beliefs, and as such can be considered a "cognitive" construct. Because it is a relatively consistent and enduring tendency, it can be distinguished from both situationally-aroused suspicion and lie-bias.¹

When one examines previous research testing the effects of suspicion, one finds that each of these studies operationalized suspicion by informing subjects that a forthcoming communication might or would be deceptive. This operationalization suggests a construct which is qualitatively different from our portrayal of GCS. This second type of suspicion can be described as situationally-aroused or "state" suspicion. State suspicion is aroused by cues within a particular context, and can be defined as a *belief that communication within a specific setting and at a particular time may be deceptive*.

While both constructs are cognitive in nature, they differ in at least two important regards. First, state suspicion is relatively transitive, while GCS involves an enduring set of beliefs. Second, state suspicion involves a response to particular contextual cues; for example, priming by a third party. Thus, all previous experimental manipulations of suspicion have involved the manipulation of state suspicion.

A final suspicion-related construct in need of conceptual clarification is the notion of lie-bias suggested by McCornack (1988a). McCornack operationalized lie-bias as the percentage of messages a subject judged as being deceptive. By doing this, he implicitly distinguished between state suspicion and lie-bias, since the former was an independent variable while the latter was one of the dependent variables measured in his experiment. Moreover, since the effect of state suspicion upon lie-bias was only of moderate size, we may assume that the two are empirically distinct.

While McCornack's (1988a) conceptualization of lie-bias is somewhat ambiguous, his results suggest that it is a unique construct independent from both other types of suspicion. We define lie-bias as a *cognitive-processing bias toward decoding all incoming messages as deceptive*. It differs from both GCS and state suspicion in that both types of suspicion involve beliefs regarding the possibility that deception may occur (prior to any judgment about a particular message), while lie-bias involves a bias toward decoding and storing all messages that are presented within a context as deceptive.

While suspicion may influence individuals to more actively process information in an attempt to discern deceptiveness, the development of a lie-bias should cause individuals to decode and store all messages that are presented as deceptive regardless of the behavioral cues that are present. Thus, the most straightforward indicator of the presence of a lie-bias would be a sharp increase in the number of messages that are judged by subjects as deceptive.²

Our definition suggests that lie-bias is the conceptual opposite of the McCornack and Parks' (1986) truth-bias construct. McCornack and Parks (1986) argued that as relationships

develop, individuals become increasingly confident in their ability to detect their romantic partners' duplicity. These increases in confidence subsequently produce a truth-bias: a bias toward decoding all incoming messages as truthful. We contend that GCS and state suspicion may influence lie-bias in an analogous fashion. Just as confidence stemming from relational development seems to blind individuals to their partners' lies (McCornack & Parks, 1986; Levine & McCornack, 1991), increases in GCS and state suspicion may blind individuals to their partners' truths.

Summary

Three suspicion-related constructs have been defined. GCS is a predisposition toward viewing the communication behaviors of others as deceptive. State suspicion is situation-specific belief that the messages of a particular person may be deceptive. As such, state suspicion can be aroused by a particular event or cue within a context. Lie-bias is a processing bias toward decoding all incoming messages as deceptive.

Implicit within our arguments thus far are two hypotheses: that lie-bias is a function of both GCS and state suspicion, and that more accurate predictions of individuals' truth/lie judgments will be obtained by measuring both GCS and state suspicion. Thus, distinguishing between these three suspicion-related constructs should enhance our understanding of recent research on suspicion, and provide a more solid conceptual foundation for future research examining deceptive communication.

Measuring Trait Suspicion

A second purpose of this paper is to design and test a measure of GCS. While prior research provides operational definitions for both state suspicion and lie-bias, research has yet to validate a measure of GCS. For this reason, we constructed a self-report measure of individual predisposition to view communication as deceptive, and conducted three studies to validate this measure.

The purpose of Study I was to assess item quality, estimate the scale's reliability, establish the dimensionality of the scale, and work toward establishing its construct validity. Study II compared the GCS scale to several related scales. Study III focused upon the predictive utility of the scale, and tested the relationship between GCS, state suspicion, and lie-bias.

Study I

The purpose of this investigation was to provide preliminary support for the validity of a measure of GCS. This involved constructing a scale to measure GCS, and distributing the scale, along with other measures (to test parallelism and construct validity), to a sample of college undergraduates. Once the data were collected, a number of statistical analyses were conducted to test the quality of each item, the dimensionality of the scale, the reliability of the scale, and the relationship between GCS and three outside measures.

In assessing item quality, a number of criteria were employed. First, prior to the data collection, the items were informally screened for homogeneity of item content by the authors. This was to determine whether or not the scale (in the authors' opinions) exhibited face validity. Following the data collection, statistical analyses were used as a further basis for item-retention decisions. The specific item retention criteria employed included primary factor loadings of at least .40,³ a positive contribution to the scale's reliability, and item consistency (internal consistency and parallelism with three outside factors) with a

unidimensional factor model. The latter was assessed with confirmatory factor analyses on *PACKAGE* (see Hunter & Gerbing, 1982, for a detailed discussion of this technique, and Hunter, Gerbing & Boster, 1982, and Levine & McCroskey, 1990 for examples of its application).

Finally, these data were used to help establish the construct validity of the measure. This involved testing whether the measure in question correlated with measures it should conceptually correlate with, and did not correlate with measures it should be unrelated to (Cronbach & Meehl, 1955).

Data related to measures of lie acceptability (McCornack & Levine, 1990a), verbal aggressiveness (Infante & Wigley, 1986), and communication apprehension (McCroskey, 1982) were collected. Lie acceptability should be substantially related to GCS, since individuals who believe lying is acceptable should expect others to lie. Because these individuals may expect others to lie, they should be more suspicious of their messages. GCS should also be related to verbal aggressiveness, although to a lesser extent. Boster and Levine (1988) suggest that verbally aggressive individuals may think less of others than less verbally aggressive individuals. It seems reasonable to predict that suspicious individuals may also share this view of others since they believe that people may frequently lie to them. Thus, individuals who are high verbal aggressives and those who are highly suspicious should share a tendency to view others in a less positive light. Suspicion should be unrelated to communication apprehension, because suspicion is not thought to have an anxiety component.

Method

Procedure and Research Participants

A questionnaire booklet containing the GCS measure and three other self-report measures was completed by 141 undergraduate students enrolled in basic communication courses at a large midwestern university. The questionnaire was completed during regularly scheduled class time and all participants received extra credit for their participation.

Measurement

The questionnaire booklet contained four self-report measures. These included the GCS measure, a five-item measure of lie acceptability (McCornack & Levine, 1990a), Infante and Wigley's (1986) 20-item verbal aggressiveness measure, and the PRCA-24, a 24-item measure of communication apprehension. (McCroskey, 1982). The GCS scale consisted of 14 items, five of which were reflected. All scales employed Likert-type items with seven-point response formats anchored on one end with "strongly agree" and with "strongly disagree" on the other. Data consistent with the validity of the latter three measures has been obtained from previous research. Research has also demonstrated that these measures exhibit reasonably high reliabilities.

Results and Discussion

Preliminary Analyses

Prior to their use as comparison measures, the lie acceptability, verbal aggressiveness, and communication apprehension measures were tested for internal consistency and parallelism with confirmatory factor analyses on *Package* (Hunter & Lim, 1987). This

procedure resulted in the deletion of seven verbal aggressiveness items and two PRCA-24 items. All lie acceptability items were retained. The scale means, standard deviations, and reliabilities are reported in Table 1.

In addition to the items deleted, several of the verbal aggressiveness items showed significant deviations from the predicted correlations on the parallelism test. Since the significant deviations were distributed across many verbal aggressiveness items, these items were retained. However, the number of the deviations was substantially greater than would be expected by chance alone. In addition, these deviations were not attributable to any specific outside item or measure. This result casts doubt on the parallelism of the verbal aggressiveness scale for this particular sample.

Tests of the GCS Scale

Of the original 14 GCS items, six items were deleted because of low primary factor loadings, high cross-loadings, or because they failed to provide a positive contribution to scale reliability. One additional item was deleted due to the internal consistency criteria and another was deleted due to a lack of parallelism. The reliability of the remaining six items was acceptable ($\alpha = .71$). The sum of the retained items was distributed normally ($M = 19.33$, $SD = 4.57$). The 14 original items are presented in Appendix A.

The six retained items were tested again with confirmatory factor analysis. The items were found to meet the internal consistency criteria ($X^2 (21) = 5.64$, $p > .05$). The mean deviation was .04. While one deviation was significant, this was within chance level. Goodness of fit tests also were consistent with the conclusion that the GCS scale was parallel with lie acceptability ($X^2 (30) = 26.2$, $p > .05$, average deviation = .07), verbal aggressiveness ($X^2 (76) = 54.72$, $p > .05$, average deviation = .08), and the PRCA-24 ($X^2 (132) = 125.49$, $p > .05$, average deviation = .07). The number of significant deviations was within chance level for lie acceptability and communication apprehension. However, the parallelism test between GCS and verbal aggressiveness yielded more significant deviations than would be expected on the basis of chance alone.

The retained GCS items appear to form a scale which has an acceptable reliability, and a sound unidimensional structure. The one finding inconsistent with this conclusion was the number of significant deviations in the parallelism test with the verbal aggressiveness scale. However, because the verbal aggressiveness scale also exhibited parallelism problems with the other two measures, it is likely that the results stemmed from the verbal aggressiveness items and not the GCS items.

TABLE 1 Means, Standard deviations, and Reliabilities in Studies I and II.

<i>Scale</i>	<i>M</i>	<i>SD</i>	<i>Alpha</i>
<i>Study I</i>			
Lie Acceptability	15.9	5.10	.78
Verbal Aggressiveness	43.5	11.61	.85
Communication Apprehension	67.6	20.73	.95
<i>Study II</i>			
GCS	42.84	10.55	.82
Interpersonal Trust	61.96	12.80	.83
Cynicism	9.37	3.17	.60
Negativism	12.42	3.60	.54
Trustworthiness	48.80	12.11	.89
Specific Trust	38.96	8.42	.89

Correlational Analysis

The final analysis involved correlating each of the outside measures with the GCS scale. As predicted, GCS correlated significantly with lie acceptability, $r(139) = .27, p < .01$, and verbal aggressiveness, $r(139) = .25, p < .05$, and did not correlate significantly with the PRCA-24, $r(139) = .10, p > .05$. These correlations provide initial support for the construct validity of the GCS measure.

In conclusion, Study I provided initial evidence necessary for the validation of the GCS measure. The scale's reliability was acceptable (.71), if not as high as one might desire. This could be improved with the creation of additional items. In addition, the retained items met our relatively conservative retention criteria. This allows for addition confidence in the scale's dimensional structure. While it was tempting to retain more items, item quality was deemed a more important criterion. Finally, the scale correlated with three outside measures in a manner consistent with its construct validity.

While the results of Study I were consistent with the scale's validity, additional support was necessary for the validation of our measure. Making claims about a measure's construct validity typically involves correlating the measure in question with three type of measures: those with which it should have a positive relationship, those it should not be related to, and those with which it should have a negative relationship. Because Study I did not investigate the third possibility, the case for construct validity remained incomplete. Given that several related constructs already existed in the literature, demonstrating that the GCS scale is not redundant this these is required. Finally, since replication is the hallmark of validation research, the psychometric properties of the GCS scale needed to be investigated with additional samples. For these reasons, a second study was conducted.

Study II

The purpose of Study II was to assess how our GCS scale correlated with other measures of similar constructs. As noted previously, the idea that people systematically vary in terms of generalized trust is not new. The GCS construct, however, is conceptually different in that it focuses upon suspicion about the communication of others. Study II investigated whether the GCS scale was empirically distinct as well. This study also served as a replication of the scale's factor structure and supplemented the evidence for construct validity.

Method

Procedure and Research Participants

A questionnaire booklet containing the GCS measure and five other self-report measures was completed by 159 undergraduate students enrolled in basic communication courses at a large midwestern university. The questionnaire was completed during regularly scheduled class time and all participants received extra credit for their participation.

Measurement

The questionnaire booklet contained six self-report measures. These included the GCS measure, Rotter's (1967) 25-item Interpersonal Trust Scale, Christie and Geis' (1970) four-item cynicism sub-scale of the Mach IV, Christie and Geis' (1970) three-item negativism sub-scale of the Mach IV, Wrightman's (1964) 14-item Truthworthiness subscale of the Philosophy In Human Nature Scale, and Lazarlee and Huston's (1980) eight-item Specific Trust Scale. The GCS scale consisted of 14 items, five of which were reflected. All

scales employed Likert-type items with seven-point response formats anchored on one end with "strongly agree" and with "strongly disagree" on the other. Data consistent with the validity of the other five measures has been obtained from previous research. Research has also demonstrated that these measures exhibit reasonably high reliabilities.

Results and Discussion

Preliminary Analyses

Prior to their use as comparison measures, the Interpersonal Trust, Cynicism, Negativism, Trustworthiness, and Specific Trust measures were tested for internal consistency and parallelism with confirmatory factor analyses on *Package* (Hunter & Lim, 1987). The criteria for item retention were the same as those used in Study I.

This procedure resulted in the deletion of eight Interpersonal Trust items, one Cynicism item, and one Specific Trust item. All Negativism and Trustworthiness items were retained. The scale means, standard deviations, and reliabilities are also reported in Table 1.

Tests of the GCS Scale

Of the original 14 GCS items, only three items were deleted because of low primary factor loadings, high cross-loadings, or because they failed to provide a positive contribution to scale reliability. The retained items were tested again with confirmatory factor analysis and the data were consistent with the retained items forming an internally consistent and parallel unidimensional scale.

Correlational Analysis

Each of the outside measures were correlated with the GCS scale. GCS correlated significantly with Interpersonal Trust, $r(157) = -.58, p < .01$; Cynicism, $r(157) = .65, p < .01$; Negativism, $r(157) = .37, p < .01$; Trustworthiness, $r(157) = -.54, p < .01$; and Specific Trust, $r(157) = -.20, p < .01$.

These results show that the GCS scale has a strong positive association with Cynicism and a strong negative association with both Interpersonal Trust and Trustworthiness. These correlations, however, were not so high as to suggest that these constructs are isomorphic with GCS. This conclusion was further bolstered by the finding that the GCS scale was parallel with these outside measures.⁴

The GCS scale also correlated significantly (but less strongly) with the Specific Trust and the Negativism scales. Consistent with our earlier argument concerning the GCS-verbal aggressiveness correlation, the moderate positive correlation of GCS with negativism suggests that high GCS individuals view others less positively than their low GCS counterparts. The finding that the GCS scale correlated more strongly with generalized measures of trust (i.e., the Interpersonal trust scale, the Trustworthiness scale, and Cynicism) than with the specific trust scale is consistent with our contention that the GCS scale measures a cross-situational tendency.

Study III

We began this paper by arguing that the investigation of GCS would enhance understanding of how individuals make attributions about the truthfulness or deceptiveness of others' discourse. Three deception-related constructs were defined, and speculation concerning the relationship between these constructs was offered. Because the results of

Study I and Study II provided a promising measure of GCS, these speculations were subjected to empirical testing in Study III.

The purposes of Study III were two-fold. First, the study was intended to provide additional evidence for the validation of the GCS scale. Specifically, this study was designed to provide a replication of the scale's factor structure, and offer a test of the scale's predictive utility. To the extent to which scores on the GCS scale predicted lie judgments (i.e., lie-bias), the scale could be said to exhibit predictive utility. This relationship should also hold when controlling for state (aroused) suspicion. Such evidence (in addition to the results of studies I and II) would provide strong support for the validity of the measure.

To test the predictive utility of the GCS scale, we proposed the following hypotheses:

- H₁: Scores on GCS will be positively associated with the number of lie judgments.
- H₂: Scores on GCS will be positively associated with the number of lie judgments when controlling for the level of state suspicion.

A more theoretically important function of this study was to provide an investigation into the relationship between GCS, state suspicion, and lie-bias. In our earlier discussion of this relationship, we reasoned that both state suspicion and GCS should positively influence lie-bias. However, since this relationship has not been investigated by previous research, it is unclear whether the impact of GCS and state suspicion will be additive or not (i.e., whether these variables will be independent predictors of lie-bias, or whether lie-bias will be a function of their interaction). To investigate these issues, we proposed the following rival hypotheses:

- H_{3A}: GCS and state suspicion will each have positive and additive effect upon lie-bias.
- H_{3B}: GCS and state suspicion will interact to affect lie-bias.

Method

Research Participants

The participants were 107 couples recruited from a basic communication course at a large midwestern university. Individuals expressing an interest in participation (for extra credit) were contacted individually and scheduled for an appointment. Appointments and participation were contingent upon the individual bringing a dating partner of the opposite sex with them to the laboratory.

Procedures

Experimental sessions were run separately for each couple. One member was selected to play the role of "subject" (i.e., the person who would judge deceptive attempts) and the other was selected to play the role of "confederate" (i.e., the person who would produce the deceptive messages). Selection of experimental roles was done randomly.

The subject was then taken to a separate room and given a questionnaire. The questionnaire included, among other things, items measuring the level of love, global uncertainty, the percentage of free time spent with the partner, and the overall frequency of communication with the partner.

While the subject was filling out this questionnaire, the confederate was taken to a separate room to create a videotape containing a series of truthful and deceptive statements. Similar to previous studies examining relational deception (see McCornack & Parks, 1986; 1990), the first step was to give the confederate an attitude survey containing

12 randomly selected items from the Machiavellianism scale (Christie & Geis, 1970). Responses to these items were recorded on 10-point scales. Several different random orderings of the 12 items were used in an attempt to minimize order effects.

The confederate was then told to report her/his true answer for half of the 12 items. For the remaining items, the confederate was told to report an answer which was five points (half the scale length) different from her/his true answer. Instructions were varied so that each item was reported truthfully or dishonestly an equal number of times over the course of the study. The confederate was then seated at a table and told to state her/his attitude on each item in terms of the true or false scale value and to briefly explain each answer. This was videotaped. The camera was placed so that the head, arms, and torso would appear. Camera distance and angle were held constant throughout the study.

The tape was then taken to the subject, who viewed it. Subjects were randomly assigned to one of three conditions. In condition one (low state suspicion), subjects were told by the experimenter to view the videotape and answer the questions on the questionnaire that was provided (see below). As the questionnaire specifically requested information regarding deception it was assumed that a certain degree of suspicion would be aroused. However, an effort was made to "bury" the truth/lie item among several other items. Subjects in condition two (moderate state suspicion) were told by the experimenter prior to completing the questionnaire that their partners may or may not be telling the truth. Subjects in condition three (high suspicion) were told by the experimenter that their partners were definitely lying on several of the items, and that their (i.e., subjects') task was to determine which of their partners' videotaped responses were deceptive.

After viewing each of the 12 videotaped segments, all subjects were asked to make several judgments. One was a dichotomous "truth/lie" judgment. The distance between the playback monitor and the subject was held constant throughout the experiment. The GCS measure and the manipulation check were completed last.

Finally, subjects and their partners were reunited and debriefed. The debriefing covered the precise purpose of the study and addressed participants' questions.

Measures

While degree of relationship involvement was not the primary focus of this study, data were collected measuring intimacy. This was to ensure that all three test groups would be comparable in terms of relationship involvement.

As noted above, subjects viewed a series of 12 statements and explanations made by their partners. The tape was stopped after each of these segments and the subject was asked to indicate if s/he thought that the partner was "lying" or "completely truthful." The number of judgments marked as "lying" over the 12 trials constituted the measure of lie-bias. Following the viewing of the tape, the subjects completed the GCS scale investigated in studies I and II and a 7-item manipulation check.

Results and Discussion

Preliminary Analyses

The dimensionality of both the GCS and manipulation check scales were tested with confirmatory factor analysis. Both were found to be internally consistent and parallel. The estimated reliability of the GCS scale ($\alpha = .75$) was consistent with the reliability found in studies I and II. The manipulation check items were also found to be highly reliable

($\alpha = .91$), and correlated significantly with the state suspicion manipulation, $r(96) = .41, p < .05, r' = .44$.

Tests of Predictive Utility

Hypothesis one predicted that GCS would be positively related to lie-bias. The data were consistent with this hypothesis. A scatterplot revealed that the regression of lie-bias onto GCS was nonlinear and monotone. The GCS scale was trichotomized into high, medium, and low. The average lie-bias scores were 2.7 for low GCS, 3.7 for moderate GCS, and 3.5 for high GCS. An ANOVA using the contrasts $-1.0, 0.5, 0.5$ found a significant nonlinear effect for GCS on lie bias ($F(1,91) = 4.41, p < .05$, non-linear $r = .21$).

Hypothesis two predicted that this relationship would hold when controlling for state suspicion. An Analysis of Covariance using the same contrast with state suspicion as the covariate found that the relationship between GCS and lie bias held when controlling for state suspicion, ($F(1,91) = 6.78, p < .05, n^2 = .05$, non-linear $r = .23$).

Thus, the data were consistent with the first two hypotheses. Taken together, these findings provide support for the predictive utility of the GCS measure. Individuals who were moderate or high in GCS were more likely to question the veracity of others' messages than their less suspicious counterparts. This effect held when controlling for an aroused (state) suspicion manipulation.

Effects of GCS and State Suspicion on Lie Bias

Our final hypotheses concerned the effects of both GCS and state suspicion on lie-bias. To investigate these, the data were subjected to a 3×3 ANOVA. Three levels of both independent variables were deemed appropriate since the prior analyses indicated substantial nonlinearity.

The results of the ANOVA indicated a statistically significant and substantial main effect for state suspicion, $F(2,90) = 18.68, p < .05, n^2 = .28, r = .53$). The main effect for GCS approached significance ($F(2,90) = 2.74, p = .07, n^2 = .05, r = .21$).

Examination of cell means suggested a substantial interaction between GCS and state suspicion on lie-bias (see Table 2). A post hoc contrast was calculated to assess the strength of this interaction. For low levels of state suspicion, a non-linear monotone function was specified (the contrast weights were -2.0 for low GCS, -1.0 for moderate GCS, and -1.0 for high GCS). At moderate levels of state suspicion, a linear set of weights were stipulated ($-1.0, 0.0$, and $+1.0$ for low, moderate, and high levels of GCS). Finally, a quadratic function was assigned at high levels of state suspicion ($+1.0$ for low GCS, $+2.0$ for moderate GCS, and $+1.0$ for high GCS).⁵ This analysis indicated a statistically significant and substantial interaction of GCS and state suspicion on lie bias ($F(1,99) = 33.31, p < .05, n^2 = .28, r = .53$).⁶

This interaction reflects an effect for state suspicion on lie-bias such that higher levels of state suspicion always produce higher levels of lie-bias. This also suggests that the functional relationship between GCS and lie-bias is moderated by state suspicion. Specifically, when individuals are not prompted to expect a deceptive communication (i.e. low state suspicion), moderate and high GCS individuals exhibit higher levels of lie-bias than their low GCS cohorts. When outside information leads to moderate levels of state suspicion, increased GCS leads to a corresponding increase in lie-bias. For individuals with high levels of aroused (state) suspicion, however, increased GCS leads to increased lie-bias only up to a certain point, then the effect decreases.

TABLE 2 Mean number of lie judgements in Study III.

<i>State Suspicion</i>	<i>GCS</i>		
	<i>Low</i>	<i>Moderate</i>	<i>High</i>
Low			
<i>M</i> =	1.62	2.67	2.60
<i>SD</i> =	1.19	1.80	1.96
<i>N</i> =	8	9	15
Moderate			
<i>M</i> =	2.82	3.30	3.60
<i>SD</i> =	1.33	1.42	0.85
<i>N</i> =	11	10	10
High			
<i>M</i> =	3.75	4.82	4.30
<i>SD</i> =	1.98	1.47	1.03
<i>N</i> =	8	11	13

General Conclusions

This paper sought to accomplish three goals. First, a communication-oriented conceptualization of three suspicion related concepts was presented. By distinguishing between these constructs, some of the conceptual ambiguity evident in the previous literature was resolved, and solid conceptual groundwork for future research was provided.

The second task undertook was the development and validation of a GCS measure. Study I investigated the psychometric properties of the scale, tested item quality, and presented evidence consistent with the scale's construct validity. The internal consistency and parallelism of the scale was replicated in studies II and III. Study II provided additional evidence of construct validity by correlating the scale with measures that should be and were negatively associated with GCS, and by showing the GCS measure to be empirically distinct from similar constructs. Study III further provided evidence of the scale's predictive utility. The GCS scale was shown to significantly predict the number of truth-lie judgments made by subjects in a deception detection experiment. This effect held when controlling for manipulated (state) suspicion.

Our third and final goal was to provide a test of the interrelationship among GCS, state suspicion, and lie-bias. The results of study III suggest that state suspicion can have a profound impact on lie-bias. The results also indicate that the state suspicion/lie-bias relationship is moderated by GCS. Thus, both GCS and state suspicion appear to influence lie-bias in a non-additive fashion.

The finding that GCS and state suspicion interact to influence attributions concerning the truth and falsity of the communication of others has important implications for the study of suspicion and deception. These results suggest that experiments manipulating state suspicion without assessing GCS may be contaminated with treatment by subject interactions. Future researchers of suspicion and deception should be careful to control for effects due to GCS.

Several limitations in this research, particularly study III, merit mention. Perhaps the most striking limitation was the rather small effects for GCS on the number of lie judgements reported in study III. Although many might expect larger validity coefficients, the reasons for these meager findings appear fairly obvious. First, as Monte Carlo research (see Ahadi & Diener, 1989) indicates, the upper bound correlation between any one trait and any one behavior is likely to be in a range typically described as small to moderate. Second, the effect sizes might well have been further attenuated by error variance introduced by cues thought

indicative of deception and left uncontrolled in the experimental design (e.g., length of subject's response).⁷ Thus, while the effects for GCS are admittedly small, they are also within the range that should be expected given the type of hypotheses tested and the type of design used to conduct the test.

Other limitations in Study III restrict the generalizability of the findings. Our use cross-sex dyads and our choice of deceptive messages might well limit the generalizability of our results to other samples and other topics of deception.

In conclusion, this paper sought to elucidate suspicion related constructs of GCS, state suspicion, and lie-bias on both the conceptual and empirical levels. We view this as particularly important given the recent swell of interest in the role suspicion plays in relational deception processes (e.g., Buller, Strzyzewski & Comstock, 1991; Levine & McCornack, in press; McCornack & Levine, 1990a; 1990b). We encourage future researchers to continue this trend and to be mindful of the distinctions between types of suspicion.

NOTES

¹As noted previously, the idea that people vary in this regard is not new. Several previous researchers (e.g., Cattell, 1957; Rotter, 1967; Christie & Geis, 1970) have argued that some people are naturally less trusting than others. Our work departs from previous research in that it focuses specifically upon suspicion about communication, with the aim being to help explain deception-related processes.

²By "sharp increase," we mean a noteworthy jump in the number of deceptiveness judgments rendered by subjects, above and beyond what would be expected if they were processing messages in a unbiased fashion. Given that subjects in most deception experiments only tend to rate 10-30% of messages received as deceptive, deceptiveness ratings significantly above this (that occurs independent from the actual truth or falsity of the messages received) would appear to be indicative of skewed processing.

³While a minimum factor loading .40 may seem low to those accustomed to principal components or principal axis analyses, in confirmatory factor analyses factor loadings are used to obtain values predicted by an a priori model rather than being the primary criteria for assessing item quality.

⁴If two sets of items specified to be separate factors really form a unidimensional scale, this should be evident in the parallelism test. Specifically, the two-dimensional solution should fail the parallelism test with the majority of the deviations being positive, because the obtained correlations should systematically exceed the expected correlations. Because we did not observe such a tendency in our data (the GCS scale was found to be parallel with related measures), these findings are inconsistent with a model in which the GCS scale is specified to measure the same construct as any of the other scales.

⁵The contrast used accounted for over 97% of the explained sum of squares. The "percentage of explained sums of squares" statistic assesses the fit of the contrast weights to the data, and should not be interpreted as an estimate of effect size.

⁶This ANOVA was found to meet the assumption of homogeneity of variance. Both Cochran's ($C = .1952, p = .464$) and Bartlett's ($F = 1.4638, p = .165$) tests were non-significant.

⁷The failure to hold sources and messages constant in the design was most likely to produce random, not systematic, error because truths and lies were distributed equally, and in randomized order, within experimental condition, and the confederates were blind to the experimental condition.

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Appendix A

Suspicion Scale

1. Everyone lies, the person who says that they don't is the biggest liar of all.
 2. I often feel as if people aren't being completely truthful with me.
 3. Most people only tell you what they think you want to hear.
 4. When I am in a conversation with someone, I frequently wonder whether they are really telling me the truth.
 5. People rarely tell you what they're really thinking.
 6. The best policy is to trust people until proven wrong.
 7. Dishonesty is a part of human nature.
 8. When I first meet someone, I assume that they are probably lying to me about some things.
 9. Most people are basically honest.
 10. Anyone who completely trusts someone else is asking for trouble.
 11. When I ask a stranger for directions, I frequently wonder whether they are being truthful.
 12. When I am talking to others, I tend to believe what they say.
 13. People seldom lie to me.
 14. Most people follow the saying "honesty is the best policy."
- Items 2, 3, 4, 5, 8, 9, 10, 11, 12, 13, and 14 were retained.

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