DOCUMENT RESUME

ED 366 028 CS 508 435

AUTHOR Remland, Martin S.

TITLE Communication Apprehension and Nonverbal Behavior: A Functional-Contextual Approach.

PUB DATE Nov 93

NOTE 27p.; Paper presented at the Annual Meeting of the Speech Communication Association (79th, Miami Beach, FL, November 18-21, 1993).

PUB TYPE Speeches/Conference Papers (150) -- Information Analyses (070)

EDRS PRICE MF01/PC02 Plus Postage.

DESCRIPTORS *Communication Apprehension; Communication Problems; *Communication Research; *Context Effect; Higher Education; Literature Reviews; *Nonverbal Communication; *Research Methodology; Research Needs; *Speech Communication

IDENTIFIERS Communication Context

ABSTRACT

This paper reviews the existing body of research on the relationship between communication apprehension (CA) and nonverbal behavior. The strengths and limitations of three different approaches are considered. Contextual approaches are studies of CA and nonverbal behavior in which the primary focus is on communicative context (public speaking, small groups, dyadic). Functional approaches examine the ways in which nonverbal signals combine to serve important communicative goals (expressing emotion, engaging in deception, managing conversations). Functional-contextual approaches focus on the dynamic interplay of function and context--both are integral features in theories and models of nonverbal communication. In the latter approach, CA is often studied as an important mediating variable. The paper concludes with several suggestions for future directions in the study of communication anxiety and nonverbal behavior. (Contains 31 references.) (Author/RS)

Communication Apprehension and Nonverbal Behavior: A Functional-Contextual Approach

Martin S. Remland, Ph.D.
Department of Communication Studies
West Chester University
West Chester, PA 19383

(215) 436-2550

Abstract

This paper reviews the existing body of research on the relationship between communication apprehension (CA) and nonverbal behavior. The strengths and limitations of three different approaches are considered. Contextual approaches are studies of CA and nonverbal behavior in which the primary focus is on communicative context (i.e., public speaking, small groups, dyadic). Functional approaches examine the ways in which nonverbal signals combine to serve important communicative goals (i.e., expressing emotion, engaging in deception, managing conversations, etc.). Functional-contextual approaches focus on the dynamic interplay of function and context--both are integral features in theories and models of nonverbal communication. In the latter approach, CA is often studied as an important mediating variable. Suggestions are given for future directions in the study of communication anxiety and nonverbal behavior

Communication Apprehension and Nonverbal Behavior: A Functional-Contextual Approach

Since McCroskey's (1976) call for research into the relationship between communication apprehension and nonverbal behavior, suprisingly little has been done. To some extent, perhaps, this may reflect the view that CA, defined as an anxiety syndrome associated with either real or anticipated communication with another person or persons (McCroskey, 1970), should be studied as a cognitive rather than as a behavioral predisposition. As McCroskey & Richmond (1991) have pointed out, the only universal effect of CA is an internally experienced feeling of discomfort. Presumably, if CA is found to be associated with nonverbal behavior, then the association is mediated by some other construct such as willingness to communicate. Related traits, such as reticence for example, tend to be seen by some as more behaviorally-oriented than is CA (Leary, 1983), though others have raised questions about this distinction (Booth-Butterfield & Booth-Butterfield, 1986).

Conceptual distinctions aside, the time is right to assess the research that has been done since McCroskey (1976) set the agenda for those interested in studying the apparent relationship between nonverbal behavior and communication-related anxiety. Based on a number of propositions regarding the nature of CA (i.e., people with high CA seek to avoid communication; people with high CA engage in less verbal communication than do less apprehensive persons), he offered six testable hypotheses. Persons with high CA, when compared to those with low CA, will: 1) establish greater personal space

distances: 2) engage in less direct eye contact and less prolonged eye contact; 3) be more averse to touch than the average person within the culture and be less likely to initiate touch; 4) have less vocal variety; 5, have fewer kinesic movements and more restrained movement; and 6) have longer pause times. Despite the fact that each of these predictions is somewhat easy to justify, given the nature of the CA construct, most have not been fully supported in the literature. It appears that the relationship between CA and nonverbal behavior may be more complex than what was originally conceived.

The lack of empirical studies and the inconsistency of results are not the only difficulties involved in assessing this literature. One methodological problem is the disparity in how the CA variable is operationalized--continuous or categorical. Given the original conceptualization of trait CA, one would think that comparisons ought to be made between subjects who are classified as high or low, when a researcher is looking for differences in nonverbal behavior (see Beatty (1987) for a lengthy discussion of this issue), yet that often is not the case. In addition, researchers occasionally rely on the use of self-reports to study the nonverbal correlates of social anxiety. For example, Prisbell (1985) found that nonverbal immediacy and expressiveness differentiated between high and low levels of assertiveness and shyness; Andersen, Andersen, and Lustig (1987) found that opposite-sex touch avoidance was greater for females than males and was positively correlated with communication apprehension. Finally, from a theoretical standpoint, most of the research investigates nonverbal

behavior in order to test various notions concerning the criterion-related validity of the instruments commonly used to measure communication-anxiety than to advance theories of nonverbal communication.

In this paper my interest is in how the research on CA informs the development and testing of nonverbal communication models and theories. To that end. the literature review is divided into two main sections: 1) contextual approaches. and 2) functional approaches. *Contextual approaches* are studies of CA and nonverbal behavior in which the primary focus is on communicative context (i.e., public speaking, dyadic, small group, etc.). *Functional approaches*, which tend to be more theory-driven, look at the ways in which nonverbal signals combine to serve important communicative goals (i.e., expressing emotion, regulating conversation, sending relational messages, engaging in deception, etc.). Following this review, I'll briefly discuss a *functional-contextual approach* in which the focus is on the dynamic interplay of function and context. To illustrate, I'll examine theoretical work in the areas of nonverbal intimacy exchange, social influence and expectancy violations, and nonverbal communication and conflict escalation.

Contextual Approaches

Context-focused studies have been limited to the nonverbal indicants of communication-anxiety in public speaking and dyadic contexts. In their study of public speaking, Pearson and Turner (1984) were interested in the criterion-related validity of the PRCA. In a beginning speech class student evaluators

rated speakers with higher levels of CA as engaging in behavior that was more tense, less assertive, and more concerned with self than speakers with lower levels of CA. In particular, higher CA speakers were seen as speaking too softly, providing longer pauses, having a shaking voice, blushing, and having trembling hands. Less visible symptoms were noted in a study of the self-reported nonverbal stress behaviors (assumed to be CA-related) of Japanese and American managers who often give public speeches. Suggesting that certain behaviors associated with public speaking apprehension may cross cultural boundaries, Pucel, Stocker, and Porter (1989) found that the highest ranked nonverbal symptoms reported by both cultural groups included: rapid heartbeat, rapid speech rate, dry mouth and throat, sweaty palms and hands, and wavering voice. High CA speakers may also differ from low CA speakers in their use of time. Beatty, Forst, and Stewart (1986) found that CA and motivation to speak was predictive of the duration of informative speeches. Ayers and Robideaux-Maxwell (1987) observed that high CA's enrolled in a basic public speaking class took more time preparing to deliver an impromptu speech (M = 391 sec.) than did their low CA counterparts (M = 270 sec.); moreover, when they expected the speech to be evaluated they took even more time preparing (M = 463 sec.). But the behavior most fundamental to the CA construct is probably the avoidance of public speaking. Beatty (1987) found that high CA's, when given the option, chose to avoid speaking assignments. According to his reasoning, the behaviors most central to CA are: avoidance of communication, withdrawal

from communication (passive avoidance), or restricted verbal output. "However, a CA may communicate for an appreciable length of time if withdrawal is perceived as more threatening than communication. For example, if withdrawal is not viewed as viable, the highly apprehensive person will experience extreme anxiety reactions during the communication episode (p. 205)." Apprehensive speakers might then be expected to manifest their anxiety in some of the ways noted above.

Few studies have explored the nonverbal signs of CA in various dyadic contexts without taking a functional approach. In one of the earliest investigations, Comadena and Andersen (1978) hypothesized that CA would influence hand movements, even in a very brief interview context. Specifically, they expected persons classified as high in CA, when compared to moderates and lows, to use fewer emblems and illustrators as a consequence of restricted and less enthusiastic talk, and to use more self- and object-focused adaptors as symptoms of discomfort and nervousness. Their analysis of the data provided only partial support for the hypothesis regarding CA and illustrator usage: moderate CA's used fewer illustrators than highs and lows; low CA speakers used the most, perhaps as a sign of increased involvement in the interaction. Cardot (1982) compared persons who scored above and below the mean on the PRCA in his investigation of proxemic and kinesic behavior among black and white adults. Observations of brief get-acquainted meetings showed that high CA dyads interacted at closer distances and used more direct body orientations

than did low CA dyads, but they also tended to compensate by using more blocking behaviors. In their study of selected "women's language" features, McMullen and Pasloski (1992) observed female university students in conversations with a female friend or stranger, discussing familiar or unfamiliar topics. They found that women with higher levels of CA were more likely to use a questioning vocal intonation than women with lower levels.

Booth-Butterfield and Booth-Butterfield (1986) investigated the alleged distinction between reticence and CA. In their experiment--which was designed to test the notion that the reticence construct is behavioral, observable, and skill-oriented, whereas the CA construct is cognitive, self-report, and affective--nonverbal signs of "behavioral disruption" (words spoken, pauses, gaze avoidance, hesitations) among interacting dyads were observed for eight minutes under varying conditions of task structure (high or low) and evaluation (expected or not). Under these conditions, assuming the conceptual distinction between CA and reticence noted above, it was predicted that the evaluation manipulation would affect CA's more than reticents and that the structure manipulation would affect reticents more than CA's. Their findings offered little support for the distinction between CA and reticence. Low CA's exhibited fewer signs of behavioral disruption when interacting in the low structure rather than in the high structure condition. As for persons higher in CA, they showed the least behavioral disruption under nonevaluative, low structured conditions. In the first case, structure appeared to hinder the performance of persons who probably

prefer less scripted forms of interaction. As the authors note. "When low-CA people are put into situations where conversational structure is guided, their normally smooth flow of conversation may be inhibited and thus account for higher rates of behavioral disruption (p. 155)." The effect on high CA's is explained as a result of communicating in a less "demanding" situation--less pressure from the rejection of others (low evaluation) and from performing in an incorrect fashion (low structure).

Functional Approaches

Functional approaches share a common concern with the study of how CA and other forms of social anxiety affect one or more of the goals associated with nonverbal communicative behavior. In this section, I'll review research on the influence of CA on various nonverbal cues related to the expression of emotion, deception, relational communication, and turn taking.

Research by Biggers (1987) supports the notion that persons with CA may also possess a unique pattern of trait emotions. Specifically, high CA persons report having lower levels of trait arousal, trait dominance, and arousal-seeking tendencies. Although oral communication situations may be pleasant or unpleasant, they will typically stimulate arousal, which persons with CA seek to avcid. A study by Spicer (1981), for example, found that persons classified as high in CA are less motivated to arouse others by wearing "comment-provoking" T-shirts. In terms of nonverbally expressing emotion, little empirical research is available. Hensley (1986) obtained some support for the hypothesis of a

negative correlation between CA and nonverbal expressiveness. Subjects completed the Affective Communication Test (ACT), which measures their motivation to express feelings in different communicative contexts. As expected, the greater the amount of communication anxiety reported by subjects, the less willing they were to express feelings nonverbally. Although Samter and Burleson (1984) did not study nonverbal behavior, they found that highly apprehensive subjects tended to avoid interacting with a "distressed" confederate and engaged in little "comforting" behavior. These results seem to provide some indirect evidence that high CA's may prefer to avoid interactions that arouse emotion and may, perhaps, be relatively ill equipped to act in ways that provide emtotional support to others. (i.e., emotional responsiveness, nonverbal reinforcement, etc.).

One communicative goal that seems particularly relevant to CA is that of deception. Yet, suprisingly little has been done to investigate how the nonverbal performance of deceivers may be influenced by differing levels of CA. An exception is the study by O'Hair, Cody, and Behnke (1985). They were interested in the effect of communication apprehension on an individual's level of vocal stress during three different kinds of deceptions in simulated job interviews: prepared, spontaneous, and delayed interogative lies, in response to the questions of a confederate interviewer. Their data indicated that persons with high levels of CA exhibited significantly higher levels of vocal stress when lying, but this effect only occurred for the prepared lies. Apparently, as the

authors note, "The fact that Ss anticipated the prepared lie, but not the other lie types indicates that arousal due to CA and lying is most pronounced when an individual anticipates deception and must withhold the lie until some appropriate time (p. 295)." The vocal stress levels of low CA's did not differentiate liars from truthtellers, suggesting that these individuals either do not become aroused during deception or that they manifest arousal in other nonverbal channels. Since "apprehension" is a major reason for nonverbal leakage and other clues to deception, it would seem that high CA's generally ought to lie less successfully than low CA's. Certainly, this is an area in which more research should be forthcoming.

The most extensive research program in this area examines the relational messages associated with various nonverbal behaviors. Observing interactants with varying levels of apprehension (CA) and unwillingness to communicate (UC) in both friendship and stranger dyads, Burgoon and Koper (1984) investigated the nonverbal signals of four relational messages: emotional arousal/composure, dominance-submission, immediacy-nonimmediacy, and intimacy/similarity. In the stranger dyads, reticent subjects were seen by their partners as expressing more negative arousal/noncomposure, more nonimmediacy, more submissiveness, and less intimacy/similarity. Additionally, they were rated as more tense and less involved. When interacting with friends, reticents also were rated as disinterested. But negative relational meanings were not given to avoiders and apprehensives. Interestingly, observed differences in

nonverbal behavior were more striking in the friendly dyads than in the stranger dyads. Higher levels of reticence were related to: more symptoms of anxiety, less facial pleasantness, less head nodding, more backward lean (expressing messages of arousal, detachment, and nonintimacy). When interacting with strangers, reticents displayed increased tension and disinterest. In particular, persons with higher CA levels also had fewer head nods and less eye contact. In terms of relational meanings, they suggest that, perhaps, the negative ratings from strangers might have been based on nonverbal behaviors not coded in the study. Regarding perceptions of credibility, strangers rated CA's and avoiders as less sociable, less extroverted, less composed, and less socially and task attractive. However, with friends, some ratings actually improved with higher levels of apprehension. Apparently, friends are much less critical of behavior associated with reticence than strangers are, and may even go out of their way to approve of such behavior.

In a second study, Burgoon and Koper (1984) extended their observations to interactions in a more formal and stressful context--interviews which included the use of anxiety-provoking questions. Nonverbal cues of detachment, nonaffiliation, and nonintimacy were more pronounced among reticent subjects. They exhibited fewer head nods, less facial pleasantness and animation, less eye contact, and greater indirect head orientation. The heightened stress levels associated with threatening questions resulted in the presence of nonverbal be haviors indicative of tension, negative arousal, nonimmediacy, disinterest, and

nonimmediacy among all reticents. Reticents who devalue communication showed the most consistent pattern of self-touching, body blocking, and face covering behavior. In summary, the authors describe the reticent individual as having, "a communication style that can be characterized as simultaneously anxious, tense, depressed, and unanimated; as detached, apathetic, and uninvolved; as nonaffiliative and nonintimate, and possibly as submissive (p. 618)."

Burgoon, Pfau, Birk, and Manusov (1987) designed two studies to replicate and extend the findings of Burgoon and Koper (1984) to different contexts, while also including observations of vocalic and proxemic behavior. In the first study each person in an undergraduate dyad was instructed to advocate a candidate for a teaching position and to persuade their partner, in a ten minute session, to select their candidate. Reticent subjects (using the Unwillingness to Communicate Scale) were less vocally and gesturally animated, somewhat more tense, and used fewer long face/head adaptors (contrary to Burgoon & Koper). In terms of perceptions, "nonreward" reticents were seen as expressing less intimacy/similarity, and somewhat more nonimmediacy. In contrast to Burgoon and Koper (1984), reticent "avoiders" were not perceived differently than were nonreticents. According to the authors, a possible reason for the lack of findings was that the task did not seem to be as "involving" to the subjects as was expected. In the second study, student persuasive speeches were analyzed in order to observe reticents under conditions assumed to be more stressful than in

previous contexts. Results showed that reticent subjects used less vocal potency in the beginning of their speeches and fewer adaptors. CA's also used fewer adaptors and had less random trunk movement during the initial part of their speeches. Overall, reticents and apprehensives were rated as less composed and less extroverted than their nonreticent and nonapprehensive counterparts. The general picture is one in which reticent and apprehensive speakers exhibit greater restraint/inhibition and less animation in their presentations.

Ayers (1989) was also interested in the nonverbal relational messages of apprehensive communicators, as well as their use of various turn-taking signals. He collected data from ordinary dyadic interactions (get-acquainted exercises) in order to determine if CA manifests itself in behaviors that would lead others to devalue them as communication partners. He hypothesized that CA's would exhibit less involvement behavior (less talk, fewer back channels, more disfluencies, less eye contact, fewer head nods, and more backward lean), more turn-yielding signals, and fewer turn-requesting signals. In addition, he expected CA's to be judged as less trustworthy, less interpersonally attractive, and less satisfying to interact with; and that they would judge their partners similarly. He also manipulated the structure of the interaction the test the hypothesis that high CA's would perform better nonverbally when given increased structure. In this experiment, male subjects, classified as high or low in CA, were paired with female strangers. Results indicated that high CA's judged their female partners as less attractive, less trustworthy, and less satisfying to interact with, than did

low CA's. Additionally, high CA's talked less, had fewer disfluencies, and had fewer head nods. The finding of fewer disfluencies, which was contrary to expectations, is explained as a product of restricted talk; fewer opportunities to make mistakes as compared to a formal presentation. With regard to the perception discrepancy between high CA's and their partners, Ayers suggests that. "a high level of CA colors a person's view of what is going on in an interaction. Perhaps by perceiving the other person as undersirable, these high CA males can justify not pursuing such interactions and avoid experiencing the anxiety they provoke (p. 85)."

Functional-Contextual Approaches

Some studies on CA and nonverbal behavior take a functional-contextual approach; they focus on how CA influences one of the communicative goals of nonverbal behavior in a particular context by testing the propositions contained in a theory or model (in which both function and context are integral components). Often, CA is thought to be an important mediating variable. In this section, I'll discuss the implications of CA for theory development in the areas of nonverbal intimacy exchange, nonverbal violations of expectations, and nonverbal escalation of conflict.

Since Argyle and Dean's (1965) equilibrium model was first introduced, several theories have been proposed to explain reactions to shifts in nonverbal immediacy behavior in dyadic interactions (see Andersen & Andersen, 1984 for a review). Most of the models identify arousal as a "trigger" for reciprocal or

compensatory reactions to another person's increases or decreases in nonverbal immediacy or involvement behavior. Typically, it is hyothesized that increased gaze or decreased physical distance, for example, will be met with a compensatory response (i.e., moving back, decreasing gaze, etc.) if the target experiences discomfort or negative feelings; on the other hand, a reciprocal response (i.e., moving closer, increasing gaze, etc.) will occur when the target is pleasantly aroused or, perhaps, needs to achieve some form of social control (i.e., maintain face, make a good impression, etc.). With respect to CA, there is reason to believe that compensation is the most likely response--even under conditions that might otherwise result in reciprocity--because of the CA's desire to avoid arousal.

Along these lines, Andersen and Guerrero (1989) argue that correlations between CA and touch avoidance suggest that high CA's are unlikely to reciprocate the touch of others. Compensation (i.e., moving back, averting gaze, turning away, etc.), in fact, might be the more expected response according to most arousal-based models of intimacy exchange. In a limited attempt to examine the impact of CA on reactions to nonverbal involvment, Remland and Jones (1989) found only a main effect for CA on speech duration. Regardless of the nonverbal cues of an interviewer, low CA's held the floor much longer than did high CA's. Signs of compensation might have been detected if high CA's had became less disclosive (i.e., talked less) in response to an interviewer's increased nonverbal involvement. The basic design of their study, however, did

not allow for a satisfactory test f the compensation hypothesis. Some evidence of compensation can be found in a study by Buller (1987), which will be examined more closely in the next section on nonverbal expectancy violations.

A related line of research involves Burgoon's (1983) theory of violations of personal space expectations. Briefly, nonverbal behavior which violates expectations (i.e., standing too close) produces arousal that prompts the target of the violation to label or valence the arousal. One factor that influences whether the valencing is positive or negative is the "reward value" of the violator (i.e., attractiveness to target, relationship to target, etc.). If the violator is perceived as rewarding, then the violation is more likely to result in a favorable outcome (i.e., persuasion). Buller (1987) designed a study of CA and compliance-gaining to test competing theories of nonverbal exchange. It was found that high CA's complied more with a confederate's request to sign a petition when the confederate engaged in a proxemic violation. This finding failed to support the Burgoon model, which would have predicted less compliance as a consequence of negative valencing (the confederate being seen as nonrewarding in such a situation). Instead, as Buller reasons, Patterson's (1983) sequential-functional model, which predicts more compliance as a way to reduce arousal, was supported.

Another potential application of the CA construct is in the area of interpersonal conflict escalation. Recently, Jones and Remland (1993) proposed an attribution-based account of nonverbal communication and conflict

escalation. In their model, certain "nonverbal displays of status" (Remland, 1982), behaviors often used intentionally to degrade an opposing speaker, are seen as potential stimulants of escalation, particularly when the target responds in a symmetrical fashion (responding with nonverbal displays of status). The model predicts that under conditions of high arousal responses may occur with little attribution work on the part of the respondent. However, responses will be mediated by several kinds of attributions under conditions that are not highly arousing. One kind of attribution, purposive-internal (called a Type A attribution), occurs when the target infers that the nonverbal behavior was performed as a deliberate "put down" and was a reaction to an internal stimulus (i.e., personality trait). The model predicts that a symmetrical response, which escalates the conflict, is most likely for such attributions (six other types are also identified). However, there is reason to believe that high CA's would be more likely to make a Type A attribution than would low CA's (Myers and Bailey, 1991) and yet would not respond in a symmetrical fashion because of their desire to avoid arousal and their inclination to engage in submissive forms of nonverbal behavior.

Conclusion

Given the time elapsed since McCroskey's (1976) call for research into the relationship between communication apprehension and nonverbal behavior, not much has been done. On the other hand, there is sufficient evidence that CA is associated with a somewhat distinct style of nonverbal communication. As Burgoon, Pfau, Birk, and Manusov (1987) conclude,

"Reticents do present a consistent and perceptible profile of nonverbal behaviors characterized by more negative forms of arousal (e.g., face-covering, body blocking, and postural tension), more rigidity and stiffness (e.g., less random movement, less gesturing, less head turning, and sometimes less adaptor behavior), less expressiveness (e.g., less vocal potency and gestural animation), and less immediacy and involvement (e.g., less eye contact, head nodding, facial pleasantness, and direct orientation). The result is that the reticent's communication style may be interpreted by strangers as expressing nonintimacy, detachment, submissiveness, and noncomposure (p. 127)."

The picture is far from complete however. Researchers should continue doing context studies, particularly in order to extend the research to contexts other than public speeches, get-acquainted dyads, and interviews. The small group context, for instance, has received virtually no attention in the literature. The functional research has also been quite limited. More should be done to investigate how high and low CA's differ in their use of multi-signal nonverbal messages to express emotion, engage in deception, manage impressions, and so forth. Finally, students of both nonverbal communication and CA have much to gain from continued theory development that takes both context and function into account. The empirical research in this area is practically non-existent.

Finally, it might be worthwhile to study the nonverbal behavior of CA's as though they were engaged in a form of deception, attempting to mask any visible signs of fear and anxiety. Booth-Butterfield and Booth-Butterfield (1986)

acknowledge that highly anxious people may learn to control "nervous behaviors" to avoid negative evaluations. Research on lie detection suggests numerous avenues for the observation of deceit (Ekman, 1985). In the case of CA's, for example, a more careful study of facial expression may be warranted. Since CA's are likely to experience fear during communication (which may be concealed), Ekman (1985) would recommend looking for the involuntary muscle movement associated with fear expressions (i.e., eyebrows, upper eyelids, forehead area), or for the occurrence of "squelched" and "micromomentary expressions. Certainly, this is an area of investigation that may be more technically feasible today than in the past.

References

Andersen, J.F., Andersen, P.A., & Lustig, M.W. (1987). Opposite sex touch avoidance: A national replication and extension. Journal of Nonverbal Behavior, 11, 89-109.

Andersen, P.A., & Andersen, J.F. (1984). The exchange of nonverbal intimacy: A critical review of dyadic models. Journal of Nonverbal Behavior, 8, 327-349.

Andersen, P.A., & Guerrero, L.K. (1989, February) verbal and nonverbal dimensions of defensiveness. Paper presented at the annual meeting of the Western Speech Communiation Association, Spokane, WA.

Argyle, M., & Dean, J. (1965). Eye contact, distance, an affiliation. Sociometry, 28, 289-304.

Ayers, J. (1989). The impact of communication apprehension and interaction structure on initial interactions. Communication Monographs, 56, 75-88.

Ayers, J., & Robideaux-Maxwell, R. (1984). Communication apprehension and speech preparation time. Communication Research Reports, 6, 90-93.

Beatty, M.J. (1987). Communication apprehension as a determinant of avoidance, withdrawal, and performance anxiety. Communication Quarterly, 35, 202-217.

Beatty, M.J., Forst, E.C., & Stewart, R.A. (1986). Communication apprehension and motivation as predictors of public speaking duration. Communication Education, 35, 143-146.

Biggers, T. (1987). Trait emotion and communication apprehension. Communication Research Reports, 4, 20-25.

Booth-Butterfield, M., & Booth-Butterfield, S. (1986). Effects of evaluation, task structure, trait-CA, and reticence on state-CA and behavioral disruption in dyadic settings. Communication Monographs, 53, 144-159.

Buller, D.B. (1987). Communication apprehension and reactions to proxemic violations. Journal of Nonverbal Behavior, 11, 13-25.

Burgoon, J.K., & Koper, R.J. (1984). Nonverbal and relational communication associated with reticence. Human Communication Research, 10, 601-627.

Burgoon, J.K., Pfau, M., Birk, T., & Manusov, V. (1987). Nonverbal communication performance and perceptions associated with reticence: Replications and classroom implications. Communication Education, 36, 119-130.

Cardot, J. (1982, April). Communication apprehension and intercultural nonverbal coding. Paper presented at the annual meeting of the Southern Speech Communication Association, Hot Springs, Arkansas.

Comadena, M.E., & Andersen, P.A. (1978, April). Kinesic correlates of communication apprehension: An analysis of hand movements. Paper presented at the annual meeting of the International Communication Association, Chicago, Illinois.

Ekman, P. (1985). Telling Lies. New York: Berkley Books.

Hensley, W.E. (1986, May). A new look at nonverbal expressiveness: The affective communication test (ACT-10). Paper presented at the annual meeting of the Eastern Communication Association, Atlantic City, New Jersey

Jones, T.S., & Remland, M.S. (1993). Nonverbal communication and conflict escalation: An attribution-based model. The International Journal of Conflict Management, 4, 119-138.

McCroskey, J.C. (1970). Measures of communication-bound anxiety. Speech Monographs, 37, 269-277.

McCroskey, J.C. (1976). The effects of communication apprehension on nonverbal behavior. Communication Quarterly, 24, 39-44.

McCroskey, J.C. & Richmond, V.P (1991). Willingness to communicate: A cognitive view. In Booth-Butterfield, M., (Ed.), Communication, cognition, and anxiety (pp. 19-38). Newbury Park, CA: Sage.

McMullen, L.M., & Pasloski, D.D. (1992). Effects of communication apprehension, familiarity of partner, and topic on selected "women's language" features. Journal of Psycholinguistic Research, 21, 17-30.

Myers, K.A., & Bailey, C.L. (1991). Conflict and communication apprehension in campus ministries: A quantitative analysis. College Student Journal, 537-543.

O'Hair, D., Cody, M.J., & Behnke, R.R. (1985). Communication apprehension and vocal stress as indices of deception. Western Journal of Speech Communication, 49, 286-300.

Pearson, J.C., & Turner, L.H. (1984, March). The personal report of communication apprehension: Predictive validity and behavioral correlates. Paper presented at the annual meeting of the Eastern Communication Association, Philadelphia, PA.

Prisbell, M. (1985). Assertiveness, shyness and nonverbal communicative behaviors. Communication Research Reports, 2, 120-127.

Pucel, J.K., & Porter, L. (1989). Dimensions of communication apprehension beyond boundaries: A cross-cultural comparative study of US and Japanese management personnel. Paper presented at the annual meeting of the speech communication association, San Francisco, California.

Remland, M.S. (1982). The implicit ad hominem fallacy: Nonverbal displays of status in argumentative discourse. Journal of the American Forensics Association, 19, 79-86.

Remland, M.S., & Jones, T.S. (1989). The effects of communication apprehension and nonverbal involvement on state anxiety, interpersonal attraction and speech duration. Communication Quarterly, 37, 170-183.

Spicer, C.H. (1981, February). The comment-provoking potential of t-shirts: A nonverbal dimension of communication apprehension. Paper presented at the annual meeting of the Western Speech Communication Association.

Samter, W., & Burleson, B.R. (1984). Cognitive and motivational influences on spontaneous comforting behavior. Human Communication Research, 11, 231-260.