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# COMMUNICATION, COGNITION, AND ANXIETY

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edited by  
MELANIE BOOTH-BUTTERFIELD

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*Originally published as a special issue of the  
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# **The Interrelationship of Communication, Cognition, and Anxiety**

Melanie Booth-Butterfield  
*Department of Communication Studies*  
*West Virginia University*

Researchers from a variety of social science disciplines have long been interested in the general effects of anxiety on both performance and observers' perceptions of the source. However, more recent questions are addressing underlying or attendant processes within the phenomenon of anxious arousal. Current research is aimed both at understanding antecedents and the mediating, subtle role anxiety plays in how anxious communicators process information. One major issue appears to be the extent to which biases in cognitive processing are induced or exacerbated by the anxious arousal leading to potentially dysfunctional communication patterns (cf. Carver & Scheier, 1986; Norem & Cantor, 1986). This volume focuses on two major aspects: (1) how anxiety influences thinking and perceptual/interpretative processes, and (2) how cognitions or thoughts function to moderate felt anxiety. Both processes are internal and yet have significant impact on subsequent communication production — thus, the interrelationship of communication, cognition, and anxiety.

One of the goals of this book is presentation of an eclectic approach. It offers ground-breaking and unique views of how anxiety and cognition impact communication. Based on an understanding of the foundations of anxiety-related research, these chapters present information or interpretations not generally found in more traditional collections. The researchers have employed widely divergent research and analytical procedures from both the fields of social psychology and communication in their attempts to explain the processes involved with cognition, anxiety, and communication.

Methods employed in these chapters range from experimental manipulation of communication variables such as type of self-disclosure (Lazowski & Anderson) or the quality of messages designed to elicit fear and anxiety about cancer (Jepson & Chaiken), to meta-analysis of studies of receiver-based anxieties (Preiss, Wheelless,

& Allen), to in-depth interviews with experts (Watson & Dodd), to the more clinical approach employed by Motley as he analyzes high public speaking anxious individuals' cognitive orientations toward public speaking events. However, all are unified in their investigation of communicative thought processes, emotional arousal, and the implications these have for human interactions.

### **Conceptual Perspectives**

In the initial section, prominent researchers from the fields of communication and psychology present their perspectives on how cognition and anxiety intertwine to influence communication. Sarason, Sarason, and Pierce adopt a different, although not contradictory, stance compared to the statement developed by McCroskey and Richmond. Whereas Sarason and his colleagues contend that anxiety functions to interfere with cognitive processes and distract communicators, McCroskey and Richmond propose that communication is a volitional act, and anxiety is but one motivating factor in an individual's overall willingness to engage in communication. Leary's subsequent chapter discusses how these perspectives can be integrated and usefully understood in order to guide further research.

### **Research Perspectives**

Several authors have pointed out that because anxiety and fear influence information processing, and because our cognitive orientations or attitudes also affect anxious arousal, a reciprocal relationship is created (e.g., Booth-Butterfield & Booth-Butterfield, *in press*; Cheek, Melchior, & Carpentieri, 1986).

Such mutual impact constitutes a "vicious cycle" in that when we experience the aversive state of anxiety, it leads to negative thoughts and attributions about the subject and situation. Conversely, as communicators cognitively identify and then ruminate about difficult or evaluative situations, anticipating negative consequences, heightened anxiety and worry is the outcome. In their chapter, Sellers and Stacks suggest that we develop trait fear or anxiety when brain modules are not functioning "normally" in the environment (i.e., inappropriate inter-modular communication). Hence, communication apprehension could be either cognitively-induced or affectively driven depending upon which brain hemisphere dominates.

The issue of whether the anxiety or the cognition originates the other is not the primary focus for the chapters in this volume. Rather, researchers focus either on how cognition and communication are altered by anxious arousal, or how the cognitive thought process acts to enhance or diminish anxiety. For example, Motley's work follows

the latter line contending that whether speakers label a speech as a "presentation" or a "communication event" influences their felt anxiety. People who conceptualize communication as a "presentation" rather than an opportunity to interact tend to feel more negative arousal. Similarly in Watson and Dodd's chapter, they interview Albert Ellis, who emphasizes the importance of changing thinking and beliefs about communication in order to alleviate anxiety.

In contrast, several chapters in this collection begin with the presumption that anxiety motivates, influences, and changes our cognitive processes. Beatty and Clair, for instance, report that trait anxiety is systematically related to style of decision-making, with low anxious people tending to be more "optimistic" in their choices than either moderate or high anxious individuals.

Anxiety also seems to play a significant role in dyadic, interpersonal interactions. Melchior and Cheek's shyness study follows directly from Sarason's perspective that anxious self pre-occupation interferes not only with internal, cognitive tasks (e.g., test anxiety), but also can be debilitating in interpersonal encounters. They note that shy communicators are more negatively self pre-occupied and anxious during a dyad, receive more negative evaluations, and tend to take a relatively passive communication role by not directing topics of conversation.

Lazowski and Andersen also study dyads in their investigation of the ways in which types of disclosures (particularly about negative thoughts and behaviors) may elicit negative responses and attributions. Such messages seem to arouse anxiety in the listener and tend to lead to more negative evaluations and expectations of discomfort in subsequent encounters.

The Jepson and Chaiken chapter examines the influence of chronic fear on message processing. They found that higher anxiety, in this case chronic cancer fear, produced more habitual avoidance patterns. As a result, high fear subjects processed messages less carefully (i.e., found fewer errors and had fewer thoughts about the message) but were more persuaded by it than low fear subjects. Thus the anxiety mitigated careful information-processing.

Preiss, Wheelless, and Allen employ a different method, but still approach the problem beginning with the anxiety component. Their meta-analysis of receiver apprehension not only provides a useful review of 14 years of research on anxiety associated with decoding information, but also organizes these findings into a coherent framework. They find that trait receiver apprehension is consistently associated with outcomes such as poorer listening and attentional skills,

preferences for simple, easily-processed information, and more disrupted information processing.

Finally, two chapters deal specifically with measurement issues by examining components involved in predispositionally anxious reactions. Stokes and Levin examine how negative affectivity—the tendency to experience and dwell upon aversive emotional states—may be the personality basis of more specific anxiety responses. For example, they find that general anxiety and negative affectivity are substantially correlated ( $r = .64$ .)

Blankstein and Flett analyze test anxious individuals' cognitive responses to difficult tasks. They find that high anxious individuals appear to have more negative and fewer positive thoughts about the task and their self. However independent judges and the subjects themselves often did not agree on thought categorization, thereby raising the question of whether anxious individuals can be valid evaluators of their own communication.

### Concluding Remarks

These chapters demonstrate that diverse research perspectives can both add to our body of knowledge concerning anxiety and anxiety-related constructs, and introduce viable, new areas for study as well. The reports represent diversity and eclecticism in the specific variables under study and the mechanisms eliciting anxiety, but the central theme is unified. Anxiety is problematic in human endeavors. Whether via nervous arousal or negative cognitions, anxiety has a dysfunctional impact on communication. In no case do we see anxious arousal as an asset to information processing or communication outcomes. Thus it is by studying how anxiety is generated, the processes through which it functions, the responses heightened anxiety elicits, and the role of cognition in this complex process that we can hope to comprehend the influence these interrelationships have on communicative interactions.

I particularly would like to thank my colleagues both in communication and psychology who helped develop this collection: Steve Booth-Butterfield, West Virginia University; Jonathan Cheek, Wellesley College; Rick Crandall, editor of the *Journal of Social Behavior and Personality*; John Daly, University of Texas; John Greene, Purdue University; Michael Motley, University of California, Davis; and Ron Goldsmith, Florida State University. These individuals provided expert and timely assistance with information-gathering, reviewing, and organizing this collection of research on anxiety, cognition, and communication.

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# Anxiety, Cognitive Interference, and Performance

Irwin G. Sarason  
Barbara R. Sarason  
Gregory R. Pierce

Department of Psychology  
University of Washington, Seattle, WA 98195

*A cognitive view of anxiety emphasizes the appraisal process that takes place in challenging situations and the debilitating consequences of thoughts laden with negative affect. A crucial aspect of anxiety is the self-preoccupying thoughts which interfere with focusing attention on the task at hand and result in lowered levels of performance. While the cognitive approach to anxiety has been applied mainly to intellectual performance, it also has potential value for the study of social behavior. This article discusses anxiety in terms of the effects of cognitive interference both in performance and interpersonal relationships.*

While there is general agreement that anxiety is an important aspect of human life, there is also wide disagreement about its definition. Often it is discussed as being such a complex experience as to make scientific investigation difficult or impossible. If there were such a thing, perhaps the modal definition of anxiety would be in terms of an unpleasant emotional state or condition marked by apprehension. Spielberger (1972) defined anxiety as "an unpleasant emotional state or condition which is characterized by subjective feelings of tension, apprehension, and worry, and by activation or arousal of the autonomic nervous system" (p. 482). Leary (1982) offered this definition of anxiety: "Anxiety refers to a cognitive-affective response characterized by physiological arousal (indicative of sympathetic nervous system activation) and apprehension regarding a potentially negative outcome that the individual perceives as impending" (p. 99). The problem is that many of the terms in these definitions have proven difficult to operationalize. For example, there is little agreement among researchers on how best to conceptualize and measure emotional or affective states.

In addition to the reliability problem, the illustrative definitions of anxiety highlight yet another problem that confronts researchers: the multiple aspects of the concept. What is needed is a component analysis

of its ingredients in order to formulate testable hypotheses. For instance, research with a factor analytically derived measure of test anxiety has defined four components: tension, worry, test irrelevant thinking, and bodily reactions (Sarason, 1984). The main focus of this paper is the cognitive components, most particularly, self-related worries and pre-occupations. We describe research findings suggesting that these components, which are relatively unambiguous and can be assessed quantitatively and reliably, play a significant role in one important class of situations, those in which people perform and are evaluated.

Those who take a cognitive view of anxiety would agree that what they are studying is a response to perceived danger and perceived inability to handle a challenge in a satisfactory manner. The following cognitive events often occur in anxiety-provoking situations:

1. The situation is seen as difficult, challenging, and threatening.
2. The individual sees himself or herself as ineffective, or inadequate, in handling the task at hand.
3. The individual focuses on undesirable consequences of personal inadequacy.
4. Self-deprecatory preoccupations are strong and interfere or compete with task-relevant cognitive activity.
5. The individual expects and anticipates failure and loss of regard by others.

The cognitive view of anxiety focuses attention on states of heightened self-awareness, perceived helplessness, and expectations of negative consequences which become the content of self-preoccupation. Worried cognitions are aroused when a person perceives his or her ability to cope with a task demand as unsatisfactory, is unable to understand what is going on in a situation, or is uncertain about the consequences of inadequate coping. The self-preoccupations of the anxious person, even in apparently neutral or even pleasant situations, may be due to a history of experiences marked by a relative paucity of signals indicating that a safe haven from danger has been reached.

Anxiety is not the only type of self-preoccupation. Beck has distinguished between the self-preoccupations of anxious and depressed individuals (Beck & Emery, 1985). While the anxious individual sees some prospects for the future, the depressed individual sees the future as bleak; while the anxious person does not regard her/his defects or mistakes as irrevocable, the depressed person is strongly self-condemning. The anx-

ious person *anticipates* possible damage to her/his relations with others and goals and coping ability, while the depressed person *ruminates* about her/his damaged relationships and is preoccupied with past failures.

Reasons why people perceive danger in situations are various, and include the stimulus properties of the situations and unrealistic interpretations of them. Every teacher knows students who, although quite able and bright, are virtually terror stricken at exam time. In these cases, a student often expresses concern about the consequences of not performing at a satisfactory level and embarrassment at what is regarded as probable "failure" despite the fact that these concerns do not seem to be reality based. If stress is viewed as a call for action determined by the properties of situations and personal dispositions, the anxious person might be characterized as feeling unable to respond to that call.

Anxiety is a characteristic that most individuals experience at some times, and its effect may not always be negative. For example, early work in evaluation anxiety showed that a moderate level of anxiety may provide heightened motivation and result in improved performance (Sarason, 1980). The anxiety spectrum ranges from this enhancing effect through mild discomfort and occasional impaired performance to significant degrees of immobilization as seen in those who meet the criteria for one of the anxiety disorders. These disorders, the most common type of psychiatric diagnosis given today, contain subgroups in which cognitive symptoms are most notable, such as in obsessive disorders. The work of Rachman provides a multitude of examples of how cognitions can immobilize an individual (Rachman & Hodgson, 1980).

### ANXIETY, SELF-PREOCCUPATION, AND ATTENTION

The cognitive view of anxiety grows out of the conceptualization that personality can be interpreted from an information-processing perspective. This perspective analyzes the ways in which a person searches the environment for cues, selects cues that are relevant to thought and action, integrates new information with old, and makes decisions that result in observable behavior. Self-preoccupying cognitive events are as much behavior as a muscle twitch or signing one's name on a piece of paper. However, cognitive events are not directly observable and inferential support for their existence must come from behavior that can be observed.

While there is general agreement about the need to incorporate cognitive processes in any comprehensive anxiety construct, there are differences concerning the particular processes emphasized. Nevertheless, there is increasing evidence of the important role self-preoccupation plays in behavioral and physiological outcomes. According to this view,

how well people perform, how anxious they feel in particular situations, and their levels of physiological activation are powerfully influenced by self-related thoughts. Self-related thoughts are significant influences over behavior because they direct attention in idiosyncratic, and often maladaptive, ways.

Self-preoccupation has a far different significance than preoccupation in general. A preoccupied individual is engrossed in thought. Illustrative preoccupations range from generalized concerns such as worry over the future of humanity, to specific fears such as thoughts about snakes or failing in school, to complete absorption in the solution of some complex intellectual problem. The range of self-preoccupations is narrower because these cognitions are limited to thoughts about oneself. However, as we noted earlier, self-preoccupation is not restricted to the domain of worry or anxiety. While there is overlap in the cognitions of anxious and depressed individuals, the differences are easily observed. There are many clinical examples of the diversity of cognitions with which persons become self-preoccupied, the degree to which self-preoccupation influences attentiveness to external cues, and the ways in which information from the environment is stored, retrieved, and acted upon. Despite the difference in the content of these preoccupations, they all have the effect of lessening the individual's effective behavior by diverting attention from relevant cues and causing misinterpretations of those cues that are perceived.

Anxious self-preoccupation consists of heightened concern over one's inadequacies and shortcomings. The anxious person is concerned about present or potential dangers, threats, and the inability to cope with them. This does not mean that danger and threat necessarily cause anxious self-preoccupation. Self-preoccupation of any type is a function not only of objective life events but also of the interpretation placed on those events by the individual. Whether self-preoccupation occurs depends on the skills a person has learned in coping with dangers and threats. The anxious person often believes him/herself to be deficient in these skills.

Self-preoccupation has attentional properties because it leads people to focus on situational cues which seem to them to have self-reference. The amount and type of self-preoccupation influences the degree to which the person is receptive to the available stimulus information and the amount of physiological arousal. Students who are worried about failure will be especially attentive to stimuli suggestive of possible evaluations of their work. Paranoid persons will be especially attentive to cues that relate to their distinctive systems of ideation. To the extent that the self-preoccupied person attends to environmental cues, the cues are

dealt with in terms of the person's idiosyncratic information-processing system.

A task confronting anxiety researchers is identification of the operations and transformations individuals perform on information that result in high levels of worry and anticipations of unpleasant outcomes. Accomplishing this task will require empirical inquiry into the assumptions, strategies, and expectancies of people falling at different points along the continuum of anxious self-preoccupation, as well as into the rules by which they label and make judgments about whether an environmental event represents a personal threat (Deffenbacher, Zwemer, Whisman, Hill, & Sloan, 1986; Sarason, 1980).

## ANXIETY AND PERFORMANCE

An important question concerning human performance is: What are the individual difference variables that influence how well people solve problems and perform on intellectual and motor tasks? Cognitive processes influence how people interpret situations and can be thought of as intervening between being presented with a task and performing on it.

### Test Anxiety

Test anxiety is widely studied because evaluative situations are very common and measures of the tendency to experience test anxiety are available (Sarason, 1980). There is now considerable evidence that highly test-anxious subjects in situations that pose test-like challenges perform at relatively low levels and experience relatively high levels of task-irrelevant thoughts (such as self-deprecating attributions). For instance, the results of Ganzer's (1968) experiment showed that, while performing on an intellectual task, high test anxious subjects made many more irrelevant comments than did low test-anxiety scorers. A high percentage of these comments were self-deprecatory. Various researchers have found that high test-anxious people are more likely than low test-anxious people to be preoccupied with and blame themselves for their performance level, feel less confident in making perceptual judgments, and set lower levels of aspiration for themselves (Sarason, 1980).

People evaluate various situations in terms of their personal assumptions, concerns, and expectations about themselves and the world. Performance anxiety, which includes fear of evaluation, catastrophizing, and unrealistic assumptions about performance, is an important factor in intellectual performance. A useful starting point in analyzing anxiety begins with the objective properties of situations. However, regardless of the objective situation, it is the cognitive appraisal or personal interpretation of the situation that leads to behavior. A person who has failed a test, but believes he/she has done well will not become upset.

The available evidence suggests that there usually is more to a proclivity to test anxiety than simply a history of failure experiences. In fact, many highly test-anxious persons are quite competent and rarely experience objective failure. Test-anxious people process their objective successes and failures in distinctive ways and their anxiety is related to how they, and significant others in their lives, view test-taking experiences. The evidence also indicates that for the most part individuals at different test-anxiety levels show either smaller or no differences in performance and cognitive interference in nontest situations. This type of evidence is consistent with an attentional interpretation of test anxiety, according to which people at high and low levels of test anxiety differ in the types of thoughts to which their attention is directed only or predominantly in the face of evaluative stressors.

### **Social Anxiety**

Interpersonal relationships and social communication can be thought of as involving special types of human performance. Why are some people so much more socially competent than others? Anxiety from the standpoint of self-preoccupation, together with situational factors, may play as important roles in the social realm as they seem to in the domains of intellectual performance and problem-solving. People who feel they have handled themselves well in a social situation will be relaxed and anticipate recognition for their social presence. An individual who believes he/she has committed a social faux pas, even if this perception is inaccurate, will become distressed and vigilant for signals communicating rejection.

Most of the work on the correlates and effects of cognitive interference has focused on intellectual tasks and experimentally manipulated evaluative stress. There is a need to determine the extent to which the concept of cognitive interference applies to contexts that are not traditionally defined as performance situations. For example, informal social interactions and social communication are topics that might be elucidated by a focus on cognitive processes. It would not be surprising if test anxiety and social anxiety had similar cognitive roots because both intellectual and social situations involve a strong evaluative component for most people.

Like test anxiety, social anxiety might be associated with any or all of the following: anticipating a situation, experiencing it, and "recovering" from it. Both the quantity of anxiety and the mix of situations in which it is experienced vary from person to person. The situations can be vague or well-defined, but the characteristic they share is that the individual feels unable to respond adequately to them. Some situations, e.g.,



parties, telephone conversations, meeting a new person, talking with a superior, are likely to provoke disruptive thinking for many people. However, for particular people, social anxiety might also be linked to classes of situations defined in idiosyncratic ways, for example, with regard to certain interpersonal relationships or situations. The disabling role of such preoccupying thoughts as negative self-evaluations has been shown to be as important or more important than social skills in influencing a person's behavior in social situations (Clark & Arkowitz, 1975; Leary, 1983). Despite the variety of situations that evoke social anxiety, social anxiety's debilitating effect on performance seems the same in all of them.

### COGNITIVE INTERFERENCE

In both test and social anxiety, self-preoccupying thoughts contribute to performance degradation because they interfere with task-relevant thoughts. Support for this contention has been most clear in research on test anxiety. Thoughts that relate to worry about performance and social comparisons related to performance seem to be responsible for much of the performance decrement reported by high test-anxious people. Highly anxious people become preoccupied with possible threat, their ruminations tend to persist and are most potent when situational threats are actually present. Test anxiety is related to the occurrence of frequent negative thoughts about personal abilities as well as the perceived difficulty of questions and mood during exams (Hunsley, 1987).

In an analysis of the components of anxiety, Ingram and Kendall (1987) identified several critical cognitive features. One of these consists of schemata which relate to possible danger or harm to the individual. With regard to test anxiety this often means the perceived possibility of negative evaluation. The word "possibility" is important in relation to both general and specific anxieties, such as test anxiety. When not in an evaluative situation, or anticipating one, the highly test-anxious individual may not worry about possibilities of failure, embarrassment, and social rejection. But in evaluative situations these possibilities become active and salient. When this happens, the test-anxious individual becomes self-absorbed instead of becoming task-absorbed. Schwartz and Garamoni (1986) have estimated that, in general, cognitive functioning consists of roughly twice the amount of positive as compared to negative thoughts. The occurrence of evaluative stressors heavily tips this two-to-one ratio in the opposite direction for test anxiety-prone individuals.

Thoughts about off-task matters and a general wandering of attention from the task, as well as worries also contribute to performance