A RELIABILITY AND VALIDITY STUDY OF PANIC ATTACK SYMPTOMS AND COGNITIONS QUESTIONNAIRES

by

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(ABSTRACT)

Anxiety may be experienced in a variety of response modes. There is evidence to suggest that panic disordered individuals differ from individuals with other anxiety diagnoses in that they experience a greater increase in somatic symptoms and catastrophic cognitions. Further it has been suggested that panic disordered individuals, as compared to other anxiety disordered individuals, experience greater global anxiety and depression. The present study compared the total scores of 93 disordered subjects on the Symptom Assessment Questionnaire and the Cognitions Assessment Questionnaire and found that both questionnaires discriminated panic disordered subjects from non-panic disordered subjects. The two questionnaires also discriminated subjects with panic attacks from subjects without panic attacks. Item analyses were conducted on both questionnaires in order to identify specific items

which differentiated panic disordered subjects from non-panic disordered subjects and subjects with panic attacks from subjects without panic attacks. Factor analyses were conducted on both questionnaires, resulting in the identification of somatic and cognitive factors salient to the phenomenon of panic. In general, the identified factors supported and expanded upon the panic symptoms listed in DSM-III. Finally, two widely used measures of anxiety and depression were administered to subjects. Panickers scored higher than Non-panickers on measures of state-anxiety, trait-anxiety, and depression. The Panic Disordered Group scored higher than the Non-Panic Disordered Group on the depression scale. However, the Panic Disordered Group scored no differently from the Non-Panic Disordered on the state-anxiety and trait-anxiety inventories, suggesting that the presence of panic attacks in all anxiety diagnostic groups weakened the ability of the tradition anxiety measures to distinguish between the comparison groups.

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INTRODUCTION

Over the years a number of researchers have commented on the multidimensional nature of anxiety (i.e., Buss, 1962; Eysenck, 1961; Fenz & Seymour, 1965). They have noted that some individuals may experience anxiety predominantly in one response mode (e.g., behavioral, physiological, or psychical), while others may manifest anxiety in several response modes. Also, an individual may vary in mode of response depending on the nature of the anxiety-provoking stimulus (Schwartz, Davidson, & Goleman, 1978). Panic disordered individuals seem to be unique among the population suffering from anxiety disorders. Those with Panic Disorder tend to respond to fearful stimuli with extreme and idiosyncratic autonomic arousal. Also, panic disordered individuals tend to differ from other anxiety disordered individuals in their perception of these unpleasant bodily feelings and their appraisal of these as dangerous (Beck, 1974; Chambless, Caputo, Bright, & Gallagher, 1984). This condition has come to be called "the fear of fear" by Goldstein and Chambless (1978). Within the body of research on anxiety, research in the area of panic attacks and Panic Disorder has proceded slowly. This may be due in part to the dearth of validated

instruments for the assessment of the phenomenon, as well as to the fact that this disorder was defined officially only seven years ago in Diagnostic and Statistical Manual of Mental Disorders, 3rd. edition (DSM-III; American Psychiatric Association, 1980). While there have been recent attempts to distinguish panic disordered individuals from both normals (Chambless, et al., 1984) and individuals with other anxiety disorders (Barlow, Vermilyea, Blanchard, Vermilyea, Di Nardo, & Cerney, 1984), these attempts are limited both in the scope of symptoms examined and in the number of subjects in comparison groups. The present study is an attempt to replicate these previous studies and to expand on their conclusions. It is expected that instruments which identify and measure the dramatic somatic responses and catastrophic cognitions associated with Panic Disorder would differentiate panic disordered individuals from those with other anxiety disorders, specifically Generalized Anxiety Disorder, Simple Phobia, and Social Phobia. The limited, pertinent research literature will be examined in order to demonstrate the multidimensional quality of anxiety and the probable validity of the Panic Disorder diagnosis.

Component Analysis of Anxiety Questionnaires

The idea that manifest anxiety is multidimensional is not new. In 1961, Eysenck contended that there are two

factors of anxiety, one factor being autonomic over-activity and the other being conditioned anxiety responses--also called "psychic anxiety" (i.e., apprehension, tension, fear, worry, insomnia, difficulty concentrating, and depression). Buss (1962) extended Eysenck's hypothesis to a psychiatric population. He used patient self-ratings to evaluate physiological components, subjective feelings, somatic complaints, distractability, restlessness, worry, and muscle tension. Factor analysis revealed that two components, somatic anxiety and psychic anxiety, accounted for the greatest portion of variation in anxiety responses.

Later, Fenz & Epstein (1965) constructed a questionnaire based on the Taylor Manifest Anxiety Scale. A factor analysis of the questionnaire revealed three predominant factors of anxiety. The highest loading factor was autonomic arousal, items of which assess heart rate, vasomotor activity, nervous sweating, and disturbed digestive activity. A second factor identified the element of striated muscle tension, evidenced by such conditions as muscle aches, spasms, and tremors, and muscle tension headaches. The third identified factor was labeled feelings of anxiety, which included feelings of fear, tendency to worry excessively, difficulty relaxing, concentrating, or sleeping, feelings of panic, obsessive thoughts, compulsive mannerisms, and hypersensitivity to criticism.

Schalling, Cronholm, & Asberg (1975) designed a multicomponent anxiety inventory intending to separate the somatic and psychic contributions to anxiety. The results of the study were confounded because of content overlap of the somatic and psychic subscales. Primarily because of this overlap a 0.81 correlation was found to exist between these two subscales. Even so, each subscale correlated differently with the Eysenck Personality Inventory Neuroticism and Extroversion Scales. The correlation of the psychic anxiety subscale with neuroticism was 0.7 and with extroversion -0.5. Somatic anxiety was even more highly correlated with neuroticism (0.9), but was unrelated to extroversion. From these results, the conclusion can be drawn that the neurotically anxious individual is likely to experience both somatic and psychic anxiety. However, the more introverted the individual the more likely he is to experience psychic anxiety. Thus, individuals who are neurotic and introverted are more likely to endorse both somatic and psychic items on multicomponent clinical anxiety scales and, therefore, score higher on both state and trait anxiety measures than do neurotic extroverts.

These findings support Eysenck's hypothesis of two predominant anxiety components, autonomic arousal and conditioned anxiety. According to Eysenck (1961), susceptibility to autonomic arousal varies between individuals and is biologically determined. This variation

is the physiological substrate for the two important personality dimensions neuroticism and extroversion-introversion. Individuals high in neuroticism have habitually high autonomic activation. Eysenck assumed introverts to be characterized by widespread cortical excitation which, according to Eysenck, results in high organization of responses, vigilance, and strong emotion. Such cortical excitation was assumed to facilitate conditioning. Thus, if an introvert is also highly neurotic, he would tend to react with high autonomic activation to an everincreasing range of stimuli, due to efficient conditioning. According to Eysenck, this is the basis for "conditioned anxiety", or psychic anxiety.

Based on an analysis of several factor analytic studies (including those here mentioned) of anxiety questionnaires, Schwartz et al. (1978) concluded that most test items can be classified as either cognitive (e.g., fears, phobias, obsessions, rumination) or somatic (e.g., elevated pulse, cold/damp hands, gastric upset, trembling, aches, and fatigue).

Borkovec (1976) also identified anxiety as a multidimensional construct. In addition to cognitive and physiological components, he included an overt behavioral dimension which specifically addresses the avoidant behavior that accompanies some anxiety responses.

Anxiety can be measured in three response modes, self-report, physiological, and overt-behavioral. The three different types of measurements do not correlate together to any very marked extent (Buss, 1962; Eysenck, 1975; Lang, 1968). For example, Buss (1962) reported a correlation of only 0.3 between observer-assessed physiological anxiety responses (i.e., sweating, flushing, shallow breathing, and excessive swallowing) and patients' self-report of these symptoms. Likewise, Lang (1968) reported that correlations between self-report and overt behavioral measures of fear are rarely greater than 0.3. The correlation between physiological changes and objectively assessed anxiety tends to be higher than that between physiological changes and subjective report of anxiety (Lader, 1982). Such response desynchrony is due in part to the fact that the display of anxiety in each response mode is not solely a function of the nature of the eliciting stimulus, but many other variables as well. A person may show considerable adrenergic reactivity and yet deny that he is afraid. He may admit that he is afraid, yet bravely approach the cause of his fears before displaying avoidant behavior. Or he may run away from or avoid a stimulus, yet not show any marked physiological reaction.

The evidence that anxiety is not a diffuse, undifferentiated internal state but rather a set of specific components (including cognitive, somatic,

behavioral, and perhaps others) has implications for diagnosis, assessment, and treatment of anxiety.

Proposed Criteria for Panic Disorder

Although DSM-III currently distinquishes Panic Disorder from Agoraphobia with or without Panic Attacks, there are those who view agoraphobia as a later developed stage in panic disordered individuals. This view will likely be reflected in the upcoming revision of the DSM-III (McNally, personal communication). Research has suggested that, chronologically, there are three separate stages in the development of Panic Disorder, with individuals potentially stopping at any one of these stages or progressing through all three (Geymon & Katon, 1983). Initially, the disorder presents with sudden onset of dyspnea, palpitations, diaphoresis, paresthesias, dizziness, tremulousness, and often the feeling of unreality and an overwhelming sense of impending doom or fear of going crazy. In the first phase, the attacks occur intermittently, following overwhelming stress. Many individuals soon go on to a second stage where attacks become increasingly frequent and the person develops anticipatory anxiety, which is the fear of having a panic attack. During this second phase, events and circumstances associated with the attacks may be selectively avoided, leading to specific phobic behaviors. For example, a

person who experienced an attack during public speaking may avoid such activity. Or an individual who developed a panic attack in a restaurant may avoid eating in restaurants in the future. The third stage of Panic Disorder is the most disabling, the development of agoraphobia. In agoraphobia the individual develops marked fear of being alone or of being in "public places from which escape might be difficult or help not available in case of sudden incapacitation" (DSM-III, p.226). Normal activities are increasingly restricted as avoidance behavior dominates the individual's life. Some may become housebound. Others suffer social and occupational inconveniences. For them, avoidance behaviors are designed to minimize the feeling of being trapped in a situation, e.g.: shopping at non-popular hours to avoid lines; driving routes which do not involve one-way streets, bridges, expressways or tunnels; sitting near the exit in theaters, churches, classrooms, etc.

The overwhelming list of fears and avoidance behaviors exhibited by agoraphobics becomes less confusing when the link between them is uncovered. Agoraphobics are not multiple phobics. Rather, their fears are logically connected through a common theme of being petrified of any situation which is likely to elicit the intense anxiety know as panic attack.

In light of the inter-relatedness of Panic Disorder and Agoraphiobia, this research combines them under the rubric of Panic Disorder and will seek to differentiate such individuals from individuals with other varieties of anxiety disorders. The evidence that Panic Disorder is a valid diagnostic distinction from other anxiety disorders will now be examined.

Distinguishing Features Among Common Anxiety Disorders

Although argument could be made (Barlow & Maser, cited in Barlow et al, 1984) that panic may represent the upper limit of the anxiety continuum, there is evidence that Panic Disorder is distinctly different from other anxiety disorders. The more common anxiety disorders will be discussed in terms of their diagnostic criteria according to DSM-III.

Generalized anxiety disorders are unremitting and persistent for at least one month. Mild depressive symptons are commonly associated. Signs are notable in three categories:

1. Motor tension is increased with apparent restlessness, fidgeting, twitching, easy startle and strained facies.

2. Autonomic hypersensitivity is apparent with sweating, chills, dry mouth, frequent urination, diarrhea,

flushing, pallor, tachycardia, and tachypnea.

3. Cognitive signs suggest apprehension, excessive vigilance, difficulty in concentrating, impatience, and distractability.

Social phobia results from an irrational desire to avoid the scrutiny of others. It is a persistent fear that the individual may act in a manner that will result in humiliation or embarrassment. Anticipatory anxiety forces the avoidance. The distress is recognized as excessive and unreasonable. Avoidance of public restrooms or eating in public are common examples. The irrational fear generates anxiety that impairs performance, which produces justification for the avoidance behavior. A vicious cycle is set in motion. Evidence exists (Barlow et al, 1985) that social phobics also have panic symptoms, but only in social interactions where they can be scrutinized.

Simple phobias (specific phobias) refer to objects such as animals or situations such as heights or closed places. Other characteristics are similar to social phobias. Anxiety symptoms similar to those seen in panic attacks do occur, but only when associated with the specific and avoidable situation.

In Panic Disorder the panic attacks usually last several minutes or (rarely) hours. Recurrence and unpredictability are characteristic. The classic features are a sudden onset of intense apprehension and a feeling of

impending doom with at least four of the following symptoms: A fear of doing something uncontrollable or of dying or of going crazy, accompanied by dyspnea, palpitations, chest discomfort, parasthesias, choking, sweating, hot and cold flashes, faintness, trembling or shaking, and feeling of unreality. DSM-III-R (McNally, personal communication) also includes the symptoms of nausea and abdominal pain. It also states that at least four of these symptoms must occur within 10 minutes of the beginning of the first symptom noticed in the attack. Further, the revised criteria will require that three unexpected (i.e., not occurring in response to a situation that almost always causes anxiety) attacks occur within a three week period, or that they be associated with a period of at least a month of persistent fear of having another attack.

One area of research which tends to distinguish panic disorder from other anxiety disorders is pharmacological treatment studies. The underlying assumption of these studies is that the demonstration of differentially effective treatment indicates that the corresponding disorders must be different. Zitrin et al (1983) studied the effects of imipramine in treating subjects who experienced spontaneous panic attacks (panic disorder) versus subjects who did not experience spontaneous panic (simple phobics). In terms of pharmacological benefit, the

effects of imipramine were superior to those of a placebo in treating panic disorder. Among simple phobics no difference between imipramine and placebo treatment was demonstrated. This study distinguished panic disordered subjects from simple phobics in terms of pharmacologic effect. In another study, Klein (1981) discovered that monoamine oxidase inhibitors (MAO-I) and tricyclic antidepressants are effective in alleviating panic attacks but are ineffective in alleviating anticipatory anxiety. Further, according to Klein, sedatives, minor tranquilizers, and alcohol temporarily reduce anticipatory anxiety but are ineffectual in alleviating panic attacks. This differential pharmacological treatment response suggests a quantitative difference between panic disordered subjects from those who suffer from chronic anticipatory anxiety (generalized anxiety disorder).

In addition to showing differential response to pharmacological treatment, panic disordered individuals differ from generalized anxiety disorder (GAD) sufferers with respect to type and severity of somatic symptoms. Those individuals with panic disorder (PD) report somatic symptoms more frequently than those with GAD (Hoehn-Saric, 1981). Barlow et al. (1984) assessed PD versus GAD clients on psychophysiological and questionnaire measures. For all subjects, frontalis EMG and heart rate were measured. Subjects were also given the State-Trait Anxiety Inventory

(STAI), the Beck Depression Inventory, The Psychosomatic Symptom Checklist, and the Cognitive Somatic Anxiety Questionnaire. Results indicated that panic disordered individuals had a significantly stronger somatic anxiety component within their anxiety than did the GAD group on both the physiological and self-report measures. However, the number of subjects in this study was small, and little confidence can be placed in these results.

Additionally, there is evidence that panic attacks can be experimentally induced by sodium lactate infusion in PD patients but not in normal controls. Pitts and McClure (1967) found that anxiety symptoms in response to sodium lacated infusion were more likely in patients with PD than in normal subjects. Kelly, Mitchell-Heggs, and Sherman (1971) pursued the investigation of the relationship between sodium lactate and anxiety. Twenty patients with PD and ten normal controls were given an intravenous infusion of saline followed by an infusion of sodium lactate after which subjects were asked to perform mental arithmetic. Eighty-five percent of patients experienced an anxiety attack during or after the sodium lactate infusion, whereas only five percent experienced these symptoms during saline infusion. Only ten percent of the controls experienced panic during lactate administration. More over, lactate produced more anxiety symptoms at a more rapid rate in patients than in controls. Klein (1981) and

Carr and Sheehan (1984) claim that about 65% to 100% of PD patients respond to sodium lactate infusion with panic attacks, while controls rarely do so. They conclude that PD patients have a biological vulnerability and, thus, that panic disorder constitutes a separate diagnostic entity.

A study by Chambless et al. (1984), comparing an Agoraphobic group to a non-clinical control group, reported that those subjects who experienced a greater amount of autonomic arousal and those who were more fearful of these unpleasant body sensations scored higher on the A-Trait scale and the Beck Depression Inventory. In a study using only clinical samples, Barlow, DiNardo, Vermilyea, Vermilyea, & Blanchard (1986) compared scores on a variety of anxiety and depression scales across six anxiety diagnoses and found the following: (1) Panic disordered subjects scored no differently than other diagnostic groups on the Hamilton Anxiety Scale; agoraphobics scored higher than simple phobics and social phobics on this scale. (2) Panic disordered subjects and agoraphobics did not score differently than any other anxiety disordered group on the State-Anxiety Inventory. (3) Obsessive/compulsives scored higher than other anxiety groups on the Trait-Anxiety Inventory, but the remaining five groups did not score differently from one another on this measure. (4) Obsessive/compulsives scored higher than the other diagnostic groups on the Beck Depression Inventory, but no

other differences were found on this measure. (5) Obsessive/compulsives scored higher than the other diagnostic groups on the Hamilton Depression Scale, but no other differences were found between groups on this measure.

When comparing somatic symptoms of anxiety in PD and GAD groups, Hibbert (1984) found the PD group to be more likely than the GAD group to experience the autonomic arousal symptoms of dyspnea, sweating and heart palpitations. Barlow et al. (1985) compared various DSM-III categories of anxiety disorders based on the frequency and severity with which the groups experienced the 12 symptoms of PD (listed in DSM-III). When each disorder was considered separately, each experienced at least four of the 12 symptoms, as required for PD diagnosis. However, the frequency with which the symptoms were experienced differentiated PD and Agoraphobia with Panic Attacks from the other categories whose frequency criterion was significantly lower than for PD. When all subjects who had experienced a panic attack rated the severity of each symptom, those with PD and Agoraphobia with Panic Attacks were found to rate the somatic symptom of dizziness as more severe than did those with Simple Phobia or Social Phobia. Barlow et al. (1985) further analyzed the data by contrasting predictable and unpredictable panic. They combined the subjects into four groups: (1) subjects who

had never experienced an unpredictable panic, (2) subjects with GAD, social phobia, and simple phobia who had experienced at least one unpredictable panic attack, (3) Agoraphobics with Panic Attack, and (4) subjects with PD. Those with Panic Disorder and Agoraphobia with Panic endorsed more of the 12 DSM-III symptoms than either of the other two groups, whose panic episodes tend to be cued by a phobic object or situation. The data suggest that panic episodes experienced by those with PD may be different from panic experienced by those who suffer other anxiety disorders on the basis of the predictablity of these episodes.

In the same study Barlow et al. (1985) found that the one cognitive PD symptom, namely, fear of dying, going crazy, or losing control, differentiated PD sufferers from the GAD group, the social phobics, and the simple phobics. This supports earlier findings by Goldstein and Chambless (1978) that individuals with agoraphobia (or PD) can be distinguished from simple and social phobics on the basis of their reports of fear of panic attacks, fear of heart palpitations, fear of mental illness, and fear of fainting. They also found that agoraphobics differentiate from simple phobics and normals in their greater tendency to believe that anxiety is catastrophic. Not only do panic disordered individuals tend to interpret their anxiety symptoms as signaling impending disaster, but there is

evidence (Chambless et al., 1984) that the more severely avoidant the PD sufferer, the higher the frequency of catastrophic thoughts about anxiety. These results are similar to the findings by Beck et al. (1974) that persons with anxiety neurosis (PD) are more likely than those with phobic neuroses to misintepret harmless situations and sensations as dangerous. In this study, the subjects with anxiety neurosis had unrealistically high expectations of harm, especially of physical harm, such as accident or illness, and psychosocial harm, such as humiliation and rejection. Further, the anxiety neurotics indicated belief that the anticipated harm was indeed a realistic concern and that the anticipated harm was likely to happen. For example, one subject believed that she would actually die of fright. Results indicated that the anticipation of adversity is more severe for anxiety neurotics than for phobics.

In his study of cognitive components of anxiety, Hibbert (1984) focused on differences between the ideations of subjects who were panic disordered versus those with GAD. He found that the cognitions of PD subjects were much more dramatic than those to the GAD subjects. The cognitions of PD subjects centered around fear of physical harm and psychological or social disaster. For example, typical ideations of PD subjects might be "I may lose control in public and be taken to a hospital" or "I may die

of a heart attack." In contrast, a typical GAD response to anxiety might be "I am not adequate to deal with this" or "I am not coping."

Evidence that panic disordered individuals differ from those with other anxiety disorders on the basis of somatic symptoms and cognitions has been summarized. If panic disordered individuals can be distinguished by interview from those suffering from other anxiety disorders, it is reasonable to ask if a structured paper-and-pencil questionnaire will lead to the same distinction. Ideally, such a questionnaire would offer the advantage of examining many alternatives in a brief period of time. Such a questionnaire, if valid, should also be sensitive to change with treatment aimed at Panic Disorder and, thus, be useful in assessing treatment effects. The present research will endeavor to validate two brief assessment instruments which were developed to differentiate (1) PD subjects from those with other anxiety disorders and (2) subjects who have experienced a panic attack from subjects who have not experienced a panic attack, on the basis of somatic symptoms and cognitions.

Hypotheses

1. Subjects diagnosed with PD or Agoraphobia with

Panic Attacks will have higher total scores on the Symptom Assessment Questionnaire than a combined group of subjects diagnosed with Simple Phobia, Social Phobia, Generalized Anxiety Disorder (GAD), Obsessive/Compulsive Disorder, or Atypical Anxiety.

2. Subjects diagnosed with PD or Agoraphobia with Panic Attacks will have higher total scores on the Cognition Assessment Questionnaire than a combined group of subjects diagnosed with Simple Phobia, Social Phobia, Generalized Anxiety Disorder (GAD), Obsessive/Compulsive Disorder, or Atypical Anxiety.

3. Subjects with panic attacks, regardless of diagnosis, will have higher total scores on the Symptom Assessment Questionnaire than subjects without panic attacks.

4. Subjects with panic attacks, regardless of diagnosis, will have higher total scores on the Cognitions Assessment Questionnaire than subjects wilthout panic attacks.

5. Subjects diagnosed with PD or Agoraphobia with Panic Attacks will score no differently on the Zung Self-rating Depression Inventory than a combined group of subjects diagnosed with Simple Phobia, Social Phobia, GAD, Obsessive/Compulsive Disorder, or Atypical Anxiety.

6. Subjects with panic attacks, regardless of diagnosis, will score no differently on the Zung Self-

rating Depression Inventory than subjects without panic attacks.

7. Subjects diagnosed with PD or Agoraphobia with Panic Attacks will score no differently on the State-Anxiety Inventory than a combined group of subjects diagnosed with Simple Phobia, Social Phobia, GAD, Obsessive/Compulsive Disorder, or Atypical Anxiety.

8. Subjects with panic attacks, regardless of diagnosis, will score no differently on the State-Anxiety Inventory than subjects without panic attacks.

9. Subjects diagnosed with PD or Agoraphobia with Panic Attacks will score no differently on the Trait-Anxiety Inventory than a combined group of subjects diagnosed with Simple PHobia, Social PHobia, GAD, Obsessive/Compulsive Disorder, or Atypical Anxiety.

10. Subjects with panic attacks, regardless of diagnosis, will score no differently on the Trait-Anxiety Inventory than subjects without panic attacks.

METHOD

Subjects

Subjects were 93 individuals who responded to an offer for a free evaluation of problem anxiety and who met DSM-III criteria for at least one anxiety disorder diagnosis. Fifteen of these individuals were recruited through an announcement addressed to undergraduates taking psychology classes. The remaining 78 subjects were recruited through a general recruitment to all university employees and through a media campaign to the community. All subjects were recruited and evaluated within a 36-month period. Table 1 shows the breakdown of subjects by diagnostic category. Ages ranged from 18 to 57 years, with a mean age of 32 years. There were 63 females and 30 males. Fifty-two of the 93 subjects received the diagnosis of PD, while the remaining 41 subjects received a diagnosis other than PD. Of the 52 PD subjects, 37 were female and 15 were male. Their mean age was 34.6 years. Of the 41 non-PD subjects, 26 were female and 15 were male. The mean age of the non-PD group was 29.9 years. The age difference between these two groups was significant. The PD group did not differ from the non-PD group on the following demographic measures: (1) marital status, with 88% of the

PD subjects being married and 91% of the non-PD subjects being married; (2) level of education, with both groups averaging 13 years of education; (3) length of illness in months, with PDs averaging 20.6 months and non-PDs averaging 24.7 months ($t=-.65$, $p>.50$).

The 93 subjects were divided into two dichotomous groups based on the presence or absence of panic attacks. Sixty of the 93 subjects had experienced at least one panic attack. Forty-three of these "panickers" were female; 17 were male. Their mean age was 34.9 years. Thirty-three subjects reported that they had never experienced a panic attack. Twenty of these "non-panickers" were female; 13 were male. Their mean age was 28.2 years. The age difference between these two groups was significant. The Panickers did not differ from non-panickers on the following demographic measures: (1) marital status with over 90% of both groups being married,(2) level of education, with both groups averaging 13 years of education, (3) length of illness, measured in months.

Procedure

Subjects were asked to sign a consent form (see Appendix A). Subsequently, all subjects were given the Symptom Assessment Questionnaire, the Cognition Assessment Questionnaire, and the Zung Self-rating Depression Scale (Zung, 1965). A subset of subjects (n=40) were administered the State-Trait Anxiety Inventory

Table 1

Breakdown of Subjects by Diagnostic Category

Diagnostic Group	N
Panic Disorder	52
Simple Phobia with Panic Attack	1
without Panic Attack	10
Social Phobia with Panic Attack	4
without Panic Attack	11
Generalized Anxiety Disorder w/Panic Attack	3
w/o Panic Attack	7
Obsessive Compulsive	2
Atypical	3
Total=	93

(Speilberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983). Questionnaires were presented in random order. A structured diagnostic interview (see Appendix B) was conducted by graduate students in clinical psychology or by a licensed clinical psychologist. All interviewers were members of an Anxiety Disorders Project team. Diagnoses were based on the DSM-III criteria for PD, agoraphobia with panic attack, GAD, social phobia, and simple phobia, obsessive/compulsive disorder, and atypical anxiety disorder. One individual was diagnosed as schizophrenic and was dropped from the study.

Procedure for Arriving at a Diagnosis. The initial advertisement for this study specified some symptoms of panic attack. Respondents to the advertisement were screened via telephone interview by a member of the Anxiety Disorders Project team, in order to ensure interest in the study and to conduct an initial evaluation concerning the respondent's appropriateness for the study. The Anxiety Disorders Interview Schedule (ADIS), a structured diagnostic interiew (Di Nardo, O'Brian, Barlow, Waddell, & Blanchand, 1983), was given to all subjects. All interviewers were members of an Anxiety Disorders Project team and were trained in the use of the ADIS by the Anxiety Disorder Project leader in the following manner: (1) All anxiety diagnostic categories were reviewed. (2) All team members had to demonstrate familiariarity with the format

and instructions for use of the ADIS. (3) Role plays of subjects with different anxiety diagnoses were conducted, and team members were instructed on the application of the ADIS to these cases. Diagnostic interviews were conducted either in two separate one-hour sessions or one two-hour session. The interviewer presented his/her initial diagnostic impression to the project team and/or the project leader. After discussion of each case, a consensus final diagnosis was reached.. No reliability assessment of diagnosis was conducted. While this is a limitation of the study, the kappa coefficient for the ADIS is .65 for specific anxiety diagnoses (Di Nardo et al., 1983).

Procedure for Arriving at Diagnostic Groupings -- PD or Agoraphobia with Panic Attacks vs Others. To receive a diagnosis of PD, subjects must have experienced three panic attacks within a three-week period. Panic attacks must have been manifested by sudden onset of symptoms. A minumum of four symptoms must have been experienced within 10 minutes after onset of the first symptom. Attacks must not have been associated with a circumscribed stimulus, with a life-threatening situation, or with physical exertion.

To receive a diagnosis of Agoraphobia with Panic Attacks, subjects must have experienced at least one panic attack which met the criteria described above. The subject

must fear and avoid being alone, or being in public places where escape might be difficult or help not available in case of sudden incapacitation. Normal activities must be constricted, with fears or avoidance behavior dominating the subject's life. Symptoms must not be due to other psychiatric disorder.

To receive a diagnosis of Social Phobia, subjects must experience persistent fear of, and a compelling desire to avoid, a situation in which they may be exposed to public scrutiny and must fear that they will act in a way that is humiliating or embarrassing. Subjects must experience distress because of the disturbance and must recognize their fear to be excessive or unreasonable. If any panic attacks are experienced which are not associated with a circumscribed stimulus, they must not meet frequency criterion for PD. Symptoms must not be due to other mental disorder.

In order to receive a diagnosis of Simple Phobia, subjects must experience persistent fear of, and compelling desire to avoid an object or a situation other than those described for Agoraphobia or Social Phobia. Subjects must experience significant distress from the distrubance and must recognize this distress as excessive or unreasonable. If any panic attacks are experienced which are not associated with a circumscribed stimulus, they must not meet frequency criterion for PD. Symptoms must not be due

to other mental disorder.

In order to receive a diagnosis of GAD, subjects must have experienced persistent anxiety for at least one month. Anxiety must be manifested in three of the following four modalities: motor tension, autonomic hyperactivity, apprehensive expectation, and vigilance. If any panic attacks are experienced, they must not meet frequency criterion for the PD diagnosis. Symptoms must not be due to other mental disorder.

To receive a diagnosis of Obsessive/Compulsive Disorder subjects must experience either obsessions or compulsions which lead to significant distress or which interfere with social functioning or role functioning. Subjects may or may not have panic attacks related to specific obsessions or compulsions.

If subjects reached criterion for Panic Disorder or Agoraphobia with Panic Attacks, they were assigned to the PD Group. Otherwise, subjects were assigned to the comparison group. This means the PD Group may contain subjects with a secondary diagnosis of some other anxiety disorder, but who meet criterion for a primary diagnosis of PD.

Measures

Cognitions Assessment Questionnaire [CAQ] (see Appendix C). This scale contains negative cognitions associated with panic attacks. The original form of this

questionnaire cantained 12 items generated from DSM-III description, from ideations reported in the anxiety literature, and from interviews with subjects suffering from panic attacks. A thirteenth item offered subjects the opportunity to list any panic-associated cognition not already identified among the previous 12 items. Thirteen items were eventually added to the original 12 items as a result of (1) specific subject input and (2) publication of the Agoraphobic Cognition Questionnaire (Chambless et al., 1984) subsequent to the development the original 12-item CAQ. Twenty-six of the 93 subjects received the 12-item CAQ. Sixty-seven of the 93 subjects received the revised 25-item CAQ. Each item is rated on a 4-point scale, indicating degree of preoccupation with each item, ranging from (1) Not At All to (4) Totally Dominates. Also, the subjects indicate whether the thought occurs before, during, or after an anxiety episode. The total score is computed by summing the ratings across questionnaire items. Reliability and validity estimates are currently under investigation in the present study.

Symptom Assessment Questionnaire [SAQ] (see Appendix D). This scale contains items reflecting symptoms frequently experienced during a panic attack. The original form of this questionnaire consisted of 21 items generated from DSM-III description of PD symptoms, from symptoms reported in the anxiety literature, and through interviews

in which subjects described distressing sensations associated with panic attacks. A twenty-second item offered subjects the opportunity to list any panic-associated symptom not already identified among the previous 21 items. Fifteen items were eventually added to the original 21 items based on (1) specific subject responses and (2) publication of the Body Sensation Questionnaire (Chambless et al., 1984) subsequent to the development of the original 21-item SAQ. Twenty of the 93 subjects received the original 21-item SAQ. Seventy-three subjects received the expanded 36-item SAQ. Each item is rated on a 6-point scale indicating duration of symptoms, ranging from (1) Do Not Experience This to (6) Protracted Period of 24 Hours to Two Days or More. The total score is derived by summing the ratings across all items. Reliability and validity estimates are currently under investigation in the present study.

Other measures. The STAI, Form Y (see Appendix E) comprises separate self-report scales for measuring state and trait aniety. State anxiety is defined as feelings of apprehension, tension, nervousness, and worry that an individual is feeling "right now." Trait anxiety refers to the relatively stable individual differences in anxiety-proneness. It reflects individual differences in frequencxy and intensity with which anxiety states have been manifested in the past, and in the probability that S-

Anxiety will be experienced in the future. Median test-retest correlations for the T-Anxiety scale among college and high school students is 0.765 and 0.695, respectively. For the S-Anxiety scale, the stability coefficients are relatively low, ranging from 0.16 to 0.62, with a median reliability coefficient of 0.33. Such low stability is expected because a valid measure of S-Anxiety should reflect unique situational factors existing at the time of testing. Measures of internal consitency for both S-Anxiety and T-Anxiety scales are high, with median Cronbach alpha coefficients of 0.93 and 0.90, respectively.

Construct validity has been established for the STAI by comparing the mean scores of (1) various neuropsychiatric patient groups with those of normal subjects, (2) military recruits enrolled in a stressful training program with those of same-age college and high school students under non-stressful conditions, and (3) college students under examination conditions versus after relaxation training versus during regular class period.

Concurrent validity of the T-Anxiety scale with the IPAT Anxiety scale and the Taylor Manifest Anxiety Scale range from 0.85 to 0.73. Since the correlations among the IPAT, the Taylor Manifest Anxiety Scale, and the T-Anxiety scale approach the reliabilities of these scales, the three inventories may be considered, essentially, as equivalent measures of trait anxiety.

Correlations of the STAI scales and other measures of personality (i.e., Minnesota Multiphasic Personality Inventory, Edwards Personal Preference Schedule, Jackson's Personality Research Form) provide evidence of convergent and divergent validity of the STAI (Speilburger et al., 1983).

The Zung Self-rating Depression Scale (see Appendix F) uses the diagnostic criteria of the presence of depressed affect, and its physiological and psychological concomitants to quantitate the symptoms of depression. There appears to be a high correlation of clinical evaluation of patients for the presence of depressive disorders and their self-rating depression indices. Mean indices achieved on the scale for patients diagnosed as depressed were 0.74 before treatment and 0.39 after treatment. The mean indices on this scale for patients with other psychiatric disorders was 0.53. The mean index for the control group was 0.33 (Zung, 1965).

Table 2 summarizes score results on all instruments included in this study.

Table 2

Summary of Means, Standard Deviations, and Ranges of Scores on Included Measures

Measure	n	Mean	St.D	Min	Max
State Anxiety Inventory					
All subjects	40	47.70	12.26	24	69
Panic	20	53.20	8.31	39	69
Non-panic	19	42.16	13.60	24	65
PD	16	51.00	9.63	38	69
Non-PD	22	44.09	13.17	24	65
Trait Anxiety Inventory					
All subjects	40	52.37	9.17	29	69
Panic	20	57.35	5.98	47	69
Non-panic	19	47.58	9.42	29	62
PD	16	54.31	9.16	29	69
Non-PD	22	50.04	8.66	30	63
Zung Self-rating Depression Scale					
All subjects	87	42.65	8.54	22	60
Panic	53	44.39	8.85	22	60
Non-panic	32	40.22	7.56	29	58
PD	45	44.22	8.93	25	59
Non-PD	37	40.68	6.77	29	53
Symptom Assessment Questionnaire (36-item)					
All Subjects	74	80.47	19.30	46	136
Panic	43	87.54	19.75	46	136
Non-panic	30	70.10	13.61	47	105
PD	34	88.53	18.89	59	136
Non-PD	34	71.41	15.03	46	105
Cognition Assessment Questionnaire (25-item)					
All subjects	71	46.13	12.31	25	77
Panic	42	48.38	12.98	25	77
Non-panic	28	42.14	10.07	25	60
PD	33	48.09	12.30	28	77
Non-PD	33	43.09	11.14	25	61

RESULTS

Differences Between Diagnostic Groups (Validity Analysis)

Scores on the State-Trait Anxiety Inventory and the Zung Self-rating Depression Scale were compared across a diagnostic groupings -- PD and Agoraphobia with Panic Attacks (PD Group) vs all other anxiety diagnoses (Non-PD Group). The following results were found. Based on two-tail t-test, the two groups did not score differently from each other on state-anxiety or trait-anxiety. However, the difference on the state-anxiety measure approached significance ($p=.084$) with the PD Group scoring higher. The PD Group did score higher ($t=1.99$, $p<.05$) than the Non-PD Group on the Zung depression measure. Table 3 highlights these results.

Subjects who had experienced panic attack(s) were compared to subjects who had not experienced panic attack(s) based on their scores on the State-Trait Anxiety Inventory and the Zung Self-rating Depression Scale. Using two-tail t-tests the following results were found. Panickers scored higher ($p<.01$) than non-panickers on the state-anxiety measure. Likewise, panickers scored higher ($p<.001$) than the non-panickers on the trait-anxiety measure. Panickers also scored higher ($p<.05$) than non-panickers on the depression measure. Table 4 highlights these results.

Table 3

Comparison of Mean Scores on Various Instruments Between Panic Disorder and Non-Panic Disorder

Instrument	PD	Non-PD	df	t-value
State-A	51.00	44.09	36	1.78
Trait-A	54.31	50.04	36	1.46
Zung	44.22	40.00	80	1.99*
SAQ	88.53	71.41	66	4.14***
CAQ	48.09	43.04	64	1.73*

*p < .05
***p < .001

Table 4

Comparison of Mean Scores on Various Instruments Between Panickers and Non-Panickers

Instrument	PA	Non-PA	df	t-value
State-A	53.20	42.16	37	3.07**
Trait-A	57.35	47.58	37	3.89***
Zung	44.36	40.22	83	2.20*
SAQ	87.53	70.10	71	4.19***
CAQ	48.36	42.14	68	2.14*

*p < .05
**p < .01
***p < .001

The Symptom Assessment Questionnaire (SAQ) total score represents severity of anxiety symptoms thought to be associated with panic attacks. The total score is influenced by the number of items endorsed and the magnitude of endorsement (length of time the symptom is experienced). Using only the scores of the subjects who received the revised 36-item questionnaire, the mean total SAQ score of the panic disordered subjects (PD Group, n=34) was compared to that of the subjects who received a diagnosis other than PD (Non-PD Group, n=34). The PD Group (M=88.53) scored higher [$t(66) = 4.14$, $p<.001$)] on the SAQ than did the Non-PD Group (M=71.41). (See Table 3). In order to explore whether subjects with panic attacks, regardless of diagnosis, had higher SAQ scores than the subjects without panic attacks, the mean total SAQ scores of these two groups were compared. Considering only the scores of the subjects who received the revised 36-item questionnaire, the Panic Group (M=87.53, n=43) scored higher [$t(71)=4.19$, $p<.001$] than did the No-Panic Group (M=70.10, n=30). (See Table 4)

Since there were differences in age between the comparison groups, the Spearman correlation formula was employed to evaluate the possible relationship between age and total SAQ score. Age and total SAQ score were not found to be significantly related.

The Cognition Assessment Questionnaire (CAQ) consists of relatively catastrophic cognitions thought to be associated with panic attacks. Using only the responses of subjects who received the revised 25-item questionnaire, the mean total CAQ score of the panic disordered subjects (PD Group, n=33) was compared to that of the subjects who received a diagnosis other than PD (Non-PD Group, n=33). The PD Group (M=48.09) scored higher [$t(64)=1.73$, $p< .05$)] than the Non-PD Group (M=43.09). (See Table 3) In order to explore whether subjects with panic attacks, regardless of diagnosis (Panickers, n=42), had higher CAQ scores than subjects without panic attacks (Non-panickers, n=28), the mean total CAQ scores of these two groups were compared. Considering only the responses of subjects who received the revised 25-item questionnaire, the Panickers (M=48.36) scored higher [$t(68) =2.14$, $p< .05$] than did the Non-panickers(M=42.14). (See Table 4)

Since there were age differences between the comparison groups, the Spearman correlation formula was employed to evaluate the possible relationship between age and total CAQ score. Age and total CAQ score were not significantly correlated.

Item analyses were conducted on the SAQ and the CAQ in order to explore which items tended to differentiate PD subjects from Non-PD subjects and Panickers from Non-panickers. Such results could be used to reduce the number

of items for future cross-validation studies and the shortening of the instruments. Item analyses for the questionnaires were conducted in a variety of ways. In one item analysis, the mean rating scores of all subjects with the diagnosis of PD were compared via one-tail t-test to the mean rating scores of the non-PD subjects, on each of the 36 SAQ items and each of the 25 CAQ items. In all, 122 comparisons were made. In order to maintain experiment-wise error rate at a=.05, the Bonferroni formula (Keppel, 1982) was employed. This procedure determined that an alpha of .038 was necessary to maintain experiment-wise error rate at the a priori level of significance, when all subjects' responses were considered in the analyses.

Using all subjects' responses, the PD Group scored significantly higher ($p<.038$) than the Non-PD Group on 20 of the 36 SAQ items. The remaining items did not differentiate these two groups. (See Table 5) Additionally, Panickers scored higher than Non-panickers on 18 of the 36 SAQ items. The remaining items did not differentiate between these two groups. (See Table 6) Fifteen items were identified as discriminator in both item analyses.

The possibility exists that subjects who received the original 21-item SAQ would have answered some of those 21 items differently if those items had been presented with the remaining 15 items which were added later . Therefore

Table 5

Item Analysis of Symptom Assessment Questionnaire
(panic disorder versus non-panic disorder)
N = 87

#	Item	PD M	Non-PD M	df	t-value
2	Pain in chest	1.92	1.37	85	2.54**
3	Heart pounding in chest	3.02	2.51	85	1.90*
4	Difficulty swallowing	2.32	1.75	85	2.06*
5	Feeling of suffocation	2.54	1.62	85	3.22***
6	Choking sensation	1.50	1.19	85	1.90*
7	Hands or feet tingle	2.06	1.62	85	1.76*
8	Face feels hot	2.90	2.32	85	2.19*
9	Sweating	2.92	2.08	85	3.12***
18	Hands or feet feel cold	2.69	1.84	84	2.58**
21	Nerves feel "wired"	3.91	3.36	81	1.80*
24	Pressure in chest	2.44	1.59	66	3.11**
25	Numbness in body	1.32	1.09	66	1.85*
26	Shortness of breath	2.26	1.76	66	1.89*
27	Dizziness	2.44	1.82	66	2.19*
28	Feeling faint	2.17	1.62	66	2.16*
32	Wobbly or rubber legs	2.62	1.85	66	2.53**
33	Disoriented or confused	2.26	1.65	67	1.99*
34	Cold clamminess	2.31	1.59	67	2.50**
35	Sensitivity to loud noises	2.63	1.62	67	2.84**
36	Ears ringing	2.03	1.37	68	1.99*

*p < .038
**p < .01
***p < .001

Table 6

Item Analysis of Symptom Assessment Questionnaire
(Panickers versus Non-Panickers)
N = 91

#	Item	PA M	Non-PA M	df	t-value
2	Pain in chest	3.22	2.81	89	1.73*
3	Heart pounding in chest	3.00	2.47	89	2.00*
4	Difficulty swallowing	2.36	1.65	89	2.55**
5	Feeling of suffocation	2.46	1.47	89	3.49***
6	Choking sensation	1.52	1.15	89	2.10*
8	Face feels hot	2.95	2.12	89	3.20***
9	Sweating	2.88	2.03	89	3.07**
10	Trembling or shaking	3.14	2.59	89	2.01*
18	Hands or feet feel cold	2.55	1.78	88	2.27*
23	Vision becomes blurred or distorted	1.95	1.37	71	2.20*
24	Pressure in chest	2.37	1.67	71	2.47**
25	Numbness in body	1.39	1.03	71	2.46**
27	Dizziness	1.19	1.12	71	1.98*
31	Tightness in chest	2.50	1.90	72	1.92*
32	Wobbly or rubber legs	2.63	1.77	71	2.97**
33	Disoriented or confused	2.27	1.50	71	2.57**
34	Cold clamminess	2.25	1.63	71	2.08*
35	Sensitivity to loud noises	2.57	1.55	71	2.83**

*p < .038
**p < .01
***p < .001

additional analyses were conducted. The mean rating scores of only the PD subjects who received the revised 36-item SAQ were compared to the mean rating scores of the Non-PD subjects who received the revised 36-item SAQ, on each item. The Bonferroni formula indicated that an alpha of .027 was required to maintain experiment-wise error at the a priori level of significance. The PD Group scored higher ($p<.027$) than the Non-PD Group on 13 items. All 13 items had been identified as differentiators when all subjects' responses were compared. (See Table 7)

Similarly, the mean scores of only the Panickers who received the revised 36-item SAQ were compared to the mean scores of Non-panickers who received the 36-item SAQ, on each item. The Bonferroni formula determined that an alpha of .029 was necessary to maintain experiment-wise error at the a priori level of significance. Panickers scored higher ($p<.029$) than Non-panickers on 18 of the 36 items. Fifteen of these items had also be identified as differentiators when all subjects' responses were compared. (See Table 8)

Also, the scores on the items shared in common between the subjects taking the shorter SAQ and subjects taking the expanded SAQ were compared. T-test revealed no systematic differences.

Similar explorations were conducted on the CAQ items . Using the responses of all subjects, the PD Group scored

Table 7

Item Analysis of Symptom Assessment Qwestionnaire
(panic disorder vs non-panic disorder)
N = 68 who received the 36-item SAQ

#	Item	PD M	Non-PD M	df	t-value
2	Pain in chest	1.82	1.35	66	2.21*
3	Heart pounding in chest	3.09	2.47	66	2.19*
5	Feeling of suffocation	2.32	1.65	66	2.32*
7	Hands or feet tingle	2.18	1.62	66	2.03*
8	Face feels hot	2.97	2.29	66	2.44**
9	Sweating	2.91	1.94	66	3.38***
24	Pressure in chest	2.44	1.59	66	3.11**
27	Dizziness	2.44	1.82	66	2.19*
28	Feeling faint	2.18	1.62	66	2.16*
32	Wobbly or rubber legs	2.64	1.85	65	2.56**
33	Disoriented or confused	2.32	1.65	66	2.23*
34	Cold Clamminess	2.32	1.59	66	2.49**
35	Sensitivity to loud noises	2.71	1.62	66	3.09**

*p < .027
**p < .01
***p < .001

Table 8

Item Analysis of Symptom Assessment Questionnaire
(Panickers vs Non-Panickers)
N = 73 who received the 36-item SAQ

#	Item	PD M	Non-PD M	df	t-value
3	Heart pounding in chest	3.00	2.47	71	1.95*
4	Difficulty swallowing	2.30	1.70	71	2.26*
5	Feeling of suffocation	2.23	1.50	71	2.63***
6	Choking sensation	1.51	1.17	77	1.91*
8	Face feels hot	2.98	2.20	71	2.90***
9	Sweating	2.81	2.00	71	2.74***
13	Feeling that you are not really you	2.40	1.80	71	1.93*
14	Feeling that things around you are unreal	2.60	1.97	70	1.95*
16	Nausea	2.47	1.83	71	2.00*
23	Vision becomes blurred or distorted	1.95	1.37	71	2.20*
24	Pressure in chest	2.37	1.67	71	2.47**
25	Numbness in body	1.39	1.03	71	2.46**
27	Dizziness	2.35	1.80	71	1.98*
31	Tightness in chest	2.56	1.90	71	2.13*
32	Wobbly or rubber legs	2.64	1.77	70	2.99***
33	Disoriented or confused	2.33	1.50	71	2.78***
34	Cold clamminess	2.26	1.63	71	2.07*
35	Sensitivity to loud noises	2.63	1.55	70	3.03***

*p < .029
**p < .01
***p < .005

significantly higher ($p<.038$) than the Non-PD Group on six of the 25 CAQ items. (See Table 9) The remaining items did not differentiate the two groups. Additionally, Panickers scored higher than Non-Panickers on eight of the The remaining items did not differentiate between the two groups.

Again, the possibility exists that subjects who received the original 12-item CAQ would have answered some of those 12 items differently if those 12 items had been presented with the remaining 13 items which were added later. Therefore, additional analyses were conducted whereby the mean rating scores of only the PD subjects who had received the revised 25-item CAQ were compared to the scores of those Non-PD subjects who received the revised 25-item CAQ. The Bonferroni formula indicted that an alpha of .027 was required to maintain experiment-wise error rate at the a priori level of significance. The PD Group scored higher ($p<.027$) than the Non-PD Group on three of the 25 items. (See Table 11) Similarly the mean scores of Panickers who received the 25-item CAQ were compared to the mean scores of Non-panickerse who received the 25-item CAQ. The Bonferroni formula determined that a alpha of .029 was necessary to maintain experiment-wise error at the a priori level of significance. Panickers scored higher ($p<.029$) than Non-panickers on five of the 25 items. Non-

Table 9

Item Analysis of Cognition Assessment Questionnaire
(Panic Disorder versus Non-Panic Disorder)

#	Item	PD M	Non-PD M	df	t-value
1	I am going to die	2.00	1.53	87	2.10*
2	I am going insane	1.96	1.42	87	2.54**
6	I am having a heart attack	1.62	1.08	87	3.29***
7	I am going to pass out	2.18	1.55	87	2.63***
10	I don't understand what is happening to me	2.53	1.87	87	2.51**
25	Something terrible will happen	2.88	2.30	68	2.06*

*p < .038
**p < .01
***p < .001

Table 10

Item Analysis of Cognition Assessment Questionnaire
(Panickers versus Non-Panickers)

#	Item	PA M	Non-PA M	df	t-value
4	This will never end	2.66	2.19	87	1.85*
6	I am having a heart attack	1.59	1.06	87	3.03***
7	I am going to pass out	2.14	1.58	87	2.24*
9	I won't be able to get out of here	2.22	1.81	87	1.66*
10	I don't understand what is happening to me	2.52	1.93	87	2.24*
20	I am going to scream	1.62	2.14	68	-2.34*
22	I will be paralyzed by fear	1.98	1.50	68	1.92*
23	Something is really wrong with me	1.98	1.47	68	2.10*
24	I will not be able to breathe	2.05	1.53	68	1.84*

*$p < .038$
***$p < .005$

Table 11

Item Analysis of Cognition Assessment Questionnaire
(Panic Disorder vs Non-Panic Disorder)
N = 67 who received the 25-item CAQ

#	Item	PD M	Non-PD M	df	t-value
2	I am going insane	2.00	1.42	65	2.41**
6	I am having a heart attack	1.65	1.09	65	3.22***
25	Something terrible will happen	2.89	2.30	64	2.06*

*p < .027
**p < .01
***p < .001

panickers scored higher than Panickers on one of the 25 items. (See Table 12)

Also, the scores on the items shared in common between the subjects taking the shorter CAQ and the subjects taking the expanded CAQ were compared. T-test revealed no systematic difference.

25 CAQ items, while Non-Panickers scored higher than Panickers on one of the 25 CAQ items. (See Table 10)

No item on either questionnaire received less than five percent endorsement.

Reliability Analyses

Internal consistency reliability was calculated, for split-half and total test, using the Cronbach alpha formula. The Cronbach alpha is a conservative measure of internal consistency which gives the lower bounds for the test's reliability but underestimates test reliability. This measure indicated that both questionnaires were highly consistent, or reliable. The Cronbach alpha for the whole Symptom Assessment Questionnaire was .88. Alpha for part one (the first 18 items) was .82; alpha for part two (the second 18 items) was .78 Correlation between the two halves was .71. For the whole Cognitions Assessment Questionnaire, the Cronbach alpha was .88. Alphas for parts one (the first 13 items) and two (the remaining 12 items) were .84 and .71, respectively. The correlation between the two halves was .71.

Table 12

Item Analysis of Cognition Assessment Questionnaire
(Panickers vs Non-Panickers)
N = 72 who received the 25-item CAQ

#	Item	PA M	Non-PA M	df	t-value
4	This will never end	2.70	2.07	70	2.50**
6	I am having a heart attack	1.60	1.07	70	2.94**
9	I won't be able to get out of here	2.28	1.72	70	2.15*
10	I don't understand what is happening to me	2.49	1.93	70	2.02*
20	I am going to scream	1.62	2.14	68	-2.34*
23	Something is really wrong with me	1.98	1.46	68	2.10*

*p < .029
**p < .01

Factor Analyses

Factor Analyses were conducted to explore the domains being sampled by the SAQ and the CAQ. An orthogonal (Varimax) rotation was employed, and item loadings greater than or equal to .4 were interpreted. For both instruments, two factor analyses were performed: (1) using the results from all subjects who received the expanded questionnaire and (2) using only the results from those individuals receiving the expanded questionnaire who had experienced panic attacks. Then, using the results from all subjects who were administered the expanded questionnaires, a comparison of diagnostic groups on each factor was accomplished in order to explore the possibility of specific somatic and cognitive differences between groups.

Using the results of only those subjects with panic attacks (n=43) who had been administered the expanded questionnaire, the SAQ was explained by a nine-factor solution, accounting for 72.2% of the variance. Eight of the factors were clearly namable; one remained unnamed (See Table 13). Factor analysis using the results of all subjects who received the longer questionnaire (See Table 14) yielded similar findings. Eight factors accounted for 63.1% of the variance. The factors identified by the two analyses were very similar, with the former group

Table 13

Factor Analysis of Symptom Assessment Questionnaire
(Panickers who received 36-item questionnaire)

Factor 1 Disorientation (%Var.=19.6, Cum.%=19.6		
Item #	Item	Factor Loading
5	Feeling of suffocation	.459
13	Feeling that you are not really you or disconnected from body	.654
14	Feeling that things around you are unreal--as if in a dream	.651
22	Physically immobilized	.445
27	Dizziness	.846
28	Feeling faint	.803
33	Disorientation or confused	.748

Factor 2 General Autonomic Arousal (%Var.=10.1,Cum.%=29.8)		
Item #	Item	Factor Loading
9	Sweating	.566
10	Trembling or shaking	.893
11	Hands or body trembling or shaking	.925
34	Cold clamminess	.485

Factor 3 Stomach Distress (%Var.=8.6, Cum.%=38.4)		
Item #	Item	Factor Loading
20	Sinking feeling in stomach	.813
21	Nerves feel "wired"	.612
29	Butterflies in stomach	.812
30	Knot in stomach	.485
32	Wobbly or rubber legs	.562

Factor 4 Chest Discomfort (%Var.=7.5, Cum.%=45.8)		
Item #	Item	Factor Loading
2	Pain in chest	.676
22	Physically immobilized	.448
24	Pressure in chest	.896
26	Shortness of breath	.468
31	Tightness in chest	.888

Factor 5 Parasthesias (%Var.=7.2, Cum.%=53.1)		
Item #	Item	Factor Loading
7	Hands or feet tingle	.677
12	Hands or feet feel numb	.795
25	Numbness in body other than hands/feet	.788
30	Knot in stomach	-.439

Table 13 (continued)

Factor 6 Nausea (%Var.=6.0, Cum.%=59.0)

Item #	Item	Factor Loading
8	Face feels hot	.859
16	Nausea	.713
17	Breathing rapidly	-.419

Factor 7 (unnamed) (%Var.=5.3, Cum.%=64.3)

Item #	Item	Factor Loading
19	Mouth dry	.905
21	Nerves feel "wired"	.547
23	Vision becomes blurred or distorted	.514

Factor 8 Cardiac (%Var.=4.5, Cum.%=68.8)

Item #	Item	Factor Loading
1	Heart beats rapidly	.728
3	Heart pounding in chest	.715
23	Vision becomes blurred or distorted	-.581

Factor 9 Shortness of Breath (%Var.=3.4, Cum.%=72.2)

Item #	Item	Factor Loading
5	Feeling of suffocation	.427
26	Shortness of breath	.578
34	Cold clamminess	.406
36	Ears ringing	.565

Table 14

Factor Analysis of Symptom Assessment Questionnaire
(All subjects who received the 36-item questionnaire)

Factor 1 Disorientation (% Var.=20.4, Cum.%=20.4)

Item #	Item	Factor Loading
5	Feeling of suffocation	.489
13	Feeling that you are not really you or disconnected from body	.702
14	Feeling that things around you are unreal--as if in a dream	.737
27	Dizziness	.701
28	Feeling faint	.750
33	Disorientation or confused	.717
36	Ears ringing	.445

Factor 2 General Autonomic Arousal (% Var.=9.4,Cum.%=29.8)

Item #	Item	Factor Loading
1	Heart beats rapidly	.625
3	Heart pounding in chest	.579
5	Feeling of suffocation	.431
10	Trembling or shaking	.876
11	Hands or body trembling or shaking (outside)	.873
17	Breathing rapidly	.514
26	Shortness of breath	.433
34	Cold clamminess	.455

Factor 3 Stomach Distress (%Var.=7.5, Cum.%=37.3)

Item #	Item	Factor Loading
20	Sinking feeling in stomach	.846
21	Nerves feel "wired"	.617
29	Butterflies in stomach	.769
30	Knot in stomach	.689

Factor 4 Parasthesias (Var.=6.6, Cum.%=44.0)

Item #	Item	Factor Loading
7	Hands or feet tingle	.728
12	Hands or feet feel numb	.772
25	Numbness in body other than hands or feet	.649
34	Cold clamminess	.509

Table 14 (continued)

Factor 5 Chest Discomfort (%Var.=5.9, Cum.%=49.9)

Item #	Item	Factor Loading
2	Pain in chest	.731
24	Pressure in chest	.861
26	Shortness of breath	.438
31	Tightness in chest	.846

Factor 6 Nausea (%Var.=4.9, Cum.%=54.8)

Item #	Item	Factor Loading
8	Face feels hot	.626
16	Nausea	.710
17	Breathing rapidly	-.410

Factor 7 (unnamed) (%Var.=4.5, Cum%=59.3)

Item #	Item	Factor Loading
4	Difficulty swallowing	.780
18	Hands or feet feel cold	.408
35	Sensitivity to loud noises	.640

Factor 8 (unnamed) (%Var.=3.8, Cum.%=63.1)

Item #	Item	Factor Loading
18	Hands or feet feel cold	.565
19	Mouth dry	.589
21	Nerves feel "wired"	.426
23	Vision becomes blurred or distorted	.780

identifying a "Shortness of Breath" factor and a "Cardiac" factor not identified by the latter group.

Using only the results of subjects with panic attacks (n=42), the CAQ was explained by an eight-factor solution, accounting for 77.5% of the variance (See Table 15). An eight-factor solution accounting for 72.2% of the variance best explained the instrument when all subjects' results were used (See Table 16). The factors identified by these two groups were similar.

In order to explore whether the identified SAQ factors and CAQ factors differentiated between diagnostic groups, factor scores were calculated for each subject who received the longer, revised questionnaires. Factor loadings were multiplied by the raw scores for each item and summedacross all items in a factor to obtain a factor score. Then, t-tests between the PD Group and the Non-PD group were conducted for each factor score. Seven of the eight identified SAQ factors differentiated the PD Group from the Non-PD Group, with the PD Group scores being higher. The remaining SAQ factor (Stomach Distress Factor) did not differentiate between the two groups. Three of the CAQ factors differentiated the PD Group from the Non-PD Group, with the PD Group scoring higher. The remaining five CAQ factors did not differentiate between the two groups. (See Table 17)

Table 15

Factor Analysis of Cognition Assessment Questionnaire
(Panickers who received the 25-item questionnaire)

Factor 1 General Loss of Control (%Var.=27.3, Cum.%=27.3)		
Item #	Item	Factor Loading
3	I am losing control	.467
4	This will never end	.720
5	I am really scared	.647
10	I don't understand what is happening to me	.626
12	I will always be this way	.873

Factor 2 Public Scrutiny (%Var.=11.5, Cum.%=38.8)		
Item #	Item	Factor Loading
8	I don't know what people will think	.670
11	People will think I am crazy	.730
16	I am going to act foolish	.793
17	I am going blind	.834
21	I am going to babble or talk funny	.648

Factor 3 Physical Disaster (%Var.=9.2, Cum.%=47.9)		
Item #	Item	Factor Loading
1	I am going to die	.795
3	I am losing control	.418
5	I am really scared	.403
6	I am having a heart attack	.831
7	I am going to pass out	.769

Factor 4 Claustrophobia (%Var.=7.3, Cum.%=55.3)		
Item #	Item	Factor Loading
3	I am losing control	.439
9	I won't be able to get out of here	.567
10	I don't understand what is happening to me	.469
20	I am going to scream	.823
25	Something terrible will happen	.547

Factor 5 Loss of Body Control (%Var.=6.9, Cum.%=62.2)		
Item #	Item	Factor Loading
8	I don't what what people will think	.440
22	I will be paralyzed by fear	.781
23	Something is really physically wrong with me	.659
24	I will not be able to breathe	.679
25	Something terrible will happen	.420

Table 15 (continued)

Factor 6 Stroke (%Var.=5.9, Cum.%=68.1)		
Item #	Item	Factor Loading
15	I will choke to death	.622
18	I will hurt someone	.463
19	I am going to have a stroke	.806
23	Something is really physically wrong with me	.522

Factor 7 Brain Tumor (%Var.=4.9, Cum.%=72.9)		
Item #	Item	Factor Loading
13	I am going to throw up	.906
14	I must have a brain tumor	.754

Factor 8 Mental Fitness (%Var.=4.6, Cum.%=77.5)		
Item #	Item	Factor Loading
2	I am going insane	.820
18	I will hurt someone	.470

Table 16

Factor Analysis of Cognitions Assessment Questionnaire
(All subjects receiving the 25-item questionnaire)

Factor 1 General Loss of Control (%Var.=26.4, Cum.%=26.4)		
Item #	Item	Factor Loading
2	I am going insane	.406
3	I am losing control	.589
4	This will never end	.761
5	I am really scared	.669
10	I don't understand what is happening to me	.572
12	I will always be this way	.803
25	Something terrible will happen	.532

Factor 2 Physical Disaster (%Var.=10.5, Cum.%=37.0)		
Item #	Item	Factor Loading
1	I am going to die	.783
6	I am having a heart attack	.807
7	I am going to pass out	.765

Factor 3 Public Scrutiny (% Var.=9.0, Cum.%=45.9)		
Item #	Item	Factor Loading
8	I don't know what people will think	.754
11	People will think I am crazy	.464
16	I am going to act foolish	.699
21	I am going to babble or talk funny	.801
22	I will paralyzed by fear	.435

Factor 4 Loss of Body Control (%Var.=6.7, Cum.%=52.6)		
Item#	Item	Factor Loading
20	I am going to scream	.827
24	I will not be able to breathe	.567
25	Something terrible will happen	.622

Factor 5 Mental Fitness (%Var.=6.3, Cum.%=58.9)		
Item #	Item	Factor Loading
2	I am going insane	.439
11	People will think I am crazy	.552
17	I am going blind	.763
18	I will hurt someone	.706

Table 16 (continued)

Factor 6 Stroke (%Var.=5.0, Cum.%=63.9)		
Item#	Item	Factor Loading
19	I am going to have a stroke	.693
23	Something is really physically wrong with me	.752

Factor 7 Brain Tumor (%Var.=4.2, Cum.%=68.1)		
Item #	Item	Factor Loading
13	I am going to throw up	.901
14	I must have a brain tumor	.603

Factor 8 Claustrophobia (%Var.=4.0, Cum.%=72.2)		
Item#	Item	Factor Loading
9	I won't be able to get out of here	.422
15	I will choke to death	.841
24	I will not be able to breathe	.425

Table 17

Comparison of Factor Scores on the SAQ and the CAQ for Panic Disorder and Non-Panic Disorder

#	Factor	PD M	Non-PD M	df	t-value
Symptom Assessment Questionnaire					
1	Disorientation	10.84	8.12	65	2.95**
2	General Autonomic Arousal	13.10	11.03	66	2.15*
3	Stomach Distress	10.10	9.29	66	1.01
4	Paresthesias	4.92	3.83	66	2.55**
5	Chest Discomfort	6.54	4.77	66	3.01**
6	Nausea	2.66	2.00	66	1.76*
7	Unnamed	4.51	3.24	66	2.90**
8	Unnamed	6.22	5.24	66	1.89*
Cognition Assessment Questionnaire					
1	General Loss of Control	11.04	9.46	64	1.87*
2	Physical Disaster	4.42	3.25	65	2.79**
3	Public Scrutiny	5.79	5.80	64	-0.01
4	Loss of Body Control	4.66	3.67	64	1.93*
5	Mental Fitness	3.71	3.53	64	0.52
6	Stroke	2.29	2.11	64	0.71
7	Brain Tumor	2.00	2.02	64	-0.09
8	Claustrophobia	2.69	2.48	64	0.80

*$p < .05$
**$p < .01$

Additionally, t-tests between Panickers and Non-panickers were conducted for each factor score. Panickers scored higher on seven of the eight SAQ factors. The remaining SAQ factor (Stomach Distress Factor) did not differentiate between the two groups. Panickers scored higher than Non-panickers on four of the CAQ factors. The remaining four CAQ factors did not differentiate between the two groups. (See Table 18)

Table 18

Comparison of Factor Scores on the SAQ and the CAQ for Panickers and Non-Panickers

#	Factor	PA M	Non-PA M	df	t-value
Symptom Assessment Questionnaire					
1	Disorientation	10.64	7.77	69	3.14***
2	General Autonomic Arousal	12.99	10.98	71	2.14*
3	Stomach Distress	10.07	9.20	71	1.10
4	Paresthesias	4.91	3.92	71	1.93*
5	Chest Discomfort	6.49	4.89	71	2.51**
6	Nausea	2.61	1.83	71	2.13*
7	Unnamed	4.45	3.02	70	3.31***
8	Unnamed	6.07	5.08	71	1.94*
Cognition Assessment Questionnaire					
1	General Loss of Control	11.07	9.45	68	1.90*
2	Physical Disaster	4.35	3.32	70	2.31*
3	Public Scrutiny	5.78	5.56	68	0.40
4	Loss of Body Control	4.57	3.61	68	1.89*
5	Mental Fitness	3.78	3.34	68	1.23
6	Stroke	2.51	1.94	68	2.16*
7	Brain Tumor	2.03	1.91	68	0.60
8	Claustrophobia	2.72	2.46	68	1.04

*p < .05
**p < .01
***p < .001

DISCUSSION

Anxiety may be experienced in a variety of response modes (e.g., behavioral, physiological, cognitive). For example, the behavioral response of an anxious individual might be to avoid the anxiety-provoking situation. An anxious individual might experience increased muscle tension or autonomic arousal. Likewise, anxiety might be manifested by increased fear or worry. There is some evidence to suggest that PD individuals differ from individuals with other anxiety disorders in that they experience a greater increase in somatic symptoms and catastrophic cognitions (Barlow et al., 1985). Further, it has been suggested that PD individuals, as compared to other anxiety disordered individuals, experience greater global anxiety and depression (Hoehn-Saric, 1982). Both of these conclusions, however, were based on interviewer ratings. Conversely, in a study comparing scores on a number of anxiety and depression measures across anxiety diagnoses, Barlow et al. (1986) found that PDs and Agoraphobics endorsed no more somatic or cognitive anxiety and no more depression than the other diagnostic groups. There is only one validated self-report measure specifically developed to assess panic symptoms and cognitions (Chambless et al., 1984). This instrument,

however, has only been shown to discriminate individuals with panic from a non-patient sample.

The major goal of this study was to validate two recently developed instruments, the Symptom Assessment Questionnaire and the Cognitions Assessment Questionnaire. Validation of these two instruments was accomplished in two primary ways, comparing the relative scores for (1) subjects diagnosed as PD or Agoraphobic with Panic Attacks (PD Group) vs subjects with other anxiety diagnoses (Non-PD Group) and (2) subjects with panic attacks (Panickers) vs subjects without panic attacks (Non-panickers). Although the subject-to-item ratio is less than desirable for a validation study, the results of this study identified a subset of items which may be characteristic of panic attacks and which may warrant cross-validation research with a larger sample. Additionally, this study sought to determine whether PD subjects experienced greater pathology, as measured by the State-Trait Anxiety Inventory (Spielberger et al.,1983) and the Zung Self-rating Depression Scale (Zung, 1965). Further, this study also sought to explore the factor structure within the SAQ and the CAQ, and to explore whether the somatic and cognitive factors identified by this sample differentiated between PD subjects and Non-PD subjects and between Panickers and Non-panickers.

The current investigation compared the state-anxiety, trait-anxiety, and depression of PD subjects to Non-PD subjects and found the following: (1) Similar to Barlow's (1986) findings, the PD group did not score differently than the Non-PD Group on either of the anxiety measures; however, contrary to Barlow's findings, (2) the PD Group scored higher than the Non-PD Group on the depression measure. Panickers were compared to Non-panickers on the same measures. On these comparisons, the Panickers scored higher than the Non-Panickers on all three measures. The finding that the PD subjects scored no differently than the Non-PD Group on the anxiety measures was predicted. However, the finding that Panickers reported more state and trait anxiety than Non-panickers was not predicted. In fact this finding is particularly surprising, given the considerable overlap between the PD Group and the Panic Group. Perhaps the occurence of panic attacks within each of the other diagnostic categories subsumed in the Non-PD Group weakens the distinction between PD and Non-PD. Other research has shown PD subjects to experience more trait-anxiety than non-panickers (Norton & Rhodes, 1983). Chambless et al. (1984) found that agoraphobics with panic attacks reported more trait-anxiety than did a normal sample. That the Panickers in this study reported more state and trait anxiety than Non-panickers suggests that Panickers are more chronically anxious. The direction of

any possible causal relationship cannot be ascertained with these data. The finding that both the PD subjects and the Panickers reported more depression than did their respective comparison groups was not predicted. Again, these results do not support the findings of Barlow (1986). Chambless et al. (1984) found agoraphobics to be more depressed than a normal control group, but no comparison was made with another clinical sample. In a semi-structured interview, Raskin et al. (1982) found that PD subjects reported higher incidence of "depression with major functional impairment" (such as having to leave work and seek psychiatric treatment) than did GAD subjects. However, no depression scale was administered for comparison purposes. The findings of the current study indicate that PD subjects and Panickers were more depressed than their respective comparison groups. Such results may be reflecting the positive correlation between panic anxiety and depression (Chambless et al.,1984). Also, the anticipation of having another panic attack may be a demoralizing experience. Again, the direction of any possible causal relationships cannot be ascertained with these data.

Internal consistency measures indicated that both the SAQ and the CAQ are reliable instruments.

The total SAQ score did differentiate PD subjects from the combined group of all other anxiety disordered subjects

(Non-PD subjects). PD subjects scored higher, indicating that, as a group, they experienced more autonomic arousal during peak anxiety. Likewise, total score on the SAQ did differentiate between those subjects who had experienced panic attack (Panickers), regardless of diagnosis, from subjects who had never experienced a panic attack (Non-Panickers). Panickers achieved a higher score than Non-panickers, indicating that panickers have a stronger autonomic component in their peak anxiety response than do Non-panickers.

Total CAQ score did differentiate between the PD subjects and the rest of the anxiety disordered sample (Non-PD Group). The PD Group scored higher, suggesting that, as a group, they tend to engage in more catastrophic thinking than the Non-PD Group. Likewise, total CAQ score differentiated the subjects who had experienced at least one panic attack (Panickers) from those who had never experienced a panic attack (Non-Panickers). The Panickers scored higher than the Non-Panickers, suggesting that they experience more negative thoughts during periods of peak anxiety.

The total score differentials found in this study modestly support the findings of Barlow (1985), who compared the 12 DSM-III panic symptoms across six anxiety diagnoses. He found that, when differences existed, Agoraphobics with Panic Attacks, PDs, and

Obsessive/Compulsives tended to score slightly higher on symptom severity and on percent of symptoms reported. Additionally, these results modestly extend the work of Chambless et al.(1984), who found that questionnaires which assess autonomic symptoms and catastrophic cognitions differentiated Agoraphobics from normal subjects, in that the present study uses a clinical sample as a comparison group. Item analyses were conducted to identify the items which accounted for the differential total scores. While the sample size was inadequate for final validation of the SAQ and the CAQ, the present study represents a pilot effort which may be replicated and refined for further validation studies.

Factor analyses have been conducted by various investigators, on several anxiety questionnaires, leading to the identification of the multidimensional nature of anxiety. These various studies have identified a specific autonomic anxiety factor. However, the possibility exists that, within the cluster of autonomic nervous system symptoms, specific constellations exist such that individuals have "characteristic" anxiety attacks. No factor analyses have been conducted on questionnaires developed to assess panic attack symptoms. Several investigators have used ratings of the DSM-III panic symptoms to assess the phenomenon, but they have not conducted a factor analysis of the responses. Chambless et

al. (1984) developed a 17-item Body Sensations Questionnaire (BSQ) to assess panic attacks. Although it discriminated agoraphobics with panic attacks from a non-clinical comparison group, no factor analysis was performed on this instrument. Chambless et al.(1984) also developed a 14-item Agoraphobic Cognitions Questionnaire (ACQ), which distinguished between agoraphobics with panic attacks and normals. Factor analysis of the ACQ revealed two predominant factors: a loss of control factor and a physical consequence factor.

Both the SAQ and the CAQ were factor analyzed in order to provide a better understanding of what each questionnaire assesses. Given the limited subject-to-item ratio, the factor analyses should be considered preliminary and exploratory in nature. The results of these analyses indicated that somatic and cognitive factors can be found within the experience of panic. These preliminary results also suggested that some symptoms tend to occur together to form sub-constructs of the panic phenomenon.

Factor analysis of the SAQ using all subjects' responses yielded results similar to those of the factor analysis using only the responses of subjects who had experienced panic attack(s). The individual SAQ items represent sensations associated with autonomic arousal. As expected, a general autonomic arousal factor was identified as a salient factor within the SAQ. Additionally, the

factor analysis identified several distinct autonomic responses (e.g., parasthesias, nausea) and highlighted the distinct body systems (e.g., circulatory, respiratory, gastric) involved. The factor analysis supported and elaborated upon the somatic symptoms listed in DSM-III. For example, the factor analysis revealed specific sensations which subjects identify with derealization. Factor analysis identified a "Stomach Distress" factor in addition to a "Nausea" factor. And, more specifically, factor analysis indicated that when subjects endorse one "stomach" symptom, they tend to endorse the other "stomach" symptoms (i.e., sinking feeling in stomach, butterflies in stomach, and knot in stomach). Likewise, specific "chest" symptoms (i.e., pressure in chest, pain in chest, and tightness in chest) are generally endorsed together, along with shortness of breath and feeling immobilized by fear. Since factor scores increase the reliability over that of each individual item, factor scores were computed for each subject. Subsequently, t-tests were conducted between criterion groups. These analyses revealed that seven of the eight SAQ factors differentiated the PD Group from the Non-PD Group and the Panickers from the Non-panickers. The "Stomach Distress" factor was the one factor which did not differentiate these groups.

As with the SAQ, the two factor analyses of the CAQ were strikingly similar. DSM-III identifies fear of dying,

going crazy, or doing something uncontrolled as the one cognitive symptom of panic. The current analyses identified several factors which support, and expand upon, the DSM-III symptom. The most prominent factor identified was a general loss-of-control factor which represented a sense of powerlessness to control mental or physical status. Separate, distinct factors of fear of going insane, fear of death or physical harm, and fear of losing control of one's body were also identified. Additionally, fears concerning specific threats to physical health were identified (i.e., stroke and brain tumor). Interestingly, one of the most prominent factors identified in the present analyses represents a cognition not identified in the DSM-III panic symptoms, namely fear of public scrutiny. Public scrutiny is a concern generally attributed to social phobia. However, this was the second most prominent factor identified by panickers. Claustrophobia was also identified as a cognitive factor in both analyses. Again, factor scores were calculated for all subjects. Subsequently, t-tests were conducted which determined that only three of the eight CAQ factors differentiated the PD Group from the Non-PD Group. Only four of the eight CAQ factors differentiated Panickers from Non-panickers.

In summary, the current preliminary investigation identified autonomic and cognitive factors salient to panic attack. The symptoms listed in DSM-III were supported and

expanded upon. Also this investigation determined that the SAQ and the CAQ are reliable instruments. Further, this study determined that both questionnaires differentiated PD subjects from Non-PD subjects and Panickers from Non-panickers. However, based on the number of individual items and the number of factors which differentiated the comparison groups, the SAQ tends to be the better differentiator between the PD Group and the Non-PD Group and between the Panickers and the Non-panickers. Further, both questionnaires tended to make more distinctions between Panickers vs Non-panickers than between PD subjects vs Non-PD subjects. Given the pervasiveness of panic attacks in other anxiety diagnoses, this may be a significant advantage. The importance of panic attacks will be reflected in DSM-III-R (American Psychiatric Association, draft). In that revision, criteria for the PD diagnosis will be expanded to include individuals who have had as few as one panic attack followed by a period of at least a month of anticipatory fear of another attack. DSM-III-R recognizes the following subtypes of PD: (1) PD With Extensive Phobic Avoidance, also called agoraphobia; (2) PD With Limited Phobic Avoidance, which could include simple phobics and social phobics who have experienced panic attack(s); and (3) PD Without Phobic Avoidance, which could include GAD individuals who have had a panic attack and whose worry focuses on the fear of another panic attack.

Limitations of the Study

The present study has several limitations. First, although procedures were adopted to increase the probability of correct and consistent diagnoses, no specific reliability measure was taken to verify accuracy. Also, the number of subjects in the study were insufficient to conduct reliable factor analyses. However, the present study represents a pilot effort which may be replicated and refined in future validation studies. Finally, validation of the instruments was conducted in several phases, as the instruments themselves underwent modification. Thus, shortened versions of the instruments characterized the early part of the study, and longer versions the latter part. Whether this change in questionnaire length materially affected quality of response is indeterminable. However, there were no systematic differences in total scores on the items shared in common between subjects completing the shorter questionnaires and the subjects completing the expanded scales, providing some confidence in combining the two versions.

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APPENDIX A

Consent Form

Consent Form

Psychological Services Center

I, _____ freely and voluntarily consent to participate in a research program entitled, "Treatment of Panic Disorders," to be conducted by George A. Clum, Ph.D. The procedures to be followed have been explained to me and I understand them. They are as follows:

1. I understand that I will be interviewed by a graduate student in clinical psychology tc determine if I am appropriate for the study. I will be asked to complete several questionnaires, including a Panic Attack Scale, Anxiety Scale and Depression Scale. Assessment will take place at the Psychological Services Center or Derring Hall and will take two 2-hour sessions.
2. I understand that all information obtained from me will be held strictly confidential by the staff. Furthermore, in any scientific report of this project, there will be no way to identify me.
3. I understand that I may experience some discomfort when discussing conflict or stress situations.
4. I understand that I may withdraw my consent at any time without penalty. Further, I acknowledge that I have a duplicate signed copy of this form.

_____ _____ _____

Client's Signature Date Witness

_____ _____

Date Phone number:

# # # # # # # # #

Dr. George A. Clum, Project Director (Office 961-5701 or Home 951-1697)

Mr. Charles D. Waring, Chairperson, Institutional Review Board (961-5283)

Dr. Steven Zaccaro, Chairperson, Human Subjects Committee, Department of Psychology (961-7916

APPENDIX B

Anxiety Disordered Inventory Schedule

Name: _____

Address: _____

_____

Phone: (home) _____

(work) _____

Marital Status:

_____ Married

_____ Single

_____ Separated

_____ Divorced

_____ Widowed

_____ Other

Date of Birth: _____

Sex: _____

Date of Interview: _____

Interviewer: _____

Family Income: _____

Number of Dependents: _____

Fee for Interview: _____

Date of Marriage: _____

Previous marriages:

YES NO

Dates: _____

Children

Age	Sex	At home	When left
____	____	_____	_____
____	____	_____	_____
____	____	_____	_____
____	____	_____	_____

Occupation History:

Patient: _____ (present/date)

_____ (previous/date)

_____

_____

Spouse: _____ (present/date)

_____ (previous/date)

_____

_____

Education

Patient: _____

_____

Spouse: _____

_____

Religion: _____

The interviewer should begin with a brief introduction and explanation of the purpose of the interview and obtain a brief description of the presenting complaint.

In this section, a preliminary determination of the presence of phobic anxiety, panic attacks, and chronic tension and anxiety should be made.

I will be asking you a number of questions about different areas of your life. First, I would like to get a general idea of what sorts of problems you have had recently. What have they been?

AFTER BRIEF INQUIRY:

Now, I want to ask you more questions about some specific kinds of problems which may or may not apply to you. We have already talked about some of them generally, but now I would like to get more details.

PANIC DISORDER

1. a. ***Have you had times when you have felt a sudden rush of intense fear or anxiety or feeling of impending doom?***

Yes _____ No _____

****

If YES, or if there is any uncertainty about the existence of panic symptoms, or if patient reports panic symptoms in specific situations, continue inquiry. Otherwise, Skip to **GENERALIZED ANXIETY DISORDER.** (p. 8)

****

b. ***How long does it usually take for the rush of anxiety to peak?*** _____ minutes.

c. ***How long does the anxiety usually last?*** _____ minutes.

2. a. ***In what situation(s) have you had these feelings?***

_____

_____

If patient indicates that panic symptoms occur only in a specific situation: public speaking, heights, driving, etc., further inquiry is necessary to assess the presence of panics which occur while at home alone, upredictably in a variety of situations, or at unexpected times (e.g., not immediately upon exposure to a phobic situation).

b. ***When you are faced with*** [phobic situation], ***does the anxiety come on as soon as you enter it, or is it sometimes delayed, or unexpected? Have you had these feelings come "from out of the blue", while you are at home alone, or in situations where you did not expect them to occur?***

Unexpected times (not immediately on exposure to phobic stimulus) YES _____ NO _____

Unexpected Situations YES _____ NO _____

****

If inquiry reveals a history of panic attacks, (sudden rushes of intense fear or anxiety, at least some of which have been unexpected), or if there is any uncertainty, continue inquiry. Otherwise, Skip to **GENERALIZED ANXIETY DISORDER.** (p. 8)

****

Symptom Ratings

In this section rate symptoms only for anxiety attacks that occur unpredictably, in a variety of situations. Anxiety symptoms that are limited to a single stimulus (enclosed places or heights, social situations, obsessional content, etc.) should be rated in the appropriate section.

In some mixed cases, ratings might be completed in both this section and a later section.

A. Rate the severity of each symptom which is typical of the most recent attacks. It is extremely important that the interviewer help the patient decide if a specific symptom occurs every time or almost everytime the patient has an anxiety attack since diagnostic criteria are based on symptomatology for each typical attack — not a composite symptomatology across attacks.

B. If a symptom is experienced during only some attacks, i.e., it does not always occur during an attack, enclose the rating in parentheses, but do not include it in the symptom count for diagnostic criterion.

C. If the patient does not meet the symptom frequency criterion (4 out of 12) for the most recent period of attacks, go back and rate the symptom severity for the period in which the attacks were the most severe.

D. If the most recent attacks are also the worst attacks, indicate such and enter severity ratings under the "most recent" column only.

E. The following questions may be helpful when inquiring about symptoms:

1) ***During the most recent period of attacks, did you experience _____? How severe was it?*** If there is any doubt about whether the symptom is typical, ask: ***Did you experience this nearly every time you have an attack?***

2) ***When the attacks were the most severe, did you experience _____?***

F. If the patient reports 4 or more symptoms per typical panic attack, the interviewer should ask if the patient had attacks in which only one or two symptoms have been present (Question 6$_f$. If the patient answers "YES", the interviewer should go back and rate the severity of those symptoms under the column labeled "Limited Symptom Attacks".

3. ***When were the attacks the worst?*** FROM _____ TO _____

   a. ***How frequent were the attacks during this period?*** _____

   b. ***What made the attacks the "worst" you have had?***

   _____

4. ***When was your most recent attack?*** _____

5. Rate the severity of typical symptoms for each period on the following scale:

0	1	2	3	4
None	Mild	Moderate	Severe	Very Severe

Did you <u>usually</u> experience _____ during the attacks?

	Most Recent	Worst	Limited Symptom Attack
1. Dyspnea, difficulty breathing	_____	_____	_____
2. Palpitations	_____	_____	_____
3. Chest pain or discomfort	_____	_____	_____
4. Choking or smothering sensations	_____	_____	_____
5. Dizziness, vertigo or unsteady feelings	_____	_____	_____
6. Feelings of unreality	_____	_____	_____
7. Paresthesias-tingling or prickling sensations	_____	_____	_____
8. Hot or cold flashes	_____	_____	_____
9. Sweating	_____	_____	_____
10. Faintness	_____	_____	_____
11. Trembling or shaking	_____	_____	_____
* 12. a. Fear of dying OR b. Fear of going crazy or doing something uncontrolled	_____	_____	_____
(IIIR) 13. Nausea or abdominal distress	_____	_____	_____

If patient reports 4 or more symptoms per <u>typical</u> attack, ask:

6. ***Do you have periods*** [attacks, spells] ***when you have only one or two of these symptoms?***

   If YES, go back and rate severity of symptoms under <u>Limited Symptom</u> column.

* Diagnosis of Panic Disorder requires presence of 4 of first 12 symptoms. Only those symptoms which are present during <u>typical</u> attacks are included in count. For symptom 12, presence of either a. or b. counts as positive symptom. For DSM-III diagnoses, symptom 13 is not included.

7. a. ***During the time that the attacks were most frequent, how often did they occur?***

_____ per week for _____ weeks.

b. ***When was this period?***

FROM _____ TO _____

If the most frequent period of attacks is not in the past year:

c. ***During the past year has there been a time when you had at least 3 attacks in a 3 week period?***

NO _____

YES _____ FROM _____ TO _____

d. ***During the past month, how many panics have you had?***

_____ per week for _____ weeks.

(IIIR) If questioning has not established a period in which 3 attacks occurred within a three week period, check for a one month period characterized by fear of an attack.

e. ***Since your first attack, have you been afraid that you might have more attacks?***

YES _____ NO _____

How long? FROM _____ TO _____

8. ***Are there times when you awake from sleep in a panic?***

YES _____ NO _____

If YES, ***How often?*** _____

Do you have any specific thoughts before an attack?

_____

Do you have any specific thoughts during an attack?

_____

5. History

Tell me about your first panic:

a. ***When did it happen?*** Month _____ Year _____

b. ***Where were you?*** _____

c. ***Who were you with?*** _____

d. ***How did it start?*** _____

e. ***What did you do?*** _____

f. ***Were you under any type of stress?*** YES _____ NO _____

What was happening in your life at the time?

Specify _____

_____

Were you taking any type of drug? YES _____ NO _____

TYPE _____ DOSE/AMOUNT _____

Did you have any physical condition such as inner ear problems, hyperthyroidism, mitral valve prolapse, pregnancy, hypoglycemia, temporomandibular joint dysfunction?

YES _____ NO _____

Specify _____

g. ***Do you remember having similar feelings (maybe milder) any time before this?***

YES _____ NO_____

If YES, ***When?*** Month _____ Year _____

1) ***What was the feeling?*** _____

6. ***Have you had periods when you didn't have them, either because you could control them or you didn't worry about them?***

   If YES, continue. If NO, go to Question 7.

When From - To Month and Year	***What was going on in your life? How did you get over it?*** i.e., Did stressor let up or did person develop coping strategy?	***How did they come back?*** Changes in life circumstances? Stressor related?

7. ***How do you handle the panics now?***

   _____

   _____

   _____

   _____

   _____

8. Distress/Interference

   How much have the panics interfered with your life, job, traveling, activities, etc.?

   _____

   _____

   _____

   _____

Rate interference on 0-4 scale _____

0	1	2	3	4
None	Mild	Moderate	Severe	Very severe/ grossly disabling

GENERALIZED ANXIETY DISORDER

Questions in this section should be used to establish the presence of tension or anxiety with no apparent cause, or anxiety which is related to excessive worrying about family, job performance, finances, etc., and minor matters. This tension or anxiety is NOT part of, or anticipatory to panics or phobic anxiety.

Ask questions 1, 2, and 3.

1. a. ***What kinds of things do you worry about?***

_____

_____

_____

If patient identifies anxiety or tension which is anticipatory to panics or exposures to phobic situations, e.g., "I worry about having an attack; I worry whenever I know I will have to cross a bridge", as a major source of anxiety:

1) ***Are there things other than _____ which make you feel tense, anxious, or worried?***

YES _____ NO_____

If YES, ***What are they?***

_____

_____

2. ***Do you worry excessively about minor things?***

YES _____ NO _____

3. ***Do you feel tense or nervous or jittery for no apparent reason?***

YES _____ NO _____

****

If YES to Question 1 or 2 or 3, continue;
If NO, go to **HAMILTON SCALES** (optional) (p. 10) or **PTSD** (p. 22)

****

4. ***On an average day over the last month, what percent [how much] of the day do you feel tense, anxious, worried?***

_____%

5. ***Last time you experienced an increase in tension, anxiety, or worry, [aside from panics or phobic exposures] what was happening/what were you thinking?***

When _____

Situation _____

Thoughts _____

6. ***How long has the tension, anxiety, worry been a problem?***

From _____ To _____

Duration in months _____

7. ***How much does this interfere with your life, work, social activities, family, etc.***

Rate interference:

0	1	2	3	4
None	Mild	Moderate	Severe	Very severe/ grossly disabling

****

If Hamilton Scales are to be administered,
Go to next page.
If Hamilton Scales are not to be administered,
Skip to p. 20 to make GAD symptom ratings.

****

Generalized Anxiety Disorder Symptom Ratings

****

If Hamilton Scales have been administered, Skip to **PTSD** (p. 22)

****

If Hamilton Scales have not been administered, inquire briefly about each symptom and check those which apply. If Hamilton Scales have been administered, severity ratings can be based on Hamilton Anxiety items which are listed next to each category. (Use General rating)

Persistent symptoms (continuous for at least 1 month) [6 mo. for III-R] in 3 of the 4 categories.

Inquire about each symptom listed in each category.

1. ***During the past month*** [6 mo. for III-R] ***have you been bothered by*** _____ ***?***

   If YES, ***How often are you bothered by it; how severe is it?***

				Hamilton Anxiety Item
a. Muscular Tension				
"Jittery" or "jumpy" ____		Twitching		
Trembling or shakiness ____		(e.g., eyelid)	____	2, 7
Muscle tension, aches, or soreness ____		Restlessness	____	
		Fatigability	____	

0 / None — 1 / Mild — 2 / Moderate — 3 / Severe — 4 / Very severe/ grossly disabling

b. Autonomic Hyperactivity				
Sweating ____				
Palpitation or tachycardia ____		Upset stomach or diarrhea	____	7, 8, 9, 10, 12
Cold or clammy hands ____		Frequent urination	____	
Dry mouth ____		Trouble getting breath; lump in throat	____	
Flushing or pallor ____				
Dizziness or lightheadedness ____				

0 / None — 1 / Mild — 2 / Moderate — 3 / Severe — 4 / Very severe/ grossly disabling

Hamilton Anxiety Item

c. Vigilance, Scanning — 4, 5

Difficulty concentrating or mind going blank because of anxiety ____

Irritability or impatience ____

Trouble falling or staying asleep ____

0 — None
1 — Mild
2 — Moderate
3 — Severe
4 — Very severe/ grossly disabling

d. Apprehensive Expectation — 1

Worrying or fearful much of the time about things that might happen ____

0 — None
1 — Mild
2 — Moderate
3 — Severe
4 — Very severe/ grossly disabling

GO TO **PTSD** (p. 22)

POST TRAUMATIC STRESS DISORDER

1. ***Do you remember any extremely stressful, life threatening, or traumatic event such as serious physical injury, rape, assault, or combat which happened to you prior to your experiencing anxiety or the other problems you're having?***

YES _____ NO _____

****

If NO, Skip to **AGORAPHOBIA** (p. 25); if YES, continue.

****

What was the event? _____

When? _____

After it happened, did you experience such things as...Secondly, when did you experience that? Note under past or current.

a. Reexperiencing event: ***Having recurrent memories or dreams about it?***

CURRENT	PAST	ONE SYMPTOM REQUIRED FOR DIAGNOSIS
____	____	1) Recurrent and intrusive recollections
____	____	2) Recurrent dreams
____	____	3) Sudden acting or feeling as if event is recurring

b. Numbing of responsiveness or reduced involvement: ***Feeling numb, detached from people?***

CURRENT	PAST	ONE SYMPTOM REQUIRED FOR DIAGNOSIS
____	____	1) Markedly diminished interest in one or more significant activities
____	____	2) Feeling of detachment or estrangement from others
____	____	3) Constricted affect

c. Experiencing such things as: (that were not present before trauma:) ***Notice changes like:***

CURRENT	PAST	TWO SYMPTOMS REQUIRED FOR DIAGNOSIS
____	____	1) Hyperalert, exaggerated startle
____	____	2) Sleep disturbance

c. continued

CURRENT	PAST	TWO SYMPTOMS REQUIRED FOR DIAGNOSIS
____	____	3) Guilt about survival, or behavior for survival
____	____	4) Memory impairment, trouble concentrating
____	____	5) Avoiding acitivities which remind you of the event
____	____	6) Intensification of symptoms by events which symbolize or resemble event

2. ***Are you still experiencing some of these problems?***

If NO, ***When did they end?***

_____

If YES, ***Which ones?*** Check off symptoms above under CURRENT.
Note time period symptoms occurred.

_____

_____

_____

DIAGNOSIS requires "YES" to Question 1 above plus one symptom from Group 1 and Group 2, and 2 symptoms from Group 3.

ACUTE = onset within 6 months of stressor and duration less than 6 months

CHRONIC OR DELAYED = duration of 6 months or more and/or onset of symptoms at least 6 months after trauma

_____

If patient meets criteria for **PTSD**, rate anxiety symptoms during recollection of event:

_____

Symptoms

1. ***Do you experience the fear nearly every time you think about, remember, dream about _____?***
   YES ____ NO ____
2. ***When you do experience the fear, does it build up gradually, or does it come on suddenly?***
   GRADUALLY ____ SUDDENLY ____

   Do you feel the fear as soon as you encounter ____ or is the fear sometimes delayed? IMMEDIATE ____ DELAYED ____

   If DELAYED:

   a. ***Does the fear sometimes come on when you don't expect it?***
   YES ____ NO ____

1. Rate severity of symptoms.

0	1	2	3	4
None	Mild	Moderate	Severe	Very Severe

Do you experience ____ when you think about, remember, dream of ____?

Dyspnea, difficulty breathing	_____
Palpitations	_____
Chest Pain or discomfort	_____
Choking or smothering sensations	_____
Dizziness, vertigo, or unsteady feelings	_____
Feelings of unreality	_____
Paresthesias — tingling or prickling sensations	_____
Hot or cold flashes	_____
Sweating	_____
Faintness	_____
Trembling or shaking	_____
Fear of dying	_____
OR	
Fear of going crazy or doing something uncontrolled	_____
Nausea or abdominal distress	_____
Others _____	_____

AGORAPHOBIA

1. a. ***Do you feel panicky in any situations, or avoid them because you might be unable to leave in case you feel faint or panicky or ill?***

YES ____ NO ____

If NO, Skip to SIMPLE PHOBIA (p. 29)

Specify range of activity, e.g., time spent in situations, how often, distance from home and factors affecting ability to enter or stay. Specify range of activity when alone and when accompanied and write in spaces provided. Use scale below to rate fear and avoidance.

0	1	2	3	4
No avoidance or escape/no fear or anxiety	Occasional avoidance or escape/ mild fear	Moderate: may enter alone/ moderate fear	Severe: rarely alone; must be accompanied/ severe fear	Very severe: never enters even with safe person/very severe fear and panic

b. ***How much fear do you experience in these situations? How often do you avoid such situations? Does having someone with you make a difference?***

	RANGE OF ACTIVITY ALONE	RANGE OF ACTIVITY ACCOMPANIED	RATING FEAR	RATING AVOID
Driving				
Riding in car				
Grocery stores				
Mall				
Crowds				
Public trans.: Bus				
Plane				
Taxi				

	RANGE OF ACTIVITY ALONE	RANGE OF ACTIVITY ACCOMPANIED	RATING FEAR AVOID
Waiting in line			|
Walking (how far)			|
Elevators			|
Being at home			|
Public places: Movies			|
Restaurants			|
Theaters			|
Auditoriums			|
Church			|
Enclosed places: Tunnels			|
Small rooms			|
Open spaces: Parks			|
Squares			|
Work			|
Other			|

****

If no evidence of fear and avoidance of any of these situations is obtained,
Skip to **SIMPLE PHOBIA** (p. 29)

****

1. Note any special conditions, objects, rituals which patient uses to enable himself/herself to enter feared situations: such as carrying a bottle of beer or soda; carrying medication; special objects such as books, printed relaxation instructions, umbrellas, other objects; or avoiding certain foods, drinks.

   Are there any sorts of things you carry with you, or things you do just before going out which help you feel comfortable?

   _____

   _____

   What do you feel will happen to you if you are stuck in a situation that you commonly avoid? Heart attack, stroke, pass out, scream, go crazy, lose control, embarrass self, etc.

   _____

   _____

   What do you usually do when you have a panic attack or high anxiety? Escape, call for help, stick it out, never go anywhere that might create anxiety, etc.

   _____

d. ***Do you have fluctuations in where and how far you can go due to things like:*** specify and get example — specify if better or worse

Time of day	_____	Sickness/illness	_____
Day of week	_____	High stress	_____
Interpersonal conflict	_____	Other	_____

Do you have a "safe person"? _____ ***Who?*** _____

2. History and Course This information may overlap with information obtained under **PANIC DISORDER**. If it overlaps, note where information may be found.

   a. ***When did you first begin avoiding these situations?***

   _____

   b. ***Do you remember the first time you felt you couldn't go into*** _____ ***or had to get out?*** YES ___ NO ___ WHEN _____

   c. ***Where were you?*** _____

   d. ***Who were you with?*** _____

e. ***How did you feel?*** check for panic _____

_____

f. If PANIC: ***Had you had any panicky feelings prior to this?***

YES _____ NO _____ WHEN _____

g. ***Were you experiencing any life stresses at the time?***

_____

h. ***Have there been periods in your life since this first time when you could enter these situations without panic or in spite of it?***
CHECK for remission, exacerbations, and precipitants.

Period	***What was going on in life, how did you get over it?***	***What happened when it came back?***

If there have been remissions, precipitant of current episode:

i. ***How did the problem get started again?***

_____

_____

_____

j. Distress/Interference

How has the problem interfered with your life, job, family, activities, etc.?

Rate interference _____

0	1	2	3	4
None	Mild	Moderate	Severe	Very severe grossly disabling

SIMPLE PHOBIA

For each situation, make separate ratings for level of fear, and degree of avoidance using the following scale:

0	1	2	3	4
No fear/ never avoids	Mild fear/ rarely avoids	Moderate fear/ sometimes avoids	Severe fear/ often avoids	Very severe fear/always avoids

1. ***Do you fear and feel a need to avoid things such as:*** Record extent of avoidance on line next to each.

	FEAR	AVOID
Heights	____	____
Air travel	____	____
Certain animals	____	____
Small enclosed places	____	____
Blood and injury: self	____	____
others	____	____
Driving	____	____
Other	____	____

****

If no evidence is found for fear/avoidance, Skip to **SOCIAL PHOBIA** (p. 31)

****

For each significant phobia (of at least moderate severity) inquire:

a. ***What do you think of just before encountering/while you're in the situation? What do you think might happen?*** _____

b. ***How often do you encounter _____?*** _____

c. ***How often do you avoid _____?*** _____

d ***When did you first experience this fear?*** _____ mo. _____ year.

How do you think the fear started? _____

e. ***Since the fear started, has there been a time when you were not bothered by it?***

YES ____ NO ____ FROM _____ TO _____

f. ***How does the fear interfere with your life?***

Rate interference on 0-4 scale _____

Symptoms

1. ***Do you experience the fear nearly every time you encounter _____?***

   YES ____ NO ____

2. ***When you do experience the fear, does it build up gradually, or does it come on suddenly?*** GRADUALLY _____ SUDDENLY _____

   Do you feel the fear as soon as you encounter _____ or is the fear sometimes delayed? IMMEDIATE _____ DELAYED _____

   If DELAYED:

   a. ***Does the fear sometimes come on when you don't expect it?***
   YES _____ NO _____

1. Rate severity of symptoms during exposures to phobic situations.

0	1	2	3	4
None	Mild	Moderate	Severe	Very Severe

Do you experience _____ when you encounter [phobic situation]***?***

Dyspnea, difficulty breathing _____
Palpitations _____
Chest Pain or discomfort _____
Choking or smothering sensations _____
Dizziness, vertigo, or unsteady feelings _____
Feelings of unreality _____
Paresthesias — tingling or prickling sensations _____
Hot or cold flashes _____
Sweating _____
Faintness _____
Trembling or shaking _____
Fear of dying _____
OR
Fear of going crazy or doing something uncontrolled _____
Nausea or abdominal distress _____
Others _____ _____

SOCIAL PHOBIA

1. a. ***In social situations where you might be observed or evaluated by others do you feel fearful?*** YES NO

   b. ***Are you overly concerned that you may do and/or say something that might embarrass or humiliate yourself in front of others, or that others may think badly of you?*** YES NO

   c. ***Do you try to avoid these situations all together?*** YES NO

   d. ***or do you simply suffer through them?*** YES NO

2. ***I'm going to describe some situations of this type and ask you how you feel in each situation.***

FIND OUT HOW MUCH FEAR, DISCOMFORT, AND AVOIDANCE EXISTS FOR EACH SITUATION AND RATE ON THE 0-4 scale for fear and avoidance.

0	1	2	3	4
No fear/ never avoids	Mild fear/ rarely avoids	Moderate fear/ sometimes avoids	Severe fear/often avoids	Very severe/ always avoids

	FEAR	AVOID	COMMENTS
a. Parties			
b. Meetings			
c. Eating in public			
d. Using public restrooms			
e. Talking in front of a group/formal speaking			
f. Writing in public (signing checks, filling out forms)			
g. Dating situations			
h. Talking to persons in authority			
i. Being assertive, e.g.:			
1) Refusing unreasonable requests			
2) Asking others to change their behavior			
j. Other situations or activities made difficult by your fear/phobia			
1) _____			
2) _____			
3) _____			

If no evidence is found for fear/avoidance
Skip to **OBSESSIVE-COMPULSIVE DISORDER** (p.35)

3. ***How difficult is it for you to initiate a conversation in a social setting?*** Rate impairment on 0-4 scale. _____

   a. ***Does the sex of the person make a difference?*** YES NO
      Which is easier? MALE ____ FEMALE ____

   b. ***Does the age of the person make a difference?*** YES NO
      Which is easier? OLDER ____ YOUNGER ____

   c. ***Does the attractiveness of the person make a difference?*** YES NO
      Which is easier? ATTRACTIVE____ LESS ATTRACTIVE____

   d. ***Does the marital status of the person make a difference?*** YES NO
      Which is easier? MARRIED ____ UNMARRIED ____

4. ***Is it easier or harder for you to maintain a conversation than it is to start one?***
   EASIER ____ HARDER ____ NO DIFFERENCE ____

If no difference, Skip to Question 5.

   a. ***Does the sex of the person make a difference?*** YES NO
      Which is easier? MALE ____ FEMALE ____

   b. ***Does the age of the person make a difference?*** YES NO
      Which is easier? OLDER ____ YOUNGER ____

   c. ***Does the attractiveness of the person make a difference?*** YES NO
      Which is easier? ATTRACTIVE____ LESS ATTRACTIVE____

   d. ***Does the marital status of the person make a difference*** YES NO
      Which is easier? MARRIED ____ UNMARRIED ____

5. ***What do you anticipate before going into social situations? What do you think about before/during?***

_____

_____

6. ***In social situations does it make a difference if people are:*** Note which is easier:

FRIENDS ____ STRANGERS ____ NO DIFFERENCE ____

LARGE GROUP ____ SMALL GROUP ____ NO DIFFERENCE ____

INFORMAL (e.g., parties) ____ FORMAL (e.g., meetings) ____ NO DIFFERENCE ____

7. a. ***When did you first experience this fear?***

_____ month _____ year

b. ***What was the situation?*** _____

c. ***Has there been a time since then when you were not bothered by these fears?***

YES ____ NO ____

If YES, ***When?*** From _____ TO _____

8. a. ***Has your current job or educational attainment been influenced by these fears?***

YES ____ NO ____

If YES, ***How?*** _____

Rate impairment on 0-4 scale. _____

b. ***If your social fears were gone, what jobs would you consider?***

_____

_____

Symptoms

1. ***Do you experience the fear nearly every time you encounter _____?***

YES ____ NO ____

2. ***When you do experience the fear, does it build up gradually, or does it come on suddenly?***

GRADUALLY _____ SUDDENLY _____

Do you feel the fear as soon as you encounter _____ or is the fear sometimes delayed?

IMMEDIATELY ____ DELAYED ____

If DELAYED:

a. ***Does the fear sometimes come on when you don't expect it?***

YES ____ NO ____

1. Rate severity of symptoms during exposures to phobic situations.

0	1	2	3	4
None	Mild	Moderate	Severe	Very severe

Do you experience ____ when you encounter [phobic situation]***?***

Dyspnea, difficulty breathing _____
Palpitations _____
Chest pain or discomfort _____
Choking or smothering sensations _____
Dizziness, vertigo, or unsteady feelings _____
Feelings of unreality _____
Paresthesias — tingling or prickling sensations _____
Hot or cold flashes _____
Sweating _____
Faintness _____
Trembling or shaking _____
Fear of dying _____
OR
Fear of going crazy or doing something uncontrolled _____
Nausea or abdominal distress _____
Others (e.g., blushing, facial tics, unsteady voice) _____

OBSESSIVE-COMPULSIVE DISORDER

1. a. ***Are you bothered by thoughts or images that keep recurring to you that are unreasonable or nonsensical that you can't stop from coming into your mind? This is not the same as worrying about things that might happen. I mean things like repetitive thoughts about hurting or poisoning someone, or shouting obscenities in public, or horrible images such as your family involved in a car accident.***

YES ____ NO ____

****

If NO, Skip to 2a.

****

Content: Thought _____ Image _____ Urge _____

Resistance ***Do you fight these thoughts/how do you get rid of them? What happens when you try to resist?***

_____

Distress/Social Problems, Work Problems ***How much are you bothered by these thoughts/how do they affect your life?***

_____

_____

2. a. ***Have you had to repeat some act over and over again that doesn't seem to make sense and that you don't want to do?*** e.g., ***washing something over and over again, or counting things, or checking something repeatedly?***

YES ____ NO ____

Content: _____ _____

****

If NO to 1a. and 2a.,
Skip to **MAJOR DEPRESSIVE EPISODE** (p. 38)

****

Resistance ***Do you try to resist doing them or did you resist intitially?***

_____

How anxious do you feel/what do you think of if you can't or don't carry out these acts?

_____

Distress/Social Problems, Work Problems ***How much are you bothered/what problems does this create at work, home, socially?***

_____

APPENDIX C

Cognitions Assessment Questionnaire

THOUGHTS ACCOMPANYING ATTACKS OR EPISODES OF ANXIETY

1	2	3	4
Not at all	Some	Quite a lot	Totally Dominates

Instructions:

Frightening thoughts often accompany, precede, or follow panic attacks or other episodes of extreme anxiety. Using the above scale, rate how much each of the following thoughts is currently likely to preoccupy you before, during or after a panic attack or other episode of anxiety. Remember to rate each thought in terms of its occurrence before, during and after current episodes of anxiety. If you have not had an anxiety episode in the last month you would rate each of the thoughts "1".

* *

						Before	During	After
1.	I am going to die.	1	2	3	4	___	___	___
2.	I am going insane.	1	2	3	4	___	___	___
3.	I am losing control.	1	2	3	4	___	___	___
4.	This will never end.	1	2	3	4	___	___	___
5.	I am really scared.	1	2	3	4	___	___	___
6.	I am having a heart attack.	1	2	3	4	___	___	___
7.	I am going to pass out.	1	2	3	4	___	___	___
8.	I don't know what people will think.	1	2	3	4	___	___	___
9.	I won't be able to get out of here.	1	2	3	4	___	___	___
10.	I don't understand what is happening to me.	1	2	3	4	___	___	___
11.	People will think I am crazy.	1	2	3	4	___	___	___
12.	I will always be this way.	1	2	3	4	___	___	___

13. I am going to throw up.	1	2	3	4	___	___	___
14. I must have a brain tumor.	1	2	3	4	___	___	___
15. I will choke to death.	1	2	3	4	___	___	___
16. I am going to act foolish.	1	2	3	4	___	___	___
17. I am going blind.	1	2	3	4	___	___	___
18. I will hurt someone.	1	2	3	4	___	___	___
19. I am going to have a stroke.	1	2	3	4	___	___	___
20. I am going to scream.	1	2	3	4	___	___	___
21. I am going to babble or talk funny.	1	2	3	4	___	___	___
22. I will be paralyzed by fear.	1	2	3	4	___	___	___
23. Something is really physically wrong with me.	1	2	3	4	___	___	___
24. I will not be able to breathe.	1	2	3	4	___	___	___
25. Something terrible will happen.	1	2	3	4	___	___	___

APPENDIX D

Symptom Assessment Questionnaire

Instructions: The symptoms listed below are frequently experienced during extreme anxiety. Complete this questionnaire for the last time you felt extreme anxiety
Using the scale below for your most recent anxiety peak, circle the number corresponding to the length of time you experienced any of the symptoms listed.

		Do Not Experience This	Fleeting (1 sec.-1 min.)	Briefly (1 min.-10 mins.)	Moderately (10 mins.-1 hr)	Quite Long (1 hr.-1 day)	Protracted Period (24 hrs.-2days or more)
1.	Heart beats rapidly	1	2	3	4	5	6
2.	Pain in chest	1	2	3	4	5	6
3.	Heart pounding in chest	1	2	3	4	5	6
4.	Difficulty swallowing (lump in throat)	1	2	3	4	5	6
5.	Feeling of suffocation	1	2	3	4	5	6
6.	Choking sensation	1	2	3	4	5	6
7.	Hands or feet tingle	1	2	3	4	5	6
8.	Face feels hot	1	2	3	4	5	6
9.	Sweating	1	2	3	4	5	6
10.	Trembling or shaking	1	2	3	4	5	6
11.	Hands or body trembling or shaking (outside)	1	2	3	4	5	6
12.	Hands or feet feel numb	1	2	3	4	5	6
13.	Feeling that you are not really you or disconnected from body	1	2	3	4	5	6
14.	Feeling that things around you are unreal-- as if in a dream.	1	2	3	4	5	6
15.	Vomiting (not induced)	1	2	3	4	5	6
16.	Nausea	1	2	3	4	5	6
17.	Breathing rapidly (as if unable to catch breath)	1	2	3	4	5	6
18.	Hands or feet feel cold	1	2	3	4	5	6
19.	Mouth dry	1	2	3	4	5	6
20.	Sinking feeling in stomach	1	2	3	4	5	6

		Do Not Experience This	Fleeting (1 sec.-1 min.)	Briefly (1 min.-10 mins.)	Moderately (10 mins.-1 hr.)	Quite Long (1 hr.-1 day)	Protracted Period (24 hrs.-2 days or more)
21.	Nerves feel "wired"	1	2	3	4	5	6
22.	Physically immobilized	1	2	3	4	5	6
23.	Vision becomes blurred or distorted	1	2	3	4	5	6
24.	Pressure in chest	1	2	3	4	5	6
25.	Numbness in body other than hands or feet	1	2	3	4	5	6
26.	Shortness of breath	1	2	3	4	5	6
27.	Dizziness	1	2	3	4	5	6
28.	Feeling faint	1	2	3	4	5	6
29.	Butterflies in stomach	1	2	3	4	5	6
30.	Knot in stomach	1	2	3	4	5	6
31.	Tightness in chest	1	2	3	4	5	6
32.	Wobbly or rubber legs	1	2	3	4	5	6
33.	Disorientation or confused	1	2	3	4	5	6
34.	Cold clamminess	1	2	3	4	5	6
35.	Sensitivity to loud noises	1	2	3	4	5	6
36.	Ears ringing	1	2	3	4	5	6
37.	Other (please list) _____						

How many times have you experienced these attacks: In the past week _____
In the past month _____
Since the beginning of treatment _____
In the past year _____

APPENDIX E

Stait-Trait Anxiety Inventory, Form Y

SELF-EVALUATION QUESTIONNAIRE
STAI Y-1

Name:_____ Age:_____ Sex:_____

DIRECTIONS: A number of statements which people have used to describe themselves are given below. Read each statement and then circle the number to the right of the statement to indicate how you feel right now, that is, at this moment. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best:

	Not at all	Somewhat	Moderately so	Very much so
1. I feel calm	1	2	3	4
2. I feel secure	1	2	3	4
3. I am tense	1	2	3	4
4. I feel strained	1	2	3	4
5. I feel at ease	1	2	3	4
6. I feel upset	1	2	3	4
7. I am presently worrying over possible misfortune	1	2	3	4
8. I feel satisfied	1	2	3	4
9. I feel frightened	1	2	3	4
10. I feel comfortable	1	2	3	4
11. I feel self-confident	1	2	3	4
12. I feel nervous	1	2	3	4
13. I am jittery	1	2	3	4
14. I feel indecisive	1	2	3	4
15. I am relaxed	1	2	3	4
16. I feel content	1	2	3	4
17. I am worried	1	2	3	4
18. I feel confused	1	2	3	4
19. I feel steady	1	2	3	4
20. I feel pleasant	1	2	3	4

SELF-EVALUATION QUESTIONNAIRE
STAI Y-2

Name:_____ Age:_____ Sex:_____

DIRECTIONS: A number of statements which people have used to describe themselves are given below. Reach each statement and then circle the number to the right of each statement to indicate how you generally feel. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe how you generally feel.

		Almost Never	Sometimes	Often	Almost Always
21.	I feel pleasant	1	2	3	4
22.	I feel nervous and restless	1	2	3	4
23.	I feel satisfied with myself	1	2	3	4
24.	I wish I could be as happy as others seem to be	1	2	3	4
25.	I feel like a failure	1	2	3	4
26.	I feel rested	1	2	3	4
27.	I am "calm, cool, and collected"	1	2	3	4
28.	I feel that difficulties are piling up so that I cannot overcome them	1	2	3	4
29.	I worry too much over something that really doesn't matter	1	2	3	4
30.	I am happy	1	2	3	4
31.	I have disturbing thoughts	1	2	3	4
32.	I lack self-confidence	1	2	3	4
33.	I feel secure	1	2	3	4
34.	I make discisions easily	1	2	3	4
35.	I feel blue	1	2	3	4
36.	I am content	1	2	3	4
37.	Some unimportant thought runs through my mind and bothers me	1	2	3	4

		Almost Never	Sometimes	Often	Almost Always
38.	I take disappointments so keenly that I can't put them out of my mind	1	2	3	4
39.	I am a steady person	1	2	3	4
40.	I get in a state of tension or turmoil as I think over my recent concerns and interests	1	2	3	4

APPENDIX F

Zung Self-rating Depression Scale

ZUNG DEPRESSION INVENTORY

Instructions:

For each statement listed below, place an "X" in the column which best indicates the degree to which the statement describes you during the last month.

NAME: _____

AGE: _____ SEX: _____ DATE: _____

	None OR a Little Of the Time	Some the Time	Good Part of the Time	Most OR all of the Time
I feel down-hearted, blue and sad				
Morning is when I feel best				
I have crying spells or feel like it				
I have trouble sleeping through the night				
I eat as much as I used to				
I enjoy looking at, talking to and being with attractive men/women				
I notice that I am losing weight				
I have trouble with constipation				
My heart beats faster than usual				
I get tired for no reason				
My mind is as clear as it used to be				
I find it easy to do the things I used to do				
I am restless and can't keep still				
I feel hopeful about the future				
I am more irritable than usual				
I find it easy to make decisions				
I feel that I am useful and needed				
My life is pretty full				
I feel that others would be better off I were dead				
I still enjoy the things I used to do				

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