AN INVESTIGATION OF THE DIFFERENTIAL EFFECTIVENESS
OF BIBLIOTHERAPY AND SELF-REGULATORY TREATMENTS
IN INDIVIDUALS WITH PANIC ATTACKS

by

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(ABSTRACT)

Several studies targeting individuals with panic disorder have demonstrated that Cognitive-behavioral treatment (CBT) is the psychological treatment of choice. CBT interventions that include exposure to panic symptoms, along with cognitive restructuring, breathing retraining, and relaxation training are more effective than any of these components administered alone. Past studies have demonstrated the efficacy of imparting the above CBT components in the form of bibliotherapy (BT) in the treatment of panic disorder. The present study examined the differential effectiveness of BT and self-regulatory treatments in the treatment of individuals with panic attacks. The present study examined a much purer version of a self-help bibliotherapy intervention by reducing therapist contact much more than prior studies had done. In addition, the present study examined the additive effectiveness of self-regulatory components--self-monitoring (SM) and feedback (FB)--to BT. Sixty-three participants who experienced a DSM-IV full-blown or limited symptom attack in the two weeks prior to beginning the Self-help Project were assigned via stratified randomization to 1 of 4 experimental conditions: 1) BT alone (N = 17); 2) BT plus DML (daily self-monitoring plus feedback; (N = 15); 3) DML (N = 13); or 4) WL (N = 18). The present study utilized a pre- post treatment assessment design with pre-treatment assessment occurring two weeks prior to treatment and post-treatment assessment occurring approximately two weeks after the end of treatment. Treatment was 8 weeks in duration. Participants were sent pre-treatment assessment and treatment materials via mail in order to minimize therapist contact. At post-treatment
assessment, participants were assessed either in-person or via mail/phone depending upon their geographic location. It was expected that participants in all treatment conditions would experience less full-blown panic attacks, limited-symptom attacks, avoidance, fear of having a panic attack, panic cognitions, panic symptoms, state anxiety and depressive symptoms and increases in coping strategies and coping self-efficacy than participants in the WL condition. Furthermore, it was expected that participants in the BT plus DML condition would experience more change on the above dependent variables than participants in the BT alone and DML alone conditions from pre- to post-treatment assessment. A 4 X 2 repeated measures MANOVA revealed no Condition by Time interaction or Condition effect. However, a main effect for time across conditions emerged. Univariate tests revealed significant reductions from pre- to post-treatment assessment for full blown panic attacks, avoidance, fear of having a panic attack, panic cognitions, panic symptoms, depressive symptoms, and state anxiety. In addition, an exploratory 4 X 2 repeated measures ANOVA revealed a Condition by Time interaction with participants in the BT and BT plus DML conditions increasing in coping self-efficacy from pre- to post-treatment. Partial correlations revealed that change in coping self-efficacy was related to lower scores on the Panic Attack Symptoms Questionnaire (PASQ) at post-treatment assessment for participants in the BT and BT plus DML conditions. The results of this study are discussed in terms of motivational issues and the effectiveness of such “pure” self-help interventions with individuals experiencing panic attacks.
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Several studies targeting individuals with panic disorder have demonstrated that cognitive-behavioral techniques that address multiple components of the panic experience are the treatment of choice (Barlow, Craske, Cerney, & Klosko, 1989; Borden, Clum, & Salmon, 1991; Brown, Hertz, & Barlow 1992; Fava, Grandi, Canestrari, & Grasso, 1991; Klosko, Barlow, Tassini, & Cerney, 1990; Mattick, Andrews, Hadzi-Pavlovic, & Christensen, 1990; Ost, 1988; Salkovskis, Jones, & Clark, 1986; Watkins, Sturgis, & Clum, 1988). Interventions that include exposure to panic symptoms, along with cognitive restructuring, breathing retraining, and relaxation training, are more effective than any of these techniques administered alone (Clum, 1989; Michelson & Marchione, 1991). This multidimensional approach to treating panic disorder has been endorsed by the National Institutes of Health (NIH, 1991) with the recommendation that researchers develop methods of increasing its availability. One such method of increasing the availability of this multidimensional approach to treating panic would be through the use of self-help interventions, such as bibliotherapy.

Bibliotherapy has become very popular in the past decade, and is used increasingly by consumers and mental health professionals (Riordan & Wilson, 1989; Rosen, 1987; Smith & Burkhalter, 1987; Warner, 1991). Eighty-eight percent of psychologists, 59% of psychiatrists, and 86% of internists frequently recommend self-help books as supplements to traditional treatment (Starker, 1986).

There are several advantages to using bibliotherapy approaches compared to more traditional interventions. First, bibliotherapy can make behavioral technology more accessible to the lay consumer. Second, bibliotherapy can convey a therapeutic protocol in a cost-effective manner (Altman, Flora, Fortman, & Farquhar, 1987; Daughton, Kass, Fix, Ahrens, & Rennard, 1986; Tedeschi, Blanchard, Andrasik, Jurish, Neff, & Arena, 1984; Williamson, Monguiot, Jarell, Cohen, Pratt, & Blouin, 1984). Third, bibliotherapy may be the treatment of choice for individuals who feel stigmatized by treatment and desire greater autonomy and control over the procedures used. For
example, Cummings, Emont, Jaen, and Sciandra (1988) reported that bibliotherapy appeared to be the treatment of choice for the majority of smokers who quit without any formal cessation program.

Self-monitoring and feedback are regularly used as part of behavioral treatment approaches, including bibliotherapy. They are frequently used as a means of monitoring treatment progress. Furthermore, self-monitoring and feedback are essential components of self-regulatory strategies (Bandura, 1991; Kanfer & Scheff, 1988). However, a systematic examination of the effectiveness of self-monitoring and feedback alone and in combination with bibliotherapy in the treatment of adults experiencing panic attacks has not been undertaken. Thus, the present study attempted to remedy this situation as well as address the limitations of prior studies in this area.

A number of studies have demonstrated the effectiveness of bibliotherapy and self-directed manuals in the treatment of agoraphobia (e.g., Ghosh & Marks, 1987; Jannoun, Munby, Catalan, & Gelder, 1980; Mathews, Gelder, & Johnston, 1981; Mathews, Teasdale, Munby, Johnston, & Shaw, 1977), specific phobia (e.g., Baker, Cohen, & Saunders, 1973; Cotler, 1970; Donner & Guerney, 1969; Ghosh, Marks, & Carr, 1988; Glasgow & Rosen, 1982; Kahn & Baker, 1968; Krapfl, 1968; Morris & Thomas, 1973; Rosen, Glasgow, & Barrera, 1976), irrational fears (e.g., Phillips, Johnson, & Geyer, 1972), speech anxiety (e.g., Marshall, Presse, & Andrews, 1976), social anxiety (e.g., Schelver & Gutsch, 1983), and cardiac neurosis (e.g., Johansson & Ost, 1981). A limitation of some of the above studies (e.g., Ghosh & Marks, 1987; Ghosh et al., 1988; Jannoun et al., 1980; Mathews et al., 1977, 1981) is that they did not contain a control group and other factors, such as the passage of time or being in a treatment study, could have been responsible for the results.

Gould and Clum (1993) provided further evidence for the efficacy of self-help interventions in their meta-analysis examining treatment effectiveness across a number of studies. They examined the strength of self-help interventions across nine different clinical targets encompassed within 40 studies. These clinical targets included habit disturbances (e.g., smoking, drinking, overeating), fear reduction, parent/child training, diet/exercise, headaches, social skills training, depression, and
insomnia. Gould and Clum (1993) found a large mean effect size of 1.11 for fear reduction. This was the second largest effect size among all clinical target areas. In addition, they reported a strong mean effect size of 0.64 for bibliotherapy interventions across all clinical target areas. These findings suggest the potential success of bibliotherapy interventions in general and for anxiety sufferers in particular. Until recently, however, there had been no controlled studies examining the effectiveness of bibliotherapy interventions with panic disordered individuals.

Several recent studies have examined the efficacy of bibliotherapy (BT) in the treatment of individuals with panic disorder. Gould, Clum, and Shapiro (1993) randomly assigned 31 panic disordered individuals with mild agoraphobia to one of three experimental conditions: 1) BT using the self-help book Coping with Panic (Clum, 1990); 2) Individual therapy using Guided Imaginal Coping (ITGIC); and 3) Wait-list control (WL). Minimal therapist contact was involved. In general, participants in the BT group were significantly more improved than participants in WL and not significantly different from those in ITGIC. This finding was obtained on outcome measures of panic cognitions, self-efficacy, and coping with panic attacks. Furthermore, BT was significantly different from WL on measures of panic symptoms, thoughts during a panic attack, and likelihood of having a panic attack, while ITGIC did not differ from WL on these measures. Clinical improvement in this study was defined as being panic free at the end of treatment (Clum, 1989). Eight of 11 (73%) participants in the BT condition, six of nine (67%) participants in the ITGIC condition, and four of 11 (36%) participants in the WL condition were panic free at the end of treatment. However, there were no differences between the three groups on the "bottom-line" variables of changes in number of panic attacks and total severity of each attack. One limitation of this study was that the treatment phase was only four weeks long, a treatment period insufficient to produce differences between groups on the above "bottom-line" variables.

with mild to moderate agoraphobia were matched on level of avoidance and then randomly assigned to either a self-help or wait-list condition. The intervention was four weeks long and was followed by an eight week post-treatment phase and follow-up measures at the end of this phase. Results suggested that from pre-treatment to follow-up, participants in the self-help condition improved significantly on 11 of the 12 dependent measures while participants in the WL condition did not. In addition, self-help participants were significantly more improved than WL participants at follow-up with regard to agoraphobic avoidance, coping with panic attacks, self-efficacy for mild, moderate and severe attacks, and for two "bottom-line" measures of distress: frequency of panic attacks and total severity of each attack. Clinical outcome measures also supported the effectiveness of the self-help intervention. Specifically, more than two-thirds of the individuals receiving self-help met Clum's (1989) criteria for clinical improvement, while only one-quarter of WL participants met these criteria.

Lidren, Watkins, Gould, Clum, Asterino, and Tulloch (1994) extended the previous findings of the effectiveness of BT in the treatment of panic disorder by lengthening the treatment to 8 weeks and the follow-up period to 6 months. Thirty-six panic-disordered participants were randomly assigned to one of three experimental conditions: 1) BT; 2) group therapy (GT); and 3) WL. Results indicated that both the BT and GT treatments were more effective than the WL condition in reducing frequency of panic attacks, severity of physical symptoms, catastrophic cognitions, agoraphobic avoidance, and depression. Furthermore, BT and GT treatments were more effective in increasing self-efficacy than the WL condition. BT and GT maintained their effects throughout 3- and 6-month follow-up periods and produced clinically significant levels of change among the majority of treated participants.

It appears from the results of Gould et al. (1993), Gould and Clum (1995) and Lidren et al. (1994), that effective treatment can be imparted through the self-help book *Coping with Panic* (Clum, 1990). *Coping with Panic* (Clum, 1990) contains the multidimensional components of
treatment that have been identified to be effective in the treatment of panic disorder. That is, panic disordered individuals are provided information and instructions on breathing retraining, relaxation, use of coping strategies, and exposure strategies as well as the importance of catastrophic thoughts and strategies for counteracting them. The present study utilized the previously successful *Coping with Panic* bibliotherapy intervention but eliminated the therapist contact which characterized those previous studies. In addition, the present study utilized a design which permitted an examination of the unique contribution of self-regulatory components independent of the bibliotherapy intervention.

Various self-regulatory components are present in BT interventions. For example, the BT interventions in Gould et al. (1993), Gould and Clum (1995) and Lidren et al. (1994) contained the self-regulatory components of SM and feedback (FB). However, their use was not emphasized nor was their effect as a treatment alone evaluated. Making these self-regulatory components explicit aspects of treatment may serve to enhance the effectiveness of bibliotherapy. To date, however, no test of this possible effect has been conducted.

Self-regulation refers to those processes, internal and/or transactional, that enable an individual to guide his/her goal-directed activities over time and across changing circumstances or contexts. Self-regulatory processes are naturally initiated when routinized activity is impeded or when goal-directedness is otherwise made salient (i.e., the failure of habitual action patterns) (Karoly, 1993). However, self-regulatory processes are also initiated through the prompting of others as in treatment programs for individuals seeking to change some problem behavior. For example, SM of various aspects of panic attacks (e.g., frequency, cognitions, symptoms) may be initiated and adhered to by making SM an explicit component of treatment.

construct in both Bandura's and Kanfer's theories of self-regulation. The self-regulatory process is assumed to have motivational properties because it provides an end state for behaviors that attain expected reinforcement (Kanfer & Scheff, 1988). Since motivation is an inferred construct, it can not be measured directly. Steers and Porter (1991) reviewed numerous definitions for motivation and noted three common factors across all three definitions—factors which energize behavior, direct behavior, and/or maintain behavior. Curtin (1994) commented that such a definition allows for the measurement of behavior as a dependent variable in experiments which manipulate motivational variables. Self-regulatory and motivational variables include SM, FB and self-efficacy. These components will now be briefly discussed and their relationship to anxiety, and more specifically panic, examined.

In both Bandura's and Kanfer's theories of self-regulation, SM is the first stage of self-regulation, with self-evaluation (SE) and self-reinforcement (SR) constituting the second and third stages, respectively. Bandura and Kanfer view SM as providing an individual with the information needed to establish realistic goals and for evaluating his/her progress toward those goals. Furthermore, SM allows an individual to direct his/her behavior (Bandura, 1991; Kanfer & Scheff, 1988).

SM refers to an individual noticing and recording the occurrence of his or her own target behavior (Bornstein, Hamilton, & Bornstein, 1986; Herbert & Nelson-Gray, 1993). It has been viewed as the cornerstone of behavioral assessment and has been used for treatment as well. SM has been shown to be reactive in that using SM has generally resulted in increasing positively evaluated behaviors and in reducing negatively evaluated behaviors (Broden, Hall, & Mitts, 1971; Cavior & Marabotto, 1976; Kazdin, 1974a; Nelson, Lipinski, & Black, 1976; Sieck & McFall, 1976).

Self-monitoring has been used with a variety of anxiety disorders, including individuals with panic (Barlow et al., 1994; Gould, 1993; Gould et al., 1993; Lidren et al., 1994), generalized anxiety disorder (Barlow et al., 1984), obsessive-compulsive disorder (Foa, Steketee, Grayson, Turner, & Latimer, 1984), dental phobia (Thrash, Marr, & Boone, 1982), agoraphobia (Arrow, Taylor, Agras, &
Telch, 1985; Emmelkamp, 1974; Taylor, 1985) and social phobia (Twentyman & McFall, 1975). SM has also been used with nonclinical populations, such as nonclinical panickers (Norton, Cox, & Malan, 1992).

In a recent meta-analysis examining the effectiveness of self-regulatory components in the treatment of adult problem behaviors (e.g., anxiety, depression, habit disturbances, and health), Febraro and Clum (in press) found support for the effectiveness of self-regulatory interventions. Specifically, a significant overall mean effect size of .29 was found for SM. When SM was combined with other interventions (e.g., SM plus FB) the mean effect size increased to .42. The effect of SM alone in the treatment of agoraphobia resulted in a mean effect size of .79. However, in these two studies (Emmelkamp, 1974; Taylor, 1985) SM was conducted on exposure to fearful and/or avoided situations, likely confounding SM with exposure.

SM has been incorporated into the few studies examining the efficacy of BT with panic disordered individuals. Gould et al. (1993) and Gould and Clum (1995) included SM as part of the weekly measures in their respective studies. However, SM was limited in that participants only monitored frequency of panic attacks (e.g., number of attacks), number of limited-symptom attacks, and average severity of each attack.

SM in Gould et al. (1993) and Gould and Clum (1995) consisted of monitoring outcome measures as opposed to coping or process measures. The effectiveness of SM may vary depending on whether outcome or process measures are monitored. SM coping behavior as opposed to behavior targeted for change (e.g., frequency of panic attacks) may increase one's self-awareness. Furthermore, when monitoring coping behavior an individual may become more cognizant of his/her goals and how to achieve his/her goals (Febraro & Clum, 1995). Febraro and Clum (in press) found a significant effect size for SM used as a coping measure (.83) and a non-significant effect size for SM used as a dependent measure (.19), a difference that approached significance (z = 1.35, p < .09). Finally, the additive effectiveness of SM to the BT condition was

In Lidren et al. (1994), panic disordered participants in the BT condition completed a weekly practice record indicating amount of time spent engaging in specific coping techniques as well as time spent exposing themselves to anxiety-provoking situations, as instructed by Coping with Panic. Once again, SM was limited and the additive effectiveness of SM to the BT condition was not assessed.

The three studies discussed above (Gould et al., 1993; Gould & Clum, 1995; Lidren et al., 1994) did not provide participants with explicit expectancy for SM's success. Previous research in which SM expectancy has been manipulated has found that providing positive expectancy to participants increased the reactive effects of SM (Kazdin, 1974b; Nelson et al., 1975). In addition, Febraro and Clum (in press) found that the effect size for studies employing explicit experimenter expectancy for SM's success was significantly greater (.64) than the effect size (.06) for studies providing no expectancy for SM's success. Thus, provision of expectancy for SM's success may impact panickers motivation.

Feedback is a second self-regulatory intervention likely to have an impact on panic. Bandura (1986) notes that FB serves two functions: 1) it provides information regarding goal-related performance; and 2) it serves as a sign of progress which can affect motivation through self-evaluative mechanisms. Self-administered FB through graphing may provide panickers with information on how they are progressing in reducing and coping with their panic attacks. Previous studies (Gould et al., 1994; Gould & Clum, 1995; Lidren et al., 1994) using BT with panic disordered individuals did not include explicit FB of any kind. Providing such feedback is expected to further enhance the effectiveness of BT. In addition to examining the effects of the above interventions on panic and its sequelae, of additional interest was identifying process variables which may mediate improvement.

Evidence that self-efficacy, a process variable, may mediate clinical improvement in self-help
interventions comes from several studies. First, Gould et al. (1993) found that changes in self-efficacy were significantly greater for participants receiving BT than for those in a WL condition. Second, Strecher, Becker, Kirsch, and Eraker (1985) found that smokers who did best in a minimal contact intervention were those reporting high perceived expectations of efficacy. Finally, Mahalik and Kivlighan (1988) reported that high generalized self-efficacy and internal locus of control were correlated highly with other measures of treatment success for depressed outpatients using a self-help approach.

Gould and Clum (1995) argue that increased self-efficacy may influence panic disordered individuals in the following way. Individuals with panic disorder may feel unable to control their attacks or to cope effectively with their somatic experiences. They often focus on their inability to control what is happening to them and develop catastrophic and escalating thoughts regarding their physical symptoms (e.g., acceleration in heart rate denotes an impending heart attack). The belief that an individual can manage these physical symptoms may serve to prevent or ameliorate these catastrophic thoughts.

Present Study

The present study investigated the differential effectiveness of BT alone, BT combined with explicit SM and explicit FB, and explicit SM and explicit FB alone, all compared to a WL control, in the treatment of adults experiencing DSM-IV defined full-blown panic attacks or limited symptom attacks who may or may not meet DSM-IV criteria for panic disorder. The above treatment interventions targeted coping strategies, frequency of full-blown and limited symptom attacks, fear of having a panic attack, panic symptoms, panic cognitions, avoidance, level of self-efficacy, state anxiety, and depressive symptoms. Depressive symptoms were targeted in the present study due to the comorbidity between panic disorder and depression (Barlow, 1988). The following between condition hypotheses were tested in the present study:
**Between-Condition Hypotheses:**

1. Participants in the BT condition will demonstrate greater change than participants in the WL condition on measures of self-efficacy, state anxiety, avoidance, fear of having a panic attack, number of coping strategies utilized, number of full blown panic attacks, number of limited symptom attacks, number of panic symptoms, number of panic cognitions, and number of depressive symptoms.

2. Participants in the SM plus FB condition will demonstrate greater change than participants in the WL condition on measures of self-efficacy, state anxiety, avoidance, fear of having a panic attack, number of coping strategies utilized, number of full blown panic attacks, number of limited symptom attacks, number of panic symptoms, number of panic cognitions, and number of depressive symptoms.

3. Participants in the BT plus SM plus FB condition will demonstrate greater change than participants in the WL condition on measures of self-efficacy, state anxiety, avoidance, fear of having a panic attack, number of coping strategies utilized, number of full blown panic attacks, number of limited symptom attacks, number of panic symptoms, number of panic cognitions, and number of depressive symptoms.

4. Participants in the BT plus SM plus FB condition will demonstrate greater change than participants in the BT condition on measures of self-efficacy, state anxiety, avoidance, fear of having a panic attack, number of coping strategies utilized, number of full blown panic attacks, number of limited symptom attacks, number of panic symptoms, number of panic cognitions, and number of depressive symptoms.

5. Participants in the BT plus SM plus FB condition will demonstrate greater change than participants in the SM plus FB condition on measures of self-efficacy, state anxiety, avoidance, fear of having a panic attack, number of coping strategies utilized, number of full blown panic attacks, number of limited symptom attacks, number of panic symptoms, number of panic cognitions, and
number of depressive symptoms.

In addition to the above hypotheses, the relationship between change in coping self-efficacy as a predictor of improvement on the dependent measures was examined.

**Method**

**Participants**

Participants for this study continued from Roodman's (1995) study investigating the therapeutic effects of providing assessment and feedback to individuals with panic attacks. Participants were recruited from the Virginia Tech community (i.e., undergraduates, graduate students, faculty, staff), Blacksburg, VA and New River Valley areas, the general population at large in the state of Virginia, southern West Virginia, and the greater Greensboro, N.C. and greater Pittsburgh, PA metropolitan areas via various forms of advertising (see Appendix A), including flyers, media advertisement, newspaper articles, advertisements in social venues, apartment newsletters, and through community groups whose focus was anxiety issues. Regardless of the form of advertising, the information contained in the advertisement was always the same. A total of 98 participants were recruited and assigned via stratified randomization to each of the four conditions. Stratified assignment was utilized to ensure that an equal number of participants from each condition in Phase 1 were assigned to each condition in Phase 2. Of these 98 participants, 63 completed the study, 31 dropped-out for various known or unknown reasons [e.g., no longer interested (N = 11), felt project was taking too long (N = 5), moved to another location and did not want to continue with project (N = 2) unknown (N = 13], and 4 were removed from the study due to either beginning or changing anti-anxiety/anti-depressant medications during treatment (N = 2), beginning therapy during treatment (N = 1) or experiencing heart problems (N = 1). Participants removed from the study continued in the study but were simply removed from data analyses. The geographical distribution of the 63 participants completing the study is presented in Table 1.
Participants were at least 18 years of age and had experienced at least one DSM-IV (American Psychiatric Association, 1994) defined full-blown or limited symptom attack within the two week period prior to beginning Phase 1 of the Self-Help Project. Therefore, participants with panic attacks who did not meet criteria for panic disorder as well as participants who did meet criteria for panic disorder were included in the present study. Individuals were excluded if they reported having been diagnosed by a physician with any of the following: seizure disorder, kidney disease, stroke, schizophrenia, organic brain syndrome, emphysema or heart problems. Only one individual was excluded for experiencing heart problems. In addition, participants who were alcohol or substance dependent or had any type of psychotic disorder were also excluded from data analyses. Only one individual was excluded for substance dependence at pre-treatment. The presence of any of these exclusionary criteria was assessed at pre-treatment by a short questionnaire included within the informed consent form which instructed participants not to complete study materials if they had been diagnosed with any of the exclusion conditions (see Appendix B). Participants diagnosed by a physician with either myocardial infarction or chronic hypertension were included provided their condition was stable, they were under medical care and agreed to contact their physician if they experienced difficulties related to their diagnosis. Participants who were presently taking medication for anxiety or depression were allowed to participate provided they were stabilized on the medication and dosage for at least four weeks and continued to experience full-blown or limited symptom attacks prior to beginning Phase 1 of the Self-Help Project. Demographic and diagnostic characteristics of the sample are provided in Tables 2 and 3, respectively.
Design

The design was a 4 (Condition: 1) BT only versus 2) BT plus SM plus FB versus 3) SM plus FB versus 4) WL control) X 2 (Time: Pretreatment versus Posttreatment) mixed-model factorial design. Condition was a between subjects factor and time was a within subjects factor.

Materials

Interview Instruments

The Anxiety Disorders Schedule for DSM-IV (ADIS-IV; Brown, Di Nardo & Barlow, 1994a): The ADIS-IV is a structured interview which assesses for the presence of current anxiety disorders, as well as disorders with a high comorbidity rate with anxiety, such as mood, somatoform, and substance abuse disorders, utilizing DSM-IV criteria. This interview was administered at posttreatment by the principal investigator. Only the Panic Disorder, Agoraphobia, Alcohol Abuse/Dependence and Substance Abuse/Dependence sections of the ADIS-IV were administered retrospectively for the presence of disorders prior to beginning the Self-Help Project. For example, question 1a, which assesses for the presence of panic attacks, was asked as follows: "Prior to beginning the Self-Help Project, did you have times when you felt a sudden rush of intense fear or discomfort?". A retrospective version of the panic disorder section is presented in Appendix C. An advanced graduate clinician conducted reliability on a randomly selected pool of 11 interviews. The interrater reliability as determined by kappa (k) (Cohen, 1960) was computed resulting in the following kappas for diagnostic categories: Panic Disorder with Agoraphobia (k = 1.00), Panic Disorder without Agoraphobia (k = 1.00), Agoraphobia without panic (k = 1.00), Alcohol Abuse (k = 1.00), Alcohol Dependence (k = 1.00), Substance Abuse (k = 1.00), and Substance Dependence (k = 1.00). At this time there are no published studies on the psychometric properties of the ADIS-IV.
However, good reliability has been demonstrated for the majority of disorders covered by previous editions of the ADIS (Di Nardo, O'Brien, Barlow, Waddell, & Blanchard, 1983 cited in Brown et al., 1994b). Di Nardo, Moras, Barlow, Rapee, and Brown (1993) assessed the reliability of current anxiety disorder diagnoses made by two diagnosticians utilizing the ADIS-R to conduct independent interviews. They reported excellent reliability for current principal diagnoses of simple phobia, social phobia, and obsessive-compulsive disorder (k = .79 to .82), good reliability for panic disorder with agoraphobia (mild), panic disorder with agoraphobia (moderate), and major depression (k = .60 to .71), and fair reliability for generalized anxiety disorder, panic disorder, panic disorder with agoraphobia (severe), and posttraumatic stress disorder (k = .43 to .57). The authors noted that neither the interval between interviews nor the presence of a mood disorder affected the reliability estimates (Di Nardo et al., 1993).

**Structured Clinical Interview for DSM-III-R, Non-Patient Edition (SCID-NP; Spitzer, Williams, Gibbon, & First, 1992):** The SCID-NP is a semistructured interview for making major Axis I diagnoses with individuals who are not identified as psychiatric patients (e.g., community studies). In the proposed study, only the psychotic disorders section of the SCID-NP was administered. Although the ADIS-IV contains a psychosis section, it is not as comprehensive as the SCID-NP’s psychotic disorders section. The psychotic disorders section was administered retrospectively at post-treatment for the presence of psychotic disorders prior to beginning the Self-Help Project. For example, the first question in the psychotic disorders section was asked as follows: "Prior to your beginning the Self-Help Project, did it ever seem that people were talking about you or taking special notice of you?". The psychotic disorders section has been demonstrated to have good reliability (Spitzer et al., 1987; Spitzer et al., 1992). The intrarater reliability was obtained for the psychotic disorders section (k = 1.00).

**Self-report Instruments**

**Comprehensive Panic Profile (CPP; Clum et al., 1995):** The CPP (see Appendix D) is a
composite measure created to evaluate seven aspects related to symptoms and outcome for panic. The CPP is comprised of seven distinct measures some of which served as process and outcome measures in the present study. The measures comprising the CPP are described separately below.

1. Frequency of Panic Attacks (FPA): Frequency of panic attacks assessed retrospectively has been used as a standard dependent measure in treatment outcome studies (Barlow et al., 1989; Gould et al., 1993). The FPA asks participants to quantify the number of full and limited-symptom panic attacks occurring in the past two weeks. It specifies the criteria for a full blown attack stating that "...you must have experienced a sudden unexpected increase in anxiety with at least four of the following symptoms occurring at the same time" and then proceeds to list the 13 symptoms specified in DSM-IV. The number of limited symptom attacks were defined as above with only one to three symptoms present.

2. Panic Attack Symptoms Questionnaire (PASQ: Clum, Broyles, Borden, Watkins, & Hayes, 1990): The PASQ is a 36-item questionnaire which assesses the severity of symptoms during a typical recent panic attack. Participants are asked to rate each of 36 symptoms on a 0 to 4 scale where 0 indicates the symptom is not experienced during a typical attack, 1 indicates that it is experienced fleetingly (1 to 60 seconds), 2 indicates that it is experienced briefly (1 to 10 minutes), 3 indicates moderate duration (10 to 60 minutes) and 4 indicates that it is experienced persistently (1 to 24 hours). A total PASQ score is obtained by summing the 36 items. Research has demonstrated that duration of panic symptoms is a valid measure of severity (Clum et al., 1990). The PASQ has good internal consistency (alpha = 0.88) and has differentiated between anxiety disordered individuals with and without panic attacks (Clum et al., 1990). In the present study, the PASQ had good internal consistency (alpha = .93). In addition, discriminant function analyses have demonstrated that the PASQ contributes uniquely to the differentiation of anxious individuals who panic from anxious individuals who do not (Clum et al., 1990).

3. Panic Attack Cognitions Questionnaire (PACQ; Clum et al., 1990): The
PACQ assesses the degree of preoccupation with 25 typical cognitions that occur during a panic attack. Participants are asked to rate their level of preoccupation with each thought on a 0 (not at all) to 3 (totally dominates my thoughts) scale. A total PACQ score is obtained by summing the 25 items. This scale was composed from items generated from the DSM-III-R (APA, 1987) description of panic attacks, from ideation reported in the anxiety literature, and from interviews with subjects. The PACQ has good internal consistency (alpha = 0.88) and has been demonstrated to be a valid measure with discriminant function analyses indicating that the PACQ contributes uniquely to differentiating individuals with and without panic attacks (Clum et al., 1990). In the present study, the PACQ had good internal consistency (alpha = .93).

4. Fear of Having a Panic Attack (FHPA): The FHPA asks participants to rate the level of anticipatory fear associated with 15 commonly experienced symptoms or thoughts such as “having my heart race”, “thinking I’m about to lose control”, or “having difficulty breathing”. A total score is calculated by summing the scores of the 15 items. Participants are instructed to rate how much they are afraid of each item when they are not currently experiencing a panic attack using a 0 (am not afraid) to 4 (extremely afraid) scale. The FHPA was adapted from the Anxiety Sensitivity Index (ASI; Reiss, Peterson, Gursky, & McNally, 1986); however, both the item wording, response scale, and instructions have been modified to better reflect the concept of “fear of fear” (Chambless, Caputo, Gallagher, & Bright, 1984). The FHPA is based on the construct of anxiety sensitivity which suggests that anxious individuals are particularly sensitive to anxiety or fear because of beliefs they have that this anxiety causes illness, embarrassment or additional anxiety (Reiss et al., 1986). The ASI was found to have adequate test/retest reliability (r = .75). In addition, 13 of the 16 items of the ASI loaded on one factor indicating that the items are interrelated and that the ASI reliably measures a coherent factor. In the present study, the FHPA had good internal consistency (alpha = .86).

5. Avoidance Questionnaire (AQ): The AQ is a 22-item inventory designed to
determine the level of avoidance of 22 places and situations such as "elevators", "eating in a restaurant" and "being at home alone". The AQ asks respondents to rate the degree to which they avoid or escape the situation using a five point scale ranging from 0 (never avoid or escape) to 4 (always avoid or escape). A total score is calculated by summing the scores of the 22 items. This inventory is adapted from the Mobility Inventory for Agoraphobia (MI; Chambless, Caputo, Jasin, Gracely, & Williams, 1985) which is a 27-item inventory that assesses avoidance of certain places and situations when subjects are alone or accompanied by another person. The MI has been found to be stable, internally consistent, sensitive to change with treatment, and possesses concurrent and construct validity (Chambless et al., 1985). The AQ has been adapted to better reflect the situations and places panickers report avoiding the most. Nine items from the MI have been deleted and five items added in addition to rewording some of the existing items to better reflect the current word usage (e.g., department stores has been changed to shopping malls). In the present study, the AQ had adequate internal consistency (alpha = .75).

6. Coping Strategies Questionnaire (CSQ): The CSQ is a 27-item inventory that measures the frequency of use of coping strategies such as "relaxing your muscles", "getting some fresh air", and "thinking of relaxing images" on a 5 point scale ranging from 0 (do not use) to 4 (always use). A total score is calculated by summing the scores of the 27 items. The CSQ is an adapted version of the Coping Questionnaire (CQ; Borden, Clum, Broyles, & Watkins, 1988) which included both positive and negative coping strategies. The CSQ is intended to assist participants in attaining a better understanding of possible coping strategies that they themselves might employ. Therefore, negative coping strategies (e.g., inflict pain/injure myself, drink alcohol/take street drugs) of the CQ were deleted because of negative correlations between these items and total scale scores. The CQ has been demonstrated to have adequate internal consistency (alpha = 0.77) and a Spearman-Brown coefficient of .78. In addition, previous validation has demonstrated that the CQ reliably differentiates panic and anxious from nonpanic subjects (Borden et al., 1988). In the
present study, the CSQ had good internal consistency (alpha = 0.91). The CSQ is considered to be both a process and outcome measure as it was expected that there would be group differences on the measure as well as that change on the CSQ would predict posttreatment adjustment on other dependent measures.

7. Confidence in Coping Strategies Questionnaire (CCS): The CCS, a measure of coping self-efficacy, is a 10-item questionnaire adapted from the 11-item Panic Self-Efficacy Questionnaire (Cium, 1990) that asks respondents to rate the degree of confidence in their ability to cope with a particular situation (e.g., "being in a situation where you’ve had a panic attack") by employing the coping strategies they currently use. Items are rated on a nine point Likert-like scale with anchor points of 1 (not at all confident), 5 (moderately confident) and 9 (totally confident). A total score is calculated by summing the scores of the 10 items. This scale has been shown to be sensitive to the changes in panic-disordered participants that occur during treatment (Borden et al., 1991) with differences being evident between treated participants and wait-list controls at midtreatment for a four week treatment period. In the present study, the CCS had good internal consistency (alpha = .89). The CCS is considered to be both a process and outcome measure as it was expected that there would be group differences on the measure as well as that change on the CCS would predict posttreatment adjustment on other dependent measures.

Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961): The BDI (see Appendix E) is a 21-item measure designed to assess depression and its behavioral and cognitive manifestations. Individuals rate statements concerning their depression on a 0 to 3 scale with total scores ranging from 0 to 63. A total score is calculated by summing the scores of the 21 items. The BDI has been demonstrated to have good reliability and validity (Beck, 1967; Beck et al., 1961; Beck, Steer, & Garbin, 1988; Oliver & Simmons, 1984). This measure was included in the present study as panic sufferers are known to experience depressive symptoms (Barlow, 1988). For the purposes of the present study, item 9, which assesses suicidal thoughts, was
deleted in accordance with the Virginia Polytechnic Institute & State University 's Institutional Review Board's recommendation, thus resulting in a 20-item measure.

**State-Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1977):** The STAI (see Appendix F) is a 40-item questionnaire comprised of two scales, each of 20 items. Items are rated on a 0 to 4 scale. The A-State scale, items 1-20, assesses a transitory state of apprehension and elevated autonomic nervous system activity which is expected to vary over time and context. The A-Trait scale, items 21-40, on the other hand, assesses the relatively stable construct of anxiety proneness, or the tendency to react to threatening situations with elevated anxiety. Scores range from 20 to 80 for each scale. This measure is included in the present study as panickers, specifically those not meeting criteria for panic disorder, have been found to score higher on measures of state anxiety relative to nonpanickers (Norton et al., 1992).

**Daily Monitoring and Feedback Measures**

**Daily Monitoring Log (DML; Clum, Febbraro, Roodman, Wright, Campe, & Graves, 1995):** The DML is a SM system developed for this study. The DML asks participants to monitor on a daily basis behaviors associated with panic attacks in five areas: 1) frequency of panic attacks, both full-blown and limited symptom attacks; 2) anticipatory anxiety; 3) exposure to situations avoided; 4) coping strategies; and 5) confidence in coping. Participants in the BT plus SM plus FB (i.e., BT plus DML) and SM plus FB (i.e., DML) conditions monitored the above areas during the treatment phase (8 weeks in duration). In addition, participants in the above treatment conditions tracked their progress by graphing their performance in the above five areas on a weekly basis. Graphing of behaviors served as the feedback intervention. The DML substantially enhanced the monitoring and graphing encouraged in the book *Coping with Panic*. Specifically, the book only provided a daily monitoring form for panic attacks and a graph for tracking frequency of panic attacks on a weekly basis. However, in addition to monitoring and graphing of frequency of panic attacks, the DML encouraged daily monitoring and weekly graphing of other important aspects
of the panic process, including anticipatory anxiety, exposure to situations avoided, coping strategies, and confidence in coping. A sample of the DML is presented in Appendix G.

Combining explicit SM and FB in the form of the DML was hypothesized to be an effective treatment strategy in and of itself. Three active treatment processes were expected to be operative in this intervention: 1) expectations that using the DML would produce improvement were included, an intervention previously demonstrated to enhance SM and produce improved functioning; 2) monitoring coping strategies (e.g., relaxation, challenging your thoughts) and then graphing the amount of time spent practicing these coping strategies was expected to increase awareness of these strategies and frequency of their use, especially for individuals who understand what the strategies entail. This process was also expected to produce increased exposure to feared situations; and 3) monitoring and graphing panic attacks and associated features was expected to increase motivation and self-efficacy by providing feedback that change was occurring via the aforementioned increased use of coping and self-exposure.

Procedure

The present study constituted Phase 2, the treatment phase, of a three phase Self-Help Project. Phase 1 (Roodman, 1995) investigated the effects of assessment and feedback with individuals experiencing panic attacks while Phase 3 is investigating the effectiveness of a maintenance program for individuals completing Phase 2. In Phase 1, participants were randomly assigned to one of four conditions: 1) Assessment only; 2) Assessment with Mailed Feedback; 3) Assessment with Face-to-Face Feedback; or 4) No Assessment, No Feedback (i.e., WL control). Participants in the assessment only condition were asked to complete the CPP at pre-treatment assessment and the CPP as well as other dependent measures at post-treatment assessment. Participants in the Assessment with Mailed Feedback and Assessment with Face-to-Face Feedback conditions completed the above measures during the same assessment periods but were also provided with computerized feedback based upon their responses on the CPP. In the computerized feedback,
participants were compared to other panickers. Upon completion of Phase 1, participants in the Assessment only and No Assessment, No Feedback conditions were also provided with computerized feedback based upon their responses on the CPP. This was done for ethical purposes as well as to expose all participants to the same information prior to entering treatment, Phase 2.

**Pre-treatment Assessment, Treatment and Post-treatment Assessment**

**Pre-treatment Assessment**

Participants in the present study were assessed at two time periods: pre-treatment and post-treatment. At pre-treatment assessment, which also constituted the post-treatment assessment of Phase 1 for participants in the Assessment with Mailed Feedback and Assessment with Face-to-Face Feedback conditions, participants were sent via mail two copies of an informed consent form, explicit instructions (see Appendix H) explaining this phase of the Self-help Project as well as the CPP, BDI, and STAI. These measures served as the dependent measures. Embedded within the informed consent form were screening questions. There was no contact with researchers at pre-treatment assessment. If the pre-treatment assessment measures were not received by the experimenter within 7 days of their mailing, participants were contacted by telephone to ascertain if measures were received. If they were not received, measures were promptly re-sent.

Participants continued from Phase 1. To ensure that the necessary proposed sample size (N = 100) was obtained, participants were also recruited from throughout the state of Virginia, southern West Virginia as well as the greater Greensboro, N.C. and Pittsburgh, PA metropolitan areas. All participants completed Phase 1 prior to participating in Phase 2. Inclusion criteria for the present study were that participants must be at least 18 years of age and had experienced a DSM-IV defined full-blown or limited symptom attack in the two week period prior to beginning Phase 1 of the Self-Help Project as reported on the FPA measure of the CPP. Participants were excluded if they possessed the medical or psychological problems previously specified. Upon receipt of the
informed consent form and pre-treatment assessment measures, participants meeting the above inclusion criteria were assigned via stratified randomization to one of the following experimental conditions: 1) BT alone (N = 17); 2) BT plus DML (N = 15); 3) DML alone (N = 13); or 4) WL control (N = 18). Stratified assignment was utilized in order to ensure as much as possible that an equal number of participants from each condition in Phase 1 were assigned to each condition in the present study. The distribution of participants from each condition in Phase 1 into each condition in the present study, Phase 2, is presented in Table 4.

Insert Table 4 about here

The appropriate treatment materials were then sent to participants via mail with brief written instructions in order to minimize therapist contact and any reactivity resulting from therapist contact. Treatment was considered to have begun upon the researcher receiving a self-addressed, stamped postcard indicating that participants had received treatment materials. If the self-addressed, stamped postcard was not received by the experimenter within 7 days of treatment materials' mailing, participants were contacted by telephone to ascertain if treatment materials were received. If they were not received, treatment materials were promptly re-sent. The treatment phase was 8 weeks in duration. Treatment conditions will now be described.

Treatment Conditions

**BT only**: The self-help book used was *Coping with Panic* (Clum, 1990). This book has been used effectively as a treatment intervention with panic disordered individuals (Gould & Clum, 1995; Gould et al., 1993; Lidren et al., 1994). *Coping with Panic* was written to be utilized with or without therapist assistance. It focuses on the following: 1) educating individuals about the etiology and nature of panic disorder; 2) teaching individuals a variety of cognitive and behavioral strategies that include relaxation, cognitive restructuring, breathing retraining, and exposure; and 3) advising
individuals on how to implement the above cognitive and behavioral strategies. Specific cognitive strategies include exploring faulty logic, reconsidering attributions, exploring alternatives, decatastrophizing by hypothesis testing, and enlisting social support for adaptive coping. Finally, *Coping with Panic* provides individuals with advice on how to implement coping strategies as well as homework assignments to encourage active practice of these techniques.

Participants were sent *Coping with Panic* upon receipt of the pre-treatment assessment materials. Participants were contacted by telephone at the end of the 8 week treatment period and scheduled for either an in-person or mail/telephone post-treatment assessment depending upon their geographic location. Post-treatment assessment occurred approximately two weeks after the end of treatment. Compliance criteria for reading *Coping with Panic* were defined as being able to successfully answer at least 70% of the questions about principles discussed in the book.

Participants were provided with the instructions presented in Appendix I.

**BT plus DML:** Participants in this condition were sent *Coping with Panic* (Clum, 1990) along with the DML, both of which have been previously described, upon receipt of the pre-treatment assessment materials. Participants used *Coping with Panic* and the DML for the 8 week treatment period. Participants were contacted by telephone at the end of the 8 week treatment period and scheduled for either an in-person or mail/telephone post-treatment assessment depending upon their geographic location. The post-treatment assessment occurred approximately 2 weeks after the end of treatment. Compliance criteria for using the DML was defined as monitoring various aspects of the panic experience for at least 5 of the 8 weeks of the intervention. Participants were provided with the instructions presented in Appendix J.

**DML only:** Participants in this condition were sent the DML, which has been previously described, upon receipt of the pre-treatment assessment materials. Participants used the DML for the 8 week treatment period. Participants were contacted by telephone at the end of the 8 week treatment period and scheduled for either an in-person or mail/telephone post-treatment
assessment depending upon their geographic location. The post-treatment assessment occurred approximately two weeks after the end of treatment. Participants were provided with the instructions presented in Appendix K.

**WL**: Participants in this condition were sent instructions (see Appendix L) informing them that they would be contacted by telephone in 8 weeks to schedule either an in-person or mail/telephone post-treatment assessment depending upon their geographic location. The post-treatment assessment occurred approximately two weeks after the end of treatment.

**Posttreatment Assessment**

Depending upon participants’ geographic location, post-treatment assessment occurred either in-person or via mail/telephone.

**In-Person Post-treatment Assessment**

In-person post-treatment assessment occurred approximately two weeks after the end of treatment. All participants assessed in-person first completed the CPP, STAI, and BDI. Participants in the active treatment conditions also completed a treatment credibility questionnaire (see Appendix M) to assess subjective efficacy of treatment conditions. In addition, participants in the BT and BT plus DML conditions completed a treatment compliance questionnaire (see Appendix N) assessing their compliance in reading *Coping with Panic* (Clum, 1990) as well as their knowledge of key concepts presented in the book. Finally, participants in conditions involving the DML (i.e., BT plus DML, DML only) completed a questionnaire assessing the usefulness of the DML (see Appendix O). Participants were then administered the Panic Disorder, Agoraphobia, Alcohol Abuse/Dependence and Substance Abuse/Dependence sections of the ADIS-IV and psychotic disorders section of the SCID-NP by the principal investigator who was supervised by a licensed clinical psychologist experienced in the administration of both instruments. The ADIS-IV and psychotic disorders section of the SCID-NP were administered in a retrospective manner in that participants were asked to answer questions consistent with their experience prior to beginning the
Self-Help Project. The ADIS-IV and psychotic disorders section of the SCID-NP were administered at post-treatment assessment in order to minimize therapist contact and thus ensure as pure a self-help format as possible. Participants had approximately 2 to 2.5 hours of contact with the principal investigator during the in-person post-treatment assessment session.

**Mail/Telephone Post-treatment Assessment**

Mail/telephone post-treatment assessment occurred approximately two weeks after the end of treatment. At the end of treatment, participants were contacted to explain the posttreatment assessment procedure and schedule a telephone interview. All participants were then mailed a packet of questionnaires asking them to complete the CPP, STAI, and BDI. Participants in the active treatment conditions also completed a treatment credibility questionnaire (see Appendix M) to assess subjective efficacy of treatment conditions. In addition, participants in the BT and BT plus DML conditions completed a treatment compliance questionnaire (see Appendix N) assessing their compliance in reading *Coping with Panic* (Clum, 1990) as well as their knowledge of key concepts presented in the book. Finally, participants in conditions involving the DML (i.e., BT plus DML, DML only) completed a questionnaire assessing the usefulness of the DML (see Appendix O). It was emphasized to participants that it was important that they complete the post questionnaires prior to the telephone interview. If participants had not completed questionnaires by the time of the telephone interview, the interview was postponed until participants had completed the relevant questionnaires. During the telephone interview, participants were administered the Panic Disorder, Agoraphobia, Alcohol Abuse/Dependence and Substance Abuse/Dependence sections of the ADIS-IV and psychotic disorders section of the SCID-NP by the principal investigator who was supervised by a licensed clinical psychologist experienced in the administration of both instruments. The ADIS-IV and psychotic disorders section of the SCID-NP were administered in a retrospective manner in that participants were asked to answer questions consistent with their experience prior to beginning the Self-Help Project. The ADIS-IV and psychotic disorders section of the SCID-NP were
administered at post-treatment in order to minimize therapist contact and thus ensure as pure a self-help format as possible. Participants had approximately 1 hour of telephone contact with the principal investigator during the mail/telephone post-treatment assessment session.

Participants could terminate treatment at anytime and referrals would be provided. In addition, referrals were provided to participants who requested them upon treatment completion. Furthermore, participants who had been exposed to the book *Coping with Panic* and were interested, then proceeded to Phase 3, the treatment maintenance phase of the Self-Help Project. Upon the completion of the post-treatment assessment, participants in the DML only and WL conditions were provided *Coping with Panic* and *Coping with Panic* and the DML, respectively, and instructed to use the materials for an 8-week period after which they were eligible to participate in Phase 3, provided they were interested in doing so. In addition, participants in the BT alone condition were provided with the DML upon the completion of the posttreatment assessment.

Participants payed a minimal fee of $35 to cover project costs. This fee covers participation in Phases 1-3. If participants dropped-out of treatment, they were reimbursed for the Phase 3 portion of their fee ($5).

**Results**

The proposed inclusion criteria for this study required participants to have at least one DSM-IV defined full panic attack in the two week period prior to beginning Phase 1 of the Self-Help Project. Rather than eliminate a number of individuals with significant panic problems who did not meet this criteria, the criteria were expanded, with the approval of the Dissertation committee, to include individuals who indicated at least one DSM-IV defined full-blown or one DSM-IV defined limited-symptom attack in the two-week period prior to beginning Phase 1 of the Self-Help Project. Various analyses were conducted using different N sizes due to either missing data or inclusion criteria for the particular analysis. The entire group of participants completing the study consisted of 63 individuals. All analyses were performed using SPSS for Windows, Release 6.1.
Examination of Sample Characteristics

Correlational Analysis among Pre-treatment Dependent Measures

A correlational analysis was performed to examine the relationship between pre-treatment assessment dependent variables. The majority of pre-treatment assessment dependent variables were significantly correlated in the expected direction. Correlations between pre-treatment assessment dependent variables are presented in Table 5

Insert Table 5 about here

Demographic & Pre-treatment Assessment Variables

To assess for possible differences at pre-treatment assessment between conditions on demographic variables (age, education, medication status, sex, and continuous months of panic), univariate Analyses of Variance (ANOVA)s and Chi-square analyses were performed. One-way ANOVAs revealed no differences between conditions on age \([F(3, 59) = .49, p = .69]\), education \([F(3, 59) = .78, p = .51]\), and continuous months of panic \([F(3, 59) = 1.92, p = .14]\). Chi-square analyses revealed no differences between conditions on the categorical variables of medication status \([X^2 (3, N = 63) = .37, p = .95]\) and sex \([X^2 (3, N = 63) = 5.25, p = .15]\).

To assess for possible differences at pre-treatment assessment between conditions on dependent variables [Avoidance Questionnaire total scores (AQ), Confidence in Coping total scores (CCS), Coping Strategies Questionnaire total scores (CSQ), Fear of Having a Panic Attack total scores (FHPA), Panic Attack Cognitions Questionnaire total scores (PACQ), Panic Attack Symptoms Questionnaire total scores (PASQ), Beck Depression Inventory total scores (BDI), and State Trait Anxiety Inventory total scores (STAI)], a Multivariate Analysis of Variance (MANOVA) using Wilk's lambda criterion was performed. No significant differences were found between conditions on dependent variables [Wilk's lambda = .67, Approximate F (24, 142.72) = .86, p = .65].
In addition to the above MANOVA, a series of one-way ANOVAs were also conducted to assess for possible differences at pre-treatment assessment between conditions on the above dependent variables. No significant differences were found between conditions on AQ [F(3, 59) = .65, p = .58], BDI [F(3, 57) = .72, p = .55], CCS [F(3, 59) = .45, p = .72], CSQ [F(3, 59) = 1.73, p = .17], FHPA [F(3, 59) = .29, p = .83], PACQ [F(3, 59) = .31, p = .82], PASQ [F(3, 59) = .24, p = .87], and STAI t [F(3, 57) = .33, p = .80] total scores.

Number of full-blown panic attacks and number of limited symptom attacks were excluded from the above MANOVA in order to maximize power as only 36 participants indicated experiencing at least one full-blown panic attack at pre-treatment assessment while 51 participants indicated experiencing at least one limited symptom attack at pre-treatment assessment. Furthermore, 53 participants experienced at least one full-blown or one limited-symptom attack at pre-treatment assessment. Therefore, 10 participants did not experience at least one full-blown or one limited symptom attack at pre-treatment assessment. For all subsequent analyses in which full-blown or limited symptom attacks were the dependent variables, only participants experiencing at least one full-blown or at least one limited-symptom attack at pre-treatment assessment were included.

To assess for possible differences at pre-treatment assessment between conditions on number of full-blown panic attacks (FPA) and number of limited symptom attacks (LSA), two one-way ANOVAs were performed. No significant differences were found between conditions on number of FPA [F(3, 32) = 1.80, p = .17] or number of LSA [F(3, 47) = .59, p = .62]. The panic and panic-related (e.g., depression, state anxiety) characteristics for all participants at pre- and post-treatment assessment are summarized in Tables 6 and 7.

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Insert Tables 6 & 7 about here

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Treatment Compliance

Treatment compliance as related to treatment outcome was examined for both reading and understanding the book *Coping with Panic* as well as use of the Daily Monitoring Log. All participants in the BT (N = 17) and BT plus DML (N = 15) groups met the compliance criteria for reading *Coping with Panic* as defined by being able to successfully answer at least 70% of the questions about principles discussed in the book at post-treatment assessment (see Appendix N).

Two of the four conditions involved self-monitoring as part of the intervention (e.g., BT plus DML, DML alone). In this study, self-monitoring compliance was defined as monitoring various aspects of the panic experience for at least 5 of the 8 weeks of the intervention. In order to examine the effect of self-monitoring compliance, two analyses were performed. First, the DML alone condition was first divided into three subsamples: 1) participants not self-monitoring (N = 6); 2) participants self-monitoring some but not compliant (e.g., less than 5 weeks; N = 2); and 3) participants self-monitoring in a compliant fashion (e.g., 5 weeks or more; N = 5). A series of one-way ANOVAs were performed to assess for differences between subgroups of self-monitoring compliance for the following pre- and post-treatment assessment dependent variables: AQ, BDI, CCS, CSQ, FHPA, PACQ, and PASQ total scores, STAI t scores, and number of FPA and LSA. No significant differences were found between self-monitoring subgroups on pre- or post-treatment assessment variables.

In addition to the above analysis, chi square analyses revealed no differences between the BT plus DML and DML conditions on the categorical variable of compliance \[X^2 (2, N = 25) = 5.07, p = .17\]. Therefore, as no subgroup (i.e., DML) or between condition (i.e., BT, BT plus DML) differences emerged regarding self-monitoring compliance, all participants, including those not monitoring at all, were included in all subsequent analyses in order to maximize power, thus resulting in an overall sample of 63 participants (BT = 17; BT + DML = 15; DML = 13; WL = 18).
Treatment Completers vs. Treatment Drop-outs

To examine for possible differences between treatment completers (N = 63) and treatment drop-outs (N = 21 of 31 initial participants with complete data on all dependent measures), a MANOVA using Wilk's lambda criterion was performed using the following pre-treatment assessment measures: AQ, BDI, CCS, CSQ, FHPA, PACQ, and PASQ total scores, and STAI t scores. No significant pre-treatment differences emerged between treatment completers and treatment drop-outs [Wilk's lambda = .85, F (8,75) = 1.70, p = .11]. Due to missing data, 10 drop-out participants were excluded from the above analysis.

To examine for possible differences between treatment completers and treatment drop-outs on FPA and LSA measures at pre-treatment assessment, two one-way ANOVAs were performed. No significant differences emerged between treatment completers and treatment drop-outs on FPA [F(1,51) = .05, p = .82] and LSA [F(1,72) = 1.06, p = .31] measures.

In addition to the above analyses, differences between conditions in terms of percent attrition was examined. Pairwise tests of proportional differences revealed no differences between conditions. Participant attrition across conditions is presented in Table 8.

Insert Table 8 about here

Medicated vs. Medication-free Participants

In the current study, 65.1% of the sample (N = 41) was stabilized on an anti-anxiety and/or anti-depressant medication prior to beginning the study while 34.9% of the sample (N = 22) was medication free. To assess for possible differences between medicated participants and medication-free participants, two separate MANOVAs using Wilk's lambda criterion were performed using the following pre- and post-treatment assessment measures: AQ, BDI, CCS, CSQ, FHPA, PACQ, and PASQ total scores, and STAI t scores. No significant differences were found between
medicated and medication-free participants at pre- [Wilk's lambda = .89, F (8, 51) = .81, p = .60] or post-treatment assessment [Wilk's lambda = .87, F (8, 50) = .95, p = .49]. When conducting a one-way ANOVA, no between condition differences emerged for medicated (N = 22) and medication-free (N = 14) participants for number of FPA at pre- [F(1, 34) = 1.79, p = .19] or post-treatment assessment [F(1, 34) = .68, p = .42].

When conducting a one-way ANOVA for LSA, there was a strong trend for differences between medicated (N = 33) and medication-free (N = 18) participants at pre-treatment assessment [F(1, 49) = 3.73, p < .06] with medicated participants having a greater number of limited symptom attacks (M = 5.21, SD = 3.91) than the medication free participants (M = 3.17, SD = 2.98). However, this difference did not hold at post-treatment assessment as there were no differences between medicated and medication-free participants [F (1, 49) = .0003, p = .99]. Respective means for the medicated and medication-free participants at post-treatment assessment were 3.76 (SD = 4.53) and 3.78 (SD = 3.26) LSA.

**Participants Assessed In-Person vs. Participants Assessed via Mail/Phone**

In the current study, 23.8% of the sample (N = 15) was assessed in-person at post-treatment assessment while 76.2% of the sample (N = 48) was assessed via mail/phone. To assess for possible differences between participants assessed in-person and participants assessed via mail/phone, two sets of one-way ANOVAs were performed using the following pre- and post-treatment assessment measures: AQ, BDI, CCS, CSQ, FPA, FHPA, LSA, PACQ, and PASQ total scores, and STAI t scores. No between condition differences emerged for participants assessed in-person and participants assessed via mail/phone on the above measures at either pre-treatment assessment or post-treatment assessment.

**Between-Group Hypotheses**

**Full-blown and Limited-symptom Attack Analyses**

In order to examine between group differences from pre- to post-treatment assessment on the
number of FPA and LSA, two (Condition: BT, BT plus DML, DML, WL) X 2 (time: pre-treatment, post-treatment) repeated measures ANOVAs were performed examining the main effects of condition, and time, and the interaction of these variables from pre-treatment to post-treatment assessment. Change from pre- to post-treatment assessment on the number of FPA was first examined. In order to be included in the analysis, participants must have experienced at least one full-blown panic attack at pre-treatment assessment. This analysis revealed no significant Condition \( F(3,32) = 1.42, \ p = .25 \) or interaction effects \( F(3,32) = 1.26, \ p = .31 \) but a significant Time effect \( F(1,32) = 8.89, \ p < .005 \) with the number of FPA decreasing across conditions from pre- (M = 4.19, SD = 5.09) to post-treatment assessment (M = 2.53, SD = 4.29).

Between group differences from pre- to post-treatment assessment on the number of LSA was next examined. In order to be included in the analysis, participants must have experienced at least one LSA at pre-treatment assessment. This analysis revealed no significant Condition \( F(3,47) = .39, \ p = .76 \), interaction \( F(3,47) = 1.01, \ p = .40 \), or Time \( F(1,47) = 1.24, \ p = .27 \) effects from pre- to post-treatment assessment.

Between group differences from pre- to post-treatment assessment for combined number of panic attacks (e.g., number of full-blown plus number of limited symptom attacks) was explored via a 4 X 2 repeated measures ANOVA. Participants experiencing at least one FPA and one LSA attack at pre-treatment assessment were included in this analysis. A significant main effect for time across conditions \( F(1,30) = 13.91, \ p < .001 \) emerged with the number of combined attacks decreasing from pre- (M = 8.41, SD = 5.76) to post-treatment assessment (M = 5.41, SD = 4.99).

There was no between condition effect or condition by time interaction.

In addition to the above repeated measures ANOVAs, two Analyses of Covariance (ANCOVAs) controlling for participants' pre number of FPA and LSA using post number of FPA and LSA as the dependent measures were performed. No differences emerged between conditions on post number of FPA or LSA.
Clinical Improvement on Measure of Full-Blown Panic Attacks

Clinical improvement for individuals experiencing panic attacks has been defined as being panic free following treatment (Clum, 1989). In order to meet this criteria, participants were required to be experiencing at least one FPA at pre-treatment assessment. Five of 10 participants (50%) in the BT condition, 4 of 9 participants (44.4%) in the BT plus DML condition, 3 of 6 participants (50%) in the DML condition, and 4 of 11 participants (36.4%) in the WL condition met this clinical improvement criteria at post-treatment assessment. Pairwise tests of proportional differences revealed no differences between conditions at post-treatment assessment.

Repeated Measures MANOVA

Given the probability that certain dependent measures were highly correlated, a 4 X 2 repeated measures MANOVA was first performed using Wilk’s Lambda criterion in order to examine the main effects of condition and time, and the interaction of these variables from pre- to post-treatment assessment. The dependent measures used in this analysis included the following: 1) AQ total scores; 2) BDI total scores; 3) CSQ total scores; 4) PACQ total scores; 5) PASQ total scores; 6) FHPA total scores; 7) CCS total scores; and 8) STAI t scores. The MANOVA revealed no Condition [Wilks lambda = .70, Approximate F(24,139.82) = .73, p < .82] or Condition by Time interaction [Wilks lambda = .66, Approximate F(24,139.82) = .82, p = .72], but a Time effect [Wilks lambda = .58, F(6,48) = 4.34, p < .001]. Due to missing data for 4 participants, the total N for the above analysis consisted of 59 participants (BT = 17, BT + DML = 12; DML = 13; WL = 17).

As the MANOVA revealed a significant main effect for time across conditions, univariate tests were performed to determine which dependent variables were accounting for the time effects. Significant main effects for time emerged for the following variables: 1) AQ total scores [F(1,55) = 9.70, p < .003]; 2) BDI total scores [F(1,55) = 4.33, p < .05]; 3) FHPA total scores [F(1,55) = 12.40, p < .001]; 4) PACQ total scores [F(1,55) = 14.14, p < .001]; 5) PASQ total scores [F(1,54) = 6.86, p
<.01]; and 6) STAI t scores \(F(1,55) = 11.46, p < .001\). All of the time effects across conditions were in the expected direction from pre- to post-treatment assessment. No time effects emerged for CCS total scores \(F(1,55) = 2.43, p = .13\) or CSQ total scores \(F(1,55) = 1.35, p = .25\).

In addition to the above analyses, a series of Analyses of Covariance (ANCOVAs) controlling for participants' pre scores on the above variables using post scores on the above variables as the dependent measures were performed. No differences emerged between conditions on post scores.

As Condition by Time interactions had been hypothesized, a series of exploratory 4 X 2 repeated measures ANOVAs for each of the above dependent variables were performed. A trend for a Condition by Time interaction emerged for coping self-efficacy \(F(3,59) = 2.52, p < .07\). Within-condition comparisons revealed a significant pre- to post-treatment increase in coping self-efficacy for participants in the BT plus DML \(t(14) = -3.32, p < .005\) condition and a trend for a pre- to post-treatment increase in coping self-efficacy for participants in the BT \(t(16) = -1.35, p < .10\) condition. Between-group comparisons revealed no differences at pre- \(F(3,62) = .45, p = .72\) or post-treatment \(F(3,62) = .44, p = .73\). No other Condition by Time interactions emerged.

**Explanatory Analyses**

**Relationship between Coping Self-efficacy Change and Treatment Outcome**

As coping self-efficacy has been demonstrated to be an important variable for treatment outcome in previous bibliotherapy studies targeting panic disordered individuals (e.g., Gould & Clum, 1995), the relationship between coping self-efficacy change, a process measure, and factors related to panic attacks was examined via partial correlations. This relationship was first examined for participants in the BT and BT plus DML conditions combined as it was expected that coping self-efficacy would be the most impacted by these conditions. For the process measure of coping self-efficacy or confidence in coping (CCS), change scores were first computed by subtracting pre-assessment treatment level from post-treatment assessment level. Partial correlations were then
obtained between the change score and the post-treatment assessment level of each of the CPP outcome variables while controlling for initial level. Results indicated that increases in coping self-efficacy were related to lower scores on the PASQ ($r = -0.44, p < .03$) at post-treatment assessment. This was the only significant partial correlation that emerged.

As a follow-up to the above partial correlation analysis, the relationship between coping self-efficacy change and factors related to panic attacks was next examined for participants in the DML alone condition. Coping self-efficacy was not expected to predict treatment response in this condition. No significant partial correlations emerged.

Finally, the relationship between coping self-efficacy change and factors related to panic attacks was examined for participants in the WL condition. Coping self-efficacy was not expected to predict treatment response in this condition. No significant partial correlations emerged.

**Relationship between Treatment Credibility and Treatment Outcome**

Treatment credibility was assessed via the Treatment Credibility Questionnaire, a five item questionnaire with each item rated on a 1 to 9 scale (see Appendix M). Participants in the BT, BT plus DML and DML conditions completed this measure at post-treatment assessment. An average composite treatment credibility score was computed by summing the items and dividing by the number of items. In order to examine the relationship between treatment credibility and treatment outcome, correlations were calculated correlating the average treatment credibility scores of participants in the BT, BT plus DML, and DML conditions with panic and panic-related measures (number of FPA, number of LSA, AQ total scores, CCS total scores, CSQ total scores, FHPA total scores, PACQ total scores, PASQ total scores, BDI total scores, and STAI t-scores) at post-treatment assessment. No significant correlations emerged between average treatment credibility scores and panic and panic-related measures at post-treatment assessment.

**Group Differences on Treatment Credibility and Monitoring Credibility**

Group differences on treatment credibility was also examined. Average treatment credibility
scores calculated from the Treatment Credibility Questionnaire were the dependent measures. When conducting a one way ANOVA, there were no significant differences between the BT, BT plus DML, and DML groups on treatment credibility \( F(2,35) = 1.69, p < .19, p = .19 \). Item means and standard deviations are presented in Table 9.

Insert Table 9 about here

In addition to examining group differences on overall treatment credibility, group differences on monitoring credibility was examined for the BT plus DML and DML groups. Monitoring credibility was assessed via the Daily Monitoring Log Credibility Questionnaire, a 5 item questionnaire with items 1 - 4 rated on a 1 to 9 scale (see Appendix O). Participants in the BT plus DML and DML groups completed this measure at post-treatment assessment. An average composite monitoring credibility score was computed by summing the items and dividing by the number of items. When conducting a one-way ANOVA, there were no significant differences between groups on monitoring credibility \( F(1,16) = .10, p = .19 \). Item means and standard deviations are presented in Table 10.

Insert Table 10 about here

Discussion

The present study extended previous research in the area of bibliotherapy with panickers by using a more "pure" self-help approach than had been previously utilized and by broadening the sample to include individuals experiencing panic attacks and panic symptomatology, regardless of whether they met DSM-IV criteria for Panic Disorder with or without Agoraphobia. Furthermore, the present study sought to examine the differential effectiveness of bibliotherapy and self-regulatory treatments in individuals with panic attacks. It was hypothesized that participants in all treatment
conditions would demonstrate greater improvement than participants in the wait-list condition. In addition, it was hypothesized that participants in the BT plus DML condition would demonstrate greater improvement than participants in the BT alone and DML conditions. Contrary to what was hypothesized, no differences emerged between treatment conditions and the wait-list condition and no differential treatment effects emerged. In general, participants across conditions improved from pre-treatment to post-treatment assessment on a number of panic and panic-related measures, including number of full panic attacks, avoidance, fear of having a panic attack, panic cognitions, panic symptoms, depressive symptoms and state anxiety. There was no change on coping self-efficacy or number of coping strategies utilized. Furthermore, there were no differences between conditions in terms of clinical improvement as defined as being panic free at post-treatment assessment (Clum, 1989). Exploratory analyses provided some support for the importance of coping self-efficacy in treatment outcome.

The results from the present study are in contrast to previous bibliotherapy studies in this area which have found bibliotherapy to be more effective than wait-list conditions on several, if not most, important panic measures (Gould & Clum, 1995; Lidren et al., 1997). In addition, in both the Gould and Clum (1995) and Lidren et al. (1994) studies, participants in the bibliotherapy conditions exhibited greater clinical improvement at both post-treatment and follow-up relative to participants in the WL control. Furthermore, although there were significant time effects across conditions for many dependent measures in the present study, the changes from pre to post-treatment assessment in general were not as large as those in the Gould and Clum (1995) and Lidren et al. (1994) studies.

Motivational and methodological issues may have impacted the results of the present study. The role that motivational and methodological issues may have played will be discussed. In addition, the implications of the exploratory analyses will be discussed. Finally, recommendations for future bibliotherapy studies with this population will be discussed.
Motivational Issues

There are several motivational issues which may have affected the results of the present study. First, the manner in which participants were assessed at pre-treatment may have affected participants' motivation. Specifically, participants were not assessed in-person prior to beginning the study as was the case in previous self-help studies with this population (Gould & Clum, 1995; Gould et al., 1993; Lidren et al., 1994). In the present study, individuals self-assessed their symptoms via the mailed CPP and were instructed to only call experimenters if they needed clarification. In previous self-help studies, participants had an opportunity to meet the experimenters and were interviewed in-person and given an opportunity to ask questions. This face-to-face assessment may have instilled hope in individuals further motivating them to carry through with the treatment instructions and utilize treatment materials.

Second, not assessing for adherence to self-monitoring during treatment by participants in the BT plus DML and DML alone conditions may have affected participants' motivation. In the Gould and Clum (1995) study, participants in the bibliotherapy condition were required to mail in their monitoring logs on a weekly basis as an adherence check. This was not done in the present study in order to ensure as "pure" a self-help approach as possible. However, having to mail in monitoring logs on a weekly basis may have motivated individuals and spurred their ability to effectively self-regulate. In both Bandura (1991) and Kanfer's (e.g., Kanfer & Scheff, 1988) theories of self-regulation, self-monitoring is the first stage of the self-regulation process and it provides individuals with the information needed to establish realistic goals and to evaluate their progress toward these goals. Further, self-monitoring allows an individual to direct his or her behavior. Given that individuals in the BT plus DML and DML alone conditions were not required to mail in their monitoring logs, perhaps it is not surprising that compliance with monitoring was not very good.

Third, the period of time participants were required to wait prior to beginning the treatment phase may have impacted participants' motivation for treatment. Specifically, unlike previous self-help
studies, participants in the present study waited an average of approximately 5-6 weeks prior to beginning treatment as they were required to complete Phase 1 before proceeding. Although participants were well aware of this prior to beginning the Self-Help Project, they nevertheless may have become less motivated in Phase 2. Indeed, a number of participants when interviewed at post-treatment assessment indicated that they wished they had not had to wait prior to beginning the treatment phase, particularly as several of them wanted help immediately when responding to advertisements for the project. Furthermore, several individuals who dropped out in the present study indicated doing so because of frustration with the extensive waiting period.

Fourth, previous self-help studies incorporated additional supplements which enhanced the self-help treatment and, as a result, may have enhanced participant motivation for change. For example, in Gould and Clum (1995) participants in the bibliotherapy condition watched a videotape at pre-treatment assessment exhibiting a 15-minute role-played therapy session between a therapist and a panic-disordered client explaining the etiology of panic disorder, describing the spiraling and circular relationship between panic symptoms and cognitions, modeling diaphragmatic breathing and encouraging individuals to practice coping techniques. In addition, participants in the bibliotherapy condition were provided with an audiotape that taught participants progressive muscle relaxation. Participants were encouraged to use this audiotape during treatment. These supplements may have greatly enhanced participants' motivation and belief in the credibility of the treatment in terms of helping them overcome and cope with their panic symptomatology.

In addition, experimenters in Lidren et al. (1994) telephoned participants in the bibliotherapy condition at weeks 2, 5, and 8 of the intervention to evaluate treatment integrity. During such calls, experimenters asked participants about material covered in the book to determine if participants were reading, comprehending and using the strategies described in Coping with Panic. These telephone calls may have motivated participants to utilize the strategies described in the book, thus impacting treatment outcome. Some evidence for the effectiveness of incorporating telephone
contact into self-help treatment also comes from the smoking literature (Curry, McBride, Grothaus, Louie, & Wagner, 1995; Zhu, Stetch, Balabanis, Rosbrook, et al., 1996).

Finally, lack of social support may have affected participant motivation. In the present study, individuals in conditions using Coping with Panic (e.g., BT, BT plus DML) were provided education about the development and maintenance of panic attacks but were not provided with social support in the form of regular contact with experimenters. Participants were instructed that they could call to ask for clarification, but the intentional provision of social support and other strategies which may have positively impacted motivation were not provided for conceptual and methodological purposes. Such social support may have been important.

Evidence for the importance of social support in coping with panic comes from two studies. In a study investigating the differential effectiveness of group cognitive-behavioral treatment and group education support treatment with non-clinical panickers, Mattis (1997) suggested that social support was an important variable in promoting change as the aforementioned treatment groups were comparable on certain panic measures relative to a wait-list control. Furthermore, in a study investigating coping and illness behavior among adults with panic, Vollrath and Margarette (1993) found that social support was an important coping strategy for panic disordered adults. Specifically, panic disordered individuals sought out social support more than individuals with other anxiety disorders.

As previously mentioned, exploratory analyses provided some support for the importance of the motivational variable of coping self-efficacy in treatment outcome. Consistent with this interpretation, exploratory analyses revealed that participants' motivation in the two treatment conditions using BT were impacted as expected. These exploratory analyses will now be discussed.

**Role of Self-efficacy**

In the present study, the role of coping self-efficacy in treatment outcome was examined via
exploratory analyses. An exploratory 4 X 2 repeated measures ANOVA revealed a trend for a Condition by Time interaction for coping self-efficacy. Specifically, participants in the BT plus DML condition exhibited a significant increase in coping self-efficacy from pre- to post-treatment assessment. Furthermore, participants in the BT condition exhibited a trend for an increase in coping self-efficacy from pre- to post-treatment assessment. There was no change in coping self-efficacy from pre- to post-treatment assessment for participants in the DML and WL conditions. Furthermore, partial correlations revealed that change in coping self-efficacy from pre- to post-treatment assessment was related to a decrease in panic symptoms for participants in the BT and BT plus DML conditions.

The above findings are not surprising for several reasons. First, participants in the BT and BT plus DML conditions were educated about the panic process and how to utilize specific coping strategies via *Coping with Panic* in order to overcome and cope with their panic attacks. In addition, the term self-efficacy was defined and its role in the panic process explained in *Coping with Panic*. Furthermore, SM and FB were components of both book conditions with SM and FB being made more explicit via the DML in the BT plus DML condition. However, participants in the BT condition still were provided with monitoring logs to track panic symptomatology and encouraged to graph their panic symptomatology as such logs and graphs, and the rational for their use, were provided in *Coping with Panic*. Such logs and graphs in the BT alone condition were much less extensive than the DML.

The role of methodological issues in the outcome of the present study will now be discussed.

**Methodological Issues**

There are several methodological issues which may have affected the outcome of the present study. First, treatment credibility may have been an issue. Participants in the conditions utilizing the DML (e.g., BT plus DML, DML) were asked to complete the Daily Monitoring Log Credibility Questionnaire at post-treatment assessment. Overall, participants indicated that they did not find
the monitoring log to be very credible. Perhaps in-person explanation of how to use the monitoring log in addition to the written instructions provided may have helped participants perceive the monitoring log as being more credible in helping them cope with and overcome their panic attacks.

Second, there was a floor effect regarding the number of panic attacks which may have restricted the amount of change possible on this variable. Specifically, participants in the BT plus DML condition had less panic attacks (M = 1.78) at pre-treatment assessment than the participants in the other conditions. This difference, while not significant, provided participants in the BT plus DML condition less of an opportunity to experience a reduction in panic attacks compared to participants in the other conditions.

Third, participants in the BT and BT plus DML conditions may have utilized self-help materials other than those provided in the current study which would have confounded their condition. For example, participants in the BT and BT plus DML conditions may have read and used other self-help panic books. In addition, participants in the DML and WL conditions may have also utilized self-help materials as well, such as a self-help panic book, thus confounding their condition. The above possibilities were not assessed. Although it was made explicit to all participants that they could not participate in therapy and be part of the study, no such rule existed for the use of other self-help materials, such as books, videotapes or audiotapes.

Fourth, reading Coping with Panic did not necessarily mean that the strategies advocated in the book were implemented by participants in the BT and BT plus DML conditions. Failure of participants to practice these strategies may have reduced the effectiveness of these two conditions.

Finally, all participants in the present study received assessment and feedback regarding their panic symptomatology in Phase 1 of the Self-Help Project. In Phase 1, Roodman (1996) found that assessment plus feedback resulted in a reduction of panic attacks in a subgroup of the study participants whereas assessment only did not. Therefore, although participants were randomized
via stratified assignment into conditions in the present study, the provision of assessment and feedback may have impacted participants.

**Future Directions and Recommendations**

The self-help treatments in the present study may have relied too heavily on participants’ skills to carry out the treatments. Therefore, several recommendations are offered for future studies in this area. First, future studies may need to implement more experimenter contact. Specifically, it is recommended that participants be assessed in-person or via mail/phone at pre-treatment in order to potentially impact motivational processes and provide some form of social support. More extensive assessment at pre-treatment may increase participants’ commitment to treatment and motivation for change. Second, it is recommended that participants be provided with additional supplements, such as those provided in Gould and Clum (1995). A videotape in which someone perceived as an expert explains the panic process as well as the provision of a relaxation audiotape during treatment may enhance participant motivation for change. Third, it is recommended that the use of the monitoring log be more extensively explained during a more extensive pre-treatment assessment. Fourth, it is recommended that participants be required to mail-in their weekly monitoring sheets. Finally, it is recommended that some type of phone contact take place during the treatment process as a way to check-in with participants regarding use of materials as well as to provide some form of social support. Future studies will need to determine the level of therapist contact necessary in self-help interventions targeting individuals with panic attacks.
References


Journal of Anxiety Disorders, 2, 339-352.


Behavior Modification, 8, 407-424.

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<thead>
<tr>
<th>Geographical Area</th>
<th>N</th>
<th>% of Sample</th>
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</thead>
<tbody>
<tr>
<td>Blacksburg, VA &amp; New River Valley area</td>
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<td>22.2</td>
</tr>
<tr>
<td>Roanoke area</td>
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<td>31.7</td>
</tr>
<tr>
<td>Other areas in Virginia</td>
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<td>25.4</td>
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<tr>
<td>Southern West Virginia</td>
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<td>11.1</td>
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<td>Greater Pittsburgh, PA area</td>
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<td>7.9</td>
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<tr>
<td>Greater Greensboro, NC area</td>
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<td>1.6</td>
</tr>
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### Table 2

**Summary of Demographic Participant Characteristics (N = 63)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Bibliotherapy &amp; (N = 17)</th>
<th>Self-Monitoring (N = 15)</th>
<th>Monitoring (N = 13)</th>
<th>List (N = 18)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>46.52 (12.85)</td>
<td>45.20 (10.51)</td>
<td>41.15 (12.08)</td>
<td>44.00 (13.28)</td>
</tr>
<tr>
<td>Continuous Months</td>
<td>109.76 (105.52)</td>
<td>72.93 (88.41)</td>
<td>33.62 (35.20)</td>
<td>102.72 (117.35)</td>
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<tr>
<td>of Panic</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>13.82 (2.74)</td>
<td>14.60 (2.50)</td>
<td>14.54 (1.98)</td>
<td>13.56 (2.01)</td>
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<tr>
<td>meds/No meds</td>
<td>11/6</td>
<td>9/6</td>
<td>7/6</td>
<td>11/7</td>
</tr>
<tr>
<td>Marital Status</td>
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<td>2</td>
<td>1</td>
<td>3</td>
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<td>Married</td>
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<td>13</td>
<td>11</td>
<td>13</td>
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<td>Divorced</td>
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<td>0</td>
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<tr>
<td>Widowed</td>
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<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Sex—Male/Female</td>
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<td>6/9</td>
<td>5/8</td>
<td>3/15</td>
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<td>Race</td>
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<td>Caucasian</td>
<td>17</td>
<td>15</td>
<td>13</td>
<td>18</td>
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Table 3

Frequency of Diagnoses Represented Within the Sample (N = 63)

<table>
<thead>
<tr>
<th>Diagnosis/Diagnoses</th>
<th>N</th>
<th>% of Sample with Diagnosis</th>
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<tr>
<td>Panic Disorder w/Agoraphobia—current</td>
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<td>69.8</td>
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<tr>
<td>Panic Disorder w/o Agoraphobia—current</td>
<td>2</td>
<td>3.2</td>
</tr>
<tr>
<td>Panic Disorder w/Agoraphobia—past</td>
<td>4</td>
<td>6.3</td>
</tr>
<tr>
<td>Panic Disorder w/o Agoraphobia—past</td>
<td>2</td>
<td>3.2</td>
</tr>
<tr>
<td>Agoraphobia w/o history of Panic Disorder</td>
<td>1</td>
<td>1.6</td>
</tr>
<tr>
<td>Alcohol Abuse</td>
<td>2</td>
<td>3.2</td>
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<tr>
<td>Alcohol Dependence</td>
<td>0</td>
<td>0.0</td>
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<tr>
<td>Substance Abuse</td>
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<tr>
<td>Substance Dependence</td>
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<td>Panic Disorder w/Agoraphobia &amp; Alcohol Abuse</td>
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<td>3.2</td>
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<td>Panic Disorder w/Agoraphobia &amp; Substance Abuse</td>
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<td>1.6</td>
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<tr>
<td>No diagnosis for diagnostic categories assessed for</td>
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<td>15.9</td>
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Table 4

**Distribution of Phase 1 Participants across Phase 2 Conditions**

<table>
<thead>
<tr>
<th>Phase 1 Condition</th>
<th>BT</th>
<th>BT + DML</th>
<th>DML</th>
<th>WL</th>
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<tbody>
<tr>
<td>Assessment with Mailed Feedback</td>
<td>5</td>
<td>4</td>
<td>2</td>
<td>6</td>
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<tr>
<td>Assessment with Face-to-Face Feedback</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>2</td>
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<tr>
<td>Assessment Only</td>
<td>4</td>
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<td>3</td>
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<td>No Assessment, No Feedback</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>6</td>
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</tbody>
</table>

BT = Bibliotherapy; BT + DML = Bibliotherapy plus Daily Monitoring Log; DML = Daily Monitoring Log; WL = Wait-list
Table 5

Correlations Between Panic and Panic-related Variables at Pre-treatment

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<thead>
<tr>
<th></th>
<th>AQ</th>
<th>BDI</th>
<th>CCS</th>
<th>CSQ</th>
<th>FHPA</th>
<th>FPA</th>
<th>LSA</th>
<th>PACQ</th>
<th>PAO</th>
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<td>BDI</td>
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<td>CCS</td>
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<td>CSQ</td>
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<td>-.06</td>
<td>.08</td>
<td>-----</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FHPA</td>
<td>.46***</td>
<td>.57***</td>
<td>-19</td>
<td>.08</td>
<td>-----</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FPA</td>
<td>.45***</td>
<td>.43***</td>
<td>-.27**</td>
<td>.05</td>
<td>.45***</td>
<td>-----</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LSA</td>
<td>.54***</td>
<td>.15</td>
<td>-.24*</td>
<td>.03</td>
<td>.28**</td>
<td>.17</td>
<td>-----</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PACQ</td>
<td>.54***</td>
<td>.86***</td>
<td>-.17</td>
<td>.07</td>
<td>.81***</td>
<td>.46***</td>
<td>.38***</td>
<td>-----</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAO</td>
<td>-.34***</td>
<td>-.26**</td>
<td>.28**</td>
<td>-.09</td>
<td>-.19</td>
<td>-.10</td>
<td>-.16</td>
<td>-.31**</td>
<td>-----</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PASQ</td>
<td>.35***</td>
<td>.45***</td>
<td>-.16</td>
<td>.21*</td>
<td>.55***</td>
<td>.41***</td>
<td>.26**</td>
<td>.53***</td>
<td>-.09</td>
<td>-----</td>
<td></td>
</tr>
<tr>
<td>STATE</td>
<td>.31**</td>
<td>.73***</td>
<td>-.15</td>
<td>-.01</td>
<td>.45***</td>
<td>.28**</td>
<td>.19</td>
<td>.43***</td>
<td>-.23*</td>
<td>.34***</td>
<td>-----</td>
</tr>
</tbody>
</table>

AQ=Avoidance Questionnaire; BDI=Beck Depression Inventory; CSQ=Coping Strategies Questionnaire; FHPA=Fear of Having a Panic Attack; FPA=Full Panic Attacks; LSA=Limited-symptom attacks; PACQ=Panic Attack Cognitions Questionnaire; PAO=Panic Attack Outcome Expectancy Questionnaire; PASQ=Panic Attack Symptoms Questionnaire; STATE=State Anxiety Inventory. *p < .10; **p < .05; ***p < .01.
Table 6

**Mean and Standard Deviation Values of Full Panic Attack and Limited Symptom Attack Variables for Each Condition at Pre-Assessment and Post-Assessment**

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Treatment</th>
<th>Pre-Assessment</th>
<th>Post-Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Condition</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Full Panic Attacks*</td>
<td>BT (N = 10)</td>
<td>3.70</td>
<td>4.03</td>
</tr>
<tr>
<td></td>
<td>BT + DML (N = 9)</td>
<td>1.78</td>
<td>.67</td>
</tr>
<tr>
<td></td>
<td>DML (N = 6)</td>
<td>3.83</td>
<td>3.31</td>
</tr>
<tr>
<td></td>
<td>WL (N = 11)</td>
<td>6.82</td>
<td>7.57</td>
</tr>
<tr>
<td>Limited Attacks</td>
<td>BT (N = 13)</td>
<td>5.08</td>
<td>3.38</td>
</tr>
<tr>
<td></td>
<td>BT + DML (N = 13)</td>
<td>3.69</td>
<td>2.14</td>
</tr>
<tr>
<td></td>
<td>DML (N = 11)</td>
<td>3.81</td>
<td>4.02</td>
</tr>
<tr>
<td></td>
<td>WL (N = 14)</td>
<td>5.21</td>
<td>4.89</td>
</tr>
</tbody>
</table>

BT=Bibliotherapy; BT+DML=Bibliotherapy plus Daily Monitoring Log; DML=Daily Monitoring Log; WL=Wait-list; *Significant Time effect across conditions (p < .05).
<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Treatment</th>
<th>Pre-Assessment</th>
<th>Post-Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Condition</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Panic Symptoms*</td>
<td>BT (N = 17)</td>
<td>49.41</td>
<td>26.18</td>
</tr>
<tr>
<td></td>
<td>BT + DML (N = 15)</td>
<td>49.93</td>
<td>25.49</td>
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<td></td>
<td>DML (N = 13)</td>
<td>43.00</td>
<td>25.54</td>
</tr>
<tr>
<td></td>
<td>WL (N = 18)</td>
<td>49.13</td>
<td>24.02</td>
</tr>
<tr>
<td>Panic Cognitions*</td>
<td>BT (N = 17)</td>
<td>26.12</td>
<td>14.23</td>
</tr>
<tr>
<td></td>
<td>BT + DML (N = 15)</td>
<td>25.60</td>
<td>10.58</td>
</tr>
<tr>
<td></td>
<td>DML (N = 13)</td>
<td>28.46</td>
<td>13.22</td>
</tr>
<tr>
<td></td>
<td>WL (N = 18)</td>
<td>29.61</td>
<td>16.32</td>
</tr>
<tr>
<td>Fear of Having a Panic Attack*</td>
<td>BT (N = 17)</td>
<td>27.24</td>
<td>12.73</td>
</tr>
<tr>
<td></td>
<td>BT + DML (N = 15)</td>
<td>24.93</td>
<td>8.23</td>
</tr>
<tr>
<td></td>
<td>DML (N = 13)</td>
<td>24.23</td>
<td>11.58</td>
</tr>
<tr>
<td></td>
<td>WL (N = 18)</td>
<td>28.22</td>
<td>11.41</td>
</tr>
</tbody>
</table>

BT=Bibliotherapy; BT+DML=Bibliotherapy plus Daily Monitoring Log; DML=Daily Monitoring Log; WL=Wait-list; *Significant Time effect across conditions when conducting univariate tests (p < .05; N = 59) as follow-up to 4 X 2 repeated measures MANOVA.
Table 7 (Continued)

**Mean and Standard Deviation Values for Pre- and Post-Assessment Dependent Variables**

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Treatment</th>
<th>Pre-Assessment</th>
<th>Post-Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Condition</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Avoidance*</td>
<td>BT (N = 17)</td>
<td>29.65</td>
<td>20.72</td>
</tr>
<tr>
<td></td>
<td>BT + DML (N = 15)</td>
<td>24.93</td>
<td>15.53</td>
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<tr>
<td></td>
<td>DML (N = 13)</td>
<td>27.08</td>
<td>17.90</td>
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<tr>
<td></td>
<td>WL (N = 18)</td>
<td>34.67</td>
<td>26.66</td>
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<tr>
<td>Coping Strategies</td>
<td>BT (N = 17)</td>
<td>61.59</td>
<td>12.54</td>
</tr>
<tr>
<td></td>
<td>BT + DML (N = 15)</td>
<td>53.60</td>
<td>20.53</td>
</tr>
<tr>
<td></td>
<td>DML (N = 13)</td>
<td>48.85</td>
<td>16.47</td>
</tr>
<tr>
<td></td>
<td>WL (N = 18)</td>
<td>49.67</td>
<td>20.65</td>
</tr>
<tr>
<td>Confidence in Coping+</td>
<td>BT (N = 17)</td>
<td>36.65</td>
<td>19.37</td>
</tr>
<tr>
<td>(Coping Self-efficacy)</td>
<td>BT + DML (N = 15)</td>
<td>31.47</td>
<td>10.66</td>
</tr>
<tr>
<td></td>
<td>DML (N = 13)</td>
<td>35.85</td>
<td>12.57</td>
</tr>
<tr>
<td></td>
<td>WL (N = 18)</td>
<td>37.56</td>
<td>18.18</td>
</tr>
</tbody>
</table>

BT = Bibliotherapy; BT + DML = Bibliotherapy plus Daily Monitoring Log; DML = Daily Monitoring Log; WL = Wait-list; *Significant Time effect across conditions when conducting univariate tests (p < .05; N = 59) as follow-up to 4 X 2 repeated measures MANOVA; +Trend for Condition X Time interaction when conducting exploratory 4 X 2 repeated measures ANOVA (p < .07).
### Table 7 (Continued)

**Mean and Standard Deviation Values for Pre- and Post-Assessment Dependent Variables**

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Treatment Condition</th>
<th>Pre-Assessment</th>
<th>Post-Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Beck Depression*</td>
<td>BT (N = 17)</td>
<td>14.12</td>
<td>9.47</td>
</tr>
<tr>
<td></td>
<td>BT + DML (N = 14)</td>
<td>11.14</td>
<td>7.52</td>
</tr>
<tr>
<td></td>
<td>DML (N = 13)</td>
<td>12.08</td>
<td>7.47</td>
</tr>
<tr>
<td></td>
<td>WL (N = 17)</td>
<td>15.18</td>
<td>8.99</td>
</tr>
<tr>
<td>State Anxiety*</td>
<td>BT (N = 17)</td>
<td>50.53</td>
<td>11.14</td>
</tr>
<tr>
<td></td>
<td>BT + DML (N = 12)</td>
<td>51.83</td>
<td>7.86</td>
</tr>
<tr>
<td></td>
<td>DML (N = 13)</td>
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</tr>
<tr>
<td></td>
<td>WL (N = 17)</td>
<td>53.47</td>
<td>8.52</td>
</tr>
</tbody>
</table>

BT=Bibliotherapy; BT+DML=Bibliotherapy plus Daily Monitoring Log; DML=Daily Monitoring Log; WL=Wait-list; *Significant Time effect across conditions when conducting univariate tests (p < .05; N = 59) as follow-up to 4 X 2 repeated measures MANOVA.
Table 8

**Participant Attrition by Condition**

<table>
<thead>
<tr>
<th>Condition</th>
<th>BT</th>
<th>BT+ DML</th>
<th>DML</th>
<th>WL</th>
</tr>
</thead>
<tbody>
<tr>
<td># assigned</td>
<td>24</td>
<td>26</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>% attrition</td>
<td>29.2</td>
<td>42.3</td>
<td>45.8</td>
<td>25.0</td>
</tr>
<tr>
<td># completed</td>
<td>17</td>
<td>15</td>
<td>13</td>
<td>18</td>
</tr>
</tbody>
</table>

BT=Bibliotherapy; BT+DML=Bibliotherapy plus Daily Monitoring Log; DML=Daily Monitoring Log; WL=Wait-list
<table>
<thead>
<tr>
<th>Item</th>
<th>Treatment Condition</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How logical did this type of treatment appear to be in terms of decreasing panic attacks?</td>
<td>BT (N = 13)</td>
<td>6.38</td>
<td>2.18</td>
</tr>
<tr>
<td></td>
<td>BT + DML (N = 14)</td>
<td>5.71</td>
<td>1.64</td>
</tr>
<tr>
<td></td>
<td>DML (N = 11)</td>
<td>4.64</td>
<td>2.34</td>
</tr>
<tr>
<td>2. How confident are you that this treatment was successful in reducing your panic attacks?</td>
<td>BT (N = 13)</td>
<td>5.62</td>
<td>1.89</td>
</tr>
<tr>
<td></td>
<td>BT + DML (N = 14)</td>
<td>5.43</td>
<td>1.79</td>
</tr>
<tr>
<td></td>
<td>DML (N = 11)</td>
<td>4.18</td>
<td>1.94</td>
</tr>
<tr>
<td>3. How confident would you be in recommending this treatment to a friend with panic attacks?</td>
<td>BT (N = 13)</td>
<td>6.38</td>
<td>2.34</td>
</tr>
<tr>
<td></td>
<td>BT + DML (N = 14)</td>
<td>6.21</td>
<td>1.89</td>
</tr>
<tr>
<td></td>
<td>DML (N = 11)</td>
<td>5.36</td>
<td>2.69</td>
</tr>
<tr>
<td>4. How important do you think it is that we make this treatment available to others who experience panic attacks?</td>
<td>BT (N = 13)</td>
<td>7.23</td>
<td>1.83</td>
</tr>
<tr>
<td></td>
<td>BT + DML (N = 14)</td>
<td>7.21</td>
<td>1.42</td>
</tr>
<tr>
<td></td>
<td>DML (N = 11)</td>
<td>5.73</td>
<td>3.20</td>
</tr>
<tr>
<td>5. Please rate the level of mastery of coping with panic attacks you believe you obtained by the end of treatment?</td>
<td>BT (N = 13)</td>
<td>5.77</td>
<td>1.79</td>
</tr>
<tr>
<td></td>
<td>BT + DML (N = 14)</td>
<td>5.36</td>
<td>1.28</td>
</tr>
<tr>
<td></td>
<td>DML (N = 11)</td>
<td>4.64</td>
<td>2.58</td>
</tr>
</tbody>
</table>

BT = Bibliotherapy; BT + DML = Bibliotherapy plus Daily Monitoring Log; DML = Daily Monitoring Log
### Table 10

**DML Credibility Questionnaire: Item Endorsement by Condition**

<table>
<thead>
<tr>
<th>Item</th>
<th>Treatment Condition</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How helpful did you find this monitoring log to be in reducing your panic attacks?</td>
<td>BT + DML (N = 9)</td>
<td>3.33</td>
<td>2.06</td>
</tr>
<tr>
<td></td>
<td>DML (N = 9)</td>
<td>3.33</td>
<td>2.45</td>
</tr>
<tr>
<td>2. How helpful did you find plotting your behaviors associated with you panic attacks on a weekly basis to be in monitoring your progress?</td>
<td>BT + DML (N = 9)</td>
<td>3.67</td>
<td>2.12</td>
</tr>
<tr>
<td></td>
<td>DML (N = 9)</td>
<td>3.22</td>
<td>2.49</td>
</tr>
<tr>
<td>3. How easy was this monitoring log to use?</td>
<td>BT + DML (N = 9)</td>
<td>6.22</td>
<td>2.49</td>
</tr>
<tr>
<td></td>
<td>DML (N = 9)</td>
<td>5.22</td>
<td>2.73</td>
</tr>
<tr>
<td>4. Would you recommend using this monitoring log to a friend for reducing his or her panic attacks?</td>
<td>BT + DML (N = 9)</td>
<td>4.11</td>
<td>2.71</td>
</tr>
<tr>
<td></td>
<td>DML (N = 9)</td>
<td>4.33</td>
<td>2.40</td>
</tr>
</tbody>
</table>

BT = Bibliotherapy; BT + DML = Bibliotherapy plus Daily Monitoring Log
Appendix A

Advertisement Flyer

HELP FOR YOUR PANIC ATTACKS

The Department of Psychology at Virginia Tech is offering a drug-free self-help treatment approach program for individuals suffering from panic attacks. Work on your panic problem at your own pace in your own home using our proven self-help treatment as a participant in a confidential research study. Please call (540) 231-3235 or 1-800-733-1129 at any time and ask about the panic study or write to Dr. George Cium at: Department of Psychology, Virginia Tech, Blacksburg, VA 24061-0436. Your confidentiality will be maintained.
Appendix A (continued)

Self-Help Treatment for Panic Attacks

Suddenly you feel intensely afraid. Your heart beats rapidly. You feel faint, dizzy, and short of breath. Your full attention turns to your body as you feel progressively more out of control. You are overwhelmed with a feeling of impending doom and feel disconnected from your environment. Your hands are tingling and you are aware that something is very wrong.

This description may sound like that of someone encountering something frightening like an audience full of people or a snake ready to strike or it may sound like someone about to have a heart attack. However, these are also the descriptions people give of their experience while having a panic attack. According to the National Institute of Mental Health, panic attacks are characterized by "brief episodes of intense fear accompanied by multiple physical symptoms...that occur repeatedly and unexpectedly in the absence of any external threat." Other symptoms of panic attacks can also include nausea, choking sensations, shaking or trembling, chest pain and sweating. The onset of these symptoms occurs very quickly and they can last for several minutes or several hours.

The Psychological Services Center at Virginia Tech is offering a self-help treatment program for people experiencing panic attacks. This study allows you to work on your panic problem at your own pace in your own home using our proven self-help treatment as a participant in a confidential research study. If you are interested in learning more about the self-help treatment study, please call our office at (540) 231-3235 or (540) 231-6914 and ask about the panic study. Or, if you prefer, fill in your name and phone numbers below and mail this form to Dr. George Clum, Psychology Department, Virginia Tech, Blacksburg, VA 24061-0436.

Name: ____________________________

Home phone: _________________ Best time to call: _____________

Work phone: ______________________ Best time to call: ___________
Appendix B

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Informed Consent for Participants
of Investigative Projects

Title of Project  Self-help Treatment of Panic Attacks

Principal Investigators Greg A. R. Febraro and George A. Clum, Ph.D.

I. THE PURPOSE OF THIS RESEARCH/PROJECT

The purpose of this study is to investigate the effects of self-help treatments for panic attacks. This study is the second phase of a three-phase study. Participation in this second phase will allow you to participate in the third and last phase of the study which involves maintenance and follow-up.

II. PROCEDURES

1. I understand that participation in this self-help treatment study for panic attacks consists of answering the following questions honestly:

   a. Have you been diagnosed by a physician with any of the following? If YES, place a check next to the appropriate medical and/or psychological condition:

      seizure disorder      kidney disease
      stroke               schizophrenia
      organic brain syndrome  emphysema
      myocardial infarction chronic hypertension

     If I checked any of the above medical and/or psychological conditions, I understand that I cannot participate in this study. I understand that I may call the researchers to discuss this or receive a referral for treatment. If I did not check any of the above medical and/or psychological conditions, I am able to participate in this study.

   b. Are you currently taking any medications for anxiety or depression?

      ____ (YES)        ____ (NO)

     If you checked "YES", which medication(s) are you taking?

     ________________________________________________

     Have you been taking this medication(s) for at least 4 weeks? ____ (YES) ____ (NO). If I checked "NO", I understand that I cannot participate in this study. I understand that I may call the researchers to discuss this or receive a referral for treatment. If I checked "YES", I am able to participate in this study.

2. I understand that participation in this self-help treatment study on panic attacks consists of a pretreatment assessment phase during which I will receive questionnaires in the mail that will ask
me questions related to my panic attacks and other psychological areas. I will be sent these questionnaires and be supplied with a self-addressed stamped envelope in which to return them.

3. I understand that participation in this self-help treatment study consists of receiving treatment materials in the mail along with explicit instructions. I understand that I will be randomly assigned to one of four conditions, three of which are treatment conditions and one of which is an assessment only condition. Furthermore, I understand that the actual treatment phase will be 8 weeks in duration. I agree to follow the instructions for whichever treatment condition I am assigned to the best of my ability.

4. I understand that at the end of the 8 week treatment phase, I will be asked to schedule a time for the posttreatment assessment which will occur approximately two weeks after treatment at Virginia Tech. This posttreatment assessment will consist of being interviewed as well as completing questionnaires. I also understand the interview will be audiotaped for purposes of reliability and that only individuals working on the project will have access to this tape. I understand that this tape will be stored in a locked filing cabinet. I further understand that within one month of the interview, this tape will be erased. In addition, I understand that this posttreatment assessment will take approximately 2.5 to 3.5 hours. Finally, I should I so desire, I will be provided with the most comprehensive treatment at the end of the post-treatment assessment session if I was assigned to the assessment only condition.

5. I understand that I will pay a nominal fee of $20.00 for participation in this study. I understand that the payment of this fee will entitle me to all necessary treatment materials.

6. I understand that participation in this self-help treatment study of panic attacks will allow me to be eligible for maintenance and follow-up of my panic attacks in Phase III of this overall project upon completion this phase, Phase II. I also understand that my participation in Phase II does not mean that I have to participate in any further studies. I understand that I will be given a separate consent form for Phase III of the self-help project.

7. I understand that the possible risks or discomfort from participating in this study may be that I may become uncomfortable about receiving knowledge about my panic attacks. Safeguards that will be used to minimize my risk or discomfort are that I will always be able to call one of the researchers or, if the need arises, to schedule an in-person meeting with one of the researchers to discuss my discomfort.

8. I understand that participation in this self-help treatment study of panic attacks consists of being able to choose not to participate in this study. I also understand that I can receive a referral for treatment of my panic attacks.

III. BENEFITS OF THIS PROJECT

I understand that my participation in this treatment study will allow me to receive information regarding my panic attacks. In addition, I will receive treatment which will enable me to cope with, or even eliminate, my panic attacks.

I understand that no guarantee of benefits has been made to encourage me to participate.

I understand that I may receive a synopsis or summary of this research when completed which may be of help to me.
IV. EXTENT OF ANONYMITY AND CONFIDENTIALITY

I understand that the results of this study will be kept strictly confidential. I understand that at no time will the researchers release the results of the study to anyone other than individuals working on the project without my written consent. In addition, I understand that the information I provide will have my name removed and only a subject number will identify me during analyses and any written reports of the research.

I understand that the interview portion of the posttreatment assessment will be audiotaped and will only be reviewed by individuals working on the Self-Help Project and will be erased within one month of the interview.

V. COMPENSATION

I understand that I will not be compensated for participation in this treatment study.

VI. FREEDOM TO WITHDRAW

I understand that I am free to withdraw from this study at any time without penalty. If I choose to withdraw, I will be reimbursed for any part of the overall project fee of $35.00 I am entitled to.

VII. APPROVAL OF RESEARCH

I understand that this research project has been approved, as required, by the Institutional Review Board for projects involving human subjects at Virginia Polytechnic Institute and State University, and by the Department of Psychology.

VIII. SUBJECT'S RESPONSIBILITIES

I know of no reason I cannot participate in this study. If I indicated as having one of the above medical and/or psychological conditions which I previously reviewed, I understand that it is my responsibility to inform the researchers.

______________________________
Signature

______________________________

IX. SUBJECT'S PERMISSION

I have read and understand the informed consent and conditions of this project. I have had all my questions answered. I hereby acknowledge the above and give my voluntary consent for participation in this project.

If I participate, I may withdraw at any time without penalty. I agree to abide by the rules of this project.

Should I have any questions about this research or its conduct, I will contact:
Greg A. R. Febbraro  
Investigator
(540) 231-3235  
Phone

George A. Cium  
Faculty Advisor
(540) 231-5701  
Phone

Ernest R. Stout  
Chair, IRB  
Research Division
(540) 231-9359  
Phone
Appendix C

Retrospective Panic Disorder Section

PANIC DISORDER

1a. In the two weeks prior to beginning the Self-Help Project, did you have times when you felt a sudden rush of intense fear or discomfort?

YES ____  NO ____

If YES, skip to 2a.

b. If NO, did you ever have times when you felt a sudden rush of intense fear or discomfort?

YES ____  NO ____

If YES, when was the most recent time this occurred?

________________________________________________________________________

If YES to either 1a. or 1b., or uncertain, continue inquiry.

Otherwise skip to AGORAPHOBIA (p. 8).

2a. In what kinds of situation(s) did you have these feelings? Where were you most likely to have these feelings?

________________________________________________________________________

________________________________________________________________________

b. Did you ever have these feelings come from "out of the blue," for no apparent reason, or in situations where you did not expect them to occur?

YES ____  NO ____

If patient indicated the presence of unexpected panic symptoms, further inquiry is necessary to determine if these symptoms occurred in a number of situational contexts or whether the symptoms were circumscribed to a particular type of situation (as can occur in Social or Specific Phobia).
3. How long did it usually take for the rush of fear/discomfort to reach its peak level?
   
   ____ minutes

4. How long did the fear/discomfort usually last at its peak level?
   
   ____ minutes

If no evidence of unexpected (uncued) panic attacks,
   Skip to AGORPAHOBIA (p. 8).

II. SYMPTOM RATINGS

In this section rate symptoms only for panic attacks that occurred UNEXPECTEDLY, in a variety of situations. Panic symptoms that were limited to a single stimulus (e.g., enclosed places or heights, social situations, obsessional content, etc.) should not be rated here. In mixed or uncertain cases, ratings can be completed in this section. Rate the severity of each symptom that was typical of the most recent period of attacks and, when appropriate, what characterized a typical attack in a separate past episode of disturbance. If a symptom was experienced during only some attacks (i.e., did not typically occur during an attack), enclose the rating in parentheses. DSM-IV defines a panic attack as a discrete period of intense fear or discomfort, in which at least 4 of the symptoms listed below developed abruptly and reached a peak within 10 minutes. If typical attacks did not include 4 symptoms, determine if any attack included 4 symptoms.

Use the following when rating symptoms:

1) During the panic attacks, did you usually experience _____?

2) How distressing/severe was the symptom to you? If there was any doubt about whether the symptom was typical, ask: Do you experience this nearly every time you have an attack?
1. Rate the severity of typical symptoms using the following scale:

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
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<tr>
<td>None</td>
<td>Mild</td>
<td>Moderate</td>
<td>Severe</td>
<td>Very severe</td>
<td></td>
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<table>
<thead>
<tr>
<th>FULL</th>
<th>LSA</th>
<th>COMMENTS</th>
</tr>
</thead>
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<tr>
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</tbody>
</table>

a. Palpitations, pounding heart, or accelerated heart rate
b. Sweating
c. Trembling or shaking
d. Shortness of breath or smothering sensations
e. Feeling of choking
f. Chest pain or discomfort
g. Nausea or stomach distress
h. Chills or hot flushes
i. Dizziness, unsteady feelings, lightheadedness, or faintness
j. Feelings of unreality or being detached from oneself
k. Numbness or tingling sensations
l. Fear of dying
m. Fear of going crazy
n. Fear of doing something uncontrolled

2a. If the patient reported 4 or more symptoms per typical attack, ask:

DID YOU HAVE PERIODS (ATTACKS/SPELLS) WHEN YOU HAD A SUDDEN, UNEXPECTED RUSH OF FEAR/DISCOMFORT THAT WAS ACCOMPANIED BY ONLY ONE OR TWO OF THESE SYMPTOMS?

YES _____  NO _____

If YES, go back and rate severity of symptoms under Limited Symptom Attack (LSA)
column.

b. If the patient reported less than 4 symptoms per typical attack, ask:

DID YOU HAVE PERIODS (ATTACKS/SPELLS) WHEN YOU HAD A SUDDEN, UNEXPECTED RUSH OF FEAR/DISCOMFORT THAT WAS ACCOMPANIED BY FOUR OR MORE OF THESE SYMPTOMS?

YES ______ NO _______.

If YES, go back and rate severity of symptoms under Full Attack (FULL) column, switching ratings for typical, recent panic attacks Limited Symptom Attack (LSA) column.

III. CURRENT EPISODE

Now I want to ask you a series of questions about the period of panic attacks just prior to treatment.

1a. How many panic attacks did you have in the month prior to the Self-Help Project?

_____ Full _____ Limited

b. How many panic attacks did you have in the 6 months prior to the Self-Help Project?

_____ Full _____ Limited

2a. In the month prior to treatment, how much did you worry about, or how apprehensive were you of having another panic attack?

0 1 2 3 4 5 6 7 8
No Rarely Occasionally Frequently Constantly
worry/ worried/ worried/ worried/ worried/ 
No Mild Moderate Severe Extreme
apprehension apprehension apprehension apprehension apprehension

If no evidence of persistent concern/worry about panic over past month ask, Since your first attack, was there been a period of a month a more when you were worried that you might have more attacks?
YES____  NO____

If YES, WHEN WAS THIS?

FROM ________

TO ________

b. SPECIFICALLY, WHAT TYPES OF THINGS DID YOU ANTICIPATE HAPPENING AS THE RESULT OF THE ATTACKS?

(Inquire about immediate and long-term consequences.)

____________________________________________________________________________________

____________________________________________________________________________________

c. DID THE ATTACKS CAUSE YOU TO CHANGE YOUR BEHAVIOR/LIFESTYLE IN ANY WAY?

YES____  NO____

If YES, HOW SO?

____________________________________________________________________________________

____________________________________________________________________________________

Situational avoidance (i.e., agoraphobia):

____________________________________________________________________________________

Interceptive sensitivity/avoidance (e.g., physical exertion, sex, caffeine, expressing strong emotions, hot places, thrilling movies, activities that heighten awareness of bodily sensations):

____________________________________________________________________________________

Safety signals (e.g., medications, people, access to telephones/car):

____________________________________________________________________________________

Distraction (loud music, keeping TV on, staying involved in activities):

____________________________________________________________________________________

Lifestyle changes (e.g., reduction in "stressful" activities):
3. **In what ways did the panic attacks interfere with your life (e.g., daily routine, job, social activities)?** How much were you bothered about having the attacks?

Rate interference: 0 1 2 3 4 5 6 7 8

None Mild Moderate Very severe

4a. **Can you recall your first panic attack that began the recent period of attacks prior to the project?**

YES ___ NO ___

If YES, when did it happen? _____ Month ________ Year

b. **Were you under any type of stress during this time?**

YES ___ NO ___

What was happening in your life at the time?

Were you experiencing any difficulties or changes in:

1. **Family/relationships?**

2. **Work/school?**

3. **Finances?**

4. **Legal matters?**

5. **Health (self/others)?**

C. **On the day of this first attack, were you taking any type of drug?** (Include alcohol/caffeine.)
YES ______  NO ______

If YES, specify type/amount:

___________________________________________________________

5. JUST PRIOR TO OR SINCE THE PANIC ATTACKS BEGAN, DID YOU REGULARLY TAKE ANY TYPES OF DRUGS?

YES ______  NO ______

Specify (type; amount; dates of use):

___________________________________________________________

___________________________________________________________

6. JUST PRIOR TO OR SINCE THE PANIC ATTACKS BEGAN, DID YOU HAVE ANY PHYSICAL CONDITION SUCH AS INNER EAR PROBLEMS, MITRAL VALVE PROLAPSE, PREGNANCY, HYPERTHYROIDISM, HYPOGLYCEMIA?

YES ______  NO ______

7. WHEN DID THE PANIC ATTACKS BECOME A PROBLEM IN THAT THEY OCCURRED REGULARLY AND/OR YOU BECAME VERY WORRIED OR ANXIOUS ABOUT HAVING MORE ATTACKS, OR THE ATTACKS CAUSED A CHANGE IN YOUR BEHAVIOR IN SOME WAY? (Note: if patient is vague in date of onset, attempt to ascertain more specific information, e.g., linking onset to objective life events.)

___________________________________________________________

___________________________________________________________

8. WHAT TYPES OF THINGS SEEMED TO TRIGGER THE ATTACKS? [Inquire about internal (thoughts, sensations, images) and external (feared situations, situations that elicit heightened self-focused attention, physical effects of various activities such as caffeine, exercise, etc.)

___________________________________________________________

___________________________________________________________

9. WHEN A PANIC ATTACK OCCURRED, HOW DID YOU HANDLE IT?

___________________________________________________________

___________________________________________________________

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10. **BESIDES THE RECENT PERIOD OF PANIC ATTACKS PRIOR TO THE SELF-HELP PROJECT, WERE THERE OTHER, SEPARATE PERIODS OF TIME BEFORE THIS WHEN YOU HAD THESE ATTACKS?**

   **YES___  NO___**

   If YES, the clinician should consider inquiring about past episodes, particularly if the clinician determines that this information may be important for clinical or diagnostic reasons.

   **Date(s) of prior episodes:**

   ___________________________
Appendix D

Appendix D is a copy of the Comprehensive Panic Profile (CPP). It is in the process of being copyrighted and, therefore, is not being reproduced here. Individuals interested in obtaining a copy of the CPP are encouraged to contact Dr. George A. Clum at the following address: Department of Psychology, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061-0436. Dr. Clum can also be contacted at (540) 231-5701.
Appendix E

Appendix E is a copy of the Beck Depression Inventory (BDI). Due to copyright laws, the BDI is not being reproduced here. Interested individuals are referred to Beck, Ward, Mendelson, Mock, and Erbaugh (1961).
Appendix F

Appendix F is a copy of the State-Trait Anxiety Inventory (STAI). Due to copyright laws, the STAI is not being reproduced here. Interested individuals are referred to Spielberger, Gorsuch, Lushene, Vagg, and Jacobs (1977).
Appendix G: Daily Monitoring Log (DML)

Appendix G is a copy of the Daily Monitoring Log (DML). It is in the process of being copyrighted and, therefore, is not being reproduced here. Individuals interested in obtaining a copy of the DML are encouraged to contact Dr. George A. Clum at the following address: Department of Psychology, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061-0436. Dr. Clum can also be contacted at (540) 231-5701.
Appendix H

SELF-HELP PANIC PROJECT: PHASE 2

Welcome to the treatment phase of the Self-Help Panic Project. Enclosed you will find two copies of an informed consent form along with a set of questionnaires and a medication checklist. It is very important that you first read the informed consent form and then sign both copies of it if you decide to participate in the treatment phase. Once you have decided to participate by signing the informed consent form, we would appreciate it if you would complete the enclosed questionnaires and medication checklist as soon as possible. We understand that you have previously completed some of the enclosed questionnaires. The sooner you complete and return the informed consent form, questionnaires, and medication checklist, the sooner you can begin treatment. Please use the checklist below to ensure that you have completed all of the necessary materials.

1. Sign both copies of the informed Consent Form
2. Enclose one copy of the Informed Consent Form in the self-addressed, stamped envelope provided and keep the other copy for your records.
3. Carefully complete the enclosed questionnaires making sure not to skip any items. Check to be sure you have answered all questions. Please contact Greg Febbraro at either 1-800-733-1129, (540) 231-3235 or (540) 231-6914 if you have any questions.
4. Complete the medication checklist.
5. Enclose the completed questionnaires and medication checklist in the self-addressed, stamped envelope provided.
6. Promptly mail one copy of the Informed Consent Form, the completed questionnaires, and medication checklist.
As soon as we receive the above materials, we will send you another packet with further instructions and any relevant materials.

Thank you for your continued participation in the Self-Help Panic Project.
Appendix I

Self-Help Project

Enclosed you will find the book *Coping with Panic: A Drug-Free Approach to Dealing with Anxiety Attacks*. You are to read this book at your own pace over the next 8 weeks. This book has been used successfully as a treatment intervention with individuals experiencing panic attacks. *Coping with Panic: A Drug-Free Approach to Dealing with Anxiety Attacks* was written to be utilized without therapist assistance. This book will do the following:

1) educate you about the development and nature of panic attacks
2) teach you a variety of coping strategies for dealing with your panic attacks
3) advise you on how to put coping strategies into action
4) provide you with homework assignments which will allow you to practice various coping strategies.

You will be contacted by telephone in approximately 8 weeks to schedule a posttreatment assessment. Depending upon where you live, the posttreatment assessment will be conducted either in-person or over the telephone. In order to ensure that you have received this packet, please return the enclosed self-addressed, stamped postcard as soon as possible.

Once again, thank you for your continued participation in the Self-Help Project. Good Luck.
Appendix J

Self-Help Project

Enclosed you will find the book Coping with Panic: A Drug-Free Approach to Dealing with Anxiety Attacks. You are to read this book at your own pace over the next 8 weeks. This book has been used successfully as a treatment intervention with individuals experiencing panic attacks. Coping with Panic: A Drug-Free Approach to Dealing with Anxiety Attacks was written to be utilized without therapist assistance. This book will do the following:

1) educate you about the development and nature of panic attacks
2) teach you a variety of coping strategies for dealing with your panic attacks
3) advise you on how to put coping strategies into action
4) provide you with homework assignments which which will allow you to practice various coping strategies.

In regards to the Daily Monitoring Log, it is important that you use this booklet on a daily basis. This booklet will allow you to monitor on a daily basis behaviors associated with panic attacks. The specific instructions regarding the use of the Daily Monitoring Log are included at the beginning of the booklet.

You will be contacted by telephone in approximately 8 weeks to schedule a posttreatment assessment. Depending upon where you live, the posttreatment assessment will be conducted either in-person or over the telephone. In order to ensure that you have received this packet, please return the enclosed self-addressed, stamped postcard as soon as possible.

Once again, thank you for your continued participation in the Self-Help Project. Good Luck.
Appendix K

Self-Help Project

Enclosed you will find a self-regulatory booklet entitled *Daily Monitoring Log*. It is important that you use this booklet on a daily basis for 8 weeks. The *Daily Monitoring Log* will allow you to monitor on a daily basis behaviors associated with panic attacks. The specific instructions regarding the use of the *Daily Monitoring Log* are included at the beginning of the booklet.

You will be contacted by telephone in approximately 8 weeks to schedule a posttreatment assessment. Depending upon where you live, the posttreatment assessment will be conducted either in-person or over the telephone. In order to ensure that you have received this packet, please return the enclosed self-addressed, stamped postcard as soon as possible.

Once again, thank you for your continued participation in the Self-Help Project. Good Luck.
APPENDIX L

SELF-HELP PROJECT

You will be contacted by telephone in approximately 8 weeks to schedule a posttreatment assessment. Depending upon where you live, the posttreatment assessment will be conducted either in-person or over the telephone. In order to ensure that you have received this packet, please return the enclosed self-addressed, stamped postcard as soon as possible.

Thank you for your patience over the next several weeks and your continued participation in the self-help project.
Appendix M

Treatment Credibility Questionnaire

We are interested in obtaining your impressions regarding the self-help treatment you just completed. Please answer each question as honestly as possible. Circle the number which best reflects your feelings.

1. How logical did this type of treatment appear to be in terms of decreasing panic attacks?

   1  2  3  4  5  6  7  8  9
   not at all logical
   very logical

2. How confident are you that this treatment was successful in reducing your panic attacks?

   1  2  3  4  5  6  7  8  9
   not at all confident
   very confident

3. How confident would you be in recommending this treatment to a friend with panic attacks?

   1  2  3  4  5  6  7  8  9
   not at all confident
   very confident

4. How important do you think it is that we make this treatment available to others who experience panic attacks?

   1  2  3  4  5  6  7  8  9
   not at all important
   very important

5. Please rate the level of mastery of coping with panic attacks you believe you obtained by the end of treatment.

   1  2  3  4  5  6  7  8  9
   no mastery at all
   great mastery
APPENDIX N

Reading Assessment Questions

1. How many pages of *Coping with Panic* did you read?

2. Specifically, which chapters did you read? Which chapters did you read more than once?

3. Describe (name) as many coping strategies as you can recall that are mentioned in the book?

4. Which homework assignments did you do?

5. Describe the anticipatory response.

6. Describe the avoidance response.

7. What is cognitive distraction?

8. What is a catastrophic cognition?


10. Describe the circular thinking underlying avoidance strategies.

11. What strategies should one use to overcome their avoidance?
APPENDIX Q

DAILY MONITORING LOG CREDIBILITY QUESTIONNAIRE

1. How helpful did you find this monitoring log to be in reducing your panic attacks?
   
   1  2  3  4  5  6  7  8  9
   Not at all helpful
   Very helpful

2. How helpful did you find plotting behaviors associated with your panic attacks on a weekly basis to be in monitoring your progress?
   
   1  2  3  4  5  6  7  8  9
   Not at all helpful
   Very helpful

3. How easy was this monitoring log to use?
   
   1  2  3  4  5  6  7  8  9
   Not at all easy
   Very easy

4. Would you recommend using this monitoring log a to friend for reducing his or her panic attacks?
   
   1  2  3  4  5  6  7  8  9
   Not at all recommend
   Very strongly recommend

5. Are there other behaviors associated with panic attacks you think need to be monitored and should have been included in this monitoring log? Are there certain things that should be deleted from the monitoring log?
CURRICULUM VITA

Gregorio A. R. Febbraro
119 Peterborough St., Apt. 32
Boston, MA 02215
(617) 267-3171 (home)
(617) 232-9500, ext. 4036 (work)

DATE OF BIRTH:

October 13, 1966; Pittsburgh, PA

EDUCATION:

Doctor of Philosophy, April, 1997
Virginia Polytechnic Institute and State University
George A. Clum, Ph.D., Chair

Preliminary Examination, February, 1995
Preliminary Examination Project: Meta-analytic Investigation of Self-Regulatory Components and/or Principles in the Treatment of Adult Problem Behaviors
Virginia Polytechnic Institute and State University
George A. Clum, Ph.D., Chair

Master of Science, December, 1993
Thesis Project: A Critical Examination of the Phenomenon of Claustrophobia: Do Subtypes Exist?
Virginia Polytechnic Institute and State University
George, A. Clum, Ph.D., Chair

Bachelor of Science, April, 1988
Major: Psychology
Minors: Biology and History
Graduated Summa Cum Laude
University of Pittsburgh
Undergraduate Academic Honors

Dean's Honor List every term
Academic Scholarship for 1987-1988 academic year
Named University Scholar in March, 1987 and March, 1988
Golden Key National Honor Society

PROFESSIONAL AFFILIATIONS

American Psychological Association
Student Member

Association for Advancement of Behavior Therapy
Student Member

Special Interest Group for Anxiety Disorders
Student Member

Southeastern Psychological Association
Student Member

RESEARCH EXPERIENCE:

Continuing Research--December, 1993-Present

Anxiety disorders and suicidality among community
populations and college students, examination of self-
regulation models of behavior, and self-help treatments for
individuals with panic attacks

Research Assistant--August, 1992-August, 1994

Assessor on an NIMH funded research project examining
suicidality in the 18-24 aged college/graduate student
population.

Supervisor: George A. Clum, Ph.D.

Duties included determining eligibility of subjects for
treatment through use of Structured Clinical Interview for
DSM-III-R, Non-patient version (SCID-NP) and Borderline
section of Personality Disorders Examination (PDE).
Additional duties included preparation of manuscripts for
publication.

Research Assistant--May, 1986-May, 1987

Completed three independent studies at Western Psychiatric Institute and Clinic. Duties included performing behavioral observations in a controlled classroom setting, analysis and graphing of observational data, data entry, scoring various self-report instruments, assisting in the supervision of the Token Economy system on the Adolescent/Young Adult Unit and assisting in the construction of a coding system used to rate mood changes in bulimic women.

Supervisor: Francis C. Harris, Ph.D.

WORK EXPERIENCE:

Research Associate--March, 1990-July, 1991

Western Psychiatric Institute and Clinic
3811 O'Hara Street
Pittsburgh, PA 15213

Supervisors: Samuel M. Turner, Ph.D.
             Deborah C. Beidel, Ph.D.

Worked on 3 NIMH funded grants entitled "Treatment of Social Phobia", "Children at Risk for Anxiety Disorders" and "Reactivity, Cognition and Childhood Anxiety Disorders". Duties included conduction of psychophysiological assessments with adults and children and participation in flooding therapy sessions. Additionally, involved in management of social phobia data through the use of university mainframe computer system. Administered the Wechsler Intelligence Scale for Children, Revised and Wide Range Achievement Test. Also aided in the computer entry of self-report batteries, assessment and treatment data. Conducted library research and assisted in supervision of students and volunteers. Aided in subject recruitment.
Research Associate--August, 1989-March, 1990

Western Psychiatric Institute and Clinic
3811 O'Hara Street
Pittsburgh, PA 15213

Supervisor: Karen Marchione, M.S.

Worked on an NIMH funded grant entitled "Prevention of Antisocial Behaviors in Children". Duties included conducting an average of 12 behavioral interviews per week of parents and children (the interview used was the Diagnostic Interview Schedule for Children, the DISC), referring parents and children to counseling and/or support services, and data entry.

Child Care Worker--December, 1988-August, 1989

The Bradley Center
Saxonburg Blvd.
Pittsburgh, PA 15238

Supervisors: Edward Burke, B.A.
            Chris LeFean

Duties included direct care of children ranging in ages from 6 to 17 and the development and implementation of individual behavioral service plans for each child.

Research Assistant--June, 1988-August, 1988

Western Psychiatric Institute and Clinic
3811 O'Hara Street
Pittsburgh, PA 15213

Supervisors: William E. Pelham, Ph.D.
             Karen Greenslade, M.B.A.

Duties included the administration of various psychological measures, data collection and data entry in the Summer Treatment Program for Attention-Deficit Disordered Children.
CLINICAL EXPERIENCE

Psychology Intern--September, 1996-Present

Tufts University School of Medicine/
Boston Department of Veteran Affairs
Psychology Internship Consortium
150 South Huntington Avenue
Boston, MA 02130

Duties include inpatient and outpatient counseling (both individual and group) and assessment, psychological testing, participation in staff meetings and case conferences, supervision of volunteers and weekly individual supervision. Rotations include Outpatient Clinics, National Center for PTSD and Inpatient Psychiatry.

Graduate Clinician--January, 1996-May, 1996

Psychological Services Center
Virginia Polytechnic Institute and State University
3110 Prices Fork Road
Blacksburg, VA 24060
(540) 231-6914

Supervisor: George A. Clum, Ph.D.

Duties included outpatient counseling and assessment, psychological testing, participation in case conferences, and weekly individual supervision.


Psychological Services Center
Virginia Polytechnic Institute and State University
3110 Prices Fork Road
Blacksburg, VA 24060
(540) 231-6914

Supervisor: Sara G. Mattis, M.S.

Duties included co-leading groups for a dissertation project
investigating group treatment for non-clinical college
panickers. Helped conduct two groups—one utilized a
cognitive-behavioral approach and one utilized an
educational approach

Graduate Clinician (Fourth Year Practicum)—August, 1994—
May, 1995

Psychological Services Center
Virginia Polytechnic Institute and State University
3110 Prices Fork Road
Blacksburg, VA 24060
(540) 231-6914

Supervisors: George A. Clum, Ph.D.
Russell T. Jones, Ph.D.

Duties included outpatient counseling and assessment,
psychological testing, participation on a practicum team,
participation in case conferences, supervision of 1st and
2nd year students and weekly individual supervision.

Plethysmographer—May, 1994–August, 1994

Community Corrections of Virginia, Inc.
2328A Peters Creek Road, N.W.
Roanoke, VA 24017
(540) 562-0112

Supervisor: Isaac T. Van Patten, Ph.D.

Duties included physiological assessment of sex offenders
via a plethysmograph.

Graduate Clinician—September, 1993–May, 1994

Department of Veteran Affairs
Medical Center
Salem, VA 24153
(540) 982-2463

Supervisors: Jerry D. Gilmore, Ph.D.
M.K. Johnson, Ph.D.
Kim Ragsdale, Ph.D.
Stephen Lash, Ph.D.

Major rotations in Behavioral Medicine and Outpatient Clinic. Minor rotations in the Substance Abuse Treatment Program and Sex Offender Program. Duties included inpatient and outpatient counseling (both individual and group), psychological testing, physiological assessment of sex offenders via a plethysmograph and weekly individual supervision.

Graduate Clinician (Second Year Practicum)--August, 1992-May, 1993

Psychological Services Center
Virginia Polytechnic Institute and State University
3110 Prices Fork Road
Blacksburg, VA 24060
(540) 231-6914

Supervisors: Robert S. Stephens, Ph.D.
Jack W. Finney, Ph.D.

Duties included outpatient counseling and assessment, psychological testing, participation on a practicum team, and weekly individual supervision.

Graduate Clinician (First Year Practicum)--August, 1991-May, 1992

Psychological Services Center
Virginia Polytechnic Institute and State University
3110 Prices Fork Road
Blacksburg, VA 24060
(540) 231-6914

Supervisors: George A. Clum, Ph.D.
Jack W. Finney, Ph.D.

Duties included outpatient counseling and assessment, psychological testing, participation on a practicum team, participation in case conferences, and weekly individual
supervision.

TEACHING EXPERIENCE:

Instructor--August, 1995-December, 1995

Virginia Polytechnic Institute and State University
Department of Psychology
Blacksburg, Virginia 24061-0436

Teaching Mentor: Richard A. Winett, Ph.D.

Duties included planning and implementing an undergraduate course in Behavior Modification.

Graduate Laboratory Instructor--August, 1994-May, 1995

Virginia Polytechnic Institute and State University
Department of Psychology
Blacksburg, Virginia 24061-0436

Teaching Mentors: Ellie T. Sturgis, Ph.D. (Fall, 1994);
                   Robert S. Stephens, Ph.D. (Spring, 1995)

Duties included planning and implementing two undergraduate laboratory courses in Personality Research.

Graduate Teaching Assistant--January, 1994-May, 1994

Virginia Polytechnic Institute and State University
Department of Psychology
Blacksburg, Virginia 24061-0436

Supervisor: Ellie T. Sturgis, Ph.D.

Duties included assisting graduate students in understanding course material for Personality Processes.

Computer Teaching Assistant--August, 1992-April, 1993;
August, 1993-December, 1993

Virginia Polytechnic Institute and State University
Department of Psychology
Blacksburg, Virginia 24061-0436
Supervisor: Robert Schulman, Ph.D.

Duties included teaching students how to use SAS on the mainframe and personal computer systems.

Psychology Laboratory Instructor--August, 1991-May, 1992

Virginia Polytechnic Institute and State University
Department of Psychology
Blacksburg, Virginia 24061-0436

Supervisor: Michael Casey, Ph.D.

Duties included teaching two introductory psychology laboratory sections during the Fall, 1991 semester and teaching three introductory psychology laboratory sections during the Spring, 1992 semester.

PUBLICATIONS:


BOOK CHAPTERS:


WORKS IN PROGRESS:


PRESENTATIONS AND POSTERS:


PERSONAL REFERENCES:

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Virginia Polytechnic Institute
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251 Causeway Street
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Blacksburg, VA 24061-0436
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Boston VA Medical Center-116B2
150 South Huntington Avenue
Boston, MA 02130
(617) 232-9500, extension 4130

Teresa A. R. Fabbro