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# The Differential Impact of Expectancies and Symptom Severity on Cognitive Behavior Therapy Outcome in Panic Disorder with Agoraphobia

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## 1. Introduction

Cognitive behavior therapy (CBT) is the treatment of choice for panic disorder with agoraphobia (PDA). Numerous studies have been conducted on the short- and long-term effectiveness of CBT. Treatment effectiveness could range as low as 25% and as high as 90% (e.g., Barlow et al. 1989; Black et al., 1993; Fava et al., 1995; Margraf et al., 1993; Öst & Westling, 1995; Shear et al., 1994; Taylor et al., 1996). Nevertheless, most studies have concluded that CBT appears to be the most effective treatment to date in reducing panic-related symptomatology in the short- and long-term (Clark et al., 1994; Craske et al., 1991; Fava, et al., 1995). However, some clients continue to experience anticipatory anxiety and avoidance following CBT (Clark et al., 1994; Craske et al., 1991; Klosko et al., 1990). Brown and Barlow (1995) conducted a long-term outcome study using stringent criteria for treatment efficacy. Although the treatment had produced substantial improvements, their findings revealed that only 20.6% of their sample could be considered as treatment success after two years. One of their recommendations for future studies was to examine predictors of treatment response. Following up on these recommendations, the present study aims to determine why some clients do not respond to CBT or only show partial benefits.

Outcome studies have examined the impact of different client variables such as motivation, personality traits, socio-demographic characteristics, diagnosis, and intelligence to name a few. The important role of client variables in psychotherapy has been confirmed in numerous studies since the 1940's (see Garfield, 1986 and Lambert & Assay, 1984). Highlen and Hill (1984) conducted an extensive review on the effects of psychotherapy and concluded that client characteristics are the most important and influential factors relating to treatment outcome and to long-term improvement (Highlen & Hill, 1984).

Several variables listed by Highlen and Hill (1984), have been important in predicting treatment outcome and long-term improvement in PDA. For instance, the severity of

agoraphobic avoidance and depressed mood have been detected as predictors in the maintenance of panic attacks (Keijsers et al., 1994). Comorbidity has also been a determining factor that predicts poorer outcome in PDA after cognitive-behavior therapy and pharmacologic treatment have been administered (Keijsers et al., 1994; Pollack et al., 1994; Pollack et al., 1993). The use of "safety behaviors" has been found to reduce the effectiveness of exposure (Wells et al., 1995). Safety behaviors may include both behaviors and objects that are designed to help patients prevent their feared consequences from coming true. Such behaviors may include carrying water, chewing gum, listening to the radio, standing near a wall (in case one experiences symptoms of dizziness), and other similar behaviors that help them cope with their symptoms. Finally, anxiety sensitivity, an expectancy variable, has been associated with poorer outcome and relapse in patients with PDA (Keijsers et al., 1994; Reiss, 1991; Reiss et al., 1986; Schmidt et al., 1997).

Individuals with PDA live in anticipation or expectation of the next panic attack and may restructure their lifestyle in response to this anticipation. Panic disorder patients will anticipate with fear that their bodily sensations associated with panic attacks will result in harmful psychological, somatic or social consequences (Craske & Barlow, 1993). Anxiety sensitivity is this belief that the experience of anxiety will cause them harm. (Reiss, 1991; Reiss et al., 1986). Anxiety sensitivity arose out of research conducted on motivation to avoid feared objects, situations or physical symptoms (Reiss, 1991). From this research, Reiss' expectancy theory (Reiss, 1991; Reiss & Havercamp, 1996; Reiss et al., 1986) emerged which proposed that fear is composed of two distinct factors: expectations (what one expects will happen to him/her) and sensitivities (why one is afraid of the expected occurrence). According to this theory, individuals may hold danger expectancies (e.g., "I expect to get bitten by that dog"), expectations of being socially evaluated ("I expect others to laugh at me") and anxiety expectancies (e.g., "I expect to have a panic attack if I go on the subway"). With regards to sensitivity, individuals may possess sensitivities regarding injury (e.g., "I expect to die from an infection if the dog bites me"), social evaluation (e.g., "I expect to turn red if they laugh at me") and anxiety (e.g., "I expect to have a heart attack if I panic"). While expectations and sensitivities vary from one individual to another, they seem to be particularly elevated in individuals with panic disorder (e.g., Reiss, 1991; McNally, 1992; Taylor et al., 1992). The above studies reviewed on expectancies indicate that they may be important contributors to PDA development, especially with respect to anxiety sensitivity (Reiss et al., 1986; Schmidt et al., 1997).

Expectancy theory further postulates that anxiety expectancy stems from learned experiences that a given stimulus will generate anxiety or fear (Reiss & McNally, 1985). Nevertheless, a person need not experience anxiety in a particular situation in order to anticipate it. Certain situations may come to be associated with fear or anxiety after an individual has witnessed someone having a panic attack. Conversely, it is believed that anxiety sensitivity may be developed through learned experiences (Donnell & McNally, 1990) and inherited through biological factors (Reiss & McNally, 1985). For instance, although Donnell and McNally (1990) found that participants with high anxiety sensitivity were more likely to have experienced both a personal and family history of panic, two-thirds had never suffered a panic attack. In addition, findings from a retrospective study on the origins of anxiety sensitivity suggested that participants with high levels of anxiety sensitivity may have learned to catastrophize about the occurrence of bodily symptoms through parental reinforcement of sick-role behavior related to physical symptoms rather than anxiety-related symptoms (Watt et al., 1998). Schmidt and colleagues (1997) also revealed that anxiety

sensitivity predicts the development of panic and other anxiety symptoms independent of history of panic and trait anxiety. Thus, anxiety sensitivity is not considered a consequence of experiencing a panic attack, but rather a predisposing bio-psycho-social factor to developing panic. This suggests that an individual who experiences a panic attack but does not develop panic disorder may not have the biological markers nor the psychological and social attributes to developing panic disorder. This is somewhat consistent with Clarke's (1986) cognitive model of panic that posits that the development and maintenance of panic arise from a fear that bodily sensations will lead to harmful consequences.

Several studies have demonstrated that a greater association exists between anxiety expectancy and avoidance behavior, rather than with the occurrence of panic attacks and avoidance (e.g., Cox et al., 1995; Cox et al., 1991; Craske et al., 1988; Whittal & Goetsch, 1997). As expectation of panic increases, so does avoidance. This finding is also supported by Craske and Barlow's (1988) hypothesis suggesting a greater relationship between avoidance behavior and anxiety expectancy.

Treatments aimed at diminishing the expectation of anxiety may also be effective in reducing the amount of fear actually experienced by the individual (e.g., Kirsch et al., 1983). For instance, Kirsch and colleagues (1983) succeeded in diminishing the amount of fear experienced in snake phobic patients through systematic desensitization and through an expectancy modification procedure. They concluded that the level of fear experienced by individuals with a snake phobia varies as a function of anxiety expectancy. Southworth and Kirsch (1988) also found that when the expectations of the occurrence of anxiety are reduced, patients with agoraphobia experienced less fear. These findings suggest that when clients expect to experience anxiety and they do not after several sessions of exposure, their fear ultimately diminishes. Changing expectations may have a direct impact on symptoms.

Earlier studies on the effects of expectancies on outcome mostly focussed on prognostic expectations (i.e., the probability of a therapeutic success) that clients have when they enter into treatment (e.g., Frank, 1959; Goldstein & Shipman, 1961; see Goldstein, 1962; Piper & Wogan, 1970). However, in a review on psychotherapy, Perotti and Hopewell (1980) concluded that although expectancy effects are important in various interventions including systematic desensitization, pre-treatment expectations have little effect. Measuring expectations both at pretherapy and during the early treatment phase may not only provide information on whether clients can change their expectations but it may also shed some light on the impact these cognitive shifts have on outcome. After several sessions of therapy, expectations may shift towards a positive direction if clients perceive improvement or they may shift towards a negative direction if no benefits are noticed (Weiner, 1982).

The research on panic disorder with agoraphobia has established the importance of expectancies in the development and maintenance of PDA (Ehlers, 1995; Maller & Reiss, 1992; Schmidt et al., 1997; Watt et al., 1998). However, there is a paucity of data examining the differential effects of distinct types of expectancies (i.e., anxiety expectancy and sensitivity, avoidance expectancy) on initial severity and outcome of PDA using a cognitive-behavioral treatment. Studies examining possible predictors in treatment outcome have determined that pre-symptom severity has an impact, especially pre-treatment agoraphobic avoidance and longer duration (e.g., Basoglu et al., 1994; de Beurs et al., 1995; Williams, & Falbo, 1996). However, no study to our knowledge has examined the differential impact of symptom severity and expectancies on cognitive-behavior therapy outcome of panic disorder with agoraphobia. Examining the relative contribution of these variables may

foster a greater understanding as to why some PDA clients show partial or no response to CBT. This may enable therapists to better prepare their treatment plan.

There were several objectives to this study. First, we examined the impact of different types of expectancies on pre-treatment symptom severity. Expectancies that were examined included anxiety sensitivity, anxiety expectancy and prognostic expectancy as measured by avoidance expectancy (i.e., expectancy of avoidance at the end of treatment). Symptom severity was measured in terms of frequency of catastrophic cognitions during a panic attack, degree of fear of symptoms already experienced during a panic attack, panic symptomatology, avoidance, and by depressive symptoms. It was predicted that the severity of baseline expectancy would be associated with baseline symptom severity. Second, we examined the impact of the initial treatment phase scores in contrast to baseline scores on outcome. With respect to symptoms, our hypothesis is consistent with theories on in-session change in cognitive-behavior therapy that suggest that shifts in symptoms during sessions are better predictors of outcome than pretreatment severity (see Muran et al., 1995). We predicted that initial treatment phase symptom scores would be better predictors of outcome than baseline scores. With respect to expectancies, it was hypothesised that early treatment phase scores would be better predictors of outcome than baseline. After being exposed to several components of therapy, it is assumed that participants will adjust their expectations to be more consistent with the information received in the first few sessions. Finally, we examined the contribution of expectancies above and beyond the contribution of symptoms on the outcome of PDA following a cognitive-behavior therapy.

## 2. Method

### 2.1 Participants

The sample consisted of 49 participants (14 males, 35 females) with a principal DSM-IV (Diagnostic and Statistical Manual of Mental Disorders, 4th ed.; American Psychiatric Association, 1994) diagnosis of panic disorder with agoraphobia. Sixteen participants dropped out from pre- to post-treatment. Eleven males and 22 females completed the study. The mean age of the initial sample was 39.3 years (SD = 11.19; range: 19 - 65 years) and the mean education level was 11.6 years (SD = 3.06). The average number of years of marriage or cohabitation was 12.3 years (SD = 11.98). There were 71.5% of the participants who were either married or cohabiting, 22.4% were single, 2% were separated or divorced and 2% were widowed. Most participants (n = 31; 63.3%) were taking psychoactive medication for their panic attacks. Twenty-three participants were recruited from two specialised outpatient anxiety disorder clinics in Montreal: the Douglas Hospital Anxiety Clinic (n = 8) and the Centre for Intervention for Cognitive Behavioral Therapy at Louis-H. Lafontaine Hospital (n = 15). The remaining participants were recruited from advertisements in the local newspapers (n=26).

Patients included in the study met the following criteria: (a) a primary DSM-IV diagnosis of PDA assigned by one of the psychiatrists; (b) a primary diagnosis of PDA with a clinical severity rating of 4 or above on a scale ranging from 0 (none) to 8 (very severely disturbing-disabling), established by administering the Anxiety Disorders Interview Schedule for DSM-IV, Lifetime Version (ADIS-IV-L; DiNardo, Brown, & Barlow, 1994), (c) a secondary DSM-IV axis I diagnosis with an assigned ADIS-IV-L clinical severity rating which ranges from moderate to severely disabling (i.e., 4 to 6) and consists of a rating of 2 or more levels lower than the PDA rating, (d) age between 18 and 65 years, and (e) at least a mean of 1 panic

attack per week in the 3 weeks prior to participation in the assessment. Exclusion criteria included: (a) the presence of substance-related, psychotic and bipolar disorders and any organic brain conditions as evaluated by the psychiatrists; and, (b) the presence of any unstable medical condition considered by the evaluating psychiatrist to be mistaken for anxiety symptoms (e.g., thyroid disorders, asthma, cardiovascular diseases, etc).

The average duration of PDA was 13 years (SD = 10.4; range: 1 - 40 years). Secondary diagnoses as assessed by the psychiatrists and the ADIS-IV-L included other anxiety disorders, hypochondriasis and affective disorders. Twenty-four patients also met criteria for one or more of the following secondary diagnoses ranging from moderate (i.e., 4) to severely disabling (i.e., 6): generalized anxiety disorder (n = 13), dysthymia (n = 4), social phobia (n = 3), post traumatic stress disorder (n = 3), specific phobia (n = 2), obsessive compulsive disorder (n = 2), hypochondriasis (n = 2), major depressive disorder (n = 1), and mania (n = 1). For all secondary diagnoses, the ADIS-IV-L clinical severity rating was 2 or more levels lower than the PDA rating. Participants accepted in the study with a secondary diagnosis had disorders that were not in immediate need of treatment as assessed by the psychiatrists.

A high percentage of patients (n = 31; 63.3%) were taking psychoactive medication. Medication needs of the patients were evaluated during the evaluation with the psychiatrist. Participants under pharmacological treatment for anxiety, at the time of the evaluation, were permitted to participate only after medication had been stable for 6 weeks prior to treatment. Participants were asked to maintain the same dosage throughout the treatment phase of the study to allow for evaluation of the effects of psychotherapy above the effects of these drugs (e.g., Brown & Barlow, 1995). Participants taking medication were not asked to discontinue pharmacotherapy before treatment since (a) many individuals would probably not participate because they would not want to stop taking their medication before treatment, and (b) discontinuing medication during treatment may lead to an increase in panic attacks which may affect responses given on baseline measures (Öst & Westling, 1995).

## 2.2 Treatment

Treatment was administered by experienced clinical psychologists. Co-therapists consisted of doctoral students in clinical psychology. They had experience in cognitive-behavior therapy, had been trained in administering the group treatment for PDA and were closely supervised by the second author of this study. All therapists followed a written manual which included the protocol for each session. There were a total of 6 groups that consisted of a maximum of 10 participants. Cognitive behavior group therapy was administered based on the Panic Control Treatment developed in SUNY Albany (Craske & Barlow, 1990). The treatment consisted of 14 weekly, 3-hour sessions and comprised five major components: (a) education and information concerning the nature, etiology and maintenance of panic; (b) cognitive restructuring (Beck, 1988) aimed at demystifying symptoms and fears and helping participants identify, monitor and change mistaken appraisals of threat that precipitate panic attacks and maintain avoidance behaviors; (c) training in diaphragmatic breathing as a way of reducing physical symptoms that often trigger panic attacks; (d) interoceptive exposure exercises designed to reduce fear of somatic sensations through repeated exposure to bodily sensations associated with panic; and (e) prolonged and repeated in vivo exposure to feared situations. Participants were also expected to practice techniques and read relevant material on PDA in between sessions.

## **2.3 Measures**

### **2.3.1 Symptom measures**

Participants completed a battery of self-reported questionnaires commonly used in PDA research. The following measures on symptom severity have demonstrated acceptable psychometric properties. A French version of these questionnaires was utilised in the current study.

Severity of cognitive panic symptoms was assessed by the Body Sensations Questionnaire (BSQ; Chambless et al., 1984) and Agoraphobia Cognitions Questionnaire (ACQ; Chambless et al., 1984). The BSQ is a 17-item questionnaire that measures level of fear concerning bodily sensations that have been experienced during a panic attack. The ACQ consists of 14 items measuring the frequency of catastrophic thoughts during a panic attack. Both measures are rated on a 5-point Likert-type scale. Coefficient alpha for the BSQ in this study was estimated at .88 and for the ACQ at .79. These two measures assess fear as a consequence of panic experiences. The psychometric properties of the French-Canadian versions employed in this study are equivalent to those of the English version (Stephenson et al., 1998; Stephenson et al., 1999).

One of the three measures provided by the Mobility Inventory for Agoraphobia (MIA; Chambless et al., 1985) was used in this study: the severity of agoraphobic avoidance behavior when the person is alone. The MIA-Alone is a 26-item questionnaire rated on a 5-point Likert-type scale. This study calculated the coefficient alpha at .93. Psychometric properties of the French-Canadian version have been found to be similar to those of the English version (Stephenson et al., 1997).

Physical and cognitive symptoms experienced during the past week were assessed using the Beck Anxiety Inventory (BAI; Beck et al., 1988). This 21-item questionnaire, rated on a 4-point scale, examines the degree to which participants were affected by their symptoms over the past week. In this study, internal consistency was estimated at .93.

Depressive symptoms were measured using a French version of the Beck Depression Inventory-II (BDI-II; Beck et al., 1996). The BDI-II is composed of 21 items rating depressive symptoms for a two-week period, on a 4-point scale. In the current study, internal consistency for this measure was estimated at .91. In 1961 and 1978 the French-Canadian version of the BDI was validated (Gauthier et al., 1982; Bourque & Beaudette, 1982). There is no current validation study for the French-Canadian version of the BDI-II, however, we chose to use the latter in this study because there is greater consistency with the DSM-IV criteria for major depressive disorder.

### **2.3.2 Expectancy measures**

All expectancy measures for this study were translated into French using forward and back translation techniques (Vallerand, 1989; see Table 2 for overall distribution of all expectancy measures). The following expectancy measures have not yet been validated for their psychometric properties.

#### **2.3.2.1 Anxiety expectancy**

A section of the Panic Attack Questionnaire (PAQ; Norton et al., 1986), containing 36 items, was used to assess anxiety expectancy. Participants rate on a scale of 0 (never) to 4 (very likely) how much they expect a future panic attack to occur in a particular situation regardless of whether or not they have previously experienced a panic attack in that situation. Internal consistency of the French version (Bélanger & Katerelos, 1998) of this

questionnaire using the current sample was estimated at .91. This measure will be referred to as Panic Attack Questionnaire-Expectancy (PAQ-E).

### 2.3.2.2 Anxiety sensitivity

Anxiety Sensitivity Index (ASI; Reiss et al., 1986) is a 16-item questionnaire, rated on a 5-point Likert-type scale. It measures fear of anxiety and has been specifically associated with agoraphobia (see Taylor, 1993). The items assess the level of expected somatic, psychological or social harm that may occur as a result of anxiety symptoms. However, a history of panic attacks is not an essential component for developing negative beliefs about the harmful effects of anxiety. The internal consistency of the questionnaire has been estimated at .88 (Cox et al., 1996) and a two-week test-retest reliability has been computed at .75 (Reiss et al., 1986). Psychometric properties of the French-Canadian version have been found to be similar to those of the English version (Marchand et al., 1999). Internal consistency for the French translation of the ASI was calculated at .81 in this study.

### 2.3.2.3 Avoidance expectancy

An adaptation of the Mobility Inventory for Agoraphobia-Alone (MIA-A; Chambless et al., 1985) was used to assess prognostic expectations (with respect to avoidance behavior)(i.e., the probability of a therapeutic success). The Expectancy Mobility Inventory for Agoraphobia-Alone (EMIA-A) measures the degree of expected agoraphobic avoidance behavior following therapy (Katerelos et al., 1998). The same items as the MIA-A were administered along with the corresponding 5-point scale. However, the adapted version contains questions reformulated into expectancies (e.g., "After the treatment, I expect to...never avoid going to the movies"). With the current French sample and with the items reformulated into expectancies, internal consistency when alone was at .95.

## 2.4 Procedure

Participants recruited from advertisements in the local newspapers were screened using a brief telephone interview in order to determine suitability. Those who were considered appropriate for the study were invited to one of the clinics to take part in a structured interview. If the criteria for a primary diagnosis of PDA were satisfied according to the ADIS-IV-L, participants were evaluated by a psychiatrist from one of the two collaborating clinics to confirm the diagnosis. A battery of questionnaires was completed after the DSM-IV diagnosis of PDA had been confirmed. Those recruited directly from the clinics had already received a diagnosis of PDA by one of the psychiatrists. The ADIS-IV-L was subsequently administered in order to rule out an additional Axis I primary diagnosis and to confirm the initial DSM-IV diagnosis given by the psychiatrist. All participants provided informed consent prior to the structured interview with the ADIS-IV-L. Those who did not meet the criteria of the study were appropriately referred elsewhere.

Expectancies were assessed prior to therapy (T1) and after patients had completed 4 sessions (T2; initial treatment phase). Symptom severity was measured prior to therapy (T1), 4 sessions after therapy had begun (T2; initial treatment phase) and after the last session (T3). By session four, clients receive (a) education and information concerning the nature, etiology and maintenance of panic, as well as information on the impact PDA has on social functioning, daily activities, family and work; (b) symptom demystification, (c) training in diaphragmatic breathing, (d) basic coping strategies to deal with panic, and (e) information on the role of irrational thoughts in PDA.



### 3. Results

#### 3.1 Sample characteristics

Of the 49 patients who began the treatment, 33 completed. An analysis of variance (ANOVA) detected no difference between dropouts and completers in symptomatology, expectancies, duration of PDA, gender or sociodemographic variables. In addition, analyses of variance did not reveal any significant differences between those who took medication and those who did not on gender, sociodemographic variables, pre-treatment expectancy measures nor on most symptom severity measures ( $p > .05$ ). No significant differences were found between clients referred from either of the two clinics and those referred from the local newspapers on any sociodemographic or expectancy variable, and for most symptomatology variables ( $p > .05$ ). However a univariate ANOVA revealed a significant main effect for group for the BDI-II measures  $F(2, 45) = 4.1, P < .023$ . Bonferroni post hoc comparisons demonstrated significantly higher BDI-II scores for the 8 participants selected from the Douglas Hospital Anxiety Clinic ( $M=24.1, SD=14.5$ ) in contrast to those chosen from local newspapers ( $M=13.5, SD=9.2$ ) ( $p < .05$ ).

#### 3.2 Dependent variables

The dependent variables (i.e., post-treatment measures; T3) approached a normal distribution. The means and standard deviations for the dependent variables were as follows: Body Sensations Questionnaire (BSQ) ( $M = 32.5, SD = 2$ ), Agoraphobia Cognitions Questionnaire (ACQ) ( $M = 23.7, SD = 1.2$ ), Beck Anxiety Inventory (BAI) ( $M = 11.4, SD = 1.9$ ), Mobility Inventory for Agoraphobia-Alone (MIA-A) ( $M = 49.4, SD = 4.3$ ) and the Beck Depression Inventory (BDI-II) ( $M = 8.2, SD = 1.3$ ).

#### 3.3 Predictors of pre-treatment (T1) symptom severity scores

Our first objective was to examine the impact of anxiety sensitivity (ASI), anxiety expectancy (PAQ-E) and avoidance expectancy (EMIA-A) on pre-treatment symptom severity. Stepwise regression analyses were conducted using data from the initial 49 participants in order to determine predictors of pre-treatment symptom severity. Correlations were calculated for the sample (see Table 1) and only measures that were significant at  $p < .01$  were entered into the regression equations. The first regression analysis used the BSQ (T1) as the dependent variable. The findings revealed that the ASI (T1) significantly entered into the equation [ $r^2$  change = .44,  $F(1, 46) = 35.9, P < .001$ ]. The PAQ-E did not contribute to the prediction model.

The second regression analysis used the ACQ (T1) as the dependent variable. The ASI [ $r^2$  change = .09,  $F(1, 45) = 8.1, P < .01$ ] was once again the only significant predictor variable. The PAQ-E failed to significantly enter into the equation.

The third regression analysis examined to what degree the BAI (T1) was determined from expectancy scores. The findings revealed that PAQ-E (T1) [ $r^2$  change = .17,  $F(1, 46) = 9.3, P < .01$ ] significantly entered into the regression equation but the ASI failed to add to the prediction model.

A fourth regression analysis was performed to determine to what degree the MIA-A(T1) scores could be predicted from expectancy scores. The findings revealed that both the PAQ-E (T1) [ $r^2$  change = .24,  $F(1, 47) = 14.8, P < .001$ ] and the EMIA-A (T1) [ $r^2$  change = .08,  $F(1, 46) = 5.2, P < .05$ ] significantly entered into the equation.

The BDI-II (T1) was significantly correlated with one expectancy measure: the ASI ( $r=.49, p < .001$ ).

None of the pre-treatment expectancy measures were significantly associated with duration of PDA and with number of panic attacks in the past month ( $p > .05$ ).

Variables	Body Sensations Questionnaire	Agoraphobia Cognitions Questionnaire	Beck Anxiety Inventory	Mobility Inventory for Agoraphobia-Alone	Beck Depression Inventory
Anxiety Sensitivity Index	.66***	.66***	.37**	.11	.49***
Panic Attack Questionnaire-Expectancy	.37**	.43**	.37**	.49***	.18
Expectancy Mobility Inventory for Agoraphobia-Alone	.19	.32*	.21	.38**	.19

Note: Ns may vary from 47 to 49 due to missing data.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Table 1. Correlations Between Pre-treatment Symptom Severity and Expectancy.

### 3.4 Pretreatment (T1) vs. initial treatment phase (T2): symptom severity and expectancy measures

In order to verify our second hypothesis indicating that initial treatment phase scores would be better predictors of outcome than pre-treatment scores, we first performed t-tests to determine whether there were any changes from pre- to initial treatment phase. There was considerable improvement from pre-treatment to session 4 (i.e., initial treatment phase) for all symptom severity and expectancy measures. One exception was noted for the Expectancy Mobility for Agoraphobia Inventory-Alone (EMIA-A). Changes in scores from pre-treatment to session 4, means, standard deviations, and ranges are presented in Table 2. All measures approximated a normal distribution.

Variables	Pre-treatment Scores			Session 4 Scores			t	df
	M	SD	Range	M	SD	Range		
<i>Symptom Measures</i>								
Body Sensations Questionnaire	50.4	14.5	17-85	42.6	15.1	19-75	2.86**	37
Agoraphobia Cognitions Questionnaire	35.7	9.4	17-60	30	9.7	17-58	4.05***	7
Beck Anxiety Inventory	28.1	14.8	0-55	16.4	10.6	1-41	5.11***	36
Mobility Inventory for Agoraphobia-Alone	85.7	24.2	46-130	67.6	28.2	31-129	7.23***	37
Beck Depression Inventory	16.4	10.1	2-44	12.7	10.4	0-36	-2.26*	37
<i>Expectancy Measures</i>								
Anxiety Sensitivity Index	34.1	10.8	11-58	25	11.6	2-48	4.68***	39
Panic Attack Questionnaire - Expectancy	72.8	24.7	8-120	52.3	23.8	0-117	5.22***	40
Mobility Inventory for Agoraphobia-Alone Expectancy	52.0	19.3	26-114	51.5	21.6	26-103	0.15	40

Note: Ns may vary from 37 to 41 due to missing data.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Table 2. Changes in Independent Variables from Pre-treatment to Initial Treatment Phase.

### 3.5 Treatment outcome

Outcome data is provided for 33 patients. Significant improvements were detected from pre-treatment to post treatment scores on all symptom severity measures ( $p < .001$ ). There was no significant relationship between duration of PDA and post-treatment measures ( $p > .05$ ).

#### 3.5.1 Predictors of pretreatment outcome

Consistent with our second objective, the effect of initial treatment phase scores (T2) in contrast to baseline scores (T1) on treatment outcome was examined. Multiple regression analyses were first performed for symptom severity measures and then for expectancy. Subsequent regression analyses were performed to verify our final objective aimed at determining the contribution of expectations over the effects of symptoms on treatment outcome. Only factors that were significantly correlated at a conservative alpha of .01 were entered into the regression equations (see Tables 3 and 4).

Variables	BSQ (T3)	ACQ (T3)	BAI (T3)	MIA-A (T3)	BDI-II (T3)
<i>Pre-treatment (T1)</i>					
Body Sensations Questionnaire	.34*	.28	.35*	-.05	.47**
Agoraphobia Cognitions Questionnaire	.30	.28	.33	.08	.36*
Beck Anxiety Inventory	.28	.25	.33	.21	.45**
Mobility Inventory for Agoraphobia-Alone	.07	.37*	.27	.72***	.14
Beck Depression Inventory	.61***	.49**	.40*	.31	.56***
<i>Initial Treatment Phase (T2)</i>					
Body Sensations Questionnaire	.63***	.43**	.24	.31	.16
Agoraphobia Cognitions Questionnaire	.47**	.47**	.21	.43*	.16
Beck Anxiety Inventory	.59***	.55**	.67***	.29	.50**
Mobility Inventory for Agoraphobia- Alone	.29	.28	.05	.77***	-.08
Beck Depression Inventory	.33	.30	.18	.08	.42*

Note: *N*s may vary from 31 to 33 for post treatment data, 37 to 38 for mid-treatment data and 48 to 49 for pre-treatment data due to missing data and dropouts. BSQ = Body Sensations Questionnaire (T3); ACQ = Agoraphobia Cognitions Questionnaire; BAI = Beck Anxiety Inventory; MIA-A = Mobility Inventory for Agoraphobia-Alone; BDI = Beck Depression Inventory  
\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Table 3. Correlations between Dependent Variables and Independent Variables: Symptoms Measures

#### 3.5.2 Multiple regression analyses with symptom severity measures

Hierarchical regression analyses were conducted to determine the extent to which variability in post-treatment (T3) symptomatology could be predicted from pre-treatment (T1) and initial treatment phase (T2) symptomatology measures. Initial treatment phase scores were entered into the first step followed by pre-treatment scores. The results in Table 5 demonstrate that overall, pre-treatment did not significantly add to the prediction of post-treatment severity, with the exception of the BDI-II. Since initial treatment phase scores significantly improved from baseline, this suggests that changes in symptomatology are better predictors of outcome than pre-treatment severity.

Variables	BSQ (T3)	ACQ (T3)	BAI (T3)	MIA-A (T3)	BDI-II (T3)	M	SD	Range
<i>Pre-treatment (T1)</i>								
Anxiety Sensitivity Index	.35	.18	.41*	.04	.47**	34.4	10.6	11-58
Panic Attack Questionnaire	.24	.27	.26	.35*	.10	73.1	23.5	8-120
Mobility Inventory for Agoraphobia-Alone Expectancy	.31	.23	.22	.41*	.19	52.9	18.5	26-114
<i>Initial Treatment Phase (T2)</i>								
Anxiety Sensitivity Index	.65***	.57***	.37*	.50**	.57***	24.7	11.6	2-48
Panic Attack Questionnaire	.76***	.59***	.52**	.55***	.43*	52.3	23.8	0-117
Mobility Inventory for Agoraphobia-Alone Expectancy	.52**	.55***	.30	.81***	.32	51.5	21.6	26-103

Note: *Ns* may vary from 31 to 33 for post-treatment, 37 to 38 for mid-treatment and 48 to 49 for pre-treatment data (i.e., *M*, *SD* and Range) due to missing data with treatment and dropouts between time. T3 = Post-treatment; BSQ = Body Sensations Questionnaire (T3); ACQ = Agoraphobia Cognitions Questionnaire; BAI = Beck Anxiety Inventory; MIA-A = Mobility Inventory for Agoraphobia-Alone; BDI = Beck Depression Inventory  
 \**p* < .05, \*\**p* < .01, \*\*\**p* < .001

Table 4. Correlations between Dependent Variables and Independent Variables (i.e., Expectancy measures)

To determine which individual measures were the best predictors of post-treatment symptomatology, significant regression analyses were re-ran for the BSQ (T3), ACQ (T3), and the BDI (T3). Variables that did not significantly contribute to the initial model were removed from the equations.

Results for the BSQ post-treatment (T3), revealed that the BSQ (T2) [*r*<sup>2</sup> change = .40, *F*(1, 28) = 18.3, *P* < .001] and BAI (T2) [*r*<sup>2</sup> change = .13, *F*(1, 27) = 7.6, *P* < .01] were significant predictors in the model.

Results for the ACQ post-treatment (T3) revealed that the BAI (T2) [*r*<sup>2</sup> change = .22, *F*(1, 28) = 7.7, *P* < .01] and the ACQ (T2) [*r*<sup>2</sup> change = .18, *F*(1, 27) = 8.1, *P* < .01] were significant predictors of the ACQ (T3), accounting for 18% and 10% of the variance respectively. A regression analysis was performed with factors that reached significance for the BDI-II post-treatment (T3). The BAI (T2) was entered into the first block and then the BDI-II (T1) was entered into the second. The findings revealed that pre-treatment depressive symptoms (BDI-II T1) [*r*<sup>2</sup> change = .17, *F*(1, 27) = 7.63, *P* < .01] contributed above and beyond the effects of initial treatment phase anxiety symptoms (BAI T2) [*r*<sup>2</sup> change = .25, *F*(1, 28) = 9.38, *P* < .01] in the prediction of post-treatment depressive symptoms (BDI-II T3). However, only pre-treatment depressive symptoms were significant predictors when the second model was retained. The BAI (T2) failed to reach significance. This suggests that severity in depression at baseline is a greater predictor of post-treatment depression when compared to any of the other measures taken after the fourth session (i.e., initial treatment phase).

The BAI post-treatment ratings (T3) were significantly correlated with one measure: the BAI scores at the initial treatment phase (i.e., session 4) (*r* = .67, *p* < .001).

Dependent Variables	Model	Predictor Variables	R2 change	F value for R2 change	dfs	Semi-partial R2
Body Sensations Questionnaire (T3)	1	BSQ (T2)	.53***	9.7	3, 26	.10*
		BAI (T2)				.13*
		ACQ (T2)				.00
	2	BDI-II (T1)	.06	4	1, 25	.06
Agoraphobia Cognitions Questionnaire (T3)	1	BAI (T2)	.40***	8.8	2, 27	.18**
		ACQ (T2)				.10*
	2	BDI-II (T1)	.03	1.4	1, 26	.03
Mobility Inventory for Agoraphobia-Alone (T3)	1	MIA-A (T2)	.59***	41.5	1, 29	.59***
	2	MIA-A (T1)	.02	1.7	1, 28	.02
Beck Depression Inventory (T3)	1	BAI (T2)	.25**	9.4	1, 28	.25**
	2	BDI-II (T1)	.21*	3.3	3, 25	.11*
		BSQ (T1)				.01
		BAI (T1)				.03

Note: *Ns* may vary from 30 to 31 due to missing data

BSQ = Body Sensations Questionnaire (T3); ACQ = Agoraphobia Cognitions Questionnaire; BAI = Beck Anxiety Inventory; MIA-A = Mobility Inventory for Agoraphobia-Alone; BDI = Beck Depression Inventory

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Table 5. Hierarchical Regression Analysis of Pre-treatment (T1) Symptomatology and Initial Treatment Phase (T2) Measures on Post-Treatment (T3) Symptomatology Measures

### 3.5.3 Multiple regression analyses with expectancy measures

In accordance with the second part of our second objective, hierarchical regression analyses were conducted to determine the extent to which variability in post-treatment symptomatology measures could be predicted from pre-treatment and initial treatment phase expectancy scores. Factors that were significantly correlated at the  $p < .01$  level entered into the regression equations. Measures from the initial treatment phase (T2) were entered in the first block and baseline measures (T1) were entered in the second. Analyses were conducted for the BSQ (T3) and the BDI-II (T3) since they were the only measures that were significantly correlated ( $p < .01$ ) with both pre-treatment and initial treatment phase expectancy measures (see Table 4). The results in Table 6 demonstrate that the initial phase session (T2; session 4) measures are significant predictors of the BSQ (T3) and the BDI-II (T3). Pre-treatment expectancy measures did not significantly add to the prediction model for these two dependent measures. To determine which initial treatment phase (T2) expectancy measures were the best predictors of post-treatment symptomatology, stepwise regression analyses were performed.

We first examined the degree to which BSQ (T3) scores could be predicted from initial treatment phase expectancy scores. The PAQ-E (T2), the ASI (T2), and the EMIA-A (T2)

were entered into the equation. The results showed that anxiety expectancy as measured by the PAQ-E (T2) accounts for significant variance in the BSQ (T3) [ $r^2$  change = .58,  $F(1, 30) = 41.4$ ,  $P < .001$ ], however, anxiety sensitivity (i.e., ASI T2) and avoidance expectancy (i.e., EMIA-A T2) failed to make a contribution to the model.

A stepwise regression analysis was performed to determine to what degree post-treatment agoraphobic cognitions (i.e., ACQ T3) scores could be predicted from the initial treatment phase (T2) scores. The PAQ-E (T2), the ASI (T2), and the EMIA-A (T2) were entered into the equation. The findings revealed that the PAQ-E (T2) [ $r^2$  change = .35,  $F(1, 30) = 16.2$ ,  $P < .001$ ] and the EMIA-A (T2) [ $r^2$  change = .08,  $F(1, 29) = 4.3$ ,  $P < .05$ ] each account for significant variance in the ACQ (T3) ratings (i.e., 13% and 8% respectively). The ASI (T2) did not enter significantly on the third step.

A stepwise regression analysis was conducted with EMIA-A (T2), PAQ-E (T2), and ASI (T2) as the independent measures and MIA-A post-treatment scores as the dependent measure. The findings showed that avoidance expectancy (i.e., EMIA-A T2) was the best predictor [ $r^2$  change = .66,  $F(1, 30) = 56.9$ ,  $P < .001$ ]. The PAQ-E and the ASI failed to enter into the equation. When the EMIA-A (T2) was removed from the equation the ASI (T2) failed to enter into the equation and the PAQ-E (T2) explained a significant portion of the variance [ $r^2$  change = .31,  $F(1, 30) = 13.2$ ,  $P < .001$ ].

The BAI post-treatment ratings were significantly correlated with one expectancy measure: the PAQ-E (T2) scores ( $r = .52$ ,  $p < .01$ ).

Dependent Variables	Model	Predictor Variables	R2	R2 change	F value for R2 change	dfs	Semi-partial R2
Body Sensations Questionnaire (T3)	1	PAQ-E (T2)	.60	.62***	15.2	3, 28	.43***
		ASI (T2)					.13
		EMIA-A(T2)					.07
	2	PAQ (T1)	.60	.01	.40	1, 27	.01
Beck Depression Inventory (T3)	1	ASI (T2)	.30	.31***	12.8	1, 29	.31***
		ASI (T1)	.40	.08	3.8		1, 28

Note: *Ns* may vary from 31 to 32 due to missing data.

ASI = Anxiety Sensitivity Index; PAQ-E = Panic Attack Questionnaire-Expectancy; EMIA-A = Expectancy Mobility Inventory for Agoraphobia.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Table 6. Hierarchical Regression Analyses of Pre-treatment (T1) and Initial Treatment Phase (T2) Expectancy Measures on Post-treatment (T3) Symptom Severity Measures

### 3.5.4 Prediction of outcome measures

Consistent with our last objective, we examined the contribution of expectancies above and beyond the contribution of symptoms on the outcome of PDA following cognitive-behavior therapy. Hierarchical regression analyses were used to compare the utility of

symptomatology versus expectancies in predicting symptomatology post-treatment scores. Initial treatment phase (i.e., T2 or session 4) symptom and expectancy variables that were identified in the previous sections as significant predictors of post-treatment (i.e., T3) symptom severity were entered into the equation. Symptom measures were entered in the first block followed by expectancy measures in the second. Findings revealed that the addition of expectancy measures significantly added to the prediction model for most dependent measures except for the BAI (T3) and the BDI-II (T3) scores (see Table 7).

To determine which individual measures were the best predictors of the symptom measures, stepwise regression analyses were performed.

The regression analysis for the BSQ (T3) revealed that anxiety expectancy after the fourth session (PAQ-E T2) was the best predictor of the BSQ [ $r^2$  change = .61,  $F(1, 28) = 44.1$ ,  $P < .001$ ]. The BSQ (T2) and the BAI (T2) failed to enter into the equation.

Dependent Variables	Block	Predictor Variables	R <sup>2</sup> change	F value for R <sup>2</sup> change	dfs	Semi-partial R <sup>2</sup>
Body Sensations Questionnaire (T3)						
	1	BSQ (T2)	.53***	15.1	2, 27	.18**
		BAI (T2)				.13**
	2	PAQ-E (T2)	.14**	10.7	1, 26	.14**
Agoraphobia Cognitions Questionnaire (T3)						
	1	BAI (T2)	.40***	8.8	2, 27	.18**
		ACQ (T2)				.10*
	2	PAQ-E (T2)	.14*	3.6	2, 25	.02
		EMIA-A (T2)				.07
Mobility Inventory for Agoraphobia-Alone (T3)						
	1	MIA-A (T2)	.59***	41.5	1, 29	.59***
	2	EMIA-A (T2)	.12**	12	1, 28	.12**
Beck Anxiety Inventory (T3)						
	1	BAI (T2)	.47***	24.8	1, 28	.47***
	2	PAQ-E (T2)	.04	2	1, 27	.04
Beck Depression Inventory (T3)						
	1	BDI-II (T1)	.32***	14.2	1, 30	.32***
	2	ASI (T2)	.09	4.2	1, 29	.09 <sup>H</sup>

Note: Ns may vary from 30 to 32 due to missing data.

BSQ = Body Sensations Questionnaire (T3); ACQ = Agoraphobia Cognitions Questionnaire; BAI = Beck Anxiety Inventory; MIA-A = Mobility Inventory for Agoraphobia-Alone; BDI = Beck Depression Inventory; ASI = Anxiety Sensitivity Index; PAQ-E = Panic Attack Questionnaire-Expectancy; EMIA-A = Expectancy Mobility Inventory for Agoraphobia.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ ; <sup>H</sup> $p = .05$

Table 7. Hierarchical Regression Analyses of Expectancy vs Symptomatology as Predictors of Post-Treatment Severity

We entered the BAI (T2), ACQ (T2), PAQ-E(T2) and the EMIA-A (T2) into a stepwise multiple regression analysis to determine the best predictor for the ACQ (T3). The PAQ-E

(T2) was the only significant predictor accounting for 37% of the variance [ $r^2$  change = .37,  $F(1, 28) = 16.4, P < .001$ ].

Finally, when the MIA-A (T2) and the EMIA-A (T2) are entered into a stepwise multiple regression with MIA-A (T3) as the dependent variable, the results show the EMIA-A (T2) enters significantly in the first step [ $r^2$  change = .65,  $F(1, 29) = 54.6, P < .001$ ], followed by the MIA-A (T2) [ $r^2$  change = .06,  $F(1, 28) = 5.7, P < .05$ ].

The above findings demonstrate that, for the most part, expectancies measured after four sessions (T2) are better predictors of PDA outcome, in contrast to initial treatment phase (T2) symptomatology.

#### 4. Discussion

The objectives of this study were to examine (a) the relationship between expectancies (i.e., anxiety sensitivity and expectancy, and prognostic expectancy as measured by avoidance expectancy) and symptom severity (i.e., avoidance of specific situations, intensity of fear of somatic symptoms, frequency of agoraphobic cognitions, intensity of anxiety symptoms and levels of depressive symptoms) in panic disorder with agoraphobia (PDA) prior to treatment; (b) the impact of initial treatment phase scores in contrast to baseline scores on outcome; and (c) the contribution of expectancies above and beyond the contribution of symptoms on the outcome of PDA following a cognitive-behavior therapy.

Consistent with our first hypothesis, and similar to other studies (e.g., Cox et al., 1991; McNally, & Lorenz, 1987; Norton et al., 1999; Schmidt, et al., 1997) we found that baseline severity of PDA symptomatology was predicted by higher anxiety sensitivity, and greater expectations of anxiety and expectations of avoidance behavior. Our findings were independent of duration of PDA, suggesting that individuals with PDA may hold these strong beliefs about their symptoms regardless of how long they have had PDA. The experience of panic may further validate their beliefs surrounding the occurrence and consequences of anxiety symptoms and avoidance behaviors

As predicted in the first part of our second hypothesis, most of the initial treatment phase symptom scores were better predictors of PDA outcome. The only session 4 measure that did not significantly predict outcome was the BDI-II. Pre-treatment depressive symptoms were significant determinants of post-treatment scores on the BDI-II. This may suggest that regardless of the progress during group CBT for PDA, initial severity of depressive symptoms is the best predictor of mood following therapy. Clients suffering from PDA who also experience depressive symptoms may benefit from a therapy that includes a component aimed at addressing their depression.

Consistent with the second part of our second hypothesis, expectancies measured after session four were significant determinants of post-treatment PDA symptom severity. This suggests that clients who failed to make the cognitive shifts in expectancies after four sessions of therapy were more likely to have a poor outcome. Our results are also in line with the earlier theories posited by Perotti and Hopewell (1980) and Weiner (1982) (both cited in Garfield, 1986) that indicate after being exposed to several sessions of therapy, expectations may shift towards a positive direction if clients perceive improvement, or they may shift towards a negative direction if no benefits are noticed. However, we cannot conclude that expectancies shifted as a result of symptoms improving. It is likely that initial expectations and/or maladaptive beliefs were disconfirmed after being exposed to several components of therapy.



Our final objective examined the contribution of expectancies in contrast to symptomatology on the outcome of PDA. The findings revealed that the addition of expectancy measures significantly added to the prediction of most post-treatment symptom measures except for anxiety severity (i.e., BAI-T3) and depressive symptoms (i.e., BDI-II-T3). The best predictor of anxiety (i.e., BAI-T3) at post-treatment was level of anxiety (BAI-T2) in the initial phase of treatment. This suggests that a reduction in anxiety symptoms following therapy is best predicted by the level of anxiety after four sessions of treatment rather than expectancies of experiencing a panic attack in a particular situation (i.e., PAQ-E). Perhaps examining prognostic expectancies specifically related to panic (i.e., the probability of therapeutic success with respect to experiencing various panic symptoms; e.g., "Following therapy, I expect my symptoms related to shortness of breath to diminish") rather than expectancies of experiencing panic attacks in a particular situation (i.e., PAQ-E) may have demonstrated greater predictability in post-treatment anxiety severity as measured by the BAI.

Post-treatment depressive symptoms were best predicted by baseline depressive symptoms. This implies that baseline severity and improvements from pre- to initial treatment phase in both PDA symptoms and expectancies are not predictive of post-treatment depressive symptoms. However, participants with lower levels of anxiety sensitivity after four sessions showed trends towards improvement in post-treatment depressive symptoms. This is consistent with other studies that demonstrate the relationship of anxiety sensitivity and depression (e.g., Schmidt et al., 1998; Taylor et al., 1996).

The remaining post-treatment symptom severity measures were best predicted by expectancy measures. A reduction in the fear of symptoms at the end of treatment (i.e., BSQ-T3) was best predicted by the level of expected anxiety (PAQ-E-T2) after clients had already been exposed to several components of therapy. A greater proportion of the variance in the post-treatment frequency of agoraphobic cognitions (i.e., ACQ-T3) was explained by avoidance expectancy (EMIA-A-T2), followed by anxiety severity (BAI-T2) after four sessions of therapy. This suggests that at the end of therapy, a decrease in the frequency of phobic cognitions during a panic attack appears to be determined by lower levels of expectancy to avoid a specific situation and by a decrease in anxiety-related symptoms after session four. Finally, post-treatment agoraphobic avoidance (MIA-T3) was best predicted by avoidance expectancies (EMIA-A-T2), followed by actual avoidance (MIA-A-T2).

The above findings appear to support the overprediction of fear model presented by Rachman (e.g., Rachman & Bichard, 1988; Rachman, 1994). The overprediction of fear implies that the predicted fear is greater than the actual experience of fear. Although we did not directly examine this phenomenon, there are some similarities in our findings. The clients in our study initially reported high levels of fear. However, after four sessions, their reported expectancy of experiencing panic attacks in several situations and their fear of anxiety-related sensations significantly diminished. These clients had not received any interoceptive or *in vivo* exposure therapy at this point. It appears as though the majority of the participants in our study adjusted their expectations after they had received some corrective information with respect to their anxiety symptoms. Furthermore, greater accuracy in anxiety expectancies appeared to have had a better influence on most PDA outcome measures than the decrease in symptoms after four sessions. Another interesting finding was with respect to client's prognostic expectations (i.e., avoidance expectancy). There was no change from pre- to post-treatment. From the outset of therapy, most participants appeared to expect a fairly accurate outcome with respect to their avoidance behavior. When pre-treatment avoidance scores ( $M = 85.7$ ) were compared with avoidance

expectancy scores ( $M = 52$ ), our findings revealed significantly less expected avoidance than actual avoidance ( $p < .001$ ). They did not appear to underpredict what would happen at the end of therapy with respect to their avoidance since there was no significant difference between pre-treatment avoidance expectancy scores and post-treatment avoidance scores ( $M = 49.4$ ;  $p > .05$ ).

Overall, our results indicate that expectancies appear to be important predictors of PDA outcome following CBT. However, our findings did not detect anxiety sensitivity as an important determinant in PDA outcome. Anxiety sensitivity was detected as a good predictor of pre-treatment symptomatology. It may be suggested that anxiety sensitivity contributes to the development and relapse of PDA, but the effects of baseline and initial treatment phase anxiety sensitivity may not be evident until follow-up trials. Studies have demonstrated that ASI scores at the end of CBT for PDA predict relapse better than alternative measures (e.g., Brown & Barlow, 1995; Clarke et al., 1994). Future studies should also examine the impact of baseline and in-session anxiety sensitivity on relapse during follow-up.

The above findings demonstrate that addressing expectancies at the beginning of therapy may help clients gain a better understanding regarding some of the factors that contribute to their anxiety. Exposure therapy may function as a reality test for such individuals. Exposing oneself to the feared stimuli (i.e., bodily sensations and feared situations) will gradually disconfirm previous negative expectations related to the harmful consequences of anxiety sensations (e.g., Kirsch et al., 1983). Cognitive techniques (Beck, 1988) are also important in modifying expectations or beliefs regarding the harmful consequences of anxiety sensations. Similar to the conclusions made by Salkovskis, Clark and Gelder (1996), it appears to be more important to address "what is being avoided" rather than simply trying to habituate clients to their anxiety symptoms because if they continue to believe that their symptoms are dangerous, panic symptoms will persist regardless of whether they are controlled through breathing techniques or relaxation.

The measure of prognostic expectancy was adapted from the Mobility Inventory for Agoraphobia. Internal consistency of the measures was estimated but it is necessary to further validate it. Future studies should examine convergent validity of this measure in order to determine whether the questionnaires measured what it purported to measure.

## 5. Conclusion

Future research should assess expectancies prior to therapy and try to address some of these expectancies during the evaluation phase of treatment. For instance, providing clients with pre-treatment information on what should be expected in terms of the process and procedures of treatment and what the research has shown in terms of rate of improvement in PDA may result in an increase in treatment adherence and a decrease in levels of anxiety related to taking part in therapy (Deane et al., 1992; Webster, 1992). In light of the above findings, it appears important to examine how systematically modifying different types of expectations, as early as the beginning of the waiting period, by providing a pre-therapy modification expectancy video, can produce an impact on treatment outcome. Treatment improvement could also consist of addressing expectations early on in treatment, through a collaborative discussion-approach whereby clients' expectations and treatment objectives are identified in the initial session and a discussion process takes place between the therapist and the participants (Lazare et al., 1975). Combined, a pre-therapy video and a

collaborative discussion-approach could be centred on modifying initial expectations, a common active ingredient in most therapies (Lambert et al., 1986; Muran et al., 1995). Finally, it is quite evident that expectations play a major role in clients suffering from PDA. Preparing clients for psychotherapy by a systematic modification of expectancies may be associated with improved outcome.

## 6. References

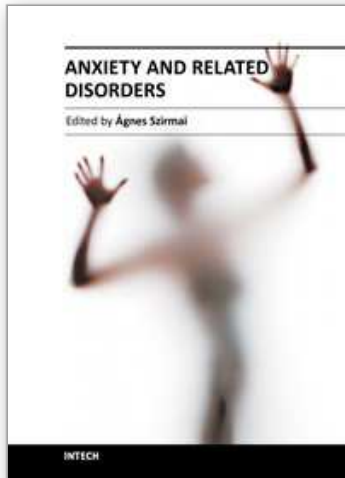
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Anxiety disorders are one of the most common psychiatric disorders worldwide and many aspects of anxiety can be observed. Anxious patients often consult primary care physicians for their treatment, but in most cases they do not accept the diagnosis of anxiety disorder. Anxiety is a symptom that could be seen in many organic disorders and can accompany almost any psychiatric disorder. Anxiety disorders are frequent and are associated with significant distress and dysfunction. Stigmatization is an important factor in insufficient diagnosis. The problems of anxiety cover all fields of life. This book intends to describe the epidemiological aspects and the main co-morbidities and consecutive diseases of the anxiety disorders.

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