Patients' Perceptions of Pharmacological and Cognitive-Behavioral Treatments for Anxiety Disorders

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Cognitive-behavioral therapy (CBT) and pharmacotherapy are the most well-established treatments for anxiety disorders. This study examined how treatment-seeking anxiety disorder patients (N = 103) perceive the acceptability, believability, and effectiveness of these treatments. While both treatments were perceived favorably, CBT was rated as more acceptable and more likely to be effective in the long-term. Most patients also rated CBT as their treatment of choice. Patients taking medication reported equally favorable views of both treatments, whereas unmedicated patients rated CBT more favorably than medication. Psychotherapy history was less strongly related to treatment perceptions. Our results suggest that despite their favorable views of both treatments, patients tend to prefer CBT to medication for the treatment of anxiety disorders. Directions for future research are discussed.

Randomized controlled clinical trials have established the efficacy of two distinct treatment modalities for anxiety disorders: pharmacotherapy and cognitive-behavioral psychotherapy (CBT; Barlow, 2002; Chambless & Ollendick, 2001). While both are effective, these modalities involve dissimilar approaches to conceptualization and treatment. Pharmacotherapy is most consistent with biological models that implicate neurotransmitter dysregulation. In contrast, CBT is derived from cognitive (e.g., Beck, Emery, & Greenberg, 1985) and learning (e.g., Mowrer, 1960) models that emphasize the role of conditioning experiences, avoidance behaviors, and faulty appraisals of threat. Understandably, these two modalities also make for very different therapeutic experiences. The present study is concerned with how patients with anxiety disorders view various aspects of these two treatments.

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The emergence of an approach to health care in which individuals are encouraged to play a more active role in decisions about their treatment (Barber, 1995; Laine & Davidoff, 1996) necessitates research to help understand patients' perceptions and preferences for the types of therapy available to them. Research with depressed patients suggests that treatment outcome is enhanced when they play an active role in choosing their treatment (e.g., Chilvers et al., 2001). Thus, a clearer understanding of how patients with anxiety disorders perceive the different approaches to conceptualizing and treating their symptoms may improve the clinical management of these problems.

One approach to the study of treatment perceptions and preferences has been to examine reasons given by anxiety patients for refusing to participate in treatment research involving random assignment to either medication or CBT. In one study on panic disorder, Hofmann et al. (1998) found that more patients who refused study participation did so because of the possibility of receiving imipramine (47.4% at one site and 30.6% at the other) compared to unwillingness to have CBT (< 1% at both sites). Huppert, Franklin, and Foa (2003) reported similar findings with social phobics: 89 individuals refused study participation because of the possibility of receiving fluoxetine, whereas only one refused because of unwillingness to participate in CBT. Taken together, these results suggest that patients with anxiety disorders may be more averse to medication as compared to CBT.

Perceptions of medication and psychological treatments have also been investigated in primary care settings. Hazlett-Stevens et al. (2002) surveyed 1,043 undiagnosed primary care patients who screened positive for a recent history of panic attacks. Approximately two-thirds were willing to consider both medication (64%) and psychological treatment (67%). In a similar study with depressed patients, Dwight-Johnson, Sherbourne, Liao, and Wells (2000) reported that among patients who were interested in receiving active treatment, 29% preferred antidepressant medication, 29% preferred individual counseling, and 26% preferred group counseling. These data suggest that, in general,

both medications and CBT are viewed favorably by distressed patients in medical settings.

Another paradigm used to examine treatment perceptions involves providing participants (clinical patients or analogue samples) with descriptions of medication and CBT and then obtaining ratings of each treatment's acceptability, credibility, and probable effectiveness. In studies using this paradigm to examine perceptions of treatments for agoraphobia (Norton, Allen, & Hilton, 1983; Norton, Allen, & Walker, 1985), PTSD (Zoellner, Feeny, Cochran, & Pruitt, 2003), hypochondriasis (Walker, Vincent, Furer, Cox, & Kjernisted, 1999), and insomnia (Morin, Gaulier, Barry, & Kowatch, 1992; Vincent & Lionberg, 2001), participants reliably rated CBT more favorably than medication. Importantly, only one investigation (Norton et al., 1983) included participants diagnosed with an anxiety disorder (agoraphobia), and that study involved only 9 patients. It is unclear to what extent existing research findings can be generalized to anxious patients who seek treatment in mental health settings. Thus, despite a growing body of literature in this area, much remains to be understood about the treatment perceptions and preferences of patients with anxiety disorders.

In the present study we investigated perceptions of and preferences for pharmacotherapy and CBT for anxiety. To address the limitations of previous research we included a heterogeneous sample of patients diagnosed with anxiety disorders presenting for treatment in an outpatient fee-for-service setting offering both medication and CBT. On the basis of previous research we hypothesized that patients would perceive CBT more favorably than medication and would prefer CBT as their treatment of choice. We also explored the effects of having participated in pharmacotherapy and psychotherapy on perceptions of these treatments.

Method

PARTICIPANTS

One hundred three individuals evaluated in our anxiety disorders clinic participated in the present study. Thirty-three (32.0%) had a principal diagnosis of OCD, 22 (21.4%) had panic disorder (PD), 20 (19.4%) had social phobia, 12 had specific phobia (11.7%), 11 had GAD (10.7%), and 5 (4.8%) had other anxiety disorders. Axis I comorbidity was relatively common (41.7%), and many patients had additional diagnoses of anxiety (13.6%) and mood disorders (11.7%). Patients had a mean Beck Depression Inventory (BDI; Beck & Steer, 1987) score of 15.8 (SD = 10.4) and a mean State-Trait Anxiety Inventory–Trait version score (STAI-T; Spielberger, Gorsuch, Lushene, Vaag, & Jacobs, 1983) of 51.8 (SD = 11.8), indicating mild to moderate levels of depression and trait anxiety. The mean age of the sample was 35.4 years (SD = 12.1) and 53.4% were women. About half of the sample (47.9%) was married and 44.1% had at least a 2-year college degree. The sample was predominantly Caucasian (90.3%).

Data on treatment history were collected by reviewing a comprehensive electronic medical record. Sixty-three patients (61.2%) were currently using antianxiety or antidepressant medications, and 76 (73.8%) had used these medications within the last 5 years. Fifty-five (53.4%) had participated in one or more sessions of psychotherapy for their anxiety disorder within the last 5 years. For 19 of these patients, descriptions of their therapy clearly indicated that a cognitive-behavioral approach was used (i.e., including cognitive restructuring and/or exposure).

SETTING AND PROCEDURE

Patients were evaluated in a multidisciplinary anxiety disorders clinic within a large Department of Psychiatry and Psychology that is recognized for both cognitive-behavioral programs and biological approaches, particularly its ECT, neuroimaging, and psychogenomics programs. The clinic is staffed by two psychiatrists, two Ph.D.-level psychologists, and two master's-level therapists and specializes in providing both consultative and treatment/follow-up services. Patients are referred from a wide variety of sources, including self-referral, physicians, and mental health professionals, with the goal of obtaining diagnostic clarification and treatment recommendations. Although some patients are specifically referred for medication or CBT, most are referred for evaluation and/or treatment without regard to its approach.

Diagnostic and assessment procedures were as follows: Evaluation consisted of a 1.5-hour semistructured diagnostic interview with a trained master's- or doctoral-level psychologist. After reviewing previous medical records, the psychologist administered the anxiety and mood disorders sections of the Mini International Neuropsychiatric Interview (MINI; Sheehan et al., 1998), which are comparable to the SCID in terms of their excellent reliability and validity (see Sheehan et al., 1997). The assessment also included a 1-hour interview with a psychiatrist who examined the patient's medical and pharmacological history. Although interrater reliability for the principal diagnosis was not formally examined, all assessors met together with the second author to discuss diagnostic impressions, case conceptualization, and to formulate a treatment plan for each patient. There was 100% interrater agreement on the diagnoses for each patient included in the present study.

MATERIALS

Treatment Perceptions Questionnaire (TPQ). Prior to their evaluation, patients completed a survey adapted from Walker et al. (1999) that assessed perceptions of pharmacotherapy and CBT for anxiety. The TPQ includes descriptions of treatment procedures, advantages and disadvantages, theoretical rationale, and proposed mechanism of action for each treatment (see Appendix). Following each description, participants rate each treatment's acceptability, believability, and short- and long-term effectiveness on a scale from 0 (*not at all acceptable, believable, or effective*) to 8 (*very acceptable, believable, or effective*). In addition, participants rate whether they would prefer each treatment as their first choice, second choice, not at all, or whether they do not have a preference. Descriptions of both treatments were similar in content, length, and format, and were deemed accurate and unbiased by independent reviewers (staff psychologists and psychiatrists) with expertise in CBT and pharmacological treatment. The descriptions were presented in counterbalanced order to reduce the likelihood of an order effect, and ratings were made prior to in-depth discussions of these treatments. A complete version of the TPQ may be obtained by contacting the second author.

Results

PRELIMINARY ANALYSES

We examined the interrelationships between the TPQ items to determine the extent to which they assessed separate dimensions of treatment perceptions. The four CBT items were significantly related to each other, with correlations ranging from .22 (acceptability and short-term effectiveness) to .74 (acceptability and believability). Similar results were found for the four medication treatment items, with correlations ranging from .30 (acceptability and short-term effectiveness) to .62 (acceptability and believability). Items from the CBT scale were generally weakly related with items from the medication scale (r's ranged from $-.19$ to .32; mean = .13). Accordingly, the TPQ items were analyzed separately rather than as a single composite score.

PERCEPTIONS OF MEDICATION AND CBT BY PATIENTS' TREATMENT HISTORY

To examine perceptions of medication and CBT, and to explore the potential moderating effects of experience with these treatments, we conducted a series of 2 (Modality) × 2 (Treatment History) mixed ANOVAs for each treatment characteristic (acceptability, believability, short-term effectiveness, long-term effectiveness). The first ANOVA explored the main effects of treatment modality (medication and CBT), the main effects of medication history (currently taking/not taking medications), and their interaction. The second ANOVA explored the main effects of treatment modality (medication and CBT), the main effects of psychotherapy history (participation/no participation in psychotherapy in the last 5 years), and their interaction. Results of these analyses are presented in Tables 1 and 2.

TABLE 1 Ratings of CBT and Medication Treatment for Anxiety Disorders by Patients' Current Medication Status

Characteristic and Modality[a]	All Patients (n = 103) Mean (SD)	Currently Taking Medication (n = 63) Mean (SD)	Not Currently Taking Medication (n = 40) Mean (SD)	Main Effect of Treatment Modality $F(1, 101)$	Main Effect of Current Medication Use $F(1, 101)$	Treatment Modality × Medication Use Interaction $F(1, 101)$
Acceptability						
Medication	5.95 (2.24)	6.76 (1.64)	4.67 (2.47)	23.27***	21.92***	13.46***
CBT	6.94 (1.45)	7.05 (1.52)	6.78 (1.33)			
Believability						
Medication	6.26 (1.81)	6.92 (1.39)	5.23 (1.93)	3.09	13.32***	16.72***
CBT	6.42 (1.51)	6.49 (1.54)	6.30 (1.47)			
Short-term effectiveness						
Medication	5.56 (1.98)	5.70 (1.86)	5.35 (2.16)	1.24	0.02	2.88
CBT	5.24 (1.88)	5.10 (2.01)	5.48 (1.66)			
Long-term effectiveness						
Medication	5.08 (2.20)	5.73 (1.59)	4.05 (2.63)	27.39***	9.98**	11.85***
CBT	6.11 (1.49)	6.14 (1.41)	6.05 (1.61)			

Note. CBT = cognitive-behavioral therapy.
[a] Rated from 0 to 8.
** $p < .01$, *** $p < .001$. All F-tests were two-tailed.

TABLE 2 Ratings of CBT and Medication Treatment for Anxiety Disorders by Patients' Psychotherapy History

Characteristic and Modality[a]	All Patients (n = 103) Mean (SD)	Therapy in Last 5 Years (n = 55) Mean (SD)	No Therapy in Last 5 Years (n = 48) Mean (SD)	Main Effect of Treatment Modality $F(1, 101)$	Main Effect of Therapy History $F(1, 101)$	Treatment Modality × Therapy History Interaction $F(1, 101)$
Acceptability						
Medication	5.95 (2.24)	6.16 (2.39)	5.71 (2.04)	23.27**	3.58	0.04
CBT	6.94 (1.45)	7.20 (1.31)	6.65 (1.55)			
Believability						
Medication	6.26 (1.81)	6.76 (1.57)	5.69 (1.91)	3.09	10.03**	1.89
CBT	6.42 (1.51)	6.67 (1.43)	6.13 (1.57)			
Short-term effectiveness						
Medication	5.56 (1.98)	5.47 (1.91)	5.67 (2.07)	1.24	0.11	0.18
CBT	5.24 (1.88)	5.24 (2.07)	5.25 (1.66)			
Long-term effectiveness						
Medication	5.08 (2.20)	5.44 (2.02)	4.67 (2.36)	27.39**	1.49	3.23
CBT	6.11 (1.49)	6.07 (1.44)	6.15 (1.56)			

Note. CBT = cognitive-behavioral therapy.
[a] Rated from 0 to 8.
** $p < .01$. All F-tests were two-tailed.

Results from both series of ANOVAs yielded significant main effects for treatment modality with respect to treatment acceptability and long-term effectiveness (see Tables 1 and 2). These data show that compared to medication, CBT was rated as more acceptable and more likely to be effective in the long-term. No significant differences between treatment modalities were found with respect to believability and short-term effectiveness. As shown in Table 1, main effects of medication history were evident, indicating that patients who were currently taking medication had more favorable perceptions of the acceptability, believability, and long-term effectiveness of this treatment than patients who were not taking medication. Further, significant Modality × Medication History interactions were found for these three characteristics (see Figure 1). These interactions demonstrate that patients who were not taking medication perceived medication treatment as less acceptable, less believable, and less likely to be effective in the long term than CBT. In contrast, patients who were currently taking medication rated these modalities as essentially equivalent. Only one significant main effect was found for psychotherapy history: patients with a recent history of psychotherapy rated medication treatment as more believable compared to patients without a recent history of psychotherapy (see Table 2). No significant Modality × Psychotherapy History interactions were found.

TREATMENT PREFERENCES

Substantially more patients indicated a preference for CBT as their first choice (74.3%; n = 52) compared to medication (25.7%; n = 20). This difference was statistically significant, $\chi^2(1) = 15.78$; $p < .001$. Twenty patients indicated no preference for either mode of treatment. Whereas no patients indicated that they would prefer not to have CBT, 13 indicated a preference not to take medication.

Discussion

The present study investigated how treatment-seeking patients with anxiety disorders view the two most well-established treatments for their condition. Both medication and CBT were generally perceived as acceptable, believable, and effective. Consistent with our hypothesis, patients perceived CBT as more acceptable than medication and more likely than medication to be effective in the long term. In addition, patients were more likely to rate CBT as their first choice over pharmacotherapy, despite the fact that a greater percentage of the sample had a recent history of medication use than a recent history of psychotherapy (74% vs. 53%). Finally, current medication use was associated with more favorable perceptions of pharmacotherapy, while participation in psychotherapy was largely unrelated to treatment perceptions.

Our findings suggest that biological and cognitive-behavioral models of etiology and treatment mechanisms for anxiety disorders seem equally credible to patients. In spite of this, patients in the present study found CBT to be more acceptable than pharmacotherapy. This observation could be explained by concerns over potential adverse effects. Zoellner et al. (2003) found that wariness

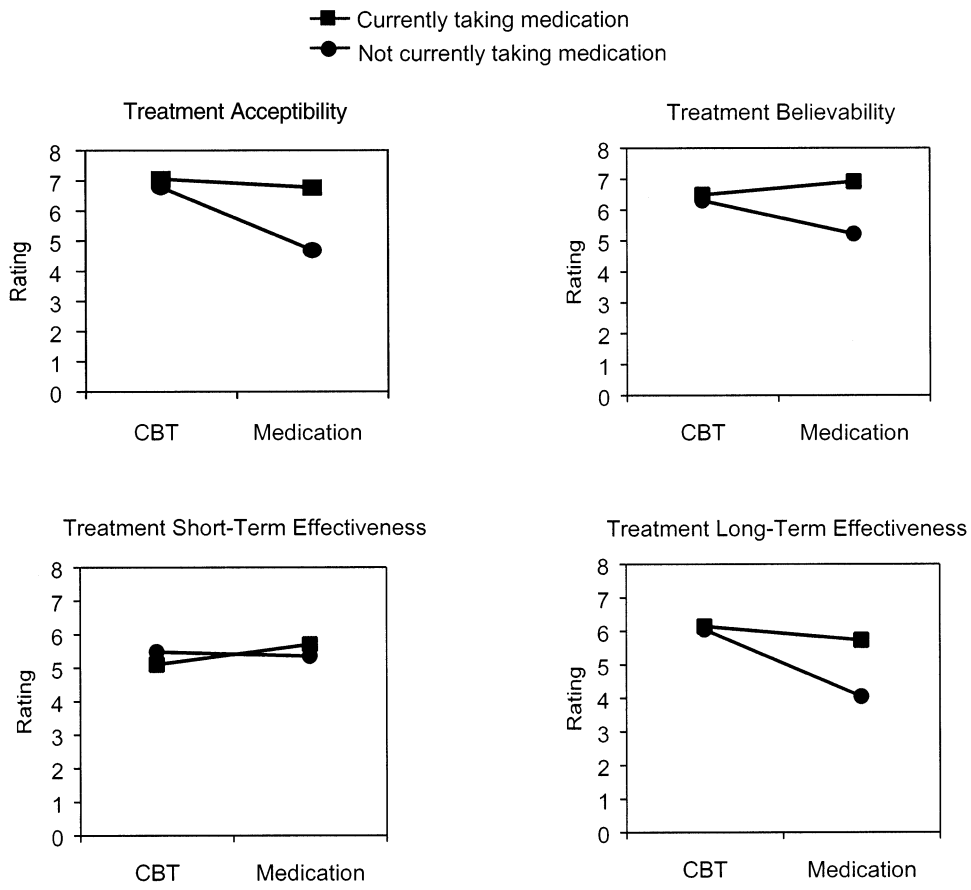

FIGURE 1 Interactions Between Treatment Modality and Current Medication Use.

about side effects was a significant reason participants preferred CBT to medication for PTSD. Such concerns may also explain the unwillingness of many patients to participate in clinical trials for anxiety disorders (e.g., Hofmann et al., 1998). In general, our results are consistent with those of Croghan et al. (2003), who found that whereas Americans generally endorse positive attitudes toward psychiatric medications, many people are unwilling to use them.

In the present study, the current use of medication was strongly associated with perceptions of pharmacotherapy. Compared to unmedicated patients, medicated patients reported substantially more favorable views of the acceptability, believability, and long-term effectiveness of pharmacotherapy. Our findings suggest that experience with medication might lessen concerns about its adverse effects. Alternatively, it is possible that patients with favorable views of medication are also more willing to receive this treatment. In contrast to medication treatment, perceptions of CBT were unrelated to participation in either pharmacotherapy or psychotherapy. Taken together, our results indicate that whereas most patients hold favorable views of CBT, perceptions of pharmacotherapy tend to vary depending on an individual's treatment history.

While medication and CBT were perceived as equally effective in the short term, patients in the present study rated CBT as potentially having more durable and long-lasting effects. These results are consistent with previous studies in which participants rated CBT for a variety of disorders as likely to be more effective than medication in both the short and long term (e.g., Norton et al., 1983). In addition, patients in the present study were more likely to prefer CBT to medication as their treatment of choice. In concert with results from previous studies on treatment perceptions (e.g., Zoellner et al., 2003) and pretreatment attrition rates in clinical trials (e.g., Hofmann et al., 1998), our data suggest that patients tend to prefer CBT to medication for the treatment of anxiety disorders.

Additional research is needed to explicate the reasons that underlie patients' perceptions of CBT and medication. It is possible that treatment perceptions are a function of patients' beliefs about the cause of their disorder, as well as a cost-benefit analysis of the perceived necessity of a particular

treatment versus concerns about the treatment's adverse effects (Horne, 1999; Horne & Weinman, 1999). To illustrate, a patient who believes that her OCD symptoms stem from a genetically acquired problem with serotonergic functioning will likely perceive SRI medication, compared to CBT, as more credible and necessary for symptom relief. However, the patient's decision to initiate medication treatment, as well as her subsequent compliance, may be balanced by her concerns about the risk of side effects of SRI medication. Accordingly, Horne and Weinman (1999) demonstrated that treatment adherence among patients with a variety of medical problems was significantly predicted by the ratio between beliefs about the necessity of medications and concerns about their possible adverse effects.

Several limitations of the present study should be acknowledged. First, the extent to which our findings are generalizable to patients who seek help in medical settings (e.g., primary care) is unknown and should be studied further. It is possible that a more noticeable bias exists in settings where one treatment modality predominates. Second, although used in previous research, the psychometric properties of the TPQ are unknown. Third, the concept of treatment *acceptability* could benefit from finer operationalization. Fourth, we did not allow patients to indicate whether or not a combined treatment approach (i.e., medication plus CBT) would be preferable to either type of monotherapy. The popularity of combination treatment approaches in multidisciplinary clinical settings suggests the need for research on this option. Finally, the extent to which the treatment descriptions we provided in the TPQ influenced perception ratings over and above any previous exposure patients might have had to such information through other sources could not be determined.

The next step in this line of research is to examine relationships between treatment preferences and clinical variables such as the decision to enter treatment, attrition, compliance, and outcome for individuals with anxiety disorders. Studies in this area could also benefit from the psychometric validation of measures that assess (a) patient perceptions and preferences, and (b) beliefs about the etiology of the patient's disorder, the necessity of particular treatments, and concerns about the potential adverse effects of the treatments. A related area for further study concerns factors that contribute to the development of patients' beliefs about the cause of their anxiety disorder. Overall, research in this area has clear implications for clinical practice as it can serve to inform treatment providers about whether it is most advantageous to match a patient's treatment to their preference, persuade patients to accept one treatment modality over another, or combine treatment methods.

Appendix

Treatment Perceptions Questionnaire

MEDICATION TREATMENT FOR ANXIETY DISORDERS

This treatment is provided by a psychiatrist or family doctor who provides information about anxiety disorders, how they develop, and how they are treated. Most medications for anxiety disorders work by changing levels of serotonin. Serotonin is a chemical found in various parts of our bodies including the brain. The medication is started at a low dose and then gradually increased until the anxiety is significantly reduced. As people feel better they are encouraged to resume their normal activities. It is important to take the medication regularly as prescribed—not just when feeling anxious or worried. The medication usually takes several weeks to produce some improvement but often people feel reassured just to be starting treatment.

Duration of Treatment. Appointments are usually scheduled regularly at first and then less frequently as time goes by. Once anxiety is reduced or eliminated the medication is usually continued for at least 6 months.

Advantages:

(a) Medication has been found to be effective in reducing anxiety symptoms for many people.
(b) The medication may be prescribed by your psychiatrist or family doctor so it is usually quickly and conveniently arranged.
(c) For many people, the medication can be taken once each day rather than several times each day.
(d) If the person also has problems with depression, the medication can help with this problem also.
(e) Most medications used to treat anxiety disorders are not habit forming.

Disadvantages:

(a) Medications for anxiety sometimes have side effects (e.g., nausea). Often these wear off after the first few weeks of treatment.
(b) Women should not become pregnant when taking medication for anxiety disorders.

PSYCHOLOGICAL TREATMENT FOR ANXIETY DISORDERS

A psychologist or behavior therapist usually provides psychological treatment for anxiety disorders. The treatment is called cognitive-behavior therapy, and it works by helping people to break

certain habits that lead them to feel very anxious. The therapist provides information about anxiety disorders, how they develop, and how they are treated. In the early part of treatment the person gathers information about what situations or thoughts make them become anxious. Then the person learns strategies to change negative thoughts and face their fears. The treatment usually takes several sessions to produce improvement, but often people feel reassured just to be staring treatment.

Duration of Treatment. Treatment typically consists of between 12 and 16 one-hour sessions at least once each week. Once the anxiety and worries are reduced or eliminated, the person is encouraged to continue to use their new coping methods for a number of months.

Advantages:

(a) The treatment has been found to be effective with many people.
(b) The treatment can be tailored to the person's specific anxiety problems and experiences.
(c) At times it is possible to work on other life problems and goals in therapy.
(d) If the person has additional problems with depression, the treatment can also help with this problem also.
(e) The person can apply coping strategies learned in treatment to other problems in the future.

Disadvantages:

(a) This approach takes considerable time and effort.
(b) During some parts of the treatment, individuals may experience temporary anxiety as they practice facing situations that are difficult for them.

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