Facilitating Symptom Reduction and Behavior Change in GAD: The Issue of Control

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In this commentary we review the theoretical positions of Roemer and Orsillo and identify several key issues. First, the specificity of their arguments to generalized anxiety disorder (GAD) compared to the other anxiety disorders are explored. For example, the proposed distinctions between worry in GAD and worry associated with the other anxiety disorders are examined in light of available empirical evidence. Second, the proposed disjunctions between mental content and both actual experience and emotional/physiological responding are placed in the context of current theoretical and empirical work. Finally, possible therapeutic mechanisms of change for mindfulness/acceptance-based treatments and the roles of control and predictability in anxiety disorder treatment are discussed.

Key words: **generalized anxiety disorder, worry, cognitive-behavioral therapy, mindfulness, acceptance.** ***[Clin Psychol Sci Prac 9:69–75, 2002]***

Roemer and Orsillo (this issue) provide an insightful and innovative integration of theoretical perspectives to support the role of acceptance-based and mindfulness approaches in the treatment of generalized anxiety disorder (GAD). Their argument rests partly on the only modest degree of success from traditional cognitive-behavioral therapy (CBT) for GAD. In addition, they observe that the distinguishing elements of GAD compared to other anxiety disorders are not as well suited to traditional CBT but are particularly well suited to acceptance-based therapeutic approaches. Specifically, GAD is described as involving high levels of verbal, rule-governed behavior that is resistant to environmental contingencies and perseveres in the face of disconfirming evidence. Therefore, presentation of disconfirming evidence and logical empiricism (i.e., cognitive restructuring) may be less than optimal for GAD. In addition, the authors draw from the research of Tom Borkovec and colleagues to conceptualize the verbal linguistic nature of chronic worry as a primary strategy for avoiding emotional material. GAD worry avoidance is connected with a broader theory that attributes much of psychosocial dysfunction to attempts to diminish or control internal experience, presented by Steve Hayes and colleagues. Hence, by shifting attention away from attempts to control aversive internal experience, acceptance-based approaches are judged to be very appropriate for GAD. Acceptance is combined with therapeutic efforts toward facilitating behavior change consistent with personal life goals.

Roemer and Orsillo's discussion of GAD and its treatment raises significant issues concerning the psychopathology and treatment of anxiety disorders in general, consideration of which initially raises more questions than answers. Nevertheless, this type of exchange is necessary to advance our treatment models and success. A paradigmatic shift away from the overly trodden pathway of traditional cognitive behavioral theory and practice is timely. We begin our commentary with the conceptualization of worry and GAD.

As noted, Roemer and Orsillo follow the program-

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matic research of Borkovec and colleagues that suggests that worry becomes a strategy for avoiding emotional material (i.e., unpleasant somatic arousal or imagery of catastrophic future events). From this perspective, chronic worry (i.e., GAD) is maintained by the long-term negative consequences of such inhibition coupled with a self-reinforcing worry cycle by virtue of the decrease in immediate intense emotional distress that it provides. As the authors note, this model of worry is consistent with the general premise that attempts to diminish or control internal experiences generally yield negative outcomes and are the source of much of human difficulty (Hayes, Strosahl, & Wilson, 1999). (Notably, if such control is always counterproductive, it is difficult to explain the extensive success to date of behavioral and cognitive behavioral therapies for most anxiety disorders, given their clear aim of developing more effective means of controlling emotional distress—a point to which we return below.)

As a form of avoidance, worry can be viewed as one manifestation of a broad predisposition found in all anxiety disorders and in major depression as well. This disposition could be construed as a heightened defensive motivational system primarily characterized by avoidance (alternatively referred to as the behavioral inhibition system, and composed of arousal, attention to and appraisal of threat, and inhibition of behavior to avoid threat related punishment—stop, look, and listen) (Gray, 1982; DePue & Iacono, 1989; Fowles, 1993). This motivational system is closely related to the construct of neuroticism, or temperamental sensitivity to negative stimuli and vulnerability to negative mood (Clark, Watson, & Mineka, 1994). In support of its contributory role, longitudinal data show that neuroticism predicts subsequent anxiety disorders and depression (e.g., Hayward, Killen, Kraemer, & Taylor, 2000; Krueger, Caspi, Moffit, Silva, & McGee, 1996; Roberts & Kendler, 1999). We return to the significance of this predisposition below.

According to the model presented by Hayes et al. (1999), various forms of avoidance across the anxiety disorders, including behavioral avoidance, compulsions, reassurance seeking, reliance on safety signals, procrastination, self-medication with substances, as well as worry, represent attempts to control aversive internal experiences of fear and anxiety. In turn, these attempts are a primary source of psychological dysfunction. Indeed, evidence for this exists in panic disorder and obsessive-compulsive disorder. In both cases, the shift from a nonclinical state of occasional episodes of distress (i.e., infrequent panic attacks or occasional intrusive thoughts) to a disordered state is probably influenced by reactions to such episodes of acute distress, and in particular reactions designed to avert or control their occurrence. For example, neutralizing reactions to intrusive thoughts have been found to be associated with more distress and more urges to neutralize upon reexposure to those thoughts than is distraction (Salkovskis, Westbrook, Davis, Jeavons, & Gledhill, 1997). In another study, attempts to deal with intrusive thoughts by escaping or avoiding them were associated with more distress overall and more difficulty removing the intrusions than noneffortful or minimal reactions to intrusive thoughts (Freeston, Ladouceur, Thibodeau, & Gagnon, 1991). Subtle avoidance behaviors are believed to maintain negative beliefs about bodily sensations and contribute to the development of panic disorder (e.g., Clark & Ehlers, 1993; Salkovskis, Clark, & Gelder, 1996). In addition, avoidant reactions to trauma are considered to be one of the strongest predictors of the development of post-traumatic stress disorder (e.g., Bryant & Harvey, 1995; Joseph, Williams, & Yule, 1995). Thus, avoidance of internal distress may be a hallmark feature and contributor to all forms of anxious psychopathology. As such, perhaps acceptance-based therapeutic approaches are appropriate for all anxiety disorders. However, Roemer and Orsillo (this issue) argue that GAD has certain distinct features that render acceptance-based approaches more highly suited than is the case for other anxiety disorders.

In particular, chronic worry is presented as excessive verbal, rule-governed behavior that brings with it a disjunction between mental content and experience. This disjunction is posited to disrupt informative feedback from the environment and result in resistance to contingencies and disconfirming evidence. The suggestion that individuals with GAD may be less aware of ongoing environmental contingencies while engaging in future-oriented worry offers an interesting explanation of how such disturbance persists in the face of disconfirming evidence. As an aside, another possibility here is that persons with GAD are aware of ongoing contingencies, but negate their validity, preferring to rely on rigid verbal rules because of perceived incompetence and self-doubt in their own judgments of prevailing conditions. We return to the role of perceived incompetence below.

Another type of disjunction in GAD occurs within the domain of internal experience, between mental verbal

state and emotional/physiological experience. Such disjunction is shown by autonomic restriction during states of worry, particularly in persons with GAD. However, this type of disjunction is somewhat at odds with another interesting concept the authors present from the work of Hayes: that thoughts/words acquire the capacity to elicit emotional distress via association with aversive stimuli or experiences. The notion that thoughts may themselves become conditioned stimuli implies a junction between mental verbal content and emotional/physiological experience. Other questions also arise. For example, such conditioning implies generalization among semantically linked words, with an ever-widening network of activation. How would this process of conditioned thoughts be contained? Moreover, such conditioning implies attempts to avoid worry itself, even worries about minor matters, because the words of worry elicit conditioned emotional distress. As of yet, we have no clear evidence to suggest that persons with GAD attempt to avoid worrying, let alone minor worries, more than other clinical and nonclinical populations. In fact, some research findings suggest the opposite—that pathological worry is characterized by positive beliefs about the consequences of worry and deliberate engagement in the process of worry (Davey, Tallis, & Capuzzo, 1996).

As mentioned, the authors argue that the processes of verbal, rule-governed behavior and disjunction are particularly characteristic of chronic worry in GAD, and thus acceptance-based approaches may be more successful for GAD, whereas traditional CBT is successful for other anxiety disorders. Their underlying assumption is that the process of worry in GAD is distinct from worry in other anxiety disorders. Worry is clearly a component of all anxiety disorders: Panic disorder patients worry about panic attacks; social phobia patients worry about upcoming social situations, and so on. However, there has been very little if any direct comparison of worry states across the anxiety disorders, and what evidence exists implies more similarities than differences. For example, autonomic restriction in response to laboratory stressors described previously for GAD has been observed in panic disorder patients (e.g., Hoehn-Saric, McLeod, & Zimmerli, 1991) and obsessive-compulsive disorder patients (e.g., Hoehn-Saric, McLeod, & Hipsley, 1995) as they undergo standard laboratory stressors. In addition, some data regarding the inhibitory effect of worry upon autonomic activation in personally relevant stress were gathered from speech phobics and nonanxious control groups and not from persons with GAD (e.g., Borkovec & Hu, 1990; Freeston, Dugas, & Ladouceur, 1996). Therefore, the verbal linguistic and autonomic restriction qualities may be specific to worry and not to GAD.

What may differ is that persons with GAD spend a larger proportion of their mental content in verbal linguistic worry compared to other anxiety disorders where other forms of avoidance, such as safety seeking or compulsions, predominate. In continuing their search for distinct GAD features, Roemer and Orsillo (this issue) attribute in part the pervasive nature of GAD worry to internally generated cues. However, whether worry is internally versus externally cued does not provide a useful distinction between GAD and other anxiety disorder-related worry. That is, other anxiety disorders clearly involve internally cued distress, such as obsessions in obsessive-compulsive disorder, images of phobic stimuli in social and specific phobias, and emotions or autonomic changes, even when perceived rather than actual, in panic disorder. One fascinating possibility alluded to already (inconsistencies with the notion of disjunction aside) is that GAD involves a particular type of internal cue, that being words themselves. Perhaps GAD involves stronger or more rapid acquisition of conditioned emotional reactions to words paired with aversive experiences. Unfortunately, the study cited by the authors to empirically support this point (Thayer, Friedman, Borkovec, Molina, & Johnsen, 2000) is not directly relevant, as it refers to conditioning to threat words as the unconditioned stimulus and colored stimuli as the conditioned stimulus, whereas the model implicates that words become conditioned stimuli. Moreover, this particular study did not compare GAD to other anxiety disorder groups. Further investigation is clearly warranted.

Roemer and Orsillo (this issue) further attribute the pervasive nature of GAD worry to lack of topical focus. However, this may only exist at a superficial level of content analysis. Work by Davey and Levy (1998) and our own laboratory (Hazlett-Stevens & Craske, submitted) demonstrates a common underlying endpoint for the chain of GAD worries, which is personal incompetence. Conceivably, themes of personal incompetence yield coherent and well-defined catastrophic personal images (e.g., being fired and judged incompetent by others) and associated sympathetic activation, for which worry becomes a tool to control and avoid. In other words,

repeated episodes of fight-or-flight autonomic activation may be precipitated by such images, but quickly controlled by worry. In fact, it is these types of images that we target for exposure in traditional but recent versions of CBT for GAD (e.g., Craske, Barlow, & O'Leary, 1992).

Another potential distinguishing feature of GAD worry is its future orientation. Following the premises of a threat imminence model (Craske, 1999) derived from programmatic research with nonprimates (Fanselow & Lester, 1988), it can be speculated that worry about distal events is different, and more verbal, than apprehension about proximal events. This line of reasoning interprets the dampening of autonomic activation under conditions of worry (i.e., disjunction) less as an avoidance strategy and more as a functionally adaptive response given that the object of threat remains at some distance. That is, hypothetically, the most adaptive response profile for future threat entails mostly elaborate cognitive functions of preparing and planning, with ongoing suppression of autonomic arousal. In contrast, apprehension about proximal events maintains some, although lesser, complex cognitive functioning and at the same time invokes preparatory autonomic activation. Fear in response to imminent threat entails largely autonomic activation with limited resources for complex cognitive processing. Thus, the verbal quality of worry may be adaptive to the distal nature of the perceived threat. Possibly, it is the combination of distal threat and a sense of personal incompetence that distinguishes GAD worry and renders active strategies of disputation (i.e., traditional CBT) less effective than typically seen with other anxiety disorders.

In summary, all anxiety disorders may be driven by attempts to avoid aversive internal experience, worry being one such method. In contrast with the ideas presented by Roemer and Orsillo (this issue), we believe there is no clear evidence that the process of worry (the verbal linguistic nature and associated autonomic restriction) is any different in GAD than in other anxiety disorders, although further research on the role of words as particularly salient conditioned stimuli is warranted. On the other hand, verbal linguistic worry may be present for more of the time in GAD, and we attribute its pervasiveness to the future-oriented nature of the perceived threats combined with underlying themes of personal incompetence. These may be the qualities that render traditional CBT less than optimal for GAD.

We consider two main issues in respect to the treatment presented by Roemer and Orsillo (this issue): mechanisms of therapeutic change and the role of prediction and control in fear and anxiety. The primary therapeutic goal of the authors' therapeutic approach, derived largely from acceptance and commitment therapy (ACT) of Hayes and colleagues (1999), is to accept rather than control internal experience, using therapeutic elements of mindfulness, acceptance, exposure, and desired goal achievement. Clearly, mindfulness is not intended as a distraction from acute distress but rather as a competing state of awareness intended to replace the state of attempting to control or diminish internal experience. There is no clear statement of the precise aspects of the present moment of which to be mindful. Is it themes of unpredictability and uncontrollability (to accept that some events in this world are uncontrollable and unpredictable), somatic arousal and associated catastrophic imagery, the content and/or process of worry itself, or realistic surrounding environmental circumstances? Perhaps it is all of the above.

It is interesting that Romer and Orsillo's integration of traditional CBT with mindfulness/acceptance-based approaches excludes cognitive restructuring entirely, probably because it represents another form of verbal, rule-governed attempts to control internal experience. Apparently, their treatment model assumes that mindfulness and acceptance can be fully implemented in the absence of initial attempts to actively correct misperceptions. Controlled outcome research indicates that this is possible in a variety of conditions other than anxiety (see Hayes et al., 1999, for a review). In particular, two depression studies suggest that cognitive changes associated with traditional cognitive therapy are not necessary before ACT (Zettle & Hayes, 1986; Zettle & Raines, 1989). However, we question whether the same is true for anxiety disorders given the characteristic overestimation of threat in anxious cognition (e.g., Butler & Mathews, 1983) and the associated drive to self-protect. The authors state that noticing and letting go are learned through experience and practice, but there is no clear description of how the shift occurs to accepting and not judging a feeling or a thought that is historically associated with danger. Acceptance of danger-laden cognitions may be at basic odds with a primary function of fear and anxiety—to protect the organism from danger (Izard, 1992). Moreover, such acceptance may be at odds with the heightened

aversive, avoidance drive of stop, look, and listen that seems to predispose individuals toward anxiety disorders, as described earlier.

Empirical data for anxiety disorders are limited to one study, and although the results indicated that mindfulness meditation alone may be effective for GAD (Kabat-Zinn et al., 1992), the study was uncontrolled. If these results are replicated under controlled conditions, it will remain to be seen whether mindfulness/acceptance-based approaches are mediated by implicit corrections of danger-laden misperceptions. Albeit largely limited to self-report measures, process research in traditional CBT for anxiety disorders suggests that therapeutic outcome is mediated by changes in fearful or self-inefficacious cognitions (e.g., Clark et al., 1994; Williams, Kinney, & Falbo, 1989). Conceivably, instructions for acceptance implicitly give the same message that is provided explicitly in traditional CBT—"minimal danger" or "I can cope"—and it is this message that mediates outcome from mindfulness/acceptance-based approaches. Mediation research is especially in order because Teasdale (1999) has argued for the converse: for different therapeutic mechanisms between the two approaches. He describes traditional CBT as teaching alternative, corrective schemas, whereas acceptance-based approaches alter access to schemas by teaching an alternative system of responding. The latter is considered particularly beneficial for relapse prevention, as was found for previously depressed patients (Teasdale et al., 2000).

A second treatment issue has to do with Roemer and Orsillo's basic premise that an acceptance-based approach will be more effective for GAD than traditional CBT, with its symptom control focus and aim to diminish internal experience, because GAD is driven in large part by verbal disjunctive attempts to avoid internal experience. As already stated, neither the overriding avoidance of internal distress, nor the verbal linguistic style of avoiding (i.e., worry), is unique to GAD, although worrying is a more predominant form of avoidance for GAD compared to other anxiety disorders. But more important, we question whether this model of anxious/GAD psychopathology necessitates against there being effective means for controlling internal distress. Indeed, traditional CBT for GAD does lead to some improvement (see Borkovec & Whisman, 1996, for a review), presumably because it replaces ineffective symptom-control strategies with more effective ones.

Moreover, we posit that attempts to control internal anxiety and fear represent a basic drive, and that acceptance-based approaches in and of themselves offer yet another form of such control. That is, there is evidence to indicate a natural preferred tendency to have certainty (predictability and controllability) about upcoming aversive events (Averill, O'Brien, & De Witt, 1977). In addition, lack of prediction and control are viewed as central to anxiousness (e.g., Barlow, 1988), and signals of prediction and control generally alleviate intervening distress about aversive events (e.g., Mineka & Hendersen, 1985). Thus, from this standpoint, the notion of acceptance does not fit with experimental evidence regarding the positive effects of prediction and control, and the preference for such, on fear and anxiety. However, from another standpoint, acceptance-based approaches ultimately may provide as much control over behavioral responding as traditional CBT. That is, first, to engage in mindfulness/acceptance of internal experience requires conscious effort to learn and implement a different way of responding to internal cues (i.e., a strategy is acquired). Second, acceptance strategy lessens distress because to attempt not to control internal content eventually reduces the associated distress and, in turn, the precipitating internal content (e.g., to accept obsessive images lessens distress about obsessive images and in turn lessens the frequency of obsessive images); that is, the strategy eliminates the aversive. Thereby, the elements of control, a strategy that lessens the aversive stimulus, have been satisfied.

In the end, the suitability of one therapeutic approach over another may have less to do with processes of control and more to do with the nature of the source of fear and worry. With future-oriented topics of concern related to personal incompetence, where active disputation strategies of control are less viable, control via acceptance may be more effective.

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