

## Mindfulness: Method and Process

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**Understanding the processes and principles that underlie mindfulness is a needed step, because this method enters into the armamentarium of empirical clinical psychology. Mindfulness is closely related to several procedures, including acceptance, cognitive defusion, and exposure. Although each of these procedures seems to target different behavioral processes, they are all interrelated, because ultimately all of them target the domination of the literal and evaluative functions of human language and cognition. Because these methods are constructional, not eliminative, their rise may ultimately have a more profound impact on the field than is currently supposed.**

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**F**or a procedure to enter into the armamentarium of empirical clinical psychology, two things seem to be currently required: the technology has to be reasonably well defined, and it has to be shown to be useful when applied appropriately. These requirements are important, but ultimately they are not sufficient. There are times when technologies are so powerful that impact alone justifies their standing, but within the more normal range the progress of the field demands that technologies enter into one or more scientific accounts of psychopathology and its alleviation, and that there be some evidence for the importance of the processes and principles specified in such an account in the favorable outcomes obtained.

Empirical clinical psychology has greatly underemphasized these last steps, but the long-term folly of this approach is becoming increasingly evident. Without scientifically understood processes and principles, data on technologies gather into an ever-expanding pile with no means for simplification. Lists of empirically based treatments can easily include multiple variants of the same pro-

cess, all with similar impact. If there is no demand for data showing a characteristic and theoretically consistent process, not just data on outcome, trivial differences between procedures can multiply the range of empirically supported technologies indefinitely but without any increase in the actual impact of science on treatment.

It seems silly to allow “green shirted desensitization” to be treated as if it is different from “purple shirted desensitization,” but in fact little in empirical clinical psychology currently prevents this ridiculous situation. Indeed, many forms of widely accepted empirically based treatment have very limited data supportive of a characteristic and theoretically consistent process.

Mindfulness is currently in a somewhat similar situation. The procedure is being specified, and there are data supportive of its impact, as the target article shows, but its scientific analysis is just beginning. No scientific analysis yet seems adequate to account for the impact of mindfulness, but beginning steps are there. The accounts that are available vary widely, however, and the data that bear on these accounts are somewhat limited.

The task of developing a more adequate account of mindfulness is made more difficult by several features of the current literature. First, different methods and processes are described with the same term. As the target article notes, the nature of mindfulness from the point of view of, say, Langer (1989) seems very different from mindfulness from the point of view of, say, Kabat-Zinn (1994). More troublesome, mindfulness is treated sometimes as a technique, sometimes as a more general method or collection of techniques, sometimes as a psychological process that can produce outcomes, and sometimes as an outcome in and of itself. The actual principles that unite all of these levels typically remain unspecified. Furthermore, as the target article notes, the distinctions between mindfulness and related concepts, such as acceptance, are unclear.

All of this is not surprising, because mindfulness is a prescientific concept, so its development would not be expected to be scientifically coherent at this point. If mindfulness research is to progress, however, this problem must be addressed. Buddhism is a prescientific system. Its postulates and principles are not scientific postulates and principles. It is only a small advance to test the impact of technologies that are thousands of years old. A more significant advance requires that we understand them, scientifically speaking.

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### **THE KEY PROBLEM: DOMINATION OF LITERAL LANGUAGE**

The target article offers several concepts relevant to an analysis of the impact of mindfulness, including exposure, cognitive change, self-management, relaxation, and acceptance. Here too, however, there is some confusion between techniques, general methods or collections of techniques, psychological processes, and psychological principles or theories. The problem is not so much with the author as it is with the entire field. Exposure, for example, is a general method. Sometimes this method is associated with various psychological processes (e.g., a reduction in emotional reactivity), but even this is not a theoretical mechanism. Why this method sometimes does and sometimes does not have impacts of particular kinds is an issue of psychological principles.

A commentary of this kind is not the setting for a complete analysis, but some order can be brought to the area by focusing on a key problem faced by human beings: the domination of literal language. Human verbal abilities have such tremendous utility that they become involved in virtually every type of human activity. In many situations these abilities are helpful, but they produce a host of problems, as well.

Human language is inherently bidirectional and often evaluative (Hayes, Barnes-Holmes, & Roche, 2001). It is bidirectional in the sense that it is referential or relational. If it is specified that an object is called  $x$ , then it can be derived that an  $x$  is that object—a derivation that human infants as young as 17 months can perform (Lipkens, Hayes, & Hayes, 1993). It is this quality that allows symbols to “stand for” other events. Language and cognition involve a wide variety of such bidirectional relations, including hierarchical class membership, difference, opposition, temporal relations, and so on, but the most clinically important class of relations beyond reference itself is comparative or evaluative relations.

Even a small set of relational abilities allows human beings to talk or think about events that are not present, to compare possible outcomes, and then to have these verbal relations alter how analyzed events function (for a book-length review, see Hayes et al., 2001). The process is enormously useful and seems to underlie the tremendous ecological success of human beings, who have become the dominant species on the planet despite being relatively weak, slow, and unprepared for physical combat.

When human language dominates in a situation, psy-

chological functions that are literal and evaluative also dominate. In dealings with many domains (e.g., physical danger), this is usually helpful, but in more psychological domains often it is not. Consider a behavior that (necessarily) evolved long before human language: sexual behavior. Human beings have a shockingly difficult time with their sexuality. The runaway commercial success of Viagra bears ready testimony to this fact. People can worry about their performance; compare themselves or a partner unfavorably to an ideal; compare the present to a conceptualized past, or to a feared or favored future; and so on. Cognitive processes of this kind are known to be involved in human sexual dysfunction (Nobre & Gouveia, 2000) and are targeted by empirically supported treatments for sexual dysfunction (Bach, Wincze, & Barlow, 2001). The literal and evaluative functions of human language and cognition seem to be a primary culprit in turning a very natural behavior—and one that is not a problem for the vast majority of living creatures other than humans—into a central focus of human suffering.

Several behavioral processes seem particularly likely when literal and evaluative language dominates. Experiential avoidance is one good example of a non-arbitrary result of such processes.

Experiential avoidance is the phenomenon that occurs when a person is unwilling to remain in contact with particular private experiences (e.g., bodily sensations, emotions, thoughts, memories, behavioral predispositions) and takes steps to alter the form or frequency of these events and the contexts that occasion them, even when doing so creates life harm. There is a substantial body of evidence that experiential avoidance is harmful in a variety of psychopathological areas (see Hayes, Wilson, Gifford, Follette, & Strosahl, 1996).

The link between experiential avoidance and literal, evaluative language and cognition is not arbitrary. Evaluative verbal processes allow preferred states of affairs to be sought over nonpreferred states of affairs. In the external world this is generally desirable. For example, it is helpful to consider how much food will be needed to survive the winter and to take action accordingly. As language abilities have evolved, however, more and more constructs have been applied to private events, and these events have become enmeshed in evaluative verbal regulatory strategies. Originally these terms were mere metaphors (e.g., being “inclined” to go was metaphorically related to physical objects that were literally “leaning toward going;” “anxiety”

referred to a difficulty in breathing; and so on) but eventually they became concrete references to internal “things,” and the emotional or cognitive states that were related to evaluated situations themselves acquired evaluative connotations. For example, it is normative to believe that “anxiety is bad,” presumably in part because anxiety is a response to events that are themselves construed to be bad.

As applied to the external world, language and cognition are used deliberately to help produce evaluatively positive states of affairs and to avoid negative ones. Once thoughts and feelings themselves become evaluatively entangled, it is an obvious step to do the same thing with these private events. The results are often unhelpful, because private events are historically and verbally entangled. Consider a negatively evaluated thought. In order to avoid a thought deliberately, a verbal rule must be followed specifying the thought to be avoided. Unfortunately, this rule itself contains the avoided thought, and to check on its success, that rule (and thus the thought) must be recontacted. The well-known paradox of thought suppression shows the problem clearly.

Many forms of psychopathology can be thought of as forms of experiential avoidance, yet the processes that give rise to such avoidance are inherent in literal language itself. As experiential avoidance takes hold, more stress and arousal is likely, which in turn occasions more evaluative verbal comparisons, and more self-focused avoidance strategies.

This process might eventually be self-correcting were it not that behavior governed by verbal rules tends to be relatively inflexible and rigid (Hayes, 1989). There are several known sources of this effect: Verbal rules tend to narrow the range of behavior available to make contact with more direct experiences; they tend to narrow the impact of contingencies themselves; they introduce or augment social compliance or resistance in otherwise less social situations; and finally they are massively useful in many external situations. The end result is that literal, evaluative strategies dominate in the regulation of human behavior, even when less literal and less judgmental strategies would be more effective.

#### TREATING THE LANGUAGE DISEASE

Until recently, empirical clinical psychology often either tried to step around the problems of literal, evaluative language and cognition (e.g., in traditional behavior therapy) or challenged them directly (e.g., in traditional cognitive

**Table 1.** Several contextual therapy methods and their primary process goals

Method	Goal
Mindfulness	Encourage nonevaluative contact with events that are here and now
Acceptance	Increase contact with previously avoided private events
Defusion	Reduce literal and evaluative functions of language when they occur
Interceptive exposure	Increase contact with previously avoided private events
Values	Bring verbal regulatory strategies under better contextual control

therapy). Said another way, empirical clinical psychology has generally emphasized first-order behavioral or cognitive change, not second-order change.

The new therapies mentioned in the target article (dialectical behavior therapy, acceptance and commitment therapy, mindfulness-based cognitive therapy, and so on) emphasize more contextual targets. They emphasize such methods as mindfulness, acceptance, and interoceptive exposure, as the target article notes. To these we would add cognitive defusion methods (methods that directly undermine the literal meaning of language, methods such as repeatedly saying a word over and over), and values clarification (situating these other methods in the context of self-chosen life goals and directions).

Table 1 lists these techniques and their primary goals. As discussed in the target article, mindfulness is said to involve “bringing one’s complete attention to the present experience on a moment-to-moment basis” (Marlatt & Kristeller, 1999, p. 68) and as “paying attention in a particular way: on purpose, in the present moment, non-judgmentally” (Kabat-Zinn, 1994, p. 4). Defined this way, mindfulness is a set of techniques (that is, a method) designed to encourage deliberate, nonevaluative contact with events that are here and now. These other, related techniques have a different process focus. Both acceptance and interoceptive exposure focus on increased contact with previously avoided private events. Cognitive defusion seeks to reduce the literal and evaluative functions of language when these functions occur. Values clarification seeks to bring verbal strategies under better contextual control by channeling verbal-cognitive abilities into the selection of larger purposes, rather than emphasizing them as the exclusive means to accomplishing such purposes.

The confusion comes because the primary process goals of each of these general methods are interrelated. Any ap-

proach that encourages nonevaluative contact with events that are here and now will necessarily also lead to increased contact with previously avoided private events, because these private events will eventually be here and now, and a nonevaluative, nonjudgmental approach to them will inherently increase contact. Such a method will also reduce the literal and evaluative functions of language when they occur, because it is precisely these functions that have discouraged nonevaluative contact with events that are here and now. For example, as is said in the target article, cognitions that enter into awareness during mindfulness practice are observed but not evaluated as good or bad, true or false. This is a direct attack on literal, evaluative language. In the same way, any method that encourages nonevaluative contact with events that are here and now will also bring verbal regulatory strategies under better contextual control, because it will teach people the times and places to use literal, planful, evaluative skills and the times to use experiential, nonevaluative skills. Thus, whatever the primary focus of mindfulness, it engages the foci of all of these related techniques. Indeed, all of these processes have appeared in the writings of authors discussing mindfulness.

It appears as though these processes are interrelated. They are because all of the methods ultimately target the excessive impact of human language and cognition itself. The problem with verbal-cognitive functions is not so much that they are bidirectional and evaluative, but that they are so dominant. Consider the situation of a person in a mall with panic disorder who is monitoring a rapidly beating heart, worrying about social humiliation, scanning for an escape route, and constantly evaluating whether or not now is the time to leave. None of these behaviors are problems in and of themselves. They all overlap with the normal range to a degree and, at least in the form of memories, they will continue to occur even after successful treatment. The problem is that these functions dominate over all others in the mall. For a person with panic disorder, going to the mall is *about* them, and *not* about looking at the people, talking to salespersons, having a soda, appreciating the architecture, telling a joke, trying on cosmetics, and any of a thousand other behaviors that can be engaged in at the mall. Said another way, the problem is not the presence of certain functions, it is their narrowness and inflexibility. This narrowness and inflexibility come as a natural impact of human language and cognition, and it is this core impact that is ultimately targeted by all of these methods.

#### **BACK TO THE FUTURE: MINDFULNESS AND A CONSTRUCTIONAL APPROACH**

Humans are historical organisms. Short of a lobotomy, humans do not rid themselves of psychological functions; rather, they add new functions to things and in so doing re-contextualize the existing functions (Wilson & Roberts, 2002). When one looks at only the earlier function, the language of reduction and elimination seems persuasive only because one's conceptual focus and one's measurement systems are themselves so narrow. For example, if the literal, evaluative functions of language dominate over the person with panic disorder, high emotional arousal and escape-focused actions will occur at an extremely high level. After successful treatment these states and actions will no longer occur at the same level or frequency, but this effect is not because arousal is no longer possible or because escape-focused actions are eliminated from the repertoire. What has happened is that the client is now more frequently *doing other things* in the mall: The range and flexibility of actions has increased.

The old-fashioned wisdom of a constructional approach (Goldiamond, 1974), the very basis of early functional, behavioral accounts, has been largely forgotten in empirical clinical circles, in part because the language of psychiatric syndromes is a language of illness to be removed. This old-fashioned wisdom is being carried back into empirical clinical psychology as a cotraveler with mindfulness, acceptance, interoceptive exposure, cognitive defusion, and values methods, because none of these methods are eliminative. The implicit message of all of these techniques is that the literal, evaluative, analytical, avoidant functions that dominate in a normal human mind are just a few of many, many functions that could occur. Methods that help establish a more open, flexible approach will lead to new, more valuable functions in previously problematic contexts. These methods will be selected and maintained on the basis of their life value to suffering human beings. This latter point is very closely related to Langer's (1989) analysis of mindfulness as a kind of general prophylactic for cognitive and behavioral inflexibility. Indeed, defined in the way Langer defines it, mindfulness is an ultimate process goal of all of the methods shown in Table 1.

These new methods are presenting a challenge to empirical clinical psychology, because their larger goal is simply not the same as the more mainstream methods they can replace. These new methods are all constructional.

They seek to increase the range and flexibility of functions that occur in contexts that previously had only literal, avoidant, or evaluative functions. They carry the same message as old-fashioned, functionally oriented behavior therapy, but in a new package that validates and dignifies the importance of human thoughts and feelings and their role in human suffering.

If this analysis is correct, researchers and clinicians may be seeing a more fundamental change underway than is supposed even by some of the developers of these methods. Mindfulness, acceptance, and defusion are not just a different way of treating traditionally conceptualized problems of depression or anxiety. They imply a redefinition of the problem, the solution, and how both should be measured. The problem is not the presence of particular thoughts, emotions, sensations, or urges: It is the constriction of a human life. The solution is not removal of difficult private events: It is living a valued life.

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