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Understanding and Enhancing Psychological Acceptance

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Psychologists and other mental health professionals can scarcely check their mail these days without receiving yet another announcement for a training workshop, book, or podcast focused on enhancing mindfulness and psychological acceptance, both in their patients and in themselves. Several new psychotherapy models featuring mindfulness, acceptance, metacognition, and related concepts have become very popular over the past decade. Not to be left behind, even versions of traditional treatment models such as psychoanalytic psychotherapy have recently adopted the prefix "mindfulness-based" (e.g., Stewart, 2014; Ventegodt et al., 2007). These concepts have also found their way into the public consciousness, with countless media presentations extolling the virtues of mindfulness. Beautiful, young, serene-looking women with palms held together prayerfully and bodies in graceful yoga poses adorn the covers of magazines and websites. References are made to ancient wisdom and esoteric practices newly imported from the East, couched in a seductively exotic and

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mysterious aura. Life-changing benefits are touted, and not surprisingly, products are sold.

Scientifically minded professionals and laypersons alike can be forgiven for reacting to these developments with a degree of skepticism. Among those who are weary of passing fashions in popular psychology, the very trendiness of these developments may suggest a lack of deeper substance. Indeed, the value of a theory or technique is not determined by its popularity; to do so would be to commit the logical fallacy known as *argumentum ad populum*. Just because many people embrace an idea does not mean it is true or useful. The fact that a large percentage of Americans do not believe in biological evolution (Alfano, 2009; Pew Research Center, 2013) does not speak to its truth value as a scientific fact.

But it is equally important to avoid knee-jerk cynicism. The popularity of an idea does not speak directly to its truth or utility but neither does it speak against it. The *ad populum reversal* describes a sort of guilt by association, in which a proposition is judged to be invalid merely because it is popular. So, like any other novel development, the value of psychological acceptance and mindfulness as theoretical concepts and intervention techniques must be evaluated in light of the scientific evidence.

As it turns out, the past decade has witnessed tremendous growth in the scientific study of these concepts and treatment strategies. Although a great deal more work remains to be done, the results thus far are quite promising. The evidence to date suggests that psychological (also referred to as experiential) avoidance of thoughts, feelings, memories, and sensations is associated with a wide range of psychopathology, and that fostering a sense of experiential acceptance can have therapeutic benefits (Germer, Siegel, & Fulton, 2013; Herbert & Forman, 2011a).

In this chapter, we begin by reviewing key concepts and their recent evolution, followed by a description of specific techniques and strategies for promoting psychological acceptance in the service of prevention and behavior change, with a particular focus on enhancing well-being and quality of life, and on improving functioning. We then review the research assessing the utility of these approaches and their underlying theoretical mechanisms. Finally, we offer suggestions for future innovation and research.

Key Concepts: Mindfulness and Psychological Acceptance Explained

One way to begin to approach an appreciation for psychological acceptance and mindfulness is to contrast these concepts with their opposites. The most common reaction to distressing subjective experiences is suppression

(Braams, Blechert, Boden, & Gross, 2012). Just as we automatically recoil when we unexpectedly happen upon a dangerous animal or we instinctively pull our hand away from a hot stove, we naturally try to put upsetting thoughts and feelings out of mind. Hayes, Levin, Plumb, Boulanger, and Pistorello (2013) describe this process as "experiential avoidance," which they define as "the attempt to alter the form, frequency, or intensity of private experiences such as thoughts, feelings, bodily sensations, or memories, even when doing so is costly, ineffective, or unnecessary" (p. 184). In contrast, mindfulness involves actively noticing and accepting the full range of one's subjective experience, including negative or distressing thoughts, feelings, sensations, and memories. Psychological acceptance is the active embracing of subjective experience, particularly distressing experiences. The idea is not merely to grudgingly tolerate negative experiences but to embrace them fully and without defense. As we will see, although a state of mindful awareness and psychological acceptance may accrue benefits in its own right, the primary focus within contemporary psychology is applying practices to achieve these states as a means to an end. That is, fostering acceptance helps one achieve important behavior changes, such as overcoming depression or anxiety, coping with psychotic experiences, or sticking to a diet, which in turn may lead to an enhanced quality of life.

There are a number of related terms that involve psychological acceptance. These include mindfulness, cognitive distancing or defusion, metacognition, experiential or psychological acceptance, psychological flexibility, and meditation. Some of these concepts were originally derived from folk psychology rather than scientific theories, and even those terms that were not borrowed from everyday language are used somewhat differently by different theorists. It is therefore not surprising that consensus has not been reached on precise definitions. Nevertheless, it is possible to appreciate the general way the terms are commonly used by theorists and clinicians.

Mindfulness

The concept of mindfulness originally derived from ancient Buddhist and Hindu spiritual traditions. It was introduced to the United States by 19th century Chinese immigrants and subsequently adopted by psychoanalytic and then existential psychotherapists beginning in the mid-20th century (Williams & Lynn, 2010). The term was introduced to academic psychology by the social psychologist Ellen Langer (1989), who described it as a state of mind associated with openness to new information and relinquishing preconceptions. The concept of mindfulness began featuring prominently in

models of behavior therapy beginning in the 1990s and continuing to today (Herbert & Forman, 2011b, 2014).

The most widely cited definition of mindfulness was offered by Jon Kabat-Zinn (1994): "paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally" (p. 4). This definition nicely describes several key aspects of the term. First, mindfulness is described as an active verb, as something that one does. In contrast to passive relaxation, the process involves an active embracing of the totality of one's ongoing experience. Second, mindfulness involves enhanced conscious contact ("paying attention") with one's experience as it unfolds in real time ("the present moment"). Third, mindfulness involves accepting that experience without avoidance or resistance ("nonjudgmentally"). Other theorists have expanded on Kabat-Zinn's definition in various ways, but they still echo these basic features. A number of measures of mindfulness have been developed, each based on each author's particular conceptualization of the construct. Some theorists describe the concept as unifactorial (e.g., Brown & Ryan, 2003), whereas others described up to five distinct components (e.g., Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006). Our group suggested a middle ground, proposing a two-factor conceptualization. We described mindfulness as consisting of enhanced awareness of one's ongoing experience, and psychological acceptance of that experience, and developed the Philadelphia Mindfulness Scale to measure these two factors. Psychometric research reveals that the factors are indeed distinct (Cardaciotto, Herbert, Forman, Moitra, & Farrow, 2008).

Cognitive Distancing or Defusion

The first step to changing one's reaction to distressing subjective experience is to become more aware of that experience. Beck, Rush, Shaw, and Emery (1979) describe the ability to see one's experience—and in particular one's thoughts—from a distinct perspective as cognitive decentering or distancing. Developing the ability to observe one's thoughts as being distinct from the self is an early step in cognitive therapy and is a prelude to evaluating the rationality of the thoughts and to restructuring them to be less distorted. Hayes, Strosahl, and Wilson (2012) expanded on the distinction between the content of one's subjective experience and the sense of self that observes that experience, a process they refer to as cognitive defusion. From this perspective, one's thoughts are often akin to automatically programmed reactions, and as such, are artifacts of one's unique history rather than necessarily being conveyers of important information. For example, if native English speakers are presented with the phrase "Mary had a little ____," they

will automatically think "lamb." Likewise, the stimulus "A, B, C, ____" elicits "D." Yet a person with a different learning history (for example, a nonnative English speaker who had never encountered these particular phrases) would not have these reactions. So the thought "Mary had a little lamb" does not necessarily reference a real state of the world; that is, there may be neither a Mary nor a lamb anywhere nearby. Similarly, one's ongoing stream of consciousness may not convey important information demanding scrutiny. Yet we often react as if it does, and feel compelled to do something about our thoughts, whether that be evaluating them, changing them, or eliminating them. Alternatively, one can learn to step back and observe the stream of consciousness as it unfolds as if it were a series of such programmed reactions, without necessarily needing to do anything with them. The process of stepping back to gain perspective on one's experience is what is referred to as distancing or defusion.

Metacognition

Beginning in the 1990s, some theorists working within the cognitive therapy tradition noticed that standard cognitive restructuring interventions, which focus on explicitly changing the content of one's thoughts and their associated underlying beliefs, were of limited usefulness with certain populations (e.g., patients with multiple recurrent episodes of depression). They therefore began focusing instead on beliefs about one's thinking, a process termed metacognition, rather than the specific content of the thoughts themselves. For example, a depressed patient might have the thought, "I just can't bring myself to get out of bed today." Rather than trying to question the evidence for that thought directly, the therapist might work to undermine the belief that such a thought necessarily mattered one way or the other to whether or not the patient could actually get out of bed. According to these theorists, changes in metacognition tend to occur less through the explicit examination of evidence but instead more through experiences. The two primary models to emerge from this new approach to cognitive therapy are mindfulness-based cognitive therapy (Segal, Williams, & Teasdale, 2001) and metacognitive therapy (Wells, 2008).

Experiential Acceptance

The process of not simply noticing but also embracing one's experience without judgment or defense is known as experiential (or psychological) acceptance. It is important to note that this is a distinct type of acceptance, not to be confused with the common use of the term *acceptance* with respect

to the status quo of one's life situation. A woman in a physically abusive relationship, for example, need not accept that this is her fate; quite the contrary. As she takes steps to change the situation (for example, by leaving her partner) she will likely experience anxiety, self-doubt, and other distressing experiences. It is the acceptance of these experiences, in this case in the service of making positive behavior changes consistent with her goals and well-being, that constitutes experiential acceptance.

There are two other noteworthy points about psychological acceptance. First, the term is antonymic with respect to experiential avoidance. As discussed below, a growing body of research documents the pernicious effects associated with such avoidance. Second, psychological acceptance typically goes hand-in-hand with cognitive distancing or defusion. In fact, some theorists argue that the process of distancing oneself from one's distressing experience automatically leads to acceptance of that experience (Brown & Ryan, 2003). Although it is true that strategies to enhance defusion generally enhance acceptance and vice versa, the two concepts are in fact distinct. That is, defusion from distressing experiences does not necessarily lead to acceptance of those experiences (Herbert & Forman, 2014). For example, an individual with panic disorder may be able to step back and observe his or her rapidly beating heart (distancing). But rather than accepting the experience, he or she may believe that it signals an impending heart attack. We will return to this issue below, when discussing strategies to foster both defusion and acceptance of distressing experiences.

Psychological Flexibility

A common misunderstanding about psychological acceptance is that it should be applied unquestioningly to the totality of one's experience, at all times. However, reflecting on this proposition reveals its absurdity. In some cases, a thought is a meaningful hypothesis about the world, and its validity matters. For example, if I hear noises in my home while lying in bed late one night, I might have the thought, "It's an intruder!" It makes a real difference for the safety of my family whether this thought is true or if I am simply hearing my dog, the wind, or the settling of an old house. The prudent course of action is to gather data on the truth value of the thought, not simply to accept it as an automatic mental reaction. Likewise, some bodily sensations convey important information that should not be ignored. Athletes must learn to distinguish the normal aches and pains that accompany physical exertion from those that signal injury, and failure to do so can lead to overtraining and exacerbation of an injury. The key issue in both of these cases is whether our subjective experience in any particular instance is really about

data that matter in some important way to our well-being. The form or content of our cognitions is not always a good clue, because our thoughts often masquerade as being about meaningful data-based propositions when in fact they are not.

A related point concerns attempts to exert control over distressing feelings, sensations, or memories. Although the habitual tendency to suppress or otherwise change such experiences is problematic, it does not follow that all such efforts are doomed to failure. In fact, one may sometimes be able to divert attention away from a distressing thought or feeling in such a way as to change one's ongoing experience in a positive way, enhancing the ability to pursue meaningful activities. In our work with extreme social anxiety, for example, we help patients learn to gently refocus attention away from self-evaluative thoughts and anxious feelings and toward the social task at hand (e.g., a conversation), all in the context of an overall accepting stance toward the individual's subjective experience (Herbert, Gershkovich, & Forman, 2014). The important issue here is the effectiveness and overall consequences of such efforts. That is, does the effort to change directly one's experience in a given situation actually work, and if so, does it bring about more problems than it solves? If such efforts work and do not entail significant costs, then they need not be discouraged. The sensitivity among proponents of psychological acceptance to problems arising from direct efforts to change the content of one's experience is therefore pragmatic, not dogmatic.

To highlight this important point, some theorists have recently used the term *psychological flexibility* to illustrate the importance of limiting efforts to engage with one's experience in an evaluative or control-oriented way to only those contexts in which such efforts are effective and do not entail negative side effects. Emphasizing the pursuit of behaviors consistent with personally relevant goals, Bond and colleagues (2011) defined psychological flexibility as "the ability to fully contact the present moment and the thoughts and feelings it contains without needless defense, and, depending upon what the situation affords, persisting in or changing behavior in the pursuit of goals and values" (p. 678).

Meditation

In the popular literature, the term *meditation* is often used synonymously with mindfulness (e.g., Gross, 2014; see also Chapter 7 "Chilling Out: Meditation, Relaxation, and Yoga"). As discussed above, mindfulness refers to a particular psychological state. Meditation is not itself that state but rather a practice aimed at fostering it. Mindfulness meditation most commonly refers to a practice of sitting quietly while simply noticing one's

stream of experience without any effort to modify it in any way. As discussed below, other forms of meditation training involve variations on this theme.

Fostering Psychological Acceptance

In the ancient philosophical and faith traditions in which mindfulness was originally described, achieving a state of mindful detachment from and acceptance of one's experience was linked to spiritual enlightenment. In the present context, however, the purposes are more modest. Psychological acceptance is a means to an end—that is, a way of moving forward with the full range of one's experience, without needless defense or struggle, in the service of behaving in a way that will lead to a fulfilling, meaningful life. In many modern models of cognitive behavior therapy (CBT) such as Acceptance and Commitment Therapy (ACT) and behavioral activation (BA), there is also an emphasis on clarifying and articulating important life values, linking achievable goals to those values, and aligning one's behavior with respect to these values and goals. The process of fostering psychological acceptance is a central part of this effort toward fostering values-directed action.

A comprehensive review of the techniques that have been developed to foster psychological acceptance and related concepts is beyond the scope of this chapter; in fact, no single work fully describes all such techniques. What follows is a sample of commonly used techniques, divided into three overlapping areas: (a) those targeting mindful awareness of and flexible attention toward one's ongoing experience, (b) those aimed at increasing a sense of psychological distance from and acceptance of one's subjective experience (especially distressing experiences), and (c) those aimed at articulating one's values and goals. Although we group these techniques into these three target domains as a matter of convenience, in fact the targets themselves overlap, and most of the techniques can be used to address more than one area.

Mindful Awareness

A number of approaches have been developed to foster enhanced awareness of one's ongoing experience. The most common approach is mindfulness meditation. Although some formal approaches to meditation involve sitting very still without moving for extended periods of time, there is no single approach. Broadly conceived, mindfulness meditation involves any activity in which one turns attention toward becoming acutely aware of the

stream of subjective experience as it unfolds, without trying to alter it in any way. Meditation can be completely unstructured, or guided (e.g., by audio recordings), or structured in another way. For example, in the "leaves on a stream" exercise in ACT, one imagines contemplating a stream in the fall with leaves floating by. The contents of one's experience (e.g., thoughts, images, sensations) are imagined to be placed on the leaves, and one simply watches as they float by. One can meditate while lying prone with eyes closed or while walking, playing a musical instrument, or even exercising. Over time, the goal is not simply to achieve a state of heightened nonjudgmental awareness of experience while in a sheltered setting (e.g., a quiet room) free of distractions, but to be able to carry that state forward as one goes through his or her activities in everyday life. More specific variants of meditation also exist. For example, loving-kindness meditation involves contemplating the connectedness of all living things and a deep sense of empathy toward others (Salzberg, 1995).

Yoga is another common technique used to enhance mindful awareness, especially of one's body in space. Indeed, any physical activities involving structured movements, such as dance or katas from tai chi or other martial arts, can be used to foster a sense of enhanced awareness. The body scan is another approach whereby one systematically and sequentially focuses attention on various parts of one's body.

An important distinction is how these practices overlap with relaxation training. Although relaxation often occurs during meditation or somatic-focused practices, it is viewed as an incidental side effect and not a goal per se. Indeed, proponents of mindful meditation warn against becoming too attached to the state of relaxation, lest one become enmeshed in a struggle to force oneself to relax. Rather, relaxation, like any other feeling, is welcomed but not specifically cultivated.

Cognitive Defusion and Psychological Acceptance

Most strategies that target enhanced mindful awareness also tend to foster a detached perspective on that experience, as well as an accepting posture toward it. Moreover, although defusion and acceptance are technically distinct, in practice, most activities that target one will also affect the other. The practice of cognitive self-monitoring, in which one records key thoughts on a log and which forms a critical step in cognitive therapy, can serve as a powerful defusion exercise. The simple act of writing down one's negative or upsetting thoughts helps objectify them, creating psychological distance between oneself and one's experience. Likewise, journaling can serve a similar purpose.

A number of verbal conventions and exercises can foster defusion and acceptance. For example, when experiencing a distressing thought, one can repeat it, inserting the phrase "I'm having the thought that . . ." before the thought. Or one can add the phrase, "that's an interesting thought" following the thought, simply acknowledging the thought as a product of the mind and not as necessarily important or even particularly meaningful. One can repeat a key word representing an upsetting thought or idea (e.g., *loser*) rapidly for 30 seconds or so until it begins to lose its emotional impact. One can likewise say the word slowly, in various strange, cartoon-like voices. By focusing on the sound of the word, its semantic properties become weakened.

ACT in particular makes liberal use of metaphors and experiential exercises to encourage defusion and acceptance. Many dozens of both metaphors and exercises have been developed, and innovative clinicians (and their patients) frequently add to this repertoire. A common metaphor is the tug-of-war with a monster. The individual is described as being in an all-out tug-of-war with a powerful monster, which represents his or her particular struggle (e.g., anxiety). Between the individual and the monster is a deep moat, into which falling will result in certain death. Despite the individual's attempts to pull as hard as possible against the monster, he or she is slipping ever closer to the edge of the moat. Trying to defeat the monster by enlisting help in pulling the rope, such as from friends, psychotherapy, alcohol or drug use, proves ineffective, only causing the monster to pull back harder. An alternative is simply to drop the rope. As long as one refrains from touching the rope, the monster cannot impact one's functioning and one is free to pursue any chosen activity. The monster may rear its ugly head from time to time, taunting the individual and daring him or her to pick up the rope and re-engage in the struggle. Indeed, the individual is likely to find himself or herself suddenly with the rope in hand, so the process of dropping it must be repeated many times. The key is learning to recognize when one has inadvertently picked up the rope and then immediately dropping it. Such metaphors are especially powerful when they are not merely explained didactically but rather are acted out, even using props; in this case, an actual rope.

An example of an experiential exercise targeting psychological acceptance is the cards exercise. The therapist and client work together to record various upsetting thoughts on index cards; one can also record distressing beliefs, sensations, or memories, for example. The therapist and patient then engage in a conversation, with the primary goal being to attend to and carry on the conversation. The therapist then tosses the cards at the patient one at a time, while the latter is either instructed to catch them and stack them neatly or to bat them away (representing organizing one's thoughts or deflecting them from consciousness, respectively). After a couple of minutes, the therapist stops the

conversation and the dyad discusses how the interaction went, highlighting the inevitable disruption that actively trying to manage the cards had on the conversation. The exercise is then repeated, this time with the patient instructed simply to let the cards fall wherever they might, without any effort to do anything with them at all, representing acceptance of one's thoughts. Inevitably, engaging in the conversation is much easier under these circumstances.

Finally, exposure exercises provide an ideal opportunity to practice psychological acceptance of difficult experiences. In classic anxiety exposures, the individual is systematically exposed to anxiety-provoking stimuli of increasing intensities with the goal of anxiety reduction through habituation. Exposures in the present context are conducted with a different purpose; that is, to practice distancing oneself from and accepting one's distressing experience. Often, some behavior is simultaneously practiced. For example, individuals with social anxiety disorder may engage in a highly anxiety-provoking conversation, perhaps with an attractive individual or an authority figure. The dual goals are practicing engaging fully in the conversation while simply noticing one's anxiety (including anxiety-related thoughts and somatic sensations).

Values Clarification

The process of becoming aware of, distancing oneself from, and accepting one's distressing experience begs the question of the larger purpose of doing so. Why should one be willing to make such intimate contact with painful experiences? Upon reflection, most people realize their ultimate goals in life involve living a happy, meaningful life. Moreover, *happiness* in this context does not mean the absence of pain but rather a deeper sense of personal fulfillment. One way of conceptualizing this state is having clarity with respect to one's values in life and behaving in a way that is consistent with those values. For example, a man might highly value being a good father to his children. By contemplating this value, he operationalizes it by establishing specific goals such as spending at least a few minutes each day playing with or talking to each of his children one-on-one, working hard at his job to provide resources for them, and maintaining a close relationship with their mother. He then strives to behave consistently with this value and its associated goals. Aggressively pursuing one's values typically means engaging in behavior that will take one outside of one's habitual comfort zone, evoking anxiety or other distress. This is where the tools of psychological acceptance come into play, as a method of coping with any distress that results from this values-consistent behavior.

Many people have not deeply contemplated their values. Moreover, a common assumption is that one's values are already fully formed and

somehow dormant, waiting to be uncovered. In fact, it is probably more helpful to think of values as something that one chooses and articulates, rather than discovers. This emphasizes that one's values are freely chosen by and therefore owned by the individual.

Exercises have been developed to help one choose, clarify, and articulate one's values and associated goals. A common exercise used in ACT is imagining that one is witnessing one's own funeral and listening to the key eulogies describing one's life. How would you want the speaker to describe your life? What do you want it to have stood for? What legacy do you want to leave the world? The answers to these questions can point the way toward the overarching themes that matter most to the individual. Once clarified, living in accordance with those values in turn leads to a sense of a fulfilled, meaningful life. Tools such as the Valued Living Questionnaire (Wilson, Sandoz, & Kitchens, 2010) may be used to help clarify the importance of specific areas of life. Clarity with respect to one's values is helpful in justifying the building of tolerance for stressful situations with the overarching goal of enhancing well-being.

Research on Psychological Acceptance

Fortunately, the proliferation of references to psychological acceptance and related concepts in the popular media has been accompanied by serious scientific research in this area. Existing studies can be roughly grouped into four distinct areas. First, correlational studies have examined the relation between experiential avoidance and psychopathology on the one hand and experiential acceptance and psychological and physical health and well-being on the other. Second, laboratory experiments have examined whether brief interventions targeting acceptance (and related constructs) produce beneficial effects consistent with theoretical predictions under highly controlled conditions. Third, clinical trials have examined the effects of intervention programs that focus—at least in part—on enhancing psychological acceptance. Fourth and finally, many of the latter studies have used sophisticated methodological approaches and statistical techniques in an attempt to understand the specific mechanisms by which the treatments are effective. We now turn to a brief overview of each of these lines of research.

Correlational Studies

Experiential avoidance is often assessed by self-report measures such as the Acceptance and Action Questionnaire (AAQ; Hayes, Strosahl, et al.,

2004; Bond et al., 2011) or the Multidimensional Experiential Avoidance Questionnaire (Gámez, Chmielewski, Kotov, Ruggero, & Watson, 2011). A body of research has consistently demonstrated that experiential avoidance is associated with various measures of psychopathology (Kashdan, Barrios, Forsyth, & Steger, 2006). For example, Marx and Sloan (2005) found that experiential avoidance was associated with posttraumatic stress symptoms in a sample of trauma survivors. McCracken (1998) found that psychosocial functioning was predicted by psychological avoidance of pain, even more than the level of pain itself. In a meta-analysis of 27 studies, Hayes, Luoma, Bond, Massuda, and Lillis (2006) found experiential avoidance (as assessed by the AAQ) to be associated with various measures of psychopathology (e.g., depression, anxiety) as well as other indices of quality of life (e.g., job satisfaction and performance). Nevertheless, the original AAQ was marked by problematic psychometric properties, including somewhat low internal consistency, probably because some of the items were unnecessarily complex and confusing, as well as an unstable factor structure (Hayes, Masuda, Bisset, Luoma, & Guerrero, 2004). To address these issues, Bond et al. (2011) revised the measure, creating a 7-item version (the AAQ-II) that demonstrated very good psychometric qualities, including internal consistency, test-retest reliability, and concurrent, discriminant, and predictive validity with respect to a range of outcomes. Across multiple samples, the AAQ-II was found to be associated with higher scores on standard measures of anxiety, depression, stress, and overall psychological distress. Moreover, higher scores predicted workplace absenteeism over a 1-year period. Finally, high-risk groups (e.g., individuals seeking treatment for substance abuse) scored significantly higher on the AAQ-II than did healthy nonclinical participants (Bond et al., 2011).

Similarly, a comprehensive review of dozens of studies concluded that measures of mindfulness are correlated with a wide range of psychological variables, including positive associations with quality of life, positive affect, and self-esteem and inverse associations with depression, anxiety, the ability to sustain attention, and self-control (Keng, Smoski, & Robins, 2011). In addition, neuroimaging studies suggest that higher levels of mindfulness are associated with better abilities at emotion regulation, as reflected in greater prefrontal cortical inhibition of amygdala activation (Keng et al., 2011).

Laboratory Experiments

It is widely accepted that research should evaluate not only the effects of psychotherapy programs in clinical trials but also the theories on which

those programs are based (Hayes et al., 2013; Herbert, Gaudiano, & Forman, 2013; Lohr, 2011; Rosen & Davison, 2003). Studies conducted in more highly controlled laboratory environments are especially helpful in testing key propositions of these theories. Laboratory studies afford a level of control that is generally not possible in clinical trials of the therapies themselves. Specific treatment components, or analogues of these components, can be directly tested against inert or theoretically distinct control conditions.

In 1863, Fyodor Dostoevsky observed that if one tries not to think of a white bear it will paradoxically persist at the forefront of awareness. Beginning in 1987, social psychologist Dan Wegner and colleagues began extensively studying this phenomenon. This line of research reveals that attempts to suppress a thought are accompanied by an automatic self-monitoring of the progress of doing so, such that awareness of the thought becomes all but inevitable (Wegner, Schneider, Carter, & White, 1987). Subsequent experiments showed that attempts to suppress depressing thoughts actually result in stronger depressed feelings even than actively attempting to feel sad. Moreover, suppression can result in an increase (rebound) in a thought or feeling immediately following attempts to suppress it, and this can occur whether or not one is explicitly instructed to suppress the experience (Sayers & Sayette, 2013).

A number of laboratory experiments have compared thought suppression or other cognitive control strategies with interventions designed to foster mindful awareness and acceptance of thoughts or feelings. For example, in a study of food cravings, our group evaluated the effects of a brief intervention designed to foster psychological acceptance of cravings relative to an intervention focused on distraction and cognitive reappraisal of cravings; both were also compared with a no-intervention condition (Forman et al., 2007). Following the intervention, 98 undergraduate students carried around a transparent box of Hersey's Kisses for 48 hours, during which time they were asked to refrain from eating chocolate of any kind. Among those reporting trait sensitivity to the food environment, the acceptance condition resulted in lower levels of craving and in less chocolate consumption relative to the other conditions. We replicated this study in a sample of 48 overweight women, who carried a transparent box of mixed sweets for 72 hours. Again, the results revealed that the acceptance condition resulted in lower cravings and consumption, especially for those participants who reported greater susceptibility to the presence of food and a tendency to engage in emotional eating (Forman, Hoffman, Juarascio, Butryn, & Herbert, 2013).

A recent meta-analysis of 66 laboratory studies found ample evidence that interventions designed to foster psychological acceptance tended to

outperform various control conditions (Levin, Hildebrandt, Lillis, & Hayes, 2012). Support was also found for defusion, mindfulness, and values-oriented interventions relative to inactive comparison conditions. Moreover, larger effects were found for interventions that included an experiential component (such as an exercise or discussion of a metaphor) relative to those that relied on rational discussion alone.

Clinical Trials

A rapidly growing body of literature documents the effects of psychotherapy programs that highlight psychological acceptance for a wide range of problems (Herbert, Forman, & Hitchcock, in press). Most of these interventions consist of multicomponent packages and incorporate various combinations of techniques and strategies designed to enhance cognitive distancing, mindful awareness, and psychological acceptance, all in the service of behavior change (Herbert & Forman, 2011a). Over the past two decades, a number of psychotherapy models have emerged within the cognitive behavioral tradition that target these processes, while de-emphasizing direct efforts to change distressing cognitions. These models are often referred to as "third generation" behavior therapies, to distinguish them from "first generation" approaches originating in the 1950s and 60s that tended to de-emphasize cognitive factors and "second generation" models developed in the 1970s and 80s that stressed cognitive restructuring interventions (Hayes, 2004). Among the most popular of these models are Mindfulness-Based Stress Reduction (MBSR; Kabat-Zinn, 1990, 2005), Mindfulness-Based Cognitive Therapy (MBCT; Segal, Williams, & Teasdale, 2001), Meta-Cognitive Therapy (Wells, 2008), Dialectical Behavior Therapy (DBT; Linehan, Armstrong, Suarez, Allmon, & Heard, 1991), Functional Analytic Psychotherapy (FAP; Kohlenberg & Tsai, 1991), Integrated Behavioral Couples Therapy (IBCT; Christensen et al., 2004), and ACT (Hayes et al., 2012). Some of these programs were developed for specific populations, such as MBCT for recurrent depression. Others were originally developed for a specific population but have since been extended in other areas; for example, MBSR was originally developed for chronic pain but has been extended to anxiety disorders (Vøllestad, Sivertsen, & Nielsen, 2011). Still other programs, such as ACT, were developed as transdiagnostic approaches, that is, comprehensive programs that can be applied to a variety of problems.

The amount and quality of research on these approaches varies considerably. For example, there is only a limited amount of research on FAP (Busch et al., 2009; Gifford et al., 2011; Kohlenberg, Kanter, Bolling, Parker, & Tsai, 2002) and IBCT (Christensen, Atkins, Yi, Baucom, & George, 2006;

Doss, Thum, Sevier, Atkins, & Christensen, 2005; Sevier, Eldridge, Jones, Doss, & Christensen, 2008); nevertheless, in each case the data are encouraging (Hayes, Masuda, et al., 2004). More work has been done on the two approaches that incorporate formal mindfulness meditation training: MBCT and MBSR. A recent meta-analysis of 39 clinical trials evaluated the efficacy of these models (Hofmann, Sawyer, Witt, & Oh, 2010). The meta-analysis revealed moderately large effects in the overall sample on measures of mood and anxiety symptoms and even larger effects for patients with mood or anxiety disorders.

Of these novel models of CBT, the one that has received the most attention from therapists and clinical scientists alike is ACT. This approach is based on a clinical model that stresses the goal of psychological flexibility, which is in turn based on an underlying theory of cognition known as relational frame theory (Hayes, Barnes-Holmes, & Roche, 2001; Törneke, 2010). In addition to targeting defusion and acceptance, ACT emphasizes clarification of one's key life values, articulating specific goals consistent with those values, and encouraging behavior that is consistent with those goals and values. ACT incorporates many traditional first-generation behavior therapy techniques (e.g., exposure-based interventions), while also making liberal use of metaphors and experiential exercises (Hayes, Villatte, Levin, & Hildebrandt, 2011; Hayes et al., 2013).

Clinical trials have found positive effects of ACT programs for a wide range of problems, including depression, anxiety disorders, psychotic disorders, health conditions such as chronic pain, obesity, smoking cessation, diabetes management, and even nonclinical problems like workplace productivity and stigma. Several meta-analytic reviews support the overall efficacy of ACT. In a meta-analysis of 24 studies, Hayes and colleagues (2006) concluded that ACT was effective for a wide range of psychopathology. Between-group effect sizes relative to various comparison conditions (e.g., wait-list, treatment as usual, psychoeducation, traditional cognitive therapy, attention placebo, pharmacotherapy) were large both at posttreatment ($d = .66$) and at follow-up ($d = .65$). Similar findings were reported in several subsequent meta-analyses (Öst, 2008; Powers, Vörding, & Emmelkamp, 2009; Pull, 2009; see also commentary by Levin & Hayes, 2009). Ruiz (2012) conducted a meta-analysis of 16 randomized controlled trials comparing ACT with cognitive therapy. On primary outcome measures at posttreatment, the results favored ACT. No differences were found on anxiety symptoms, although trends favoring ACT emerged for measures of depression and quality of life. Smout, Hayes, Atkins, Klausen, and Duguid (2012) concluded that there is strong evidence for the effectiveness of ACT for chronic pain, obsessive-compulsive disorder, and certain anxiety disorders,

and that the methodological quality of ACT studies has increased considerably over the past few years.

Overall, the clinical outcome research on third-generation models of CBT is highly promising. Indeed, a recent review suggests that each of the major approaches now meets the criteria set forth by the American Psychological Association as empirically supported treatments (Kahl, Winter, & Schweiger, 2012).

Treatment Mechanisms

We have already explored the importance of research on basic concepts and theories underlying psychotherapy models, as well as research on the effectiveness of the approaches themselves. A final area of research concerns the mechanisms by which treatments exert their effects. This line of inquiry connects directly both with the basic theory underlying psychotherapy models on the one hand and with treatment outcome research on the other. Building and refining the theoretical scaffolding for psychotherapies requires testing how well processes specifically hypothesized by a given model actually function in the context of clinical trials. Two primary strategies have been used to examine this issue. First, clinical component control studies examine whether the presence of a particular clinical strategy or technique adds incremental effects to an established treatment. Second, sophisticated statistical techniques assess whether the variance in treatment-related changes can be accounted for by mechanisms posited by a theory.

It is important to distinguish laboratory-based experiments of the kind described earlier, in which an analogue of a treatment component is isolated from other components under highly controlled conditions, from clinical component control studies, in which the effects of a specific treatment component are isolated from other components in an actual clinical trial. Clinical component control studies require large samples to afford sufficient statistical power to detect potential effects of interest and are therefore quite expensive to conduct. Not surprisingly, there have been relatively few such studies in the psychotherapy literature. Most component control studies have assessed the role of cognitive restructuring interventions with respect to more basic behavioral programs. For example, two meta-analyses of such studies in social anxiety disorder found no incremental effects of cognitive restructuring with respect to exposure only (Feske & Chambless, 1995; Powers, Sigmarsson, & Emmelkamp, 2008). Similarly, Jacobson et al. (1996), Gortner, Gollan, Dobson, and Jacobson (1998), and Dimidjian et al. (2006) found no evidence of incremental effects of cognitive restructuring beyond behavioral activation in the treatment of depression. These studies

raise serious questions about the necessity of directly trying to change the content of one's thinking to effective treatment of mood and anxiety disorders.

To our knowledge, there have not yet been any clinical component control studies of ACT or other acceptance-based models of CBT. As discussed earlier, there is a relatively large literature documenting the effects of specific components in laboratory-based studies. For example, Branstetter, Cushing, and Douleh (2009) found that the addition of a values clarification procedure to the other components of ACT resulted in greater pain tolerance on a laboratory cold pressor task than the same ACT program without the values intervention. Although promising, it is not known if these results would generalize to actual pain patients undergoing clinical treatment.

Statistical mediation refers to a theoretical variable accounting for the variance between an independent variable (e.g., treatment condition) and a dependent variable (e.g., a measure of symptoms or functioning). The methods for conducting such analyses were introduced to the psychological literature only relatively recently, beginning in the late 1980s (Baron & Kenny, 1986), with more sophisticated approaches developed even more recently (e.g., Kraemer, Wilson, Fairburn, & Agras, 2002). Hence, the literature on mediation, although growing, remains limited.

Studies of cognitive mediation (i.e., exploring whether changes in the specific content of cognitions drives treatment effects) have been mixed, with some supportive findings but the majority of studies failing to find evidence of such effects (Longmore & Worrell, 2007). In contrast, most studies that have explored the mediating role of psychological acceptance and related variables in the context of third-generation psychotherapies have been largely supportive. For example, reductions in experimental avoidance have been shown to mediate treatment outcome in studies of test anxiety (Zettle, 2003), trichotillomania (Woods, Wetterneck, & Flessner, 2006), worksite stress (Bond & Bunce, 2000), chronic pain (McCracken, Vowles, & Eccleston, 2005), nicotine addiction (Gifford et al., 2004), epilepsy (Lundgren, Dahl, & Hayes, 2008), psychosis (Bach, Gaudiano, Hayes, & Herbert, 2013; Gaudiano & Herbert, 2006; Gaudiano, Herbert, & Hayes, 2010), and obesity (Forman et al., 2009). There are now approximately two dozen formal mediational studies of variables specified by the ACT model (psychological acceptance, defusion, and values), and the results have been surprisingly consistent in supporting the meditational effects of these factors across a wide range of populations (Hayes et al., 2013).

In summary, a rapidly growing body of evidence from various kinds of research studies is largely supportive of the role of psychological

acceptance and related concepts as a target for treating various problems and for enhancing well-being and quality of life. Especially noteworthy is the wide range of problems—ranging from subclinical anxiety and depression to severe psychosis—to which interventions designed to foster psychological acceptance have been shown to be effective. In fact, some evidence is beginning to emerge that such approaches are especially effective with more severe, treatment-resistant problems, and in persons with multiple comorbid diagnoses. Nevertheless, a great deal more research is needed, including studies of the unique effects of acceptance-based treatment components.

Conclusions and Future Directions

There is now strong evidence that psychological acceptance can be a powerful tool in coping with the inevitable distress that accompanies the human condition. A growing body of scientific research documents the benefits of acceptance and related processes not only in the formal treatment of psychological problems and disorders but also in enhancing well-being. Nevertheless, many questions remain and await further clinical innovation and research. For example, direct attempts to alter one's experience sometimes work, and at other times backfire, only intensifying distress. But it is not always obvious in any given situation when efforts to control versus to embrace one's distressing experiences are most likely to be effective. Further work is needed to clarify how best to foster acceptance in various groups of people. Although there are notable exceptions, most of the work to date has focused on adult outpatients.

We need to understand how best to disseminate these methods to both professional therapists and the public in a responsible way. A great number of self-help books featuring these concepts have been developed, and these are variable in quality. Higher quality books include those that are well grounded in scientific theory and research, offer reasonable expectations, present specific guidance for implementing self-help techniques and for monitoring treatment progress, and avoid potentially harmful prescriptions (Redding, Herbert, Forman, & Gaudiano, 2008). Meeting these criteria, however, is no guarantee of effectiveness, and research is needed to evaluate directly the efficacy of self-help books. Although studies in this area remain limited, preliminary findings are encouraging (e.g., Forsyth et al., 2011; Johnston, Foster, Shennan, Starkey, & Johnson, 2010; Muto, Hayes, & Jeffcoat, 2011). A few noteworthy books that we have found both scientifically sound and clinically useful include *Get Out of Your Mind and Into*

Your Life: The New Acceptance and Commitment Therapy (Hayes & Smith, 2005), *Overcoming Depression One Step at a Time: The New Behavioral Activation Approach to Getting Your Life Back* (Addis & Martell, 2004), and *The Mindfulness and Acceptance Workbook for Anxiety: A Guide to Breaking Free from Anxiety, Phobias, and Worry Using Acceptance and Commitment Therapy* (Forsyth & Eifert, 2008).

There seems to be a synergistic relationship between psychological acceptance and values clarification, but research into the latter has lagged well behind the former. For example, in a world of limited time and resources, it can sometimes be challenging to reconcile competing demands, even when all are themselves value consistent.

Most of the scientific research to date has focused on treatment, with little work explicitly focused on the prevention of problems in the first place. Given the broad scope and transdiagnostic nature of the concepts and techniques in this area, as well as their emphasis on enhancing well-being, it is possible that these approaches may be useful in primary prevention. For example, perhaps regular meditative practice, learning to defuse from and embrace routine distressing experiences, or clarifying one's values and goals may prove protective against the development of psychopathology or other problems. Biglan, Hayes, and Pistorello (2008) propose that interventions targeting experiential avoidance might be useful in prevention programs for parent training, adolescent peer influence, substance abuse, depression, and burnout among those in high-stress occupations.

Despite the movement's trendiness, solid scientific research supports the idea that enhancing psychological acceptance can accrue significant benefits, in terms of both treating psychological problems and enhancing overall well-being. The area is ripe for further creative innovations, theoretical developments, and empirical research.

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