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Acceptance and Commitment Therapy: Model Overview and Outcomes

Introduction

Acceptance and Commitment Therapy (ACT) is a behavior analytic approach that aims to increase one's psychological flexibility by helping others to accept their own thoughts and feelings instead of trying to do away with them. It's a type of therapy that focuses on understanding one's relationship with thoughts and feelings, aligning behavior with personal values, and committing to actions that lead to a meaningful life. ACT, while often described in ways that might not immediately seem behavior analytic, is rooted in behavior analysis, specifically in the area of relational frame theory (RFT). It can also be seen as an extension of traditional Applied Behavior Analysis (ABA) techniques, particularly when dealing with complex verbal behavior and private events (thoughts and feelings).

ACT is found to be rigorously behavior; however, it is also noted as being based on a comprehensive empirical analysis of human cognition (Hayes et al., 2001). Although it has its basis in clinical behavior analysis, ACT addresses concerns related to spirituality, values, and self, as well as other topics.

In this course, participants will learn to (1) identify core principles of ACT, (2) identify outcomes of ACT, and (3) discuss how ACT works.

Section 1: Core Principles and Outcomes of ACT

The movement surrounding behavior therapy all started with two main commitments. These two commitments include the empirical validation of interventions that are well-specified for problems that are also well-specified as well as an analysis of both problems and treatment as defined through basic psychological processes. An early definition of behavior therapy delineates this dual commitment clearly, demonstrating that behavior therapy was derived from

an operationally defined learning theory and conformity to experimental paradigms that were well established (Franks & Wilson, 1974).

It has been noted that behavior therapy can be divided into three different generations. These three generations include traditional behavior therapy, cognitive behavior therapy, and a more recent area that is inclusive of relatively contextualistic approaches (Hayes, 2004). Within this first generation of behavior therapy, both commitments were able to be kept because traditional behavior therapists were able to work from a basic set of principles that were developed from basic behavioral laboratories. Throughout earlier days, though, the authors of texts concerning behavioral principles noted that this basis should be expanded upon beyond that of operant and classical principles so that human cognitive processes could be included (Bandura, 1968). Even clinicians realized that this need was there; thus, the second generation of traditional cognitive therapy and cognitive behavior therapy was developed (A. T. Beck et al., 1979).

Despite these advances, there were not any cognitive models that were available during this time period that were as easily able to be linked to clinical interventions as were learning theory principles. While there are several reasons for this, they are complex. These reasons also go beyond the stage of development of basic analyses that occurred at that time. The cognitive models that were relatively dominant were, and are still, either mechanistic information processing approaches or organismic cognitive developmental approaches. Both of these approaches, philosophically, are designed to be more focused on the nature and evolution of cognitive acts as well as the impact that they have on various other forms of action than they are on contextual events that are used to regulate psychological events and relate them to each other. This component often limits the direct applied relevance of the concepts that are developed (Hayes & Bownstein, 1986).

For example, a principle such as reinforcement is designed to focus on the interface between the action and the action's manipulable context. This unifies both the dependent and independent variables. As the clinician applies a concept in an effort to change behavior, the independent variables are able to be manipulated and the results can be noted. This, however, is not true of the cognitive concepts that have been developed by both information processing and developmental cognitive perspectives. For example, a concept such as cognitive schemas may be focused on the organization of a particular dependent variable; however, it does not specify the contextual variables that change these variables or the impact that they have on other types of activities (Piaget, 1964).

As clinicians were not able to completely rely on basic cognitive accounts, they developed their own cognitive models and interventions known as Cognitive Behavior Therapy (CBT). CBT is a type of psychotherapy that focuses on changing negative thoughts and behaviors to improve mental health and well-being. For example, there were specific patterns of irrational cognitions that were characteristic of specific forms of psychopathology that were able to be defined and measured (A. T. Beck et al., 1991). The terms that were noted as being integrated in describing these patterns were sometimes loosely linked to that of basic cognitive psychology but often were not (Ellis, 1962), and in both cases the actual content that was associated with these cognitive processes were limited in their importance to basic cognitive science. These concepts were thought of as being "cognitive" which entailed them focusing on thinking as it can be understood in common terms, which was known as a person's thoughts. Within the realm of treatment, the relationship to basic processes was even more insubstantial. Methods associated with cognitive disputation, empirical tests, collaborative empiricism and other areas were not of importance to the basic cognitive science laboratory. In fact, they were thought of as practical procedures that were common sense and developed clinically.

This second generation of behavior therapy has now been around for many years, and the results of this particular approach are able to be evaluated. CBT techniques have been validated; however, the link that is present between that of cognitive therapy and cognitive science is relatively weak. When evaluating the techniques that have been developed within CBT, none of these techniques have been developed from basic cognitive science laboratories. Furthermore, the underlying model has received support that has been mixed. Component analysis studies have been unable to find support for the relative importance of direct cognitive strategies (Gortner et al., 1998). Additionally, cognitive therapists have been required to determine in relatively important areas that there has not been any additive benefit in delivering cognitive interventions within the realm of cognitive therapy (Dobson & Khatri, 2000). Responses that have been made to traditional cognitive therapy often occur prior to the implementation of cognitive change techniques (Ilardi & Craighead, 1999). Additionally, support for the mediators of change that are present in CBT still remains weak (Burns & Spangler, 2001), especially within areas that are causal and explanatory.

As a result, all of the aforementioned information presents an anomaly. Modern psychologists often agree that traditional behavior therapy has not been sufficient and that more suitable methods for dealing with thoughts were necessary. However, the framework of traditional cognitive and cognitive behavior therapy, that is necessary for improvements clinically, is not well supported.

Therefore, it has been thought that the third generation of interventions in CBT may have found a way to work around this anomaly. There are several examples of CBT interventions within this third generation of interventions. Some of these interventions include Acceptance and Commitment Therapy (ACT; Hayes et al., 1999), Dialectical Behavior Therapy (DBT; Linehan, 1993), Mindfulness-Based Cognitive Therapy (MBCT; Segal et al., 2001), and meta-cognitive approaches (Wells, 2000). These particular interventions focus on changing the function of

events and the individual's relationship to these events through second-order change strategies. Some of these second-order change strategies include mindfulness, acceptance, and cognitive defusion (Teasdale, 2003).

The third generation methods are developing both within the more behavioral and more cognitive avenues of CBT, which is also why these changes are thought of in generational terms. Although ACT is part of the developments that are currently taking place, it also is rather distinct in the developmental path that it has taken. In general, third generation CBT is an approach that is more principles focused. ACT is unique in how it has attempted to develop the basic laboratory so that it is able to create more adequate basic behavioral principles.

As it was noted that operant and classical learning principles were not sufficient to account for human cognition, the first and second generation broke apart from one another. ACT is an applicable extension that encompasses 20 plus years of an attempt to develop a modern form of behavior analysis that is more capable of the challenge of human language and cognition. It is based on the development of a philosophy of science as well as a theory entailing human language and cognition. Furthermore, it is an approach that is designed with a functional unity of both applied and basic psychology.

Description and Background of ACT

Philosophical Roots

ACT is based in the pragmatic philosophy of functional contextualism (Biglan & Hayes, 1996; Hayes & Brownstein, 1986). This is a specific variety of contextualism that aims to predict and influence events, with accuracy, scope, and depth (Hayes, 1993). Contextualism evaluates psychological events as though they are ongoing actions of the whole organism that are able to interact in and with contexts that

are defined both historically and situationally. These actions are considered to be whole events that are only able to be broken down for pragmatic purposes and not ontologically. Since goals delineate how to apply the pragmatic truth criterion of contextualism, functional contextualism is different from other varieties that also have goals.

ACT takes into consideration each of these philosophical connections in different ways. It stresses workability as a truth criterion and selected values as a required precursor to the assessment of workability. This is a result of values specifying the criteria necessary for the application of workability. Causal analyses are limited to only those events that are able to be manipulated directly and therefore, have a consciously contextualistic focus. When being viewed from this particular perspective, thoughts and feelings are not noted as causing other actions, except for when they are regulated by context (Biglan & Hayes, 1996). As a result, one is able to go beyond the attempts of changing thoughts or feelings so that an individual's overt behavior is changed and instead can focus on changing the context that causally links these particular psychological domains.

Theoretical Roots

There was approximately a decade and a half between the earliest randomized trials on Comprehensive Distancing, an early form of ACT, and those that are in the modern era (Bond & Bunce, 2000). Within that timeframe, RFT was developed into a comprehensive program that is utilized to guide the development of ACT. RFT is known as the basic theory of human language and cognition that underlies ACT (Hayes et al., 2001) and has also become the most researched basic behavior analytic theory of human behavior. RFT is a psychological framework that explains human language and higher cognition as the result of learning to create arbitrary connections, or "relational frames," between things. When discussing RFT, this approach has determined that the core of human language and cognition is an

individual's learned ability to be able to arbitrarily relate events, mutually and in combination, and to also change the functions of different events as they are based on these particular relations. For example, most younger children will understand that a nickel is bigger than a dime in physical size. However, it will not come until later that the same child will understand that a nickel is smaller than a dime by social attribution. Researchers within the realm of RFT have been able to demonstrate that these relations such as knowing that one event is bigger than another event can arbitrarily be trained as an operant (Barnes-Holmes et al., 2004), and it will also have an impact on other behavioral processes (Dymond & Barnes, 1995).

RFT has been viewed and proven to be successful in being able to model higher cognition at both the behavioral and neurobiological level (Hayes et al, 2001). For example, researchers within the realm of RFT have been able to successfully model analogy and metaphor (Stewart et al., 2004), and demonstrate that relational frames are able to produce semantic priming (Hayes & Bissett, 1998). Measures within neurobiology also relate similarly. For example, RFT tasks that are complex are able to generate pre-frontal activation (Barnes-Holmes et al., 2005) as would be thought to occur based on cognitive research surrounding relational reasoning (Waltz et al., 1999).

ACT/RFT Model of Psychopathology

The research that has been conducted regarding the ACT/RFT model of psychopathology is rather large and continues to expand as time progresses. Cognitive fusion can be referred to as an excessive or improper regulation of one's behavior through the use of verbal processes, such as rules and derived relational networks (Hayes et al., 1999). In situations that encourage fusion, the behavior of an individual is guided more by their inflexible verbal networks rather than through the integration of contingencies of reinforcement within one's

environment. Conclusively, people are less able to exhibit behaviors that are consistent with what the environment affords for behavior that would encourage their values and goals.

Therefore, from an ACT/RFT viewpoint, it is not the form or content of cognition that is the most problematic. Instead, it is the contexts that guide the cognitive content to inappropriately regulate the actions of the individual. Cognitive fusion is supportive of experiential avoidance. Experiential avoidance is the attempt to alter the form, frequency, or situational sensitivity of events that are private even when this alternation causes behavioral harm (Hayes et al., 1996). As a result of temporal and comparative relations that are present within the human language, negative emotions are able to be verbally predicted, evaluated, and even avoided. Therefore, experiential avoidance is a result of the natural effects of human language. This pattern is further amplified by one's culture and into a focus that is centered around feeling good and avoiding pain. Attempts that are made to avoid private events that are uncomfortable often increase their functional importance. This occurs because as these private events become more salient and the control efforts are verbally linked to conceptualized negative outcomes, then the range of behaviors that are possible are narrowed down as there may be several behaviors that evoke these uncomfortable and even feared private events.

A person is drawn into attempts of understanding and explaining psychological events even when it is not required or helpful to do so often because the social demand for reason giving and the practical utility of human symbolic behavior encourage this behavior (Hayes, 2002). An individual's ability to remain in contact with the present moment tends to decrease as the individual begins to live within their own head. As a result, the conceptualized past and future, as well as the conceptualized self are able to gain more regulatory power over that of behavior which further promotes inflexibility. For example, it may be viewed as being more important to be correct about the person that is responsible for one's personal

pain than it is to live more effectively with the history that one has. It may also be more important to defend a verbal view that others have of oneself (i.e., being a victim) than it is to engage in other forms of behavior that do not align with that verbalization. Additionally, as emotions and thoughts are utilized for reasons other than just action, reason-giving acts to draw that individual into even more focus on the world act as the main source of behavioral regulation. This, in turn, further exacerbates avoidance patterns.

ACT has been defined in terms of specific theoretical processes and not a specific technology. It is also viewed as being an approach to psychological intervention. When evaluating ACT in theoretical and process terms, this approach can be defined as an approach to psychological intervention that is based on views of modern behavioral psychology, such as RFT, that has application in mindfulness and acceptance processes, and commitment and behavior change processes, that are geared toward the development of psychological flexibility.

Research of ACT

In the upcoming section, information will be provided on the underlying ACT/RFT model, review of correlational studies, the impact of ACT components, and processes of change. Furthermore, the strength of ACT outcomes will be discussed and compared to alternative approaches as these processes of change would not matter if change is not able to take place.

ACT Model Studies: Correlational Studies

Correlational studies that have been conducted concerning the ACT model have not typically focused on any processes of ACT. When evaluating these studies, the largest body of evidence utilized different forms of the Acceptance and Action Questionnaire (AAQ; Hayes et al., 2004). This particular form was developed by

having ACT therapists create an item pool of the different kinds of clinical processes that are targeted through the use of ACT. The form that was created included measures of the degree to which an individual is able to fuse with thoughts, avoid feelings, and is also unable to act when they are faced with a private event that is difficult. As a result, the AAQ, even though it is referenced generically as a method for measuring experiential avoidance, is viewed more so as a general measure of several ACT processes that are designed to be used within population-based studies.

In an effort to determine the extent to which the AAQ and psychological outcomes are intertwined, a meta-analysis was conducted. In this meta-analysis, correlations that were established with a greater number of people were provided with more weight when the average effect size was calculated using the Pearson product-moment correlation coefficient (r) as the metric (Rosenthal & DiMatteo, 2001). The AAQ has been keyed both negatively and positively within the literature and that depends on whether or not researchers are speaking in terms of experiential avoidance (i.e., down is good) or in terms of acceptance and flexibility (i.e., up is good). Outcome measures are also presented in the same manner and the labels that are utilized are often not enough to determine the direction. This is further worsened by the use of terms that equate to double negatives (i.e., lower levels of inflexibility) and become increasingly confusing as they enter into negative correlations.

There were twenty-seven studies that were evaluated that involved 5,616 participants. These studies evaluated the relationship that existed between the AAQ and different outcomes that were associated with one's quality of life. These outcomes include psychopathology (i.e., depression, anxiety, post-traumatic stress), stress, pain, job performance, and negative affectivity. There were also several meta-analyses that were conducted. These evaluated the overall data set

and sub-sets that were further defined by certain problematic areas or common measures.

There were 67 correlations that were produced by the overall dataset as a result of these two sets of variables. The weighted effect size of all of these relations was .42 (95% confidence interval: .40-.44) which demonstrated that this particular measure of ACT processes had a moderate relationship with psychological outcomes. There were three studies (Bond & Bunce, 2000, 2003; Donaldson-Feilder & Bond, 2004) that demonstrated that a higher level of psychological flexibility (i.e., acceptance and values-based action processes) was also associated with a lower likelihood of having a psychiatric disorder, as evaluated by the General Health Questionnaire (GHQ; Goldberg, 1978). The relationship that was present between the AAQ and the GHQ was determined to be of medium size: .40 (95% confidence interval: .34-.45). Results revealed that the GHQ was not able to predict scores on the AAQ, one year later. When evaluated together, these results indicate that levels of psychological flexibility have an impact on subsequent mental health and not the other way around.

There were eight studies (Bond & Bunce, 2000; Dykstra & Follette, 1998; Forsyth et al., 2003; Gold et al., submitted; Pistorello, 1998; Plumb et al., 2004; Polusny et al., 2004; Strosahl et al., 1998) that compared the AAQ with the Beck Depression Inventory (BDI; Edition I: Beck et al., 1961; Edition II: Beck et al., 1996). Once these correlations were able to be aggregated in a meta-analysis, an effect size of .50 (95% confidence interval: .46-.54) was able to be obtained. Additionally, three studies (Cook, 2004; Polusney et al., 2004; Toarmino et al., 1997) evaluated the associations that were present between that of the AAQ and the Symptom Checklist-90R (SCL-90-R; Derogatis, 1994). This checklist evaluates different indicators of mental ill-health. Once these correlations were able to be aggregated in a meta-analysis, a large effect size was produced of .53 (95% confidence interval: .47-.58). Lastly, another meta-analysis was based upon data that were

collected from four studies (Karekla et al., 2004; Stewart et al., 2002; Strosahl et al., 1998; Toarmino et al., 1997). Results indicated that the AAQ was related significantly to three other well-known measures of anxiety: .49 (95% confidence interval: .44-.54). These three well-known measures were the State-Trait Anxiety Inventory (Spielberger et al., 1983), the Beck Anxiety Inventory (Beck & Steer, 1993), and the Anxiety Sensitivity Index (Reiss et al., 1986).

It is important to note that the AAQ is not only correlated with important measures of psychopathology. In fact, research findings have indicated that the AAQ is also associated with behavioral effectiveness, particularly in the form of both job performance and chronic pain management. In research conducted by Bond and Bunce (2003), psychological flexibility was found to predict with medium extent the number of computer input errors that call center workers exhibited throughout the course of one year. However, this particular measure of job performance was not able to predict AAQ scores another year later. This proposes that the AAQ is determining job performance and not the other way around.

Additional research has found that higher levels of psychological flexibility are able to be measured through a pain-specific variant of the AAQ and predict to a medium extent better work status, and more consistent “up-time” in individuals that experience chronic pain (McCracken, 1998). These results were able to predict these items to a greater degree than actual pain ratings. Furthermore, researchers have found that higher levels of this measure in patients with chronic pain were related to a medium extent to less health care visits that were associated with pain as well as fewer classes of analgesic medications that were prescribed (McCracken et al., 2004).

As a result, the research has indicated that the correlational evidence is rather supportive of the ACT model as evaluated by self-report instruments that are

developed by ACT therapists to measure the range of processes that are targeted by ACT. It has been noted that there are a multitude of and wide range of concepts and measures that have been found to overlap with the ACT model. Researchers are starting to look at different connections with various concepts such as distress tolerance (Brown et al., 2002), learned industriousness (Eisenberger, 1992), thought suppression (Wenzlaff & Wegner, 2000), delay discounting (Myerson & Green, 1995), and mindfulness (Baer et al., 2004) as well as other areas.

Experimental Psychopathology and ACT

Most of the treatment protocols that are empirically supported consist of large packages that are inclusive of diverse elements. It is often challenging to piece out these types of packages as the natural lines of fracture are often developed from common sense rather than theory. Studies that are smaller scale that have pieced apart these packages are often ignored. However, studies that are larger scale are typically more expensive and are only able to be completed on those treatments that are the most widely used and only after many clinicians have been trained and have integrated the model into practice. After that time has elapsed, piecing out these types of studies may have minimal impact if their results indicate that favored components are unhelpful. As a result, their findings may be explained away through other information.

Researchers within the realm of ACT follow a course that is afforded by a treatment development approach that is inductive, technique-building, and principles-focused. This approach aligns with conducting micro-studies on the different ACT processes in an effort to determine if each process is psychologically active and acts in a way that accords with the theory. Earlier research has centered upon acceptance, defusion, and values, but other targeted studies have been conducted on all of the other components.

Research has evaluated the impact that a cognitive defusion technique has had on negative self-referential thoughts (Masuda et al., 2004) through use of the Milk-Milk Exercise (Hayes et al., 1999). This exercise encourages an individual to rapidly repeat a thought aloud until it no longer has meaning. In this particular study, the impact that word repetition had on the discomfort and believability of self-relevant negative thoughts was evaluated and compared to that of a distraction task or a thought control task (i.e., abdominal breathing, shifting attention to pleasant thoughts). After a series of alternating treatments designs, it was found that the cognitive defusion technique was able to reduce discomfort and believability more than when compared to the other approaches.

Furthermore, an additional study evaluated the impact of a 90-minute ACT protocol that was focused on acceptance and defusion of one's tolerance of pain by using a cold pressor task (Hayes et al., 1999) when compared to that of a traditional CBT pain management condition as well as an attention placebo condition that included the discussion of a behavioral approach to pain. The paradoxical effects of emotional control, effects of emotional control, an attempt to undermine feelings and thoughts as reasons for one's actions, the workability of one's emotional control, and defusion of one's thoughts and feelings from the self were addressed by the acceptance and defusion protocol. There were no differences noted in the intensity of pain after the intervention; however, participants that were in the acceptance and defusion condition were able to keep their hand placed in the cold water longer than in the other conditions when evaluated at post-test. Those participants that were also in the acceptance condition demonstrated lower levels of belief in pain-oriented reasons for action than participants in the other groups.

The aforementioned study was extended through an additional study that attempted to evaluate whether exercises in acceptance and defusion were important or if the rationale alone made a difference even if traditional CBT

exercises were implemented (Takahashi et al., 2002). In each of the two active treatment conditions, an acceptance and defusion rationale was utilized; however, one treatment condition also implemented the Leaves on the Stream mindfulness exercise (Hayes et al., 1999) and the Physicalizing defusion exercise (Hayes et al., 1999). These exercises were developed to undermine the impact of challenging private events. The other condition utilized different exercises that were developed to control pain. Those participants that were randomly assigned to the acceptance-based condition which included exercises in acceptance and defusion but not individuals in the other two conditions demonstrated changes that were positive in pain tolerance. These results indicated that acceptance and defusion exercises were needed to elicit this effect.

In an additional study (Gutierrez et al., 2004), researchers evaluated the effect of a 20-minute long ACT acceptance, defusion and values intervention that utilized the Card Exercise (Hayes et al., 1999) and Swamp Metaphor (Hayes et al., 1999) compared to that of a cognitive and emotional change intervention. Throughout the study, pain levels were systematically raised, and participants were provided compensation to persist as long as they possibly could in each condition. Results indicated that ACT participants were able to demonstrate significantly higher tolerance of pain and willingness to persist even after the pain levels were noted to be very high.

Researchers evaluated the effects of ACT acceptance techniques on an individual's tolerance of exposure to carbon dioxide-enriched air (Feldner et al., 2003) to determine one's scores on the AAQ. Participants in the study were placed into either a computerized acceptance-based condition or a similar condition. The computerized acceptance-based condition instructed participants to observe and then let go of a difficulty with feelings during the time that they were exposed to air that was carbon dioxide enriched. The similar condition asked participants to suppress their own feelings while they inhaled carbon dioxide. Participants that

were in the suppression condition but not the acceptance condition with high experiential avoidance demonstrated greater levels of anxiety in comparison to those with low experiential avoidance. Those participants with high experiential avoidance when compared to those participants with low experiential avoidance reported that they had greater levels of anxiety and affective distress, but not physiological arousal, when exposed to carbon dioxide.

Similarly, a study that included 60 highly anxious females were placed in a 10-minute acceptance condition (i.e., acceptance and mindful observation of feelings; utilization of a physical version of the Chinese Finger Trap metaphor), a condition concerning emotion-control (i.e., control of psychological experiences through abdominal breathing), or a condition with no instruction (Eifert & Heffner, 2003). When participants in the acceptance condition were compared to participants in both the control and non-instruction groups, those participants were less avoidant behaviorally and noted less intense fear and cognitive symptoms. The participants in the acceptance group also noted that they had a greater willingness to return to the study than their counterparts in the comparison groups.

Furthermore, the effects of a brief acceptance method on an individual's exposure to carbon dioxide enriched air has been evaluated through the use of individuals with panic disorder (Levitt et al., 2004). There were sixty individuals that were randomly assigned to one of the three 10-minute interventions: acceptance, suppression, and distraction. The participants in the acceptance group demonstrated greater levels of willingness to participate in the challenge again and decreased levels of anxiety when compared to the other groups.

As a result, the aforementioned research demonstrates support of and outcomes associated with acceptance and defusion procedures and that their impact comports with the ACT model.

Section 1 Personal Reflection

Why do you believe that humans are drawn into providing explanations of psychological events? How do you think the social demand for reason giving encourages this type of behavior?

Section 1 Key Words

Cognitive Behavior Therapy - a type of psychotherapy that focuses on changing negative thoughts and behaviors to improve mental health and well-being.

Cognitive fusion - an excessive or improper regulation of one's behavior through the use of verbal processes, such as rules and derived relational networks

Contextualism - evaluates psychological events as though they are ongoing actions of the whole organism that are able to interact in and with contexts that are defined both historically and situationally

Experiential avoidance - attempt to alter the form, frequency, or situational sensitivity of events that are private even when this alternation causes behavioral harm

Relational Frame Theory - a psychological framework that explains human language and higher cognition as the result of learning to create arbitrary connections, or "relational frames," between things

Section 2: Relational Frame Theory

Earlier stages of behavior therapy failed to deal adequately with cognition. As behavior analysis has continued to develop over time, this domain was stumbled upon. ACT is based on a functional contextual program that consists of basic research housed in language and cognition: RFT (Hayes et al., 2001). This allows

for a post-Skinnerian approach to that of language and cognition and tries to provide basic principles for all forms of cognitive intervention that are manipulable.

When evaluating human language and cognition through the use of RFT, the core of human language and cognition is an individual's ability to learn to relate different events together under arbitrary contextual control. Stimulus relations that are non-arbitrary are defined by formal properties of events that are related. If there is one object that looks similar to that of another object, or bigger than another object, a multitude of animals would be able to learn this relation and demonstrate it with objects that are new and formally related in some manner (Reese, 1968). Humans, though, are able to abstract the features of relational responding and then bring these features under contextual control so that relational learning is able to transfer to other events that are not often found to be related formally but are able to be related on the basis of cues that are arbitrary. For example, if an individual is able to learn that "x" is smaller than the capital "X," humans may be able to apply this information/stimulus relation at a later time to other events that are under the control of cues that are arbitrary (i.e., smaller than). A younger child will understand that a cherry is bigger than a blueberry, but an older child will learn that a blueberry is smaller than a cherry by attribution, even though in a formal sense they have not learned this.

There are three main components of this particular kind of relational learning. First, these types of relations are able to demonstrate mutual entailment or "bi-directionality." If an individual learns that A is able to relate in some manner to B in a particular context, then this must entail that there is some kind of relation that is present between B and A in that specific context. For example, if an individual is taught that cold is the same as freezing, then that individual will derive that freezing is the same as cold. Second, these particular relations are able to demonstrate combinatorial entailment. If an individual learns that in a specific

context that A is able to relate in some manner to B, and B is able to relate in some manner to C, then this must entail some type of mutual relation that exists between A and C in that context. For example, if by attribution a cherry is smaller than a blueberry and a blueberry is smaller than an orange, then it will be derived that an orange is bigger than a cherry and a cherry is smaller than an orange. Lastly, these relations also enable a transformation of stimulus functions among stimuli that are found to be related. If you need to buy gum and a dime is known to be valuable, it will be derived that a penny will be less valuable and a dollar will be more valuable. This can occur without having to directly purchase any gum with pennies or dollars. When all three of these features are able to be established with any type of relational responding, this is then known as a relational frame.

Relational framing is relevant within a clinical context as the functions that are given to one member of events that are related tend to change the functions of other members. For example, let's assume that a young child has never seen or played with a dog before. After the child has learned that "D-O-G" → animal and D-O-G → "dog," the young child will be able to derive four additional relations that are present: animal → D-O-G, "dog" → DOG, "dog" → animal, and animal → "dog." Within this scenario, imagine that the young child is bit by the dog while it is playing with one. The child becomes upset and runs from the dog, crying. Later, the young child hears their father saying, "look at that dog!" Now, the young child again gets upset and runs away, even though this child was not bit when the words were stated, "look at that dog!" In this particular example, the oral name was never trained while the young child was in the presence of the animal. These types of effects are often able to help explain why individuals may have an initial panic attack while they are "trapped" in a store, and soon are able to determine that they are worrying about being "trapped" on a bridge or similar structure. These situations are not brought together through their formal properties, but

rather are brought together through the verbal/cognitive activities that relate these events.

RFT is a predominately active area of research within basic behavior analysis and has been for over the last decade. Several studies have been able to test and find support for its basic claims (Hayes et al., 2001). As indicated within RFT, human language and cognition are dependent on relational frames. When an individual is able to speak, think, reason, or listen to understand, they are able to do so through deriving relations among events. The relations are derived among words and events, words and words, and events and events. The unique concept behind relational operants is that they change how direct learning processes work. For example, the transformation of stimulus functions changes how stimulus control operates as events are able to acquire functions through indirect, relational means. Therefore, with RFT, it is required to analyze cognition in an effort to understand human behavior.

The Implications of RFT

Since RFT acts as a contextualistic theory of cognition, the clinical implications are different from those that are derived from alternative conceptions of cognition. RFT is able to be utilized to generate innovative methods that are designed to accomplish the first-order change goals of traditional CBT (Hayes et al., 2001).

RFT directs one's awareness to the likelihood of cognitive fusion and experiential avoidance, the dangers that can be associated with suppression and disputation, the significance of cognitive defusion and experiential acceptance as well as certain senses of self, the centrality of values, and other implications. Each of these items have been expanded into different treatment approaches that are housed within ACT.

Experiential Avoidance and Failure of Suppression

A well-known pathological process is that of experiential avoidance. Experiential avoidance is the attempt to escape or avoid events that are private, even if these attempts cause psychological harm (Hayes et al., 1996). Negative outcomes in depression (DeGenova et al., 1994), substance abuse (Ireland et al., 1994), and child sexual abuse (Leitenberg et al., 1992) are able to be predicted by emotion focused and avoidant strategies. An individual's deliberate attempt to suppress their own thoughts and feelings may ultimately increase the occurrence of these and have an impact on behavior (Cioffi & Holloway, 1993) and can complicate strategies that are exposure based.

Even though this may be heightened by culture, RFT does suggest that these processes are built into human language and cognition. A nonhuman that is attempting to avoid pain is able to accomplish this by avoiding the context in which the pain has taken place in the past. A human being, however, is not able to be provided this option as relational frames permit pain to occur in almost any situation through a transfer of stimulus functions and the arbitrary contextual control that prevents the success of situational solutions like those that are able to be followed by nonhumans. For example, one may have thoughts about a dead spouse that are cued through pictures, a depressed mood, a sunset, or a multitude of other cues. As an individual is unable to control their pain through situational means, human beings will then attempt to avoid the thoughts and feelings that are painful on their own. However, many of these means will then cue the event that has been avoided as the underlying relational frames are strengthened.

Cognitive Fusion

It has been found that relational networks are extremely difficult to break up, even when direct, contradictory training is used (Wilson & Hayes, 1996). This is

partly due to the idea that myriad derived relations are available to maintain and can reestablish a given relational network. In short, this means that those elaborated relational networks seldom go away because they are just further elaborated. Automatic reinforcement for the action of deriving stimulus relations is provided through various processes. These processes include an individual being able to detect that they are able to derive coherent relational networks (i.e., being able to learn that one is correct) or that relating events can lead to outcomes that are effective (i.e., being able to learn that one is able to solve the problem). Therefore, it can be challenging to slow down language and cognition after it has been well established, even though it has been found to be instrumental in nature. These combined features can mean that stimulus functions from relational frames often dominate when compared to other sources regarding behavioral regulation in humans (i.e., cognitive fusion) which, in turn, makes an individual less in contact with direct contingencies and experience and more so dominated by evaluations and verbal rules (Hayes, 1989). As this transformation of stimulus functions occurs, the environment will appear to have stimulus functions that are dependent on relational frames, without the relational process being prominent. For example, an individual that is fearful may construct an environment that is fearful and will act as though that “fearsomenss” has been discovered and not constructed. As it is known that behavior governed by relational networks is often insensitive to experiences that are contradictory (Hayes et al., 1986), it is also proposed that ineffective verbal formulations are able to create harm even though minimal environmental support may be provided.

These particular phenomena are often why the cognitive uprising presented itself within behavior therapy; however, mentalistic assumptions have hindered that process as those thoughts were believed to be undesirable. As a result, RFT suggests an alternative to this approach. The thought is to change the contexts

that support a particular thought → action or emotion → action relation. Both experiential acceptance and cognitive defusion are examples of different ACT techniques that make an attempt of doing this.

Section 2 Personal Reflection

How have you been able to see the three main components of relational learning at work within your own environment? What are some examples of these processes?

Section 2 Key Words

Experiential avoidance - the attempt to escape or avoid events that are private, even if these attempts cause psychological harm

Relational frame - a learned pattern of behavior where an individual responds to one stimulus in terms of another, forming an arbitrary, learned connection between things that aren't necessarily related in the real world

Section 3: Acceptance and Commitment Therapy

The main goals of ACT, in a clinical sense, are to undermine the grip of the literal verbal content of cognition that coincides with avoidance behavior as well as to develop an alternative context where the exhibition of behavior by an individual that aligns with their own values is more likely to occur. Ideally, one should develop psychological flexibility, which allows an individual to respond effectively to life's challenges while staying connected to their values.

Key Principles of ACT:

- **Acceptance:** Accepting thoughts and feelings without judgment.

- **Cognitive Defusion:** Learning to see thoughts as just thoughts, not necessarily true or accurate reflections of reality.
- **Being Present:** Focusing on the present moment and engaging with one's surroundings.
- **Self-as-Context:** Recognizing that one is more than just their thoughts and feelings.
- **Values:** Identifying what is truly important and meaningful in life.
- **Committed Action:** Taking steps aligned with one's values, even in the face of difficult emotions.

Therapeutic Assumptions

Within ACT, the assumption is that a dramatic and powerful change is a possibility and quickly as it is understood that the general context and purpose of action is the ultimate problem, not the difficulties in life that have been historically produced. It is never assumed that what the individual is thinking, feeling, remembering or experiencing is the main difficulty although humans will tend to concentrate on difficult content as the source of their problems. For example, an individual's anxiety is not assumed to be the main problem within anxiety disorders; a person's mood is not assumed to be the main problem in mood disorders; an individual's thoughts are not assumed to be the main problem in thought disorders; and these examples can continue on in a similar format. Within the realm of ACT, the thought of taking these particular experiences in a literal sense and then fighting against them may be deemed harmful by others.

Therapists of ACT believe that it is not possible or healthy to swoop in and rescue their clients from growth that is both difficult and a challenge to an individual. Most people can relate that being a human being can be inherently difficult.

Therefore, therapists of ACT do accept an individual's stories or reason as being true if these particular reasons or stories are functionally useless or harmful, despite the amount of reasonableness that can be found within them. The concern is the workability of these items and not their reasonableness. This also is applicable to ACT itself. As a result, it is more vital that an ACT therapist acts in a manner that supports what the individual states rather than telling the individual what to do. For example, if a client is trapped, frustrated, angry, confused or anxious, the stance of ACT recommends for one to view the situation not necessarily as much of a problem but as an opportunity for the individual to work on those powerful events in the moment as they can become barriers to growth. Furthermore, if the therapist feels as though they are trapped, frustrated, angry, confused, or anxious, the therapist should feel as though they can open up to these experiences. Additionally, they should recognize the opportunity as one where they humanize themselves and the experience, allowing them to put themselves in the shoes of someone else and commit to doing the same work without avoiding the situation or moving one up. As it relates to this quality, it further emphasizes the importance of the therapeutic relationship as one that is important, powerful, and deliberately equal in ACT.

Therapists of ACT are advised to not argue or persuade an individual. The focus should remain on the life of the client as well as the experience of the client and not one's beliefs and opinions despite how well intended they may be. The focus of concern should be on the function of events, not on their decontextualized form or frequency. An ACT therapist should hone in on asking themselves "What is this in service of" and not if the situation is true or false.

The main goal of ACT is to provide support for the client in what they are thinking and feeling about what they are directly feeling and thinking already. The client should be assisted with moving forward in a direction that is of value, with the entirety of their history and automatic reactions. The techniques that comprise

ACT are a means that is designed to find a psychological context from which that can be a possibility. The process contained within ACT is a cycle of detecting cognitive fusion and avoidance, defusing, and then learning to let go so that the individual is able to move forward in a valued direction in an effort to build patterns of effective behavior that are larger and larger.

A therapist of ACT is interested in what the client truly desires and typically not with the methods in which the culture of an individual specifies for accomplishing these ends. This viewpoint and distinction allows therapists of ACT to confront an unworkable agenda in a compassionate manner without being invalidated as the client's experience is thought of and respected as the arbiter. For example, an individual that experiences symptoms of anxiety often wants to get rid of their anxiety. It may be viewed as invalidating if an individual refuses to work directly on that desired goal. Also, the same individual may want to rid themselves of anxiety so that they are able to live a vital human life. In this scenario, the absence of anxiety is not the end goal. Instead, it is viewed as a means to an end. Oftentimes, it fails as a means and in these situations, ACT offers to the individual a method for abandoning those means because the individual's own experience suggests its unworkability. Additionally, ACT provides an alternative option for the client that they are able to engage in as a method for dealing with these previously avoided or fused events while still moving forward in a quick and direct manner towards the ultimate goal (i.e., developing relationships, participating, contributing). As a result, the bigger message is validating (i.e., trust in one's own experience) and empowering (i.e., an individual can live a powerful life in the moment without first having to win the battle with their own history).

In a general sense, ACT depends on relatively non-linear uses of language as language processes are believed to be the main source of an individual's repertoire that are rigid and ineffective. Therefore, ACT processes rely on paradox,

metaphors, stories, exercises, behavioral tasks, and experiential processes. On the other hand, logical analysis maintains a limited role.

Techniques

There are a multitude of domains that are contained within ACT intervention. Each of these domains have their own methodology, exercises, homework, and metaphors.

Confronting the System

ACT looks to identify the various strategies that the individual has utilized up until this moment in time to find a resolution to their problem and to determine if their methods are effective. If the individual has not been actually solving the issue at hand, ACT therapists will ask the individual to evaluate the possibility that the problem rests not within the techniques themselves but instead their own purpose. ACT typically starts off by challenging the linguistic set that delineates not only the problems but also the solutions as that set is believed to be a problem. Within this part of ACT, the "Person in the Hole" is a metaphor that details a model of this component of ACT:

> *Imagine that you are positioned in a field with a blindfold on, and you have been provided with a bag of tools. You are then told that your mission is to run around the field that you are in with the blindfold on. Without your knowledge, the field contains a number of deep holes that are spaced out. You begin to run around the field and eventually fall into a big hole. As you feel around, you learn that there are no escape routes that are accessible to you. As a result, you reach into your bag of tools and find that you have a shovel. You begin to dig and soon notice that you have not made it out of the hole. Instead, the hole is now bigger. You attempt to dig faster and with*

bigger scoops; however, it is not working. So, you come into contact with me and as you do, you are thinking that maybe I have a bigger shovel, one that is a gold-plated steam shovel. However, I do not have one and if I did, I would not use it as digging is not an option for getting out of a hole, it only makes holes. Maybe the entire thing is a set up like a game that is rigged.

Control is the Problem

In a world that contains common sense, individuals understand that if they do not want something, then they will need to determine how they are to get rid of the item. Controlling strategies are taught in a repeated manner and in most contexts, they work relatively well. In a world that contains private events, it may be different due to the nature of the relational frames. For example, when an individual deliberately does not think of something, it usually fails as a result of a rule that contains the avoided item (i.e., do not think of X). Likewise, if it is key that an individual does not feel anxious, then anxiety is something that an individual should be anxious about. Within this component of ACT, a simple notion is laid out on the table: conscious, deliberate, and purposeful control may not be effective with private events that the individual has been targeting. The Polygraph Metaphor outlines a model of this component of ACT:

Imagine that I had you hooked up to a polygraph machine that was known for being the world's most sensitive polygraph machine. I then told you that I had a relatively simple task for you to complete: be relaxed. However, I want you to attempt to stay relaxed and try hard, so I am going to hold a loaded gun to your head. If you begin to get nervous, I apologize but I will need to pull the trigger on the gun. What do you think will happen?

In an attempt to unpack this metaphor as well as other metaphors that are similar or the same with other exercises, the individual is asked to evaluate the possibility

that a seemingly impossible task has been considered and taken on: controlling automatic thoughts, feelings, and memories.

Cognitive Defusion and Mindfulness

It is often challenging to find an alternative to conscious control as language provides one with conscious control as a way to solve problems. From an RFT viewpoint, the functions that coincide with both language and cognition do not automatically occur; they occur contextually. As a result of derived stimulus relations and the transformation of stimulus functions, thoughts often act as though they are what they state that they are. For example, the belief that a person is bad can appear to mean that the individual is dealing with being bad and not thinking that they are bad. CBT has always realized this; however, the result has been to challenge the content associated with these thoughts. On the other hand, ACT alters this context.

Techniques within cognitive defusion dwindle away the verbal relations that establish stimulus functions through means of relational learning (Hayes et al., 1999). One ACT defusion technique is entitled the Milk, Milk, Milk exercise (Titchener, 1916). This exercise encompasses an exploration of each property of a single word. For example, when we think of the word “milk,” we know that it is white and creamy as well as a multitude of other words that can be used to describe it. Within this exercise, this word is stated out loud by the therapist as well as the client in a rapid format for approximately one minute. In this rapid repetition format, the word quickly loses its meaning and is just a sound. Typically, this exercise is repeated with a single word variant of a troublesome thought that the client may be dealing with (i.e., mean, stupid, weak). This experience is designed so that the thoughts do not mean what is said. As a result, it may not be possible or healthy for an individual to experience their referents; however, it can

be possible to have the experience through the means of an ongoing process if the context where they occur has now been varied.

Exercises that are based in practices of mindfulness are a method employed to achieve cognitive defusion and a way to increase behavioral flexibility. Events that are able to be contacted in the moment, without buy-in of evaluative and judgmental language, are the essence of mindfulness (Kabat-Zinn, 1994). This process necessitates a weakening of the literal language. This is not able to be completed in a purely logical, analytical, or critical way. In a general sense, mindfulness guides individuals to look at one's thoughts as events that take place in the world, not at the world as it is constructed by thoughts. There are a multitude of exercises that are implemented within ACT, such as imagining observing as one's thoughts float by as though they were leaves on a stream, and observing how this is able to be possible when one's thoughts are taken in a literal context.

Transcendent Sense of Self

Thoughts and feelings that are believed to be difficult often create an illusion that they are also dangerous. It is not ideal for an individual to be asked to experience these difficult thoughts and feelings without allowing the individual to have a safe place where that is possible. Language is able to provide this safe place for an individual through the continuity of consciousness that is created from engaging in perspective taking (Hayes, 1984). RFT notates that its source is founded within deictic relational frames. Examples of these include I-you; here-there; and now-then (Hayes et al., 2001; McHugh et al., 2004). In a general sense, once the perspective of these deictic relational frames are acquired, they never change. According to Hayes (1984), the lack of experienced limits or variations of these deictic relational frames is what forms the direct experiential basis for human spirituality. Since the "as seen from here, now" is never able to experience change

(i.e., there is not an additional perspective where events can be experienced consciously), and the limits are not able to ever be contacted consciously (i.e., by means of definition), then there is a dimension of one's human experience that is not able to be thing like.

In the Observer Exercise (Assagioli, 1971), this ACT exercise maintains that individuals keep their eyes closed in an effort to promote experiential contact with the transcendent sense of self. The individual is asked to become aware of their own sensations in the present moment, and then asked to recall an event that occurred a few months prior and to become intensely aware of the event and how that experience felt. After this occurs, the individual is then asked to notice that a person ("you") is here now, and a person also experienced these events a few months prior. The experiential continuity that is behind the person with "the eyes" is emphasized. Through this type of perspective, a multitude of domains are able to be evaluated (i.e., bodily sensations, roles, emotions, memories). In each scenario, the rapid change that occurs among the content of experiences is evaluated against the continuity of consciousness itself. In this exercise:

> *Let's experience another area: emotions. Take note as to how your emotions are changing. There are times where you may feel calm and times when you feel tense. You may also experience feelings of joy or feelings of sorrow, and even feelings of happiness or sadness. In this exact moment, you may be experiencing different emotions such as interest, boredom, relaxation, or fear. The one thing that you are able to count on is that these emotions will change. While these emotions will come and go, you should notice that in a deep sense that the "you" that is able to look out from behind those eyes does not change. You are the person you have been your whole life. You are not being asked to believe this, but instead you are being asked to look at your experience. If your emotions are changing and the person that you are is not changing, it may mean that while you have emotions you do not*

experience on your own in an effort to simply be your emotions. [Pause for silence]. Take note of your emotions for a brief moment and notice who else is noticing these emotions.

Once a multitude of domains have been able to be covered (i.e., bodily sensations, memories), then the next piece is simple: The pieces that one has been struggling with and attempting to change are not the individual in any way. It is important to understand that there is an unchanging transcendent sense of self as this helps an individual to feel that they have a place that is safe from which to experience fearsome psychological content with minimal concern that psychological harm could occur.

Acceptance and Willingness

Within the realm of ACT, the term acceptance does not equate to tolerance. Instead, it is the active non-judgmental embracing of various experiences as they occur in the moment. Acceptance is not able to occur without defusion. An experience should be actively experienced, particularly as the event is and now what it says it is. As a result, this implies that one should feel feelings as feelings and sense sensations as sensations.

Acceptance includes exposure and connects with different exposure-based behavior therapies. Within ACT, acceptance and willingness require an individual to experience actively and completely within the present moment, as these moments occur, and for the main purpose of actively and completely experiencing within the present moment, as these moments occur.

Values

ACT is able to be distinguished from other treatments due to its emphasis on values. Action, acceptance, and defusion are able to come together as a whole

within the context of values and action. It is often found that therapists within the area of ACT typically clarify values prior to other components within ACT. Values consist of qualities of an action that are able to be instantiated in behavior but not able to be owned like an item. Therapists within ACT will typically ask individuals, “What do you want your life to stand for?” Within this component of ACT, an individual is asked to create a list of their values as they are within various life domains (i.e., family, health, spirituality). Different exercises are able to be utilized to obtain more clarity about the fundamental values of an individual. For example, a therapist within ACT may ask an individual to determine what they would like to have written on their own tombstone or to create an eulogy that they would like to have read at their own funeral. As a result, this type of exercise focuses an individual’s verbal processes away from what is the actual truth and instead on the psychological meaning. As values are able to be clarified, goals that encompass those values, actions that are able to produce those goals, and barriers that exist in an effort to perform these actions are able to be delineated.

Values are able to justify the need for acceptance of particular thoughts and feelings that are painful. This is able to occur only because they have risen as barriers that necessitate embracement. ACT includes an individual’s ability to take in one’s history and what it offers as a method for living a life that is valued.

Commitment

A goal of ACT is to create larger and larger patterns of responding that are both flexible and effective. This occurs through removal of the repertoire that narrows the effects of cognitive fusion and experiential avoidance and by promotion of deliberate patterns of action that coincide with selected values. Furthermore, ACT includes learning a strategy that is able to be generalized that consists of moving forward toward valued ends, removing psychological barriers through the use of defusion and acceptance and situational barriers by means of direct action. There

are a multitude of techniques that are able to be utilized that are developed from the views of traditional behavior therapy. For example, an individual may be asked to determine specific goals, to make commitments that are defined and public, and to create a plan for working towards accomplishing these goals in small steps. As a result, it is important to note that ACT is both a change oriented strategy as well as an acceptance-oriented strategy.

Section 3 Personal Reflection

Which ACT exercise that was mentioned do you feel that you could benefit the most from? How would you be able to apply these exercises in your own life?

Section 3 Key Words

Acceptance - active non-judgmental embracing of various experiences as they occur in the moment

Values - qualities of an action that are able to be instantiated in behavior but not able to be owned like an item

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