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The Importance of a Deeper Knowledge of the History and Theoretical Foundations of Behaviorism and Behavior Therapy: Part 3–1986–2021

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The present paper will detail the evolution of behaviorism and behavior therapy as it progressed from second generation behavior therapy applications such as those espoused by Ellis, Meichenbaum, through the third generation of behavior therapies. The paper is the final piece of a 3 part article detailing the first through the third generations of behavior therapy within the field of behaviorism. The present paper primarily addresses the transition from the second generation of behavior therapy through the ultimate paradigm shift to third generation approaches. The third generation of behavior therapies involved the provision of alternative behavioral accounts to cognitive behavior therapy and the rise of the so called "cognitive revolution." The importance of grasping the paradigm shift involved in these different generations of the field will assist students and scholars alike in viewing the shaping of the basic scientific tenets of behaviorism. The value is also seen when entertaining the newer ideas that were introduced to the field that brought the science of behaviorism to a wider audience while simultaneously advancing its scope. The rise of the second generation of behavior therapy introduced the concept of mediational variables to the field. The incorporation of a more mediational approach to behavioral processes replaced the earlier views of the environments' influences on behavioral repertoires. Some of the biggest outgrowths of the second generation of behavioral therapies will be detailed and examined.

Keywords: third wave of behavior therapy, generations of behavior therapy, behaviorism, waves of behavior therapy, training programs in applied behavior analysis

The advancement of science in a given field emerges as novel applications to the problems presented within the field are addressed. The field of behaviorism and behavior therapy has undergone a number of paradigm shifts since the forefathers of the field espoused some of the initial tenets of the discipline (Guercio, 2018). Many of the philosophical assumptions of behaviorism were brought into question with the advent of the cognitive revolution and the focus on intervening variables in the environment response process. Skinner addressed many of these issues in his description of the science of behavior as it applied to private events (Guercio, 2020). Behaviorism has grappled with the manner in which behavior is to be observed and recorded for some time.

The argument for change was augmented by the acknowledged need to get back to a scientific analysis of behavior and to employ observable behavior in doing so. These needs helped to usher in what has been termed the cognitive revolution and all that occurred in the field at that time (Guercio, 2020). The issues of private events, thoughts and feelings were coming to the forefront.

The primary conceptual challenge to behaviorism has been the role of private events in human behavioral responses (Wilson, Sandoz, Flynn, Slater, & DuFrene (2010). Given the fact that most individuals seek behavior therapy due to issues related to their interactions with private events, it makes sense that these aspects of a science of behavior

needed to be explicated more fully in order to address more complex human behavior. Some behavioral theorists tended to discard the notion of private events in the conceptualization of human behavior (Rachlin, 2011; Baum, 2011). In the molar view of behavior as espoused by Raclin and Baum a steady state based upon a behavioral stream over time is what is examined. This allows for behavior to be extended in time and to not rely so much on a molecular analysis of small samples of behavior and their subsequent reinforcement. Other theorists have posited that private events are required in a complete behavioral analysis and are necessary in order to fully explain complex behavior.

The Role of Private Events in a Science of Behavior

B.F. Skinner proposed that a science of behavior must be able to account for behavior along a number of different dimensions. In doing so, he proposed the idea of private events as those covert unobservable experiences that were not commonly subject to verification by multiple observers. One of Skinner's (1974) goals in detailing the nature of private events was to place them within the framework of a natural science:

A science of behavior must consider the place of private stimuli as physical things and in doing so it provides an alternative account of mental life. The question, them, is this: What is inside the skin and how do we know about it? (pp. 211–212)

Skinner (1969) had identified that private events were similar to public events with the primary difference being that they transpired beneath the skin:

An adequate science of behavior must consider events taking place within the skin of the organism, not as physiological mediators of behavior, but as part of behavior itself. It can deal with these events without assuming that they have any special nature or must be known in any special way. The skin is not that important as a boundary. Private and public events have the same kinds of physical dimensions (p. 228).

Many theorists in the field of behaviorism hold opposing views with respect to the role of private events in a science of behavior.

William Baum (2011) has stated that behavioral events are natural events. He has gone on to state that there is no place for agency within that conceptualization of natural events and that the events are to be explained by other natural events (Baum, 1995). In Baum's view, the science of behavior is a natural science as Watson (1913) had proposed in the infancy of the field. Perspectives that embraced a mind-body dualism should not be part of a science of behavior in his view. Baum (2011) has gone as far as to state that:

"The role of private events in radical behaviorism is peripheral and inessential" (p. 186).

His position on the matter was that private events are a misguided effort to bring the language of behaviorism to the layman. He does not deny that they exist but rather has proposed that they are not useful in a science of behavior. For him they represent an unneeded distraction. They were not essential in determining the function of behavior from his perspective. Baum aptly describes this distinction by contrasting the distinction between function and mechanism. To determine function, one must consult environmental events, as opposed to understanding the mechanism that involves tracing the causal chain of events from environment to observed behavior. The latter would include unobservable phenomena such as private events. In order to better grasp Baum's views on behaviorism, one must understand the molar view of behavior.

Behavior by its very occurrence is extended over the course of time. Natural selection operates on populations just as behavioral selection exists as the result of extended patterns of behavior over time. One cannot understand behavior by looking at isolated moments in time. Such a momentary glimpse of behavior lends itself to spurious definitions and etiologies of behavior that are subject to heightened uncertainty. Baum (2011) states that we run the risk of invoking private events when we view behavior on too small a time scale. His position also held that a molar view of behavior avoids the pitfalls of hypothesizing about private events such as "feelings" or other sensory events. Skinner (1945) famously wrote that, "my toothache is just as physical as my typewriter" (p. 2). Baum argues against this saying that the private stimulus should not be some inner pain sensation that is not physical or has physical properties. Those that adhere to Baum's views posit that a natural science of behavior does not have a place for hidden causes that cannot be disturbed, nor spirits, essences, or some postulated inner self. For him, the behaviorist must search for the causes of behavior in environmental events present and past. Some of these past events may be invisible in the present, but they are subject to being tested,

unlike suppositions about private events. Baum (2011) eloquently describes the molar viewpoint by underscoring that behavior viewed on a time scale broader than the present moment makes some hidden events like private events irrelevant. There were other adherents to the notion of private events that held views similar to those held by Baum.

One of Baum's contemporaries was Howard Rachlin. He and Baum occupied cubicles in the basement of Memorial Hall as they both pursued their doctoral degrees there (Rachlin, 2011). Though they both were struck by the immensity of Skinner's work, they were more aligned with the theoretical bent of Richard Herrnstein. Baum's background in biology is readily apparent in his many examples of the molar point of view as they appear in nature and different species of animals. Philip Hineline was also a graduate student at the time at Harvard which was serving as a hotbed for behavioral theorists working on various projects from avoidance to the matching law (Rachlin, 2011). Hineline (2011) has espoused what he has termed a multiscaled analysis whereby activities are extended in time. These activities are examined more on a longer time scale as a molecular analysis would be. These views are consistent with Baum and Raclin's molar views on the etiology of behavior and were shaped by his early work with Herrnstein on sock reduction (Herrnstein & Hineline, 1966). One of the major reasons for the departure from traditional behavioral views was what Rachlin referred to as the rejection of some of the tenets of behaviorism by philosophers due to the field's inability to address mental life (Block, 1981). He argued that had behaviorism retained the respect of these philosophers, there would have been no need to expound upon molar views of behavior to explain private events. Mental life as the molar behaviorist views it consist of the interaction between environmental events and the organism over an extended period of time. The theorists mentioned above are unified in their subscribing to molar accounts of behavior. What an organism is doing in a small snapshot of time can lead one into postulating inner causes of behavior without examining the pattern of the response repertoire as a whole. The issue here that both Rachlin and Baum are delineating is that mental states (private events) cannot be taken as efficient causes of overt actions. Other theorists have contended that such views are misleading and that Skinner's account can address all of these issues.

Palmer is a staunch advocate of the Skinnerian view of private events. He has stated that Skinner's identification of the role of private events in behavioral responses was a much needed step toward a more comprehensive account of behavior (Palmer, 2011). Skinner alluded to a situation:

When a man tosses a penny into the air, it must be assumed that he tosses the earth beneath him downward. It is quite out of the question to see or measure the effect on the earth, but the effect must be assumed for the sake of a consistent account (p. 228).

Palmer provides similar grounds for including an analysis of private events when he mentions the fact that scientific data pointed to the presence of the planet Neptune well before it could be viewed. It was considered "private" until the 1840s when it was first viewed with telescopes. The presence of Neptune made sense of the data even in the absence of its observation. Private events are thus analogous to this. Palmer outlines four primary purposes that private events serve.

The first of these purposes is that they allow us to propose the generality of behavioral principles that are already established. The second purpose that he identifies is that private events can help to guide further inquiry into more complex human behavior. The third purpose is that he posits that private events help us to coalesce the data that we do have in the world around us. He also points to their purpose in eradicating the need to refer to agency, spirits, or some of the other apparatus of folk psychology. In Palmer's conceptualization, private events allow us to take account of the way that the nature operates without appealing to anything new. He makes the point that the observability of behavior is actually not a property of the response in question but rather the vantage point of the observer and the tools that they employ in doing so. A deaf or visually challenged observer may fail to detect instances of behavior that others may be able to discern (Palmer, 2009). Behavior is behavior regardless if there is an observer present to detect it. There is nothing novel introduced into the concept of how private events are involved in behavioral responses.

Covert behavior conforms to the same principles that overt behavior does. Mental representations, moods, emotions, or other figments of what Palmer refers to as folk psychology are not constrained by the scientific boundaries that private events are. Events, whether they are overt or covert, occupy the same role within causal events whether they are observed or not. Though debate exists on the place

of private events in a science of behavior, Palmer (2011) sums up the argument for their inclusion as such:

It is inconvenient for a science when its subject matter is difficult to observe, but that subject matter cannot be made to go away by ignoring it. Practice in normative science, when faced with phenomena that are not amenable to experimental analysis, is to engage in scientific interpretation, that is, to offer plausible accounts that appeal only to principles or observations established in the laboratory (p. 206).

The role of private events in psychopathology is an area that behaviorism has not addressed adequately according to modern proponents of the third wave of behaviorism and behavior therapy.

Pitfalls in Second Generation Behavior Therapy Approaches

Skinner (1953) rejected outright any referral to a disease model with respect to psychopathology. He couched these types of disorders into a contingency analysis in terms of the reinforcing context that was present. He did not totally discount biological explanations but rather saw that relying on them as a primary catalyst was premature and unfounded in a scientific analysis. In a similar fashion, Dollard & Miller (1950) provided extensive details related to the framing of psychoanalytic principles in behavioral terms. Kanfer (1960; 1961) was also instrumental in moving behavior therapy forward by incorporating studies of how verbal behavior that is displayed by an interviewer can impact the subsequent verbal behavior of an interviewee. Many of these approaches were blended with other more definitive cognitive therapies as the second wave of behavior therapy took place within the context of the supposed cognitive revolution (Guercio, 2020).

The end result is the second generation of behaviorism and behavior therapy was that the robust change they suggested did not provide empirical evidence (Burns & Spangler, 2001). This lack of empirical evidence led to novel ways of looking at clinical problems and the design of behavioral interventions that took more complex behavior into account.

Clinical behavior analysis is a relatively new field (Dougher & Hayes, 2000). Though Skinner (1957) and Ferster (1973) set the foundation for a behavioral approach to clinical problems, recent clinical innovations have started to address the issues inherent to more verbally competent clients

presenting with clinical problems. Interventions that primarily focused on direct contingency management abounded in the period of the first generation of behaviorism and behavior therapy. The applied behavior analysis literature is filled with these applications. The complexity of the presenting problems of more verbally competent populations have brought about the necessity of behavioral interventions with more detail Kanfer & Marston, 1961.

Clinical behavior analysis rose to prominence in the 1990s buoyed along in the third wave of behaviorism and behavior therapy. Some of the clinical innovations pioneered during this time were derived stimulus relations, rule-governance, and other interventions that were based in a behavioral analysis of language and cognition. These approaches did not abandon direct contingency based approaches. Third wave clinical innovations rely more heavily on interventions that extended Skinner's analysis to increasingly more complex verbal responses of both an overt and a covert nature as well as addressing the contextual nature of the behavioral issues that were addressed. When speaking about the differences between second wave approaches and those of the third wave, Dougher and Hayes (2000) state that:

Nevertheless, it does no good to pretend that basic differences are not present, and thus there is no reason to think that behavior analytically oriented clinicians will be satisfied with the cognitive behavioral literature as a basis for their work. The traditional behavior therapy literature is sometimes closer, but even here the philosophical and conceptual differences can be profound, particularly when procedures and analysis are based on warmed over SR principles and assumptions (p. 12).

The changes that took place in the third generation would rely heavily on the work of Skinner and his ideas on verbal behavior.

Rules function as a discriminative stimulus (Sd) by providing an antecedent that is correlated with reinforcer availability (Poppen, 1989). A rule actually brings a behavioral repertoire into place with respect to the direct establishment of responding. The rule states the contingencies that are to be in place for a given context. Poppen (1989) further outlines how a rule is similar to an Sd. The consequences for following a rule determine the likelihood that the rule will be followed in the future. The operant nature of the rule maintains the presence or absence of responding to the rule based on the consequences of rejecting the rule or following

it. The functional applications of these facts will be detailed through an examination of Poppen's Behavioral Relaxation Training (BRT). The laboratory study of rules demonstrates that they hold a strong level of influence over behavioral responding (Lowe, 1979; Poppen, 1982).

Skinner (1957) recognized this influence early on stating that rules specify contingencies that were once under external control but can now be "internalized" with the speaker and the listener both being within the same skin as in private events in the form of covert rule following behavior. He is very clear on this view of rules when he states:

As a discriminative stimulus, a rule is effective as part of a set of contingencies of reinforcement. A complete specification must include the reinforcement which has shaped the topography of a response and brought it under the control of the stimulus. The reinforcements contingent on prior stimulation form maxims, rules, or laws are sometimes the same as those which directly shape behavior (p. 148).

Skinner was foreshadowing what some of the proponents of second generation approaches were espousing, though they did this using different terminology.

The fact that rules can be derived from our learning histories points to first generation based conceptual foundations of some of the ideas proposed during the second generation. These shifts in second generation ideas still employed empiricism, but in a less stringent fashion than in the first generation. Theorists such as Cautela made it a point that all of the underpinnings of the Cognitive Behavior Therapy (CBT) model adhere ore strictly to operant and respondent paradigms in their formulations (Cautela & Kearney, 1990). Through the use of operant learning procedures, covert behavior could be targeted in a manner that all categories of behavior could be. The fact that all behavior (overt, covert physiological, and covert psychological) all obey the same laws makes the targeting if covert behavior viable. This must be done so in a way that avoids the reification that hypothetical constructs such as attitudes, mind, and the unconscious bring with them to the table. All components of the contingency did not have to be observable as in the first generation. Poppen (1982) has referred to the 'history effects" that we see in lab based operant studies of humans as being examples of what he called self-rule governed behavior. The second generation pioneer Albert Ellis used terms such as activating events, beliefs, and consequences in his therapeutic

model (Guercio, 2020). The first two of these terms can be summarized as antecedents and behaviors in Skinner's operant model. The same kind of phenomenon can be seen in the second generation work of Albert Bandura where the terminology that he employed can be viewed from the perspective of a third generation approach in Poppen's (1988) Behavioral Relaxation Training.

Paradigm Shifts in the Third Wave

The third generation of behaviorism and behavior therapy is comprised primarily of behaviorally based techniques that attempt to determine the function of covert verbal behavior in looking at unwanted behavior and psychological disorders. One of the foundational tenets is that behavior labeled as emotions, cognitions, or sensations should be examined as to their function as opposed to looking at them with respect to their form or frequency. Examining the form and frequency of unobservable constructs or phenomena proved to be too difficult of a task and one that was not amenable to a scientific analysis. Thus, the stage was set for the entrance of behaviorally based interventions that looked at all human experiences. Attempts were made to conceptualize the phenomena that were addressed as cognitions in the CBT or cognitive therapy approaches in more of a behavioral framework. These new therapies were named "third generation behavior therapies" due to the attempts to incorporate a lot of the phenomena that had typically been unable to be explained from a behavioral viewpoint into the nosology of their novel approaches (see Table 1).

These novel third generation therapies took on the arduous task of looking at altering the function of human experiences (behavior) through the lens of a contextual analysis. A number of interventions targeted at negative punishment escape include a number of interventions based on mindfulness and acceptance that were not widely examined in the two generations that preceded them. Though a clear demarcation between the different generations cannot be made in terms of a specific date, there were some theorists that are viewed as first generation pioneers that held views that would have been better placed in second generation conceptualizations. The widening of the scope of what behaviorism was helped to set the stage for third generation views on basic learning processes and how the

Table 1
Components of Third Generation Behavior Therapy Approaches

- Grounded in an empirical, principle focused approach
- Sensitive to the context and functions of psychological phenomena, not just their form
- Emphasizes contextual and experiential change strategies in addition to more direct and didactive ones
- Seek the construction of broad, flexible, and effective repertoires over an eliminative approach to narrowly defined problems
- Emphasize the relevance of the issues they examine for clinicians as well as clients
- Reformulates and synthesizes previous generations of behavioral and cognitive therapy and carries them forward into questions, issues, and domains previously addressed primarily by other traditions, in hope of improving both understanding and outcomes

Note. Components of the third wave of behaviorism and behavior therapy.

behavioral viewpoint could be taught to students in academic settings and practiced in clinical settings.

Behavioral Relaxation Training

The frequently used terms of behavior, cognitions, and feelings are throwbacks to the ancient formulations of body, mind, and spirit and their separate categories. Poppen (1988) has devised a finer grained analysis that looks at what he calls a behavioral taxonomy based upon 4 separate modalities of behavior. This taxonomy is looked at in terms of behavioral responses and an examination of these responses across a 4 modality framework.

Poppen examined what was typically called emotional behavior and couched it in terms of its visceral components. These visceral components are related to positive and negative punishment and reinforcement as described in the first generation. The visceral component was an area that involved what had been termed private events, but were looked at as a component of his multimodal system. The visceral component involves the activity of the smooth muscles and glandular system. The primary function of this component was physiological equilibrium or homeostasis. The stress response commonly throws the equilibrium off balance. Another component of Poppen's system is observational behavior.

The observational component involves the behavior that the organism engages in to orient themselves to their environment. This can occur on both covert and overt levels such as one's attending to a sound or tasting certain foods that they are consuming. Skinner (1974) described the action of seeing in the absence of the object being seen. This is just what Poppen was alluding to when describing covert observational behavior. Observational behavior serves an important mediating function in the sequence of responding to environmental stimuli. Verbal behavior is another area that Poppen addressed in his system.

Verbal behavior is often confused with linguistics and the study of grammatical form and elements. The behavioral account of verbal responding is far removed from the aforementioned components of language. This linguistic account was not the intent of Skinner and his position with respect to verbal behavior. There have been several aptly summarized accounts of the functional nature of verbal behavior as espoused by Skinner versus structural accounts as detailed by other theorists (Brown, 1973; Segal, 1975). The nature of verbal behavior as described in Poppen's taxonomy is more closely aligned with the Skinnerian perspective (Skinner, 1957). Verbal behavior is the result of socially mediated consequences, whereby the social environment serves to manipulate behavior. The other lens through which verbal behavior can be viewed is the structural analysis of language which is the subject matter of psycholinguistics. Consistent with a third wave view of behavior, covert verbal behavior involves silently reading material or observing the verbal behavior of other people. This is more a receptive view of verbal behavior on the covert level. Poppen refers to covert production of verbal behavior when we serve as both the speaker and listener within the same skin. Folk psychology and cognitive accounts have long referred to such behavior as "thinking." Operationally defining these terms helps the clinician to better describe both overt and covert processes as they apply to both stressful and relaxed responses in Poppen's system. The final modality to be described in Poppen's system is that of motoric behavior.

Overt motoric behavior has been the grist for the behavioral mill throughout the pioneering period of the first generation of behavioral theorists and into the second generation as well. Overt behavior has always been the hallmark of

the behavioral approach. Poppen describes motoric behavior as that of the skeletal musculature that function's to move one's body through space and assists one in manipulating their physical environment (Poppen, 1988). The vast majority of the literature in the experimental analysis of behavior concerns this modality of responding. Poppen's extension of this concept into the third generation viewpoint details how covert motoric behavior exists in various forms from the musician's keeping time as they play to athletes visually rehearsing their golf swing or free throw prior to the overt manifestation of the response. Relaxation training is replete with examples of how individuals can be trained to engage in covert motoric responses as in the progressive muscle relaxation of Edmund Jacobson (1938). Jacobson's work produced the technology to examine covert motoric responses through his use of electromyography that allowed practitioners to measure covert physiological responses such as muscle tension. Akin to Baum's position elucidated earlier, Skinner (1969) noted that:

> "The scales read by the scientist are not the same as the private events themselves" (p. 26).

The Third Generation of Behavior Therapy/Contextual Behavioral Science

Hayes (2004) has aptly described the third generation of behavioral therapy as being:

Grounded in an empirical, principle focused approach, the third generation of behavioral and cognitive therapy is particularly sensitive to the context and functions of psychological phenomena, not just their form, and thus tends to emphasize contextual and experiential change strategies in addition to more direct and didactive ones. These treatments tend to seek the construction of broad, flexible, and effective repertoires over an eliminative approach to narrowly defined problems, and to emphasize the relevance of the issues they examine for clinicians as well as clients. The third generation reformulates and synthesizes previous generations of behavioral and cognitive therapy and carries them forward into questions, issues, and domains previously addressed primarily by other traditions, in hope of improving both understanding and outcomes (p. 658).

The "other traditions" that Hayes was referring to included eastern Buddhism, values based living, and acceptance and change procedures.

Contextual Behavioral Science

The advent of the third generation of behavior therapy was ushered in by an increased focus on the context in which behavior occurs. The multiplicity of variables that can impact complex human behavior requires an analysis that incorporates additional factors than those used in first or second generation conceptualizations. Many consider Steve Hayes from the University of Nevada to be one of the fathers, if not the father, of third generation concepts and procedures.

Hayes (2016) has eloquently captured the paradigm of third generation behavioral conceptualizations within the realm of what he calls contextual behavioral science (CBS). This approach embodies a much fuller perspective when one examines a behavioral episode. It does not entirely deviate from an examination of overt behavior but rather allows for private events to be invoked, along with the context in which the behavior occurs (Zettle et al., 2016). The private language events that are the topic of focus in some third generation interventions relate directly to the work of the first generation. These events, though covert in nature, follow the same laws as overt behavior. By adhering to operant learning to modify covert behavior, these interventions maintain more of a second generation focus while staying true to first generation principles. Hayes (2016) description of CBS is as follows:

Contextual Behavioral Science (CBS) is a principle-focused communitarian strategy of reticulated scientific and practical development. Grounded in contextualistic philosophical assumptions, and nested within multilevel evolution science as a contextual view of life, it seeks the development of basic and applied scientific concepts and methods that are useful in predicting and influencing the contextually embedded actions of whole organisms, individually and in groups, with precision, scope, and depth; and extends that approach into knowledge development itself so as to create a behavioral science more adequate to the challenges of the human condition (p. 2).

The final sentence itself describes the intent of CBS to provide a more adequate description and overview of complex human behavior than has been available before the third generation. The incorporation of evolution science is akin to Skinner's conceptualizations of the ontogenic and phylogenic histories of organisms. Skinner's views of selection by consequences has been extremely

cogent in serving as a foundation to the genetic components of our behavior that interact with the environmental variables impacting our behavior. CBS intends to incorporate these view along with contemporary evolution science to describe and predict human behavior with precision (Sloan-Wilson & Hayes, 2018).

The initial development of CBS was to include analysis of the complex human behavior typically observed in clinical psychology (Levin, Twohig, & Smith, 2015; Hayes, Barnes-Holmes, & Wilson, 2012). The incorporation of what have been called "middle-level" terms is seen in third generation formulations of behavior. Examples abound, but can be observed in the use of the term values with respect to a person as opposed to the more rigid use of the term "motivative augmentals" (Levin, Twohig, & Smith, 2015). The values that a person holds dear are created with the context of that person's day to day life and behavior. Middle level terms provide more of an overarching view of behavioral processes, both overt and covert.

Behavior therapy primarily examined the promotion of "first order change" (Hayes, 2004). The term first order change is one that implies changes in the therapeutic process whereby the person is encouraged to either increase or decrease engaging in a certain topography of behavior. An example would be having someone monitor the number of cigarettes that they smoke in a day in order to eventually decrease this number over time. This would be a first order behavior change strategy. Second order behavior change strategies involve looking at the clinical problem in a manner that it has never been viewed before. The solution may even appear to be counter intuitive at times. A prime example of this would be the focus of acceptance and change in ACT therapy as opposed to having the sole clinical goals being the alleviation of the problem such as anxiety. Once can still accept the reality of living a life in coexistence with anxiety while, at the same time, engaging in valued activities in their lives despite the anxiety. The goal of elimination of the suffering is not a primary clinical target. The ability to make therapeutic gain is stressed within the context of living a valued life (Hayes et al., 1999). Taking the smoking example again, a valued component of life such as physical health could be pursued that would preclude the need to smoke. Past attempts to quit would also be examined from the perspective of not allowing these failures to impact the person pursuing a value filled life. The context of behavior plays a huge role in the process.

Contextualism takes the ongoing act(s) of behavior in context as its foundational precept. The behavior of the whole organism is considered inseparable from and enclosed within its historical and environmental context (Hayes, 1988). The contextual perspective considers private events such as cognitions and emotions to be similar to overt events in terms of their analysis. They are no different from overt events and should not be treated as such. CBS is distinct from traditional behavioral psychology in its emphasis on verbal and symbolic processes and behavior and the impact that they have on behavior. The more in-depth treatment of language and cognition afforded by CBS will be examined in the remainder of the paper. Hayes (2016) describes how Skinner's definition of behavior is primarily topographical and requires more depth to apply to complex human behavior. He also bemoans the fact that the current group of board certified behavior analysts that are being introduced to the world are addressing their therapeutic efforts toward ameliorating the behavioral, academic, and daily living skills needs of those with developmental disabilities and autism. The field of CBS is intended to introduce the behavioral sciences to traditional psychotherapy work as opposed to the narrow focus of developmental disabilities and autism that currently exists (Hayes & Bisset, 1989). It is not that the latter is not important work, but his point is that the science of an overarching behavioral viewpoint with embedded contextually and evolutionary components can impact many more lives and populations than it currently is reaching.

Hayes formulation is based on his contention that Skinner's depiction does not allow for a comprehensive definition of behavior as it exists within the domains of thoughts, emotions, or needs (Hayes, 2016). The inclusion of "middle level" terms that are described as high-scope, but less in precision like terms of behavior principles, may be used to orient the field to a larger array of issues.

The creation of a new approach to language and cognition that is presented within CBS has demonstrated how behavioral principles viewed in this new light can change how we approach behavioral principles, theories and models (Hayes, 2016). Though not all third generation therapy is acceptance based, such approaches comprise a significant portion of the interventions in the third generation. These third generation interventions are steeped heavily in evidence based approaches (https://div12.org/treatments/). The use of the term third generation of behavior

therapy was employed heavily by Hayes in his description of Acceptance and Commitment Therapy (ACT).

Acceptance and Commitment Therapy

These new approaches have tried to deal with the problem of stress, anxiety, and other psychological maladies under the umbrella of" psychological suffering." Humans possess everything that a nonverbal organism does, yet their attempts to be happy or free from suffering are nonexistent. The search for the solution to suffering has been sought since man could first observe and display escape behavior from nonpreferred experiences. The fact that we are verbal organisms means that we can now experience what Skinner called seeing in the absence of the thing that is seen. We can covertly experience stressful stimuli through verbal behavior and our suffering can be maintained in contexts outside of those in which the anxiety was conditioned. Wolpe noticed this many years ago, and behavior therapists continue to struggle with its effects presently. One of the most recent treatment paradigms that has emerged from the behavioral literature is Acceptance and Commitment Therapy (ACT).

A primary tenet of ACT is that we consistently interact with our environment based on verbal rules that we construct based upon our experiences. The behavioral functions of our environment become increasingly based upon rules that we make about the environment as opposed to the actual experience of the environmental events as such. The verbal categorization of stimuli that we encounter generates our history, physical sensations, and experiences. Many of these categorizations can produce human suffering as a result of verbal behavior that has gone astray (Hayes, Strosahl, & Wilson, 2012). The primary claim here is that our verbal behavior enables us to struggle with our own experiences in a manner that is all encompassing. Our attempts to rid ourselves of these negative consequences will be met with failure time and time again. The scope of the ABA field has grown considerably since those initial investigations in Russian laboratories in the mid-1800s (Guercio, 2018).

The initial book length treatment of ACT was published in 1999 by Hayes, Strosahl, and Wilson. They describe their work as contextual based on the fact that the environment is not an object, and our interactions without the environment (private events) are not separate from it. There is an interaction present that cannot be denied. ACT stated as the word and not the separate letters (Hayes, Strosahl, & Wilson, 1999) states that there is a pragmatic truth criterion related to what works or does not work therapeutically for the client. It is derived from behavior therapy in that it addresses private events such as cognitions from a contextual behavioral perspective. It rejects mechanistic content oriented forms of therapy similar to those employed in the second generation of behavior therapy thus distinguishing itself from traditional CBT (Hayes, Strosahl, & Wilson, 1999). All analysis of pertinent therapeutic assessments go back to the environmental context, both distal events and more recent events. Behavior change occurs through context change. The etiology of psychological problems is examined from a base of rule governed behavior within the ACT framework.

Rule governed behavior is differentiated from contingency based behavior based upon the fact that many psychological disturbances (psychological pain from an ACT standpoint), persist even though they lead to negative consequences. One would not expect aversive consequences to maintain behavior, but they do in terms of psychological pain and the behavior that is associated with it. The establishment of behavior based upon direct rules can produce a lack of flexibility and rigidity that defines the etiology of psychological pain. The result is avoidance of situations or events based on a rule governed behavior based analysis that assigns aversive properties to some stimuli or activities that may actually contradict the existing contingencies. The manner in which stimuli and events become associated can be explained through relational frame theory (RFT) (Steele & Hayes, 1991).

The core processes of RFT are beyond the scope of this paper, but simply stated, it is based upon the idea that organisms can learn to respond relationally to a myriad of stimulus situations (Hayes, Barnes-Holmes & Roche, 2001). These stimuli can be brought under contextual control based upon the manner in which they are presented or trained with the subject. This cogent explanation does not do justice to the theory of relational responding but does provide a conceptual basis for how aversive properties can be assigned to activities and stimuli in a manner that produces psychological pain or suffering. One of the core tenets of ACT is that language can function as an antecedent to psychological pain through relational frames and derived relation responding. The human organism engages in consistent labeling of their environment which is

based upon evaluation, organizing, and judging different stimuli and people. When rule-governed behavior starts to dominate over contingency controlled behavior, even in the face of aversive consequences, cognitive fusion has occurred.

The primary explanation of cognitive fusion is based upon the idea that the symbols that exist in our daily environments become linked with the events that they describe and with the people that describe them. These linkages produce private events that then produce covert behavior based upon the relations that have been made between stimuli. The result can be anxiety and panic behavior based purely upon the private event or thought. Such is the nature of cognitive fusion (Hayes, Strosahl, & Wilson, 1999). The event that has been imagined is not presently occurring, but the fusion of the symbolic thought and the event itself enables the functional properties of the event to be experienced by the person as if they were actually present. Cognitive fusion may produce avoidance of the aversive properties of certain situations and result in avoidance of these situations in order to avoid aversive private events. What follows is a strong negative reinforcement based paradigm housed within the third generation conceptual terms of ACT. The model looks at the universal nature of suffering and the intrusion of language and derived relations that can serve to make neutral events and stimuli aversive. These primary areas of focus outline pathology from an ACT perspective. Producing clinical change is based upon addressing these core etiologies of suffering.

The cognitive fusion that has been produced is addressed directly with the client in an attempt to get them to accept the issues that are present and engage in committed change based behavioral patterns. Primary among these change patterns is empowering the person to live toward those things in life which they value the most. The primary difference here is that the focus is not on alleviating all of the psychological pain but learning to accept this pain and still move forward in a valued direction pursuing those things in life that the person holds most valuable. A life lived in the pursuit of one's values is a life less focused on pain and suffering and the narrowing of one's experiences based on trying to avoid those events (public or private) that are aversive to us. Values are described within the ACT framework as:

> "Verbally construed global desired life consequences" (Hayes et al., 1999, p. 206).

The pursuit of life values and acceptance based work to address cognitive fusion underlie the ACT treatment modality. ACT is but one of a number of third generation therapeutic approaches based upon this contextual behavioral framework that is inherent to most third generation treatments.

Dialectical Behavior Therapy

The approach embodied by dialectical behavior therapy is rooted in CBS as well. The DBT treatment modality was developed by Marsha Linehan in the early 90s. Linehan (1993) gives a nod to CBS and Steve Hayes by incorporating acceptance as a major element of her treatment protocol. The approach is girded by a focus on what is called dialectic, or the union of both acceptance of present circumstances and a focus on behavior change that results in a synthesis of these opposite or opposing approaches. Lineman describes the essence of the dialectic as a see-saw that the client and the therapist are both on. There are times when the change encouraged by the therapist will be more present and there will be times when acceptance of the present situation is more valued. It is a constant evolution and balancing act from one side to the next as the therapist works with the client in pursuit of behavior change and increased autonomy. The approach embodies somewhat of a shaping perspective as moment to moment change is intermingled with supportive acceptance versus therapeutic challenges to facilitate change. The approach includes elements of Eastern Buddhism and Zen practices along with more Westernized approaches such as CBS. There are several core treatment elements in DBT that work together for change.

One of the primary elements that distinguishes DBT from other treatment approaches is its focus on validation strategies. Validation operationalized involves the incorporation of positively reinforcing interactions delivered by key persons in the client's life. These interactions should target communicating to the person that their experiences are reasonable given their learning histories. Validation fosters the ability to develop increased clinical rapport. By communicating that unwanted responses, taken in context, are understandable, greater gains can be made with respect to client goals (Linehan, 1993). Another key component of the DBT process is identifying and treating behaviors that function via negative reinforcement to avoid therapy and or the

therapist. This process allows for increases in clinical rapport and appropriate interactions that can produce the change that is desperately needed in the client. The primary treatment population for recipients of DBT are those with borderline personality disorder (BPD).

To date, DBT is one of the few clinical interventions with proven efficacy with the BPD population (Clarkin et al., 1991). Those with BDP display significant self-injurious behavior (SIB), angry outbursts, social avoidance, and significant impairments in social skills and relationship development. The SIB typically takes the form of cutting the arms or legs with razors, knives, or other sharp objects. Suicidality and suicidal ideation are also common behavioral manifestations of the disorder. This unique constellation of behaviors is extremely treatment resistant. The efficacy of DBT in producing significant clinical outcomes and its reliance on the context in which behavior occurs makes it a significant treatment modality in the third generation of behavior therapy. Some of the additional treatment modalities that will be discussed in this section carry with them several similarities related to a CBS approach and treatment components that are behavioral in nature but contain many of the "middle level" terms that Hayes describes with respect to ACT. There are many others, but a few bear mentioning given their clinical outcomes and basis in CBS.

Mindfulness Based Approaches

Jon Kabat-Zinn (1990) was one of the first proponents of mindfulness meditation. Mindfulness involves directly observing our own private events and covert verbal behavior while doing so in a nonjudgmental manner. He taught his patients how to observe these covert events without having them be a strong antecedent to overt behavior or otherwise negative behavioral patterns. Kabat Zinn is the founder and director of the Stress Reduction Clinic at the University of Massachusetts Medical Center. He developed the concept of Mindfulness Based Stress Reduction (MBSR). The primary element in this intervention was the use of mindfulness techniques as functional replacement behaviors to stress responses (Kabat-Zinn, 1992).

Kabat-Zinn contends that the present moment is the only moment that we have to live, learn, and heal. Mindfulness introduces the concept that we are constantly evaluating the stimuli or experiences that we encounter in our daily lives. By assigning a judged value of good, bad, or otherwise, we are introducing categories that are arbitrary and unnecessary. These categories can cause us to respond in maladaptive ways to potentially neutral stimuli. This viewpoint is not one that a typical behaviorist would hold based upon what was postulated in the first and second generations of the discipline.

To be completely open to each moment as it unfolds allows us to accept it in the fullness with which it is intended. Our judgments and categorization can serve to prevent us from viewing things as they really are. This can be viewed from the behavioral lens as operant conditioning based upon the inaccurate rules that we may form based upon unpleasant experiences we have. The applications of mindfulness to anxiety and stress disorders make the anxiety experience itself the focus of attention (Kabat-Zinn, 1992), the idea being that responding in a nonjudgmental fashion allows one to distance themselves from these thoughts. This is a vast departure from behavior change agents targeting overt behaviors and intervening based upon observable stimuli. The focus has now shifted to one totally enmeshed in private events as causes, an area that behaviorism has been uncomfortable with for quite some time. The wider context that is involved in third generation treatments has allowed for a wider and more differentiated treatment approach.

Hayes (2004) would later incorporate mindfulness into his contextualistic based ACT approach. Marsha Linehan (1993) does the same for her DBT treatment modality. The efficacy of these approaches lends a great deal of credibility to mindfulness based treatment approaches. The ability to experience life as it occurs without attaching separate rules or apprehensions to one's moment to moment experience greatly alters the context in which behavior occurs.

Functional Analytic Psychotherapy (FAP)

The approach of Functional Analytic Psychotherapy (FAP) incorporates some of the core precepts of behavior analysis in with traditional behavior therapy approaches. The sessions involved in FAP are very intensive and utilize every opportunity to train and teach key behavior change concepts and strategies in the therapeutic session itself prior to in-vivo

utilization of the skills (Kohlenberg, 2000). The primary components are guided by behavioral principles, but are focused on relationships and emotion based change that are typically not incorporated into a radical behavioral approach. The core catalyst for behavior change is the focus on demonstrations of behavior change in session when presented with relevant antecedent variables. There are no behavioral observations made of the client outside of therapy and the therapist does not directly intervene in their life outside of the therapy room. The occurrence of the problem behaviors in sessions is where the behavior change is best facilitated. There are basic rules that FAP therapists employ when using this method.

The 5 basic rules guide the therapist as he institutes FAP with clients. The first rule is to notice clinically relevant behaviors as they occur. If this does not occur, the therapist moves to the second rule which involves evoking a clinically relevant behavior (CLB) if they do not observe it for a period of time. The third rule is for the therapist to be as genuine as possible as they move through this process. The fourth rule is for the therapist to observe how their responses to CRBs can serve as reinforcing interactions for their clients. The fifth rule is to provide a clear statement to the client related to the contingencies that appear to be maintaining their problem behavior. This precise application of behavioral technology to the therapeutic interaction process moves our science forward (Kohlenberg, 2000). The immediate reinforcement, in-vivo exposure to problem situations, revelation of maintaining contingencies set FAP apart from traditional behavior therapy approaches and serve to effectively operationalize what we mean by the "therapeutic relationship." A different perspective is seen in Behavioral Activation Therapy.

Behavioral Activation Therapy

In direct line with the tenets of CBS, the premise of behavioral activation (BA) therapy is to have clients engage in activities as opposed to isolating themselves in order to avoid aversive stimulation (Martell, Addis, & Jacobson, 2001). This behavioral activation can then shift the context of the lives that people with depression lead. The approach relies on the well proven fact that internal causes are merely assumptions of the etiology of depression and do not further our efforts to effectively treat this disorder. Depression is conceptualized

within a BA framework as a process that occurs within the context of a person's life. It should be looked at as a series of responses and results as opposed to some internal mechanism. This framework allows the clinician to view depression as functional given its context. The withdrawal and avoidance that characterizes depression and repetitive private events (rumination) can be viewed as adaptive strategies in that they serve to avoid aversive stimuli. The founder of BA acknowledges this well when he states:

Identifying functional relations intervening to alter problematic functional relations, shaping desirable behavior by natural contingencies; relying on natural rather than contrived reinforcers; and avoiding the dualism inherent in the arbitrary definition of behavior as only that which can be observed by others (p. 631).

The contextual view of depressed behavior can be addressed through altering the context in which the behavior is engaged in.

The difference in the BA approach is that the therapist helps the client to see that their current behavioral patterns are not working. This primary focus takes the place of examining how thoughts affect mood as postulated in many second generation approaches. This approach firmly places BA treatment in the third generation category of behavior change techniques. The client is taught to become active in spite of their private events that may lead to avoidance behavior that is inherent to depression. They are instructed to act in accordance with predetermined goals rather than an internal state. The change in the behavioral pattern can create a change in context that facilitates behavior change.

Links to the First Generation

The adherents to first and second generation approaches heralded their changes as new and invigorating and capable of filling theoretical gaps that were present in existing formulations of problematic behavior and its treatment. The first generation was presented as an alternative paradigm to the psychanalytic conceptualizations that dominated the treatment landscape at the time that behavioral psychology first came to preeminence. The reliance on observable patterns of behavior and the ability to predict and control behavioral patterns marked some of the major contributions that were made during the first generation of behavior therapy.

Such an approach was a distinct contrast to the existing paradigms of the time that examined streams of consciousness, the effects of our childhood experiences, and many other psychological constructs that were presumed to be the cause of overt behavior. Behaviorism, in its first generation iteration, was interested in identifying the ultimate causes of behavior, as a reliance on a presumed inner cause only led to further allaying our scientific inquiries into the true causes of behavior. The strict environmental approach that accompanied the behavioral view was a breath of fresh air to some and a dreaded oppositional paradigm for others. Immense growth accompanied this first generation as new approaches to psychological maladies demonstrated successful outcomes for a number of treatment resistant problems. As the popularity of behaviorism grew, there was an intellectual itch to scratch with respect to examining the causes and control of more complex patterns of behavior.

The so called "cognitive revolution," as it was called by some, ushered in the second generation of behavior therapy as presented in this paper. There were a number of important precursors to this second generation as some behavioral theorists started to examine the role of the organism in interpreting stimuli that they encountered. There was a distinct impression that the strictly behavioral interpretation of stimuli and responses could not account for more complex behavior. Behavior therapy approaches were soon combined with a cognitive element to form cognitive behavior therapy or CBT. The CBT approach was wildly successful but not successful enough for some to warrant what was being called a cognitive revolution. The focus had shifted somewhat but not enough to obliterate a behavioral conceptualization as some would depict it. The addition of the cognitive piece did not appreciably impact the outcomes that were observed in many of the studies on CBT, proving that the behavioral component was still a vital cog in the therapeutic wheel. The second generation was largely ineffective due to the inability to connect with what was learned in the first generation. The death of behaviorism was greatly exaggerated as an even more diverse set of clinical approaches and treatment philosophy was soon to be unveiled in the third generation of behavior therapy (Wyatt et al., 1986).

The introduction of ACT was a major change in the landscape of behaviorism. Many of the older conceptualizations of behavior were being challenged. Some of Skinner's pioneering work was even held up as being inadequate to account for certain forms of language and cognition. The ACT approach dealt with what Hayes (2004) called "mid-level" terms when cognitive fusion and values based living were detailed as a component of the therapeutic process. Some traditional behaviorists questioned Hayes and his conceptualization of some of the core verbal behavior processes that were involved. There were some that felt that the contextual approach diverged from a strict behavioral interpretation of language and cognition (Hayes & Barnes-Holmes (2004). Even given these differences, third generation behavioral approaches have made a great impact on the field of behavior analysis, while still holding true to the majority of the scientific precepts that are so integral to our science. It is worth noting that all of the third generation approaches have significant links to first generation processes. The third generation therapies described above have a number of first generation etiologies that suggest their clinical viability. Among these shared properties of many of the interventions listed are differential reinforcement (escape from thoughts does not work), positive reinforcement (engagement in valued activities), positive punishment (an aversive thought),escape maintained behavior (experiential avoidance), and escape extinction (acceptance). The paradigm is starting to shift slightly with the impressive data that has been produced from these third generation research programs and labs. The social validity of the behavioral changes that they have produced portends well for what is to come in fourth generation behavior therapy approaches and beyond. A science grows through collaboration and openness to ideas that challenge existing paradigms. The response of behavior analysts to these newer approaches will dictate where our field evolves from here.

The Fourth Generation and Beyond

Skinner laid the groundwork for a comprehensive science of behavior within an evolutionary framework. He did so by blending contingencies as they related to survival along with cultural evolution and the role that reinforcement played in all of these processes (Skinner, 1938; 1953; 1957; 1981). The work that has been done in CBS has extended Skinner's views to the study of more complex human behavior. The framework for CBS and the evolutionary approaches to psychology that it espouses hold the potential to guide developments in virtually all aspects of human behavior (Biglan, Zettle, Hayes,

Barnes-Holmes, 2016). These developments in behaviorism bring the hope of involvement by younger scientists to seek empirical evidence across a variety of fields, including the study of human language and cognition, clinical psychology, and organizational behavior, to name but a few. All of these pursuits are aimed at human well-being (Fryling, Rehfeldt, Tarbox & Hayes, 2020).

One can look at an operational definition of human wellbeing as consisting of the incidence and prevalence of problematic issues in populations at large. These issues may be manifested in physical problems, psychological issues, and behavioral wellbeing. Our aims must be directed toward environments that nurture as opposed to those that deliver punitive or otherwise aversive consequences that do not lead to human well-being (Biglan, Flay, Embry, & Sandler, 2012). All of these efforts are couched within the behavioral tradition. Primary within these approaches are their nondualistic approaches.

Baum (2011) pointed out the drawbacks to mind-body dualism and how this led the field astray during the second wave of behaviorism and behavior therapy (Guercio, 2020). A comprehensive nondualistic approach should be well grounded in behavioral principles with an eye toward prevention of issues prior to their emergence as significant problems.

The ultimate goal of human well-being impacts entire populations. Our work should be to equip people with the tools that are needed for each human to thrive. In order to do this, psychological flexibility is at the forefront. The behavioral sciences have not been at the center of efforts with respect to many of the medical and engineering advances that have changed our society. One thing that we can be certain of is that an approach such as ours can make a huge difference in changing the human condition for the better. Who would not want that to be the impact that our field ultimately has?

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