



Volume Number 6

2010

Issue Number 4

ISSN 1555 - 7855

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International Journal of Behavioral Consultation and Therapy

VOLUME NO. 6, ISSUE NO. 4

ISSN: 1555 - 7855

Published: December 14, 2010

PUBLISHER'S STATEMENT

The International Journal of Behavioral Consultation and Therapy (IJBCT), is published quarterly by Joseph Cautilli and BAO Journals. IJBCT is an online, electronic publication of general circulation to the scientific community. IJBCT's mission is to provide a focused view of behavioral consultation and therapy for the general behavioral intervention community.

Additionally, IJBCT hopes to highlight the importance of conducting clinical research from a strong theoretical base. IJBCT areas of interest include, but are not limited to: Clinical Behavior Analysis, Behavioral Therapy, Behavioral Consultation, Organizational Behavior Management, Human Performance Technology, and Cognitive Behavior Therapy. IJBCT is an independent publication and is in no way affiliated with any other publications.

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International Journal of Behavioral Consultation and Therapy

ISSN: 1555 - 7855

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For use in PsycINFO and other databases, an abstract should not exceed 960 characters and spaces (approximately 120 words).

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- using well-known abbreviations
- using the active voice

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Embed as many key words and phrases in the abstract as possible; this will enhance the user's ability to find the citation for your article in a computer search. Include in the abstract only information that appears in the body of the paper.

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Use the present tense to describe results with continuing applicability or conclusions drawn and the past tense to describe variables manipulated or tests applied. As much as possible, use the third person, rather than the first person.

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Abstracts for review or theoretical articles are generally about 75—100 words. Include the following information:

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* All articles should be single spaced, with one inch margins all around.

* All abstracts must contain keywords.

* Full author contact information must be included in the article.

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International Journal of Behavioral Consultation and Therapy

ISSN: 1555 - 7855

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Due to technical difficulties, it has become necessary for us to create new site to access all editions of BAO journals published since loss of our webmaster in 2009. We are working to resolve all the problems with the old site and we appreciate your patience. We are currently constructing a new, fully functional BAO journal website with most of features of the old BAO site. Until further notice, you may access the current and future BAO journals at www.BAOJournal.com. There is a link on the new site that will take you to the BAO organization’s portion of the site.

The archives and indices of all available past issues of all BAO journals now reside on the new site. We are working on a way to obtain the few editions that are missing from the archives of past issues.

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Thank you for your loyal support for BAO and its journals.

Cordially,

Joe Cautilli and BAO Journals

Editorial

It has been almost a year now since I rejoined IJBCT as Editor-in-chief. It has been a year of struggles to move this journal to a vital outlet for articles on the “third wave” outlet for Cognitive and Behavior Therapy and Clinical Behavior Analysis.

IJBCT 6.3 featured several excellent articles on ACT under the guidance of Rob Zettle and was a highlight of this past year for me. I am grateful to Rob and Steve Hayes for their support of IJBCT as a first rate journal that has relevance to practitioners and scholars.

In 2011 IJBCT is expecting to publish an all DBT edition with Marsha Linehan as guest editor. I look forward to that special edition and some other surprises as far as guest editors and special editions.

This edition of IJBCT 6.4 offers some worthy peer reviewed articles as well. First, is an extensive literature review and analysis of Mode Deactivation Therapy with adolescents by Jack Apsche. The article reviews many years of treatment research by Apsche and his colleagues and offers some analysis of results and implications.

Article two presents a brief study by Daniel Moran that examines ACT as a method to train managers to become crisis resilient and stable and focused in all situations. The article offers another unique view of ACT and how it has many implications for potential use of ACT with Industrial and Organizational Psychology.

Article three is an article on Functional Analytic Psychotherapy with Anxiety Panic Disorder by Miguel Ángel López Bermúdez and his colleagues. They offer some unique views of FAP as it is implemented internationally as a viable methodology.

Article four is an article on Behavior Activation Treatment of anxiety in older adults. Jarrod S. Turner and David J. Leach offer an extremely interesting article on BAT treatment as a methodology in reducing anxiety.

Article five is an article that independently analyses MDT. Jacquelyn Hollm, and examines a recently published meta analysis on MDT by Apsche, Bass and DiMeo as well as, some comments about Thoder and Cautilli’s independent review and replication of MDT data.

I thank all of the subscribers, readers, contributors, editorial board and staff for a great 2010 and we look forward to an even better 2011.

Happy New Year!

Jack Apsche

A Literature Review and Analysis of Mode Deactivation Therapy

Jack A. Apsche

Abstract

This article is a review of articles, chapters and current research examining Mode Deactivation Therapy. Current applications of MDT suggest that mindfulness is a core component of MDT, as well as acceptance, defusion and validation, clarification and redirection of the functional alternative beliefs. These components are the core of MDT and a recent study has evaluated each of them as to how it affects the target or outcome goals. The evolution of MDT is reviewed from case studies to a mediation and meta-analysis. The purpose of this article is to review the foundation of MDT and current articles that elucidate the efficaciousness of MDT as an evidenced – based methodology.

Keywords: Acceptance and Commitment Therapy (ACT), Cognitive Behavior Therapy (CBT), Mode Deactivation Therapy (MDT), Post traumatic Stress Disorder (PTSD), Mediation analysis, Mindfulness, Meta analysis, Physical aggression, Sexual aggression.

Introduction

In the process of treatment research trials and development of MDT, this methodology (MDT) has been compared to the alternative methodologies such as: Cognitive Behavior Therapy (CBT), Dialectical Behavior Therapy (DBT) and Social Skills Training. This review examines the literature of MDT in treating adolescent clients with reactive emotional dysregulation, who presented with behaviors including parasuicidal acts, verbal and physical aggression and sexually aberrant behavior. Case studies in this article involved clients with complicated histories of sexual, physical, or emotional abuse, as well as neglect and multi-axial diagnoses. Data indicates that MDT is effective in reducing the rate of physical and sexual aggression in addition to symptoms of Post Traumatic Stress Disorder. Given the prevalence of conduct disorders and its major contribution to juvenile anti-social behavior, societal violence, sexual violence and delinquency, there appears to be an urgent need for empirically based treatment methods for such youth. There were several interventions implemented to reduce antisocial behavior in disruptive disorders. Because many clinicians conducted therapy in a more eclectic fashion, the problem encountered was difficulty identifying efficient treatments which could be effective in many treatment environments. Other researchers conducting a review of treatments for children and adolescents were they identified 82 studies carried out between 1966 and 1995 involving 5,272 youth. Of the 82 studies, they discovered that many were not well established with empirical validation, and many more did not indicate efficacious treatment. There were problems with identifying a comprehensive treatment approach that showed suitability, reliability and external validity. Unlike findings involving treatment provided by clinicians who worked primarily in inpatient settings using structured empirically validated treatments, the finding of empirically validated studies that examined outpatient therapeutic practices with conduct disordered adolescents were scarce. While it was noted that some evidence-based treatment practices existed for children with Conduct Disorder, it was not established that for adolescents over 14 years of age. This article presents a complete overview of MDT, delineating its origin from CBT, ACT, DBT and Functional Analytic Psychotherapy Therapy (FAP) as well as reviewing the current adaptation of mindfulness techniques of MDT that are soon to be published. A brief review of the mindfulness manual is included as well.

Elements from Several Behavior Therapies

Originating from CBT, ACT and DBT, MDT also incorporates principles from FAP (Kohlenberg and Tsai, 1993; Tsai, Kohlenberg, Kantner, Kohlenberg, Follette, Callaghan, 2009). First, MDT aligns with FAP in examining how change is made in a therapy session, specifically the notion that behavior is shaped and often maintained by contingencies of reinforcement. This “learning” happens out of the consciousness of the client and therapist or experientially, while often they focus in the now, didactic type of cognition.

Acceptance and Commitment Therapy and MDT both also address the individual's experiential avoidance of difficult or painful thoughts and emotions, by implementing both cognitive and emotional defusion. Cognitive and emotional defusion are the processes that humans learn to avoid painful stimuli, either in thought or emotion. In short, if something elicits pain, often we tend to avoid it, in thought or feeling. Hayes (2004) suggests that we often pair feelings with conditions, such as, "I was happy once, prior to my abuse", "I cannot enjoy the sunset anymore, since I was abused." Hayes suggests that the coercive stimuli (psychological pain) of the past cannot be reduced through simple situational solutions. We avoid that which is painful.

Acceptance and Commitment Therapy (ACT) (Hayes, 2004) and MDT also are both deeply rooted in mindfulness. However, MDT's mindfulness practices are significantly from ACT, as they are designed specifically for adolescents and include mindfulness, meditation and imagery (Apsche, 2010). MDT also uses an assessment and Case Conceptualization method that combines elements from Beck's (1996) case conceptualization and the Problem Solving Cognitive Behavioral Therapy model of Nezu, Nezu, Friedman and Haynes (1998). Third, MDT and FAP engage in in-session reinforcement immediately following the client response and continue to reinforce in-session and out of session responses.

MDT also has similarities to ACT, (Hayes, Strosahl, Wilson, 1999). Both ACT and MDT implement the concept of acceptance of one's self as you are in the moment, then moving forward with all of the thoughts, feelings, and issues, instead of trying to change their distorted thinking. The assessment and case conceptualization procedure concentrates on core beliefs, fears and avoidance behaviors that are reflective of the Post-Traumatic Stress Disorder and developing personality disorders (Apsche and Ward Bailey, 2003, 2004b, 2004c). Therefore, MDT should also be classified as a trauma informed methodology.

MDT and Trauma

MDT treats trauma by addressing the underlying fear, avoids paradigm individuals avoid what they fear (Apsche, & DiMeo, 2010) as follows:

- *Mindfulness*: This component of MDT reduces the strength of the behavioral manifestations of fear and anxiety. Apsche (2010) in a mediation analysis/meta-analysis article demonstrates this as youth in this study had significant reduction in fear as evidenced by the Strength of Fears Assessment.
- *Acceptance/Defusion*: These components of MDT reduce the youth's avoidance scores and the Anxiety Control Questionnaire (ACQ). Acceptance and defusion in MDT are implemented together and allow the youth to experience and accept his/her pain as part of the human condition and by doing so he/she cognitively and emotionally defuses the strength of the avoidance.
- *Validate-Clarify-Redirect the Functional Alternative Beliefs*: This component of MDT allows the youth to address personality beliefs. These beliefs are measured by the Compound Core Beliefs Questionnaire (CCBQ). The personality beliefs are part of the individual's response to trauma.

These components of MDT have been shown to reduce the specific mediators of fears, avoidances and personality beliefs in youth exhibiting behaviors including: verbal and physical aggression, sexual reaction, and self-harm.

Theoretical Constructs

The theoretical constructs of MDT are based on Beck's Mode Model (1996), which suggests that people learn from unconscious experiential components and cognitive structural processing components (Apsche, Ward, & Evile, 2003). Therefore, to change the behavior of individuals there must be a restructuring of the experiential components and a corresponding cognitive reformation of the structural components. Mode Deactivation Therapy is an empirically based methodology that systematically assesses and restructures compound core beliefs (Apsche & Ward, 2003). Beck suggests that his model of individual schemas (linear schematic processing) does not adequately

address a number of psychological problems; as a result, he proposes a system of modes. He describes modes as a network of cognitive, affective, motivational, and behavioral components; indicating that modes consist of integrated sectors of sub-organizations of personality that are designed to deal with specific demands to problems. These sub-organizations help individuals solve problems such as the adaptation of adolescents with a history of abuse to strategies of protection and mistrust.

Beck (1996) also states that these modes are charged, thereby explaining the fluctuations in the intensity gradients of cognitive structures. The modes are charged by fears and dangers that set off a system of modes to avoid the fear. Modes are then activated by charging related to the perceived danger in the “fear ↔ avoids” paradigm setting off a chain of reactions in the individual: a) the orienting schema signals danger, and activates or charges all systems of the mode; b) the affective system signals the onset and increasing levels of anxiety; c) the beliefs are activated simultaneously reacting to the danger, fear ↔ avoids, and physiological system; and, d) the motivational system signals the impulse to the attack and avoids (flight or fight) system.

Understanding modes is important in treating the population served by MDT, especially juvenile sex offenders, since these youth are particularly sensitive to danger and fear, which charge their modes; this includes an awareness of conscious and unconscious fears being charged, and the activation of the mode system. It explains the level of emotional dysregulation and impulse control issues indicated in the typology of these young clients (Apsche & Ward, 2003).

Core Components

In MDT the core beliefs (or schemas) of the individual are not perceived or challenged as dysfunctional because this action invalidates the person’s life experience. The client’s Functional Alternative Beliefs (FAB) is accepted as truths in the client’s life by the therapist and the client. Functional Alternative Beliefs are consistently validated as legitimate and are seen as developing as a result of the person’s life experiences - no matter how irrational, and even if the reality of the belief is imperceptible to observers. It is presumed that the client’s belief system is not distorted, and although perhaps unbalanced, it is derived from a “grain of truth” in his perception. These beliefs are consequently “balanced” through a collaborative therapeutic process with the goal of deactivating the maladaptive mode responses or life interrupting behavior(s).

An integral part of MDT is the concept of Validate, Clarify, and Redirect (VCR). Validation was defined by Linehan (1993) as the therapist’s ability to uncover the validity within the client’s belief. MDT uses the balance the FAB technique to remediate the youth’s emotional dysregulation. VCR employs unconditional acceptance and validation of the youth’s cognitive unconscious or out-of-awareness learning experience. Given the youth’s background and history, MDT espouses that the youth is exactly where and how he should be as a person with his experiences. The clarification offers an alternative explanation of the youth’s circumstances and history, and the redirection measures the “possible acceptance” of a slightly different belief. MDT incorporates DBT concepts in its use of balancing the dichotomous or dialectical thinking of the client. These modalities teach a client who often engages in dichotomous “all or nothing” thinking that his perception can fall within the range of a continuum, rather than only a 1 or a 10 (all or nothing). The resulting validation and learning process are the basis for positive redirection toward a new awareness for the client (Apsche & DiMeo, 2010).

By readdressing client-endorsed beliefs, MDT explores underlying perceptions that may set in motion the mode related charge of problem schemas, thus enabling further behavior integration of DBT principles in treating sex offending or aggressive behaviors (Linehan, 1993). Many of Linehan’s teachings describe radical acceptance and examining the “truth” in each client’s perceptions. As previously mentioned, this methodology of finding the “grain of truth” in the perception of the adolescent is crucial to the effectiveness of MDT. Its effectiveness can be measured as an empirically-based and driven treatment, and it is designed to assess and treat a conglomerate of personality traits and beliefs, as well as to remediate aggression and sexual offending. The redirection component of VCR assists the client to consider responses to other views, or alternative possibilities on his continuum of truths. There are

numerous continuums implemented as scales from 1 to 10 to evaluate areas such as truth, trust, fear, and beliefs. These continuums are essential to MDT in that they give both the client and the therapist an empirical measurement of the client's spectrum of perceived truth.

Functional Analytic Psychotherapy (Kohlenberg & Tsai, 1993) theory states that people act based on reinforcement contingencies. Although FAP takes into consideration that cognitions are involved, the focus is on the deeper unconscious motivations that were formed as a result of past contingencies. Perception is based on past contingencies. Therefore, reality and the concept of reality reflect what has been experienced in the past. Considering reinforcement history in the context of a person provides the MDT-informed clinician with a more complete assessment of the specific behaviors of that person.

Acceptance and Commitment Therapy (Hayes, Strosahl, & Wilson, 1999; Greco & Hayes, 2008), based on Relational Frame Theory, is an empirically-based intervention that uses acceptance and mindfulness, along with commitment and behavior change strategies, to help clients learn how to make healthy contacts with thoughts, feelings, memories, and physical sensations that caused them fear or discomfort. Acceptance and Commitment Therapy techniques, such as: acceptance, mindfulness, and defusion (Greco & Hayes, 2008), are cornerstones of current MDT practice. Clearly, however, an adaptation is necessary since the individuals MDT treats have long histories of sexual, physical, and/or emotional abuse. Often they respond in ways that are interpreted as characteristic of personality and/or conduct disorders. These are youngsters that may respond by committing sexual offenses, aggressive acts, and/or other aberrant behaviors. Mode Deactivation Therapy is a methodology that addresses dysfunctional schemas through systematically assessing and restructuring underlying compound core beliefs - beliefs that often found their genesis in trauma experiences. Table 1 presents a comparison of MDT and CBT across different competencies to further clarify some of the MDT core components.

MDT Mindfulness

Based on the work of Greco and Hayes (2008) and Apsche & Bass (2010), and following Buddhist traditions, MDT incorporates a series of mindfulness exercises that are specifically designed for adolescents. The youth practice techniques which help ensure trust, reduce anxiety, and increase commitment to treatment as mindfulness skills are developed. These exercises are then translated into brief, safe relaxation exercises to promote awareness of where the youth is with his emotions and feelings. Following is an example of a mindfulness script used by MDT clinicians:

Awareness or being aware of your thoughts, feelings, and even bodily sensations is important to living a happy successful life. Self-awareness is the first step in being aware and empathetic of others' feelings and emotions. However, to be aware of others' feelings and emotions you must first be aware of your own. The following three steps will assist you in attaining this self-awareness; see Apsche (2010).

1. Awareness

Observe and notice your surroundings, thoughts, feelings, and different bodily sensations. Are you thinking about being on the beach right now? Do you feel relaxed like you are at the beach? Or are you thinking about a peer who is giving you a hard time and feel tense? What you're thinking is affecting how you are feeling, therefore your physical body is reacting.

2. Describe

Put your observations into words and say how you feel. You can start by saying what you see, describe to yourself the "scene" that you are seeing in your mind. What, where, whom are you thinking about? Does this "scene" make you feel positive or negative, anxious or exited? If you don't want to say it out loud, write it down!

3. Redirect Yourself

Slowly redirect your attention to your breath. Follow your breath-in...and...out. Breathe in...count one...

Expand yourself...
Slowly...
Expand your attention to your whole body...
Try to sense any discomfort, tension, or resistance...
Just feel whatever you feel...breathe in...breathe out...
Allow yourself to feel whatever you feel.
Become aware of your feelings.
You have experienced a piece of Mindfulness and Awareness.

Therapeutic Mindfulness Is:
Awareness of present experiences
Acceptance of self

Acceptance is also simple. You accept yourself as you are now. You are who you are supposed to be, given your life and experience. All the things in your life have helped create who you are and where you are. This acceptance is important, in that, if you are now here, and you are who and where you are, so you have experienced acceptance.

Impact of Proactive and Reactive Aggression

According to Dodge, Lochman, Harnish, Bates, and Pettit (1997), there are two sub-groups of aggressive conduct type youngsters: proactive and reactive. The first, proactive, derives benefits and rewards from aggression; the second sub-type, reactive, operates from a construct of emotional dysregulation. Brown, Atkins, Osbourne, and Milnamow (1996) state that proactive aggression is defined as an unprovoked, aversive behavior intended to harm, dominate, or coerce another person; while reactive aggression, considered to be a defensive response to a perceived threat, fear, or provocation, has theoretical roots in the frustration – aggression model posited by Dollard, Doob, Miller, Mowrer, and Sears (1939) and later revised by Berkowitz (1990). Forty percent of reactive adolescents have multiple personality traits (Dodge et al., 1997). It appears that reactive conduct disordered adolescents emotionally dysregulate and many of their aberrant responses are results of this emotional dysregulation. Furthermore, although it seems that proactive and reactive aggression are statistically related (Dodge & Coie, 1987), there seem to be uniquely different correlates to each subtype of aggression.

Koenigsberg, , Mitropoulou, Goodman, Silverman, Serby, Schopick & Siever (2001) indicate that many types of aggression, including self-destructive behavior, are linked to the personality disordered traits of affective instability and impulsivity, also seen as emotional dysregulation. Based on research and clinical experience with violent and sexually aggressive youth, Apsche (2010) suggests that this common phenomenon of “emotional dysregulation” is the same process that Beck (1996) described as “modes”, which demands treatment modification in order to accommodate and address each individual’s particular needs and consequently be more effective.

Personality Disorder Co morbidity and MDT Conglomerate of Compound Core Beliefs

Youth with long histories of sexual, physical, and/or emotional abuse often respond in ways that may also translate into personality disorders and/or conduct disorders. Johnson, Cohen, Brown, Smailes, and Bernstein (1999) compiled a longitudinal study that demonstrated that persons with documented childhood abuse and neglect were four times more likely to have been diagnosed with personality disorders during early adulthood. Childhood verbal, physical and sexual abuse, and neglect were associated with symptoms of personality disorders and elevated personality disorders in adolescence and in early adulthood (Johnson et al., 2001; Johnson, Smailes, Cohen, Brown, & Bernstein, 2000).

Apsche and Bass (2006) describe how in a survey of 120 adolescent males in a residential facility, 93% of the residents were victims of all of the following four types of abuse: sexual, physical, verbal, and neglect. When

there is such prevalent abuse, it is necessary to address the development of personality disorders in these adolescent males (Johnson et al. 1999, 2001; Johnson, Cohen et al., 2000). The MDT Compound Core Belief Questionnaire (CCBQ) was developed to address these personality beliefs. Apsche et al. (2005) indicate that a number of juvenile sex offenders have mixed personality traits, including clusters B's and C's. The CCBQ is designed to assess and identify mixed personality disorders and other personality traits and beliefs.

The MDT case conceptualization process includes identifying the underlying compound core beliefs that are generated in the development of personality disorders since the typologies of adolescents have a conglomerate of compound core beliefs associated with personality beliefs (Apsche & Ward, 2003b). Findings suggest that the nature and dynamics of the conglomerate of beliefs are at the crux of why typical treatment often fails these youngsters. Sex offending and aggression cannot be successfully treated without understanding the operant application of the individual's conglomerate beliefs. It is apparent that these beliefs are not cluster specific; this is to say that the MDT Conglomerate of Beliefs and Behaviors can involve beliefs connected to more than one personality disorder and may integrate with one another. Because of this complex integration of beliefs, treatment for this typology in the youngster's schema is more complex.

The MDT Conglomerate of Compound Core Beliefs represents a system of protection for the individual from his abuse issues, which may present as being treatment interfering. The attempt to use standardized didactic approaches to treatment, without addressing the convoluted nature of the beliefs, can amount to treatment interfering behavior on the part of the clinician. This may also be referred to as clinical unattractiveness, and may cause what is perceived as "client resistance". MDT counters client resistance with validation of the youth's self-perception of "truth."

From Cognitive Therapy to Mode Deactivation

In his work on the Theory of Modes, Beck (1996) suggested that there might have been flaws with his cognitive theory. He suggested that though there are shortcomings with his cognitive theory, there were not similar shortcomings to the practice of Cognitive Therapy. The author suggests that if there are shortcomings to cognitive theory the same shortcomings may apply to cognitive therapy. The author cites other work that indicates these same shortcomings, and suggests a modification to cognitive therapy as a "mode deactivation" therapy. The conversion of Beck's (1996) theory of modes to an applied methodology has been difficult, in that it is suggested that there are limitations to standard schematic processing for clinical interventions. These limitations to an empirically validated methodology require carefully constructed theoretical and clinical content as an alternative methodology. Beck (1996) introduced the concept of modes to address the criticisms and shortcomings of cognitive theory. Cognitive theory and Cognitive Behavior Therapy have shown limitations when addressing specific phenomenon within the context of clinical and experimental findings. Beck states, "It has become apparent over the years that the theory (schematic processing) does not fully explain many clinical phenomena and experimental findings". Beck's words are powerful and pose many questions for cognitive therapists and theorists. If the theoretical constructs that cognitive therapy is based on do not fully explain these clinical phenomena, then is it not logical that the clinical methodology is *flawed* in treating individuals who pose clinical syndromes similar to what Beck describes? The recurring question that must be addressed is: If cognitive theory has shortcomings, does it not follow then, that Cognitive Behavior Therapy has limitations as well?

To answer the question posed, it is necessary to examine specific issues that Beck (1996) suggests are problems not adequately addressed by the model of schematic processing. These problems are specifically the eleven items detailed by Beck (1996) p6.151-152. These items are reviewed in detail, as they suggest that possibly a more adaptive methodology is required to address the shortcomings of schematic processing.

The shortcomings of his schematic processing theory are as follows:

1. "There is a "multiplicity of related symptoms encompassing the cognitive, affective, motivational and behavioral domains in psychopathological conditions." (pg.1)
2. "Methodology indicates "evidence of systematic biases across many domains suggesting that a more global and complex organization of schemas is involved in intense psychological reactions." (pg.2)
3. "There is a prevalence of "findings of a specific vulnerability (or diathesis) to specific stressors that are congruent with a particular disorder." (pg.2)
4. "There is a "great variety of 'normal' psychological reactions evoked by the myriad of life's circumstances." (pg.2)
5. "Inadequate handling of "dynamic 'relation of content, structure and function in personality.'" (pg.2)
6. "Observations of the variations in the intensity of an individuals' specific reaction to a given set of circumstances over time." (pg.2)
7. "Consideration of the "phenomena of sensitization (kindling phenomenon): Successive recurrences of a disorder," such as depression, "triggered by progressively less intense experiences." (pg.2)
8. "The possibility "remission of symptoms by either pharmacotherapy or psychotherapy." (pg.2)
9. "Application of "apparent continuity of many psychopathological phenomena with personality." (pg.2)
10. "A consideration of "the relevance of the model to normal 'moods'". (pg.2)
11. "An understanding of the relationship of consciousness and unconscious processing of information. (pg.2)

These are problems discussed by the originator of the theory and archetype of clinical application of the cognitive therapy. If, as Beck states, there is a need to expand the theoretical mode, then there might be an equal need to expand the clinical model of intervention to adapt to the theoretical considerations in an applied methodology. First, it is important to examine Beck's list of problems with the schematic processing model, from a global perspective. Apsche (2005) offers a methodology of cognitive behavior therapy to expand the model of CBT and incorporate Beck's system of modes (1996), Apsche (2005) attempts to expand the model of schema processing and respond to Beck's suggestions of Modes, further offering a more global construct than Cognitive theory and additional refinements related to progress in the field (Apsche, 2005).

When reviewing Beck's first point, it can be surmised that Beck is referring to the complications and multi-axis issues, of both the Axis I and Axis II, as they merge into the multiplicity of symptoms. He suggests that there is a schema overload because to the interplay of these type of symptoms and behaviors. It may be that the ability of schema processing is limited in explaining the volatile nature of these disorders, and the blurring of the cognitive, affective and motivational systems because of the nature of the psychopathological conditions.

When Beck discusses "specific vulnerability or diathesis" he seems to refer to specific stressors or psychological vulnerabilities that appear to be congruent with a particular disorder. These disorders serve as charges for Beck's concept of modes. He continues to examine the great variety of "normal" psychological problems evoked by the "myriad of life's circumstances," that affect the mode. These life circumstances of normal individuals appear to activate what Beck refers to as normal psychological problems. If individuals have experienced abnormal trauma, or extremely harsh life experiences, it is safe to assume that these circumstances would be inherently more complicated.

It is indicated that in suggesting a "systematic bias", Beck is referring to a more complex and global organization of schemas that are confounded due to intense psychological responses. This might suggest that in clinical practice these disorders are not neatly ensconced in a single delineated schema. They appear to be a product of the blending of the complexities of Axis I and Axis II disorders. Depression for instance, may be schematically blended with anxiety and Cluster B disorders. These complex schemas may be dormant, waiting for a charge to activate them. These schemas are only a part of a complex system of modes that transcend currently held concepts of cognitive therapy.

Two important Beck points remaining involve the relationship between the unconscious and conscious processing of internalized information. The conventional perspective of mode theory examines only the conscious process and does not account for the unconscious learning. In addition to awareness of this limitation, it is also important to bear in mind that prior to the "negative thought", these are unconscious "triggers" that ignite the activation of psychological and related reactions. This also accounts for why Beck suggests that there is a kindling phenomenon that activates the trigger toward disorders with less intense experiences. This phenomenon is not explained by current theoretical or applied methodologies in cognitive theory or cognitive therapy.

Experiential learning takes place in the cognitive unconscious. It is the process of learning from one's life experiences, both positive and negative. If this learning is negative or invalidating, then the individual's beliefs are shaped to respond to dangers and invalidation of their world. The individual views the world as dangerous and his or her experiences have been as dangerous as their perceptions of the world. These perceptions and the reaction to these perceptions are triggers for a system of primitive responses, as well as fears and beliefs that activate their survival responses, or survival modes. Beck, (1996) clearly opened the possibility that individuals not only process information, but also learn from their unconscious experiences. Therefore, it might be necessary to address both levels of learning in therapy, rather than simply the thought process, as the cognitive model address, (Apsche, 2005).

Behavior Analysis of MDT

Mode Deactivation Therapy incorporates principles from Functional Analytic Behavioral Therapy (FAB). First, MDT aligns with FAB in affirming that perceptions of reality and unconscious motivations evolve from past contingencies of reinforcement, such as families of origin. Functional Analytic Psychotherapy is a psychotherapy developed by Robert Kohlenberg and Mavis Tsai at the University of Washington. Sloane (1992) defines behavior analysis as an attempt to understand behavior rather than mental aspects of a disease. He examines the model behaviors by examining individual problems as a series of behaviors rather than a diagnosis. Behavior analysis does not assume that there are medical, or disease causes for inappropriate behaviors (Hayes, 2004). Variations in behavior are related to events that take place in the real world. According to Sloane (1992), operants and reflexes are the two major classes of behavior. Operants, or voluntary behaviors, include most of the things one does on a daily basis. Consequences are events that follow operants, and influence whether or not a behavior is likely to occur again under similar circumstances. Reflexes, or respondents, are automatic responses to stimuli. They are frequently physiological, and are not usually influenced by consequences. Behavior analysis suggests that most everyday behavior is operant in nature, not respondent; therefore, behavior changes as the environment changes, creating the possibility of a variety of consequences. Hayes (2004) defines the third wave behavior therapy as follows:

“Based in an empirical, principle-focused approach, the third wave 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 didactic ones. These treatments tend to seek the construction on 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 wave 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 hopes of both improving both understanding and outcomes.” (pg. 651-652)

Mode Deactivation Therapy, much like ACT, follows the specifics of behavior therapy traditions, but does not require a “sole-commitment” to change. Also, as in ACT, MDT adopts some contextual assumptions as well as more experiential and “indirect change” strategies as such the focus of change considerably broadened. The theoretical constructs of MDT are based on Beck’s Mode Model (Beck, 1996) suggesting that people learn from unconscious experiential components and cognitive structural processing components, (Apsche, Ward & Evile, 2003). Therefore, to change behavior of individuals there must be a restructuring of the experiential components and a corresponding cognitive reformation of the structural components. Mode Deactivation Therapy is an empirically based methodology that systematically assesses and restructures dysfunctional compound core beliefs, (Apsche & Ward, 2003).

Modes and Behavioral theory

Beck (1996) suggests that his model of individual schemas (linear schematic processing) does not adequately address a number of psychological problems; therefore he suggests the system of modes. Beck described modes as a network of cognitive, affective, motivational and behavioral components. He suggests that modes consist of integrated sectors of sub-organizations of personality that are designed to deal with specific demands to problems. These sub-organizations help individuals solve problems such as the adaptation of adolescents to strategies of protection and mistrust when they have been abused (Beck, 1996).

Beck also suggests that these modes are charged, thereby explaining the fluctuations in the intensity gradients of cognitive structures. They are charged by fears and dangers that set off a system of modes to protect the fear. Modes activate by charging related to the danger in the fear ↔ avoids paradigm. The orienting schema signals danger and then activates or charges all systems of the mode. The affective system signals the onset and increasing level(s) of anxiety. The beliefs are activated simultaneously reacting to the danger, fear ↔ avoids paradigm/process and physiological system. The motivational system signals the impulse to the attack and avoids (flight or fight) system. The physiological system influences the heart rate or blood pressure, the tightening of muscles, etc. According to Dodge, Lochman, Harnish, Bates and Pettit, (1997), there are two sub-groups of aggressive conduct type youngsters. These sub-groups are the proactive and reactive. The first, proactive, derives benefits and rewards from aggression; the second sub-type, reactive, operates from a construct of emotional dysregulation. Brown, Atkins, Osbourne & Millnamow(1996), state that proactive aggression is defined as an unprovoked, aversive behavior intended to harm, dominate, or coerce another person. Reactive aggression, considered to be a defensive response to a perceived threat, fear, or provocation, has theoretical roots in the frustration – aggression model posited by Dollard, Doob, Miller, Mowrer, and Sears (1939) and later revised by Berkowitz (1990). Forty percent of reactive adolescents have multiple personality traits (Dodge, et. al., 1997). It appears that Reactive Conduct Disorder adolescents emotionally dysregulate and many of their aberrant responses are results of this emotional dysregulation. It was reported that proactive and reactive aggression are statistically related (Dodge & Coie, 1987), there seems to be uniquely different correlates to each subtype of aggression.

There are a series of studies that provide evidence that reactive aggression tends to be associated with negative affect and elevated levels of sadness and unhappiness, (Card and Little, 2006; Miller & Lynam , 2006; Raine et al. 2006). Conner, Duberstein, Conwell & Cane (2003) suggest that reactive aggression may be a risk factor for suicidal ideation and behavior. Moreover, Links, Gould & Ratnayake (2004) suggest that adolescents with Cluster B personality traits are at greater risk for lethal suicidal behaviors. Apsche, Bass & Siv (2006) suggests a relationship between reactive aggression and accelerated scores on measures of personality traits, e.g. the Compound Core Belief Questionnaire; Apsche (1999). Apsche , Bass & Siv (2006) have demonstrated a correlation between reactive aggression and accelerated scores on the CCBQ as an empirically supported assessment.

The tools used in MDT to measure proactive and reactive characteristics are built upon educational measurements. Brown, Atkins, Osbourne & Millnamaw (1996) expanded upon the earlier version of the teacher ratings scale (Dodge et.al., 1997), from six to twenty-eight questions. Similar to the Dodge rating scale, Brown et al.,

(1996) focused on younger children in kindergarten and first grade. Apsche (2009) has adapted these methodologies and developed a rating scale for adolescents ages 14 thru 17. The purpose is to support the hypothesis that children might have characteristics of both reactive and proactive and these might be viewed on a continuum from 1 thru 10. Scores of one to five represent gradients of reactive aggression and scores of six to ten represent gradients of proactive aggression. The scoring of the questionnaire presents a reactive and a proactive score and a mean score to determine the actual level and type of aggression. See Figure 1.

Reactive anger is characterized by impulsive and reflective aggressive behavior that occurs in response to a perceived threat from another, which may or may not be intended. Impulsivity and reflexive behaviors also place adolescents at risk for suicidal behavior. (Eisenberg et al. 2001; Valente et al., 2003). Greening et al., 2008, Brent et al., 2003; Brent & Mann, 2006), suggests that the presence of impulsivity and aggression places children at a greater risk for suicide. Only one unreplicated study suggests that reactive aggression is a risk factor for suicide and found among male adults high levels of reactive aggression during late adolescence was associated by a successful suicide by age 36 (Angst and Clayton, 1998). Fite, Stoppelbein and Greening (2009) suggest that reactive aggression was uniquely associated with high levels of depressive symptoms and suicidal behavior. Previous research also suggests that reactive aggression, not proactive aggression is associated with high levels of internalized symptoms (Card and Little, 2006).

Fite, Stoppelbein & Greening (2009) also delineate that the internalized problems many not be evident to the outside observer (Kramer & Zimmerman, 2009 ; Kolko and Kazdin 1993). Also problematic are depressive symptoms that are linked to a host of negative outcomes in the long term and continued interpersonal difficulties and substance abuse (Lochman & Wells, 2004). It appears that proactive aggression is associated with callous unemotional traits and a unique prediction of antisocial behavior; whereas reactive aggression is associated with internalizing affective disorders and not a prediction of antisocial behavior (Fite , Stoppelbein & Greening , 2009).

Koenigsberg's work addressed associated aggression and associated suicidal threats and gestures with emotional dysregulation. Mode Deactivation Therapy Case Conceptualization methodology provides the framework to assess and treat these complicated typologies of adolescents and integrate them into a functionally-based treatment.

MDT Methodology as a Collaborative Process for Case Conceptualization

Crucial to MDT methodology is the Case Conceptualization. Mode Deactivation Therapy Case Conceptualization is a combination of Beck's (1996) case conceptualization and Nezu, Nezu, Friedman, and Haynes's (1998) problem solving model, with several new assessments and methodologies recently developed. The goal of conceptualizing the "case" is to provide a blueprint for treatment. The objective of treatment is to deactivate the Fear→ Avoids→ Compound Core Beliefs mode and teach emotional regulations through the balancing of beliefs.

Apsche & Ward, (2003), assert that part of the design of the MDT case methodology is intended to create a functional team-based Mode Deactivation approach. The team operates within the implementation guidelines, focusing all efforts in a concerted manner; one tape, one chapter and one group at a time. Clinical energies are directed toward assisting the client to master and implement the MDT concepts and skills. By systematically assessing and restructuring these beliefs, MDT addresses underlying perceptions that may be applicable to setting in motion the mode related charge of aberrant schemas. This lends to the behavioral integration of Dialectic Behavioral Therapy (DBT) principles of Linehan (1993) in treating of sex offending or aggressive behavior, as indicated by Kohlenberg & Tsai (1993), Hayes (2004), and Apsche, et. al. (2003).

Fear, Avoids and Modes

Understanding modes is important to treating the population served by MDT, in that these youth are particularly sensitive to danger and fear, which charge their modes. Additionally, modes are crucial to an awareness

of conscious and unconscious fears being charged and activation of the mode system. This explains the level of emotional dysregulation and impulse control issues indicated in the typology of the young client (Apsche & Ward, 2003).

With long histories of sexual, physical, and/or emotional abuse, these youth often respond in ways that are translated into personality disorders and/or conduct disorders. The fear assessments are completed to address the underlying fears and anxieties as suggested by a completed typology survey and completing the Proactive/Reactive assessment scales. Johnson, Cohen, Smailes & Bernstein (1999) compiled a longitudinal study that demonstrated that persons with documented childhood abuse and neglect were four times more likely to have been diagnosed with personality disorders during early adulthood. Childhood physical abuse, sexual abuse and neglect were associated with elevated personality disorders in late adolescence in early adulthood. Also, different types of childhood maltreatment were associated with symptoms of specific personality disorders during early adulthood.

Johnson, Smailes, Cohen, Brown & Bernstein (2000) describe results for a longitudinal study that demonstrates how childhood neglect manifests itself as personality disorder symptoms in adolescents. The studies completed by Johnson, Cohen, Smailes, Skodol, Brown & Oldham (2001) show how a variety of childhood verbal, physical, sexual abuse and neglect are manifested through personality disorders in adolescence and early adulthood. Apsche, et al., (2006) described how in a survey of 120 adolescent males in a residential facility 93% of these residents were abused in all four ways: sexually, physically, verbally, and neglect. Because of this prevalent abuse, it was necessary to address the development of personality disorder in these adolescent males based on Johnson et al., (1999), (2000), (2001). The Compound Core Belief Assessment was developed to address these personality beliefs. It was found by Apsche, et al., (2005), , that many of these adolescents had mixed personality traits, including clusters B's and C's. The CCBQ is designed to assess and identify mixed personality disorders and others as documented by Johnson et al., (1999), (2000), (2001), and (2005).

According to Apsche & Bass (2006a), adolescent males with mixed personality traits may act out by committing sexual offenses, aggressive acts, or other aberrant behaviors. They may be viewed as "criminals" and considered to have origins from the underclass within society, with involvement in the criminal justice system. The term typology refers to specific complexities of the adolescent with these types of histories. It is believed that aberrant behavior is related to dysfunctional schema. Cognitive Behavioral Theory would attempt to identify dysfunctional schemas in the typology and modify them. Mode Deactivation Therapy addresses dysfunctional schemas through systematically assessing and restructuring underlying dysfunctional compound core beliefs. Mode Deactivation Therapy is applicable to adolescents who engage in aberrant behaviors. It incorporates the model of individual schemas with Beck's notion of modes as integrated sub-organizations of personality. Modes are seen as assisting individuals to adapt and solve problems; for example, the adaptation of adolescents to strategies of protection and mistrust when they have been abused. A mode consists of schemas (beliefs) that are activated by a fear ↔ avoids paradigm. To address schema processing based on thoughts and beliefs without understanding associated modes is insufficient. MDT addresses the specific typology of the youth with severely life-interfering behaviors.

Once the clinician has constructed the Case Conceptualization, underlying fears of the youth can be examined. These fears serve the function of developing avoidance behaviors in the youth. This fear-connected acting-out is seen in the history and in an array of problem behaviors that may be prevalent in the youth's life. The development of personality disorders often surrounds underlying PTSD issues.

The Case Conceptualization treatment process includes identifying the underlying compound core beliefs that are generated in the development of personality traits. The typologies of subject youngsters have a conglomerate of compound core beliefs associated with personality disorders. The nature and dynamics of the conglomerate of beliefs is at the crux of why typical treatment fails these youngsters. One cannot treat specific disorders, such as sex offending and aggression, without understanding the operant application these conglomerate beliefs. It is apparent that these beliefs are not cluster specific; this is to say that the MDT Conglomerate of Beliefs and Behaviors can

involve beliefs connected to more than one personality disorder and that may integrate with one another. Because of this complex integration of beliefs, treatment for this typology in the youth's schema is more complicated.

The MDT Conglomerate of Compound Core Beliefs and Behaviors represents a system of protection for the individual from his abuse issues, which may present as being treatment interfering. The attempt to use standardized didactic approaches to treatment, without addressing the convoluted nature of the beliefs can amount to treatment interfering behavior on the part of the clinician.

The MDT Studies

Apsche, Ward & Evile (2003) completed a study comparing Treatment As Usual (TAU) was based on a manualized cognitive-behavioral therapy approach. Residents recorded negative thoughts and beliefs, and examined how cognition effected their beliefs, feelings, and behaviors. The TAU addressed sexual offending issues, as well as underlying psychological distress such as anxiety and depression. Fourteen males with sexual offending behaviors from a Residential Treatment Center, (nine European-American, three African-American, one Native-American, and one Caribbean) between ages 12 and 19 years ($M=16.62$), participated in treatment. All participants were first-time admissions to a residential program and had never participated in a cognitive-behavioral or mode deactivation based sexual offending treatment program before. Informed consent, including the tasks involved and participants' rights were reviewed. Both verbal and written consent was obtained from the participants.

Four assessments were used to measure the behavior of the residents, which included the *Child Behavior Checklist* (CBCL; Achenbach, 1991), the *Devereux Scales of Mental Disorders* (DSMD; Naglieri, LeBuffe & Pfeiffer, 1994), the *Juvenile Sex Offender Adolescent Protocol* (J-SOAP; Prentky, Harris, Frizzell, & Righthand, 2000), and the *Fear Assessment* (Apsche, 2000).

The sixteen residents were assigned to caseloads based on space availability. All therapists carried a caseload of 10. Discharge or transfer of a resident created an opening that was be filled, in order to maintain the caseload of 10. It was important to bear in mind that this was a treatment facility and that these data reflect the results of treatment comparisons, not a research protocol. Residents were assigned to MDT and CBT groups. The treatment group engaged in MDT and the control group participated in TAU. After a mean number of 12 months in treatment, the assigned therapists, (two MDT, and seven TAU) administered test packets which included the CBCL, DSMD, J-SOAP, and MDT Fear Assessment. The following were assessed: (a) Behavioral and emotional problems, including psychopathology, (b) strengths and types of fear, (c) behaviors and ideation observed by clinical staff, and (d) and level of risk to the community (Apsche, Ward & Evile, 2003).

The assessments revealed that the two groups differed significantly. Residents who participated in MDT had lower scores on all measures than did residents who engaged in TAU. It appeared that both CBT and MDT where effective treatments, although MDT appeared significantly more effective with this particular typology of adolescents. All of the residents had prior unsuccessful treatment outcomes at either another facility or at an outpatient treatment center. The results of this study suggest that MDT methodology, in addressing underlying personality traits, may be effective for severely disturbed youth with sexual offending behaviors who have experienced previous treatment failure (Apsche, Ward & Evile, 2003).

The combination of results from the CBCL, DSMD, and JSOAP suggested that MDT is effective for these typology types, in reducing internal distress as a result of varying psychological disorders present. As measures indicated, the critical pathology factors were reduced by more than one standard deviation. It was also suggested that MDT methodology reduces externalizing aberrant behaviors. Despite the sample size, the results still indicated that MDT was more effective than CBT with these residents (Apsche, Ward & Evile, 2003).

It was recommended that the results be tested in an empirically based research protocol for a true test of efficacy. The treatment results suggested that the implementation of MDT in a clinical curriculum reduced aberrant behaviors, as well as, internalizing, externalizing, and critical pathology measures across assessments; however the small sample size of the non-research comparison study may indicate limitations for generalized use. It is important to note that the comparison of treatment results also suggested that sexual offending adolescents, in the described typology, have a conglomerate of personality beliefs. Treating sex-offending behaviors without addressing the underlying personality beliefs appeared to be related to recidivism.

Apsche (2005) cites Kohlenberg & Tsai (1993), to explain FAP, and states that the theory offers that people act based on reinforcement contingencies. Although FAP takes into consideration that cognitions are involved, the focus is on the deeper unconscious motivations that were formed as a result of past contingencies. Perception is based on past contingencies; therefore, reality and the concept of reality reflect what has been experienced in the past. Considering reinforcement history in the context of the person provides a more complete assessment of a person and specific behaviors.

Case Study

Apsche & Ward Bailey (2003a) presented a case analysis that integrates theory and practice in the treatment of a youngster who had previously been in seven correctional and treatment facilities. The subject had been removed from previous facilities due to aggression towards staff and residents. The case analysis involved a step-by-step case study, with a corresponding theoretical analysis based in MDT. As a collaborative methodology, MDT was implemented by the treating professional with the aid of the client. The Case Conceptualization helped the clinician examine underlying fears of the resident. Fears served the function of developing avoidance behaviors in the youngster. These behaviors usually appeared as a variety of problem behaviors in the milieu. The Case Conceptualization method provided a vehicle for assessment of the underlying compound core beliefs that were generated by developing personality disorders. The conglomerate of compound core beliefs represents protection for the individual from his abuse issues, which may have contributed to past aggressive behavior, interfering with treatment. Since previous treatment settings did not appear to address client belief, it can be inferred that previous treatment attempts were actually treatment interfering on the part of the psychologist, or treating professional, not empirically supported, and counter-initiated, (Apsche, & Ward Bailey 2003a).

A Single-Case Study of MDT Effectiveness

John was a subject used to complete an MDT case. The case was developed using a stepwise approach. (The case information came from accomplishing the Typology Survey.) This included:

STEP I: RELEVANT CHILDHOOD DATA (ABUSE HISTORY): This section includes physical/sexual, emotional abuse, development, behavioral, aggression, suicidal, parasuicidal, substance abuse, and medication history. It was important to complete this review systematically, in laying the foundation for the case conceptualization. In reviewing the data from this case, it was necessary for the clinician to ask: "What do I need to know about this youngster, and how does the following information help to begin to understand this youngster?" Further, asking: "What do I begin to look for behaviorally?" was an important element to gaining key data.

STEP II: SEX OFFENSE DATA: Included here was all relevant information specific to the resident's sexual offense. This was attained from the typology survey and by completing the Sexual Offense System part of Mode Deactivation Therapy Workbook. Regarding the Sexual Urge and Fantasies, this section also included Risk Assessment instrument findings as well as, significant results from objective measure of sexual interests.

STEP III: DIAGNOSES: This is the diagnosis given by a physician or, if appropriate, a licensed clinical psychologist. It can be attained from the most recent psychiatric assessment. Take notice of the concordance of diagnoses to beliefs endorsed in the CCBQ.

STEP IV: FEARS, AVOIDS, COMPOUND CORE BELIEFS CORRELATION:

Fears: The key to treating the youngster was the proper administering of the Fear Assessment. Investigate the level of trauma. Begin by identifying the fears endorsed as occurring always and/or almost always.

STEP V: CONGLOMERATE OF BELIEFS AND BEHAVIORS: The conglomerate of beliefs and behaviors incorporated compound core beliefs and the corresponding behaviors. This conglomerate developed as a defense to underlying trauma. It is the pathway to the complex series of moods, schemes, and behaviors. Beliefs endorsed as “Always” or “Almost Always” from the CCBQ was used. The personality disorder beliefs are the pathways for numerous problem and aberrant behaviors, as well as emotional dysregulation.

STEP VI: SITUATIONAL ANALYSIS: This section required an analysis of situations experienced by the youngster. Completing the situational analysis provided an opportunity to test the hypotheses formulated in the Fear, Avoids, and Compound Core Beliefs Correlation section.

STEP VII: MODE ACTIVATION/ MODE DE-ACTIVATION: Beck, Freeman and Associates, (1990) suggested that cognitive, affective and motivational processes are determined by the idiosyncratic structures or schema that constitute the basic elements of personality. This schema translates to MDT methodology in considering mode activation and deactivation.

STEP VIII: FUNCTIONALLY BASED TREATMENT FORM: The completion of Functionally Based Treatment Development Form is the culmination of all previous components of the MDT Case Conceptualization. The form is intended to give direction to treatment, based on what has been learned about the resident through doing the case. The goal for this work is the development of a new, healthier belief system. These beliefs are healthy alternatives to the compound core beliefs identified in the Fear, Avoid, and Compound Core Belief correlation.

The Functionally Based Treatment Form was designed to identify desired behaviors and prescribe the implementation of these new behaviors through validating, clarifying, and redirecting.

In the case considering John, results revealed that he reduced his aggressive outburst from an average of one per day to two per month by the sixth month of treatment. He also stopped overt physical aggression, would verbalize his anger, and behaviorally withdrew himself from the situation. John attributed this to understanding his preconscious triggers of perceiving that he was vulnerable. This perceived vulnerability set off the entire mode system. He was able to identify situations that produced the vulnerability and examine his cue beliefs that were part of the activation process. He began verbalizing when he was he was uncomfortable. He also learned to recognize physiological responses that signaled his perception of danger or vulnerability. This enabled John to work on balancing his belief exercises. The theoretical case analysis of John provided the framework for future investigations for alternative treatment methodologies for reactive adolescents with personality traits/ disorders. Mode Deactivation Therapy offered new methodology specifically designed for difficult adolescents. It has been shown to be effective as compared to manualized CBT in a descriptive study, (Apsche, & Ward Bailey, 2004).

Empirical Comparison of CBT and MDT

Apsche, Bass & Siv (2005) compared CBT and MDT in treating adolescent males with Conduct Disorder and/or personality disorders and sexually reactive behaviors, the study was initiated to illustrate the efficacy of MDT as compared to CBT on aggression and sexually acting out or sexually reactive behaviors. It was also intended to compare these approaches with one another. The rationale of the comparison approach was to attempt to validate and

further understand the differences in outcomes of the differing treatment approaches. These results strongly suggest MDT outcomes, CBT in all areas including:: physical aggression, sexually behavior and symptoms of PTSD.

Comparison of Effectiveness of CBT and MDT

Twenty-one participants were studied for clinical effectiveness in first-time admissions to the program and had never participated in a cognitive-behavioral or mode deactivation based sexual offending treatment program before. The twenty-one MDT participants were composed of 15 African Americans, 5 European-Americans and 1 Latino youth. Informed consent including the tasks involved and participants' rights reviewed. Both verbal and written consent were obtained from the participants.

This research study was initiated to illustrate the efficiency of two different treatment approaches for male adolescents who are in treatment for acting out aggressively and in some cases sexually. It was also intended to compare the approaches to one another. The rationale behind the comparison was to attempt to validate and further understand the differences in outcome of the different models.

Based on the results of this study we have demonstrated that regardless of treatment model, recidivism rates have significantly declined.

Additionally, it was clear that MDT produced significantly superior results when compared to CBT treatment. MDT provides a new empirically based alternative for treating sexual and aggressive based behaviors in adolescents. MDT also offers a therapeutic intervention, which allows the treatment provider to be efficient and provide a timely intervention, as well as the potential for positively affecting recidivism rates, (Apsche, Bass, Murphy, 2004).

Apsche, Bass & Murphy (2004) examined , comparative data was examined between two published studies, one CBT and the other MDT as a CBT. The CBT study was completed first. Thought Change, the CBT methodology, was an effort to establish an effective manual-based treatment to address the complexities of the adolescent males with sexual offenses. MDT was developed to address the more reactive adolescents who were not successful in the regular CBT. The MDT treated individuals did not and perhaps could not complete the Thought Change (CBT) program. The methodology required adjusted for the extremely dichotomous, emotional dysregulation, and reactive aggression of the subjects.

Similarities and Differences between CBT and MDT

Apsche & Bass (2006b) suggest that there are many similarities and differences between CBT and MDT. MDT was developed as an extension of CBT, in order to find a methodology that might be successful with treatment resistance and/or failures with standard CBT methodologies. The results of this comparison of published "best data" from CBT and MDT suggests that MDT is more effective than CBT for adolescents with conduct disorder and traits of personality disorder or co-morbid disorders and sexual offenses.

Similarities and differences between MDT and CBT are examined in this table.

Table 1: Comparison of MDT and CBT

	MDT (Apsche)	CBT (Beck et al.)
Goal Orientated Treatment	Yes	Yes
Focus of Treatment	Present in-vivo work in sessions	Initially present focused
Session Structure	Yes, but flexible	Yes

Session Limitation	No	Aims to be time limited
Cognition	Unconscious and Conscious	Conscious
Goals for Therapy	Yes- empower patient to modify underlying beliefs thereby to change moods and behaviors (deactivate modes)	Yes-Uses a variety of techniques to change thinking, moods and behaviors
Collaboration between therapist and client	Yes	Yes
Therapeutic alliance important	Yes	Yes
Addresses Resistance	Yes	No- Assumes patient will comply with treatment
Empowers Client to be Own Therapist	Yes	Yes
Thoughts/Beliefs as Dysfunctional	No- beliefs are not thought of as dysfunctional, which invalidates the patient's experience. Beliefs are validated as being created out of a patient's experience, then are balanced to deactivate modes	Yes- teaches patient to identify, evaluate and respond to their dysfunctional thoughts and beliefs with schema assumptions (scanning)
Cognitive Distortions	No- thoughts/beliefs are not distortions since they are based on past experience	Yes
Dialectical Thinking	Yes- Focus on balancing	No
Case Conceptualization	Yes- Ever-evolving and drives treatment	Yes- Ever-evolving formulation of the patient's problems in cognitive terms
Case conceptualization is specific typology driven	Yes	No
Change Experiential learning through recreating positive experience	Yes	No
Change Experiential learning through recreating positive experience	Yes	No
Modes	Yes- Perceptions trigger physiological cues, which trigger beliefs (entire process is mode activating).	No
Triggers important	Yes- Learning the triggers is key to preventing activation of modes	No
Client's perceptions important	Yes- Perceptions trigger modes	No- Perceptions are distorted
Reducing anxiety, addressing trauma	Yes- Uses exposure to fear cue to decrease perception of fear	No- Focuses on thought-feeling-behavior connection

Fear↔avoids paradigm	Yes	No
Clear Direct Structured Sessions for Adolescents	Yes	Cognitive Distortion Based
Evidenced Based for Adolescents Only	Yes	No

Comparison of MDT to other Cognitive Behavior Therapies

Mode Deactivation Therapy has its roots in CBT and many so-called “third wave” derivatives of CBT such as, DBT, ACT and MBCT. Parts of MDT incorporate FAP and Schema Mode Therapy as well. This chart compares many aspects of MDT to CBT, DBT, FAP, Schema Mode Therapy and ACT. This is in no way intended to be an exhaustive review. It is intended to be viewed as individual case concepts in the methodology and the possible collateral benefits.

Applications to Family Therapy

David’s case presents the first case of MDT family Therapy. He was a sexual offending youth who had issue with aggression, depression and PTSD. Following completion of David’s COBB, he was excited to share his discoveries of himself and the family structure with his family. He reviewed each belief and explained the corresponding behaviors. His family remarked about the succinct capturing of David. Additionally, they remarked about how familiar his thinking was. The family recognized that they shared many of the same beliefs and were able to appreciate and understand the beliefs they did not share with David. They too remarked about how overwhelmed David must be feeling with so many conflicting beliefs.

While teaching David how to balance his beliefs with V-C-R, David shared his newly found knowledge with his family. He shared with them that he was using trust scales to measure his trust for people so that he had a concrete measure of how much he trusted someone today versus yesterday. He also shared insight he gained into the criteria he used to trust others, encouraging his family to use the scales as well. They began thinking about trust in measurable terms, identifying that a person demonstrated negative behavior they could decrease their level of trust, rather than immediately dismissing any possibility of trust based on one small indiscretion. This not only increased trust within the family, but also helped the family to see that authority figures were not all seeking to break the family apart. This revelation was truly validating for David, allowing him to communicate more openly in therapy sessions. Beliefs are referenced and balanced with any issue presented in therapy sessions, whether individual or family therapy sessions. For example, if David presented in a session being upset about receiving a consequence from staff, he and his therapist would identify his behavior and the corresponding beliefs on his COBB. Once identified, he and his therapist could balance his belief and allow him an opportunity to recognize that he was reacting to the fear of being vulnerable, due to getting caught and given a consequence for negative behavior. This would work similarly in a family therapy session. If David presented in a family therapy session upset about this issue, he, his therapist and his family could collaboratively work, using his COBB to identify and balance his beliefs.

With its empirically based and driven treatment methodology, MDT provided an effective intervention for David. For example, David had not been receptive to traditional cognitive behavioral therapy techniques. He had exhibited a compendium of problem behaviors, which others labeled as antisocial aggression. David also demonstrated extremely poor boundaries with others and struggled with limits. He had been unable to deal with the concept of cognitive distortions or irrational beliefs. David’s beliefs protected him; to change or strip his beliefs away

activated his vulnerability. He would then become reactive and engage in dichotomous and defensive thinking, beliefs, and behavior. Therapy would be sabotaged at the very beginning.

Completing David's MDT Case Conceptualization revealed a conglomerate of beliefs, rather than discrete categorized beliefs. Understanding his conglomerate of beliefs allowed a better understanding of David and his behaviors. Reviewing his identified conglomerate of beliefs offered David insight, allowing him to feel hopeful. Recognizing the amount of beliefs and how they activated due to his identified underlying fears, validated how overwhelmed he felt and why he often overreacted. David initially perceived all authority figures as threats since his parents had convinced him that all authority figures had intentions to break the family apart. This obviously had an effect on David's ability to trust his therapist and therapeutic rapport was a primary focus in treatment.

David stopped exhibiting intimidating behaviors and began to verbalize his feelings, rather than shut down and withdraw from the situation. He attributed this to understanding his preconscious trigger of perceiving that he was vulnerable. This perceived vulnerability set off the entire mode system. He was able to identify situations that produced the vulnerability and to examine his cue beliefs that were part of the activation process. He began verbalizing when he felt or thought he was uncomfortable. He also knew his physiological responses to the danger signal vulnerability, and they disabled David to work on balancing his belief exercises. David was originally perceived as sexually aggressive and proactive, which would have suggested that he was aggressive due to a perceived positive outcome from the aggression. Careful analysis of his MDT Case Conceptualization revealed that David is actually reactive, indicating an entirely different purpose for his aggression and a need for a different focus in treatment.

David had previous unsuccessful treatment where basic cognitive therapy techniques were ineffective. Mode Deactivation Therapy was found to be much more effective due to its ability to address the personality disorder beliefs without challenging David to engage in dialectical debates. It was essential to incorporate David's family in his therapy since they were so involved in his life and treatment. His family made progress along with him, gaining insight into his beliefs as well as their own (Apsche, & Ward Bailey, 2004).

A Comparative Analysis of CBT, SST and MDT

Apsche, Bass, Jennings, Murphy, Hunter & Siv (2005) compared the efficacy of MDT, CBT and SST for adolescent males in residential treatment for conduct disorders and/or personality dysfunctions, and documented problems with physical and sexual aggression. The results showed that MDT was superior to traditional CBT and SST in reducing both physical and sexual aggression. The study indicated that MDT was the only treatment of the three that significantly reduced sexual aggression for these youth.

The comparative CBT, SST and MDT study was designed to assess the effectiveness of MDT as compared to CBT and SST in the treatment of conduct disordered and personality-disorder youth with problems of aggression and sexual aggression.

In a real world setting, a total of 60 male adolescents participated in the study. All subjects were referred to the same residential treatment facility for the treatment of aggression and/or sexual aggression. Subjects were randomly assigned to one of three treatment conditions upon admission:

Condition One: CBT: A total of nineteen male adolescents were assigned to the CBT condition. The group was comprised of varying cultural backgrounds and presented with issues typical to the typology.

Condition Two: SST: A total of twenty male adolescents were assigned to the SST condition. The group was comprised of varying cultural backgrounds and presented with issues typical to the typology, not dissimilar to the group in Condition One. The Social Skills Training program included identification and reinforcement of appropriate

behaviors, target skill identification, modeling, practicing skills, and role-playing. The youth in this condition were encouraged to practice skills and were reinforced by shaping and fading procedures. All staff and therapists were trained and supervised in SST by a doctoral level psychologist. All skill training was performance based and evaluated for each individual, and indicated by Henggeler Schoenwald, Borduin, Rowland & Cunningham (1998).

Condition Three: MDT. A total of twenty-one male adolescents were assigned to the MDT condition. The group was comprised of varying culturing backgrounds and presented with issues typical to the typology, not dissimilar to the group in Condition One and Condition Two. The MDT therapist was given intensive training by the first author.

The three treatment conditions showed similarity in terms of the frequency of Axis I and Axis II diagnoses, age, and racial background. To ensure consistency in the delivery of the three respective treatments, therapists were specifically trained in the one of the three treatment curriculums/methods. The average length of residential treatment across all conditions was roughly 11 months.

Apsche et al. (2005) showed that while all three treatments were effective in reducing physical aggression, only MDT demonstrated a significant reduction in rates of sexual aggression. This suggested that the technical modifications of cognitive behavioral treatment used in MDT may be better suited to the unique developmental and clinical presentation of these behaviorally disturbed adolescents and may yield superior outcomes, especially with regard to sexual abuse issues. This study showed MDT to be more effective with aggressive adolescent males with conduct and personality disorders than CBT and SST. MDT was previously demonstrated to be effective in reducing aggression, personality disorders beliefs, and symptoms of Post Traumatic Stress Disorder. Apsche, et al. (2005) identified limitations of this study, with several factors that may have limited the strength of the conclusions drawn from the study outcomes. First, the results were derived in a residential treatment program and might not show potential for replication in less intensive outpatient treatment settings. The authors also saw that there were inherent difficulties in identifying “pure” diagnostic types for multiply-challenged youth such as those studied. Apsche et al., write:

“While there was striking similarity in the distribution of diagnostic categories across treatment conditions (e.g. Conduct Disorder, Oppositional Defiant Disorder, Personality Disorders), exact matching by diagnosis could not be realistically achieved in this real world setting. Moreover, while all of the youth had documented histories of physical aggression and nearly all had histories of sexual aggression, it was not possible to neither definitively distinguish individual youth as primarily sex offenders or primarily aggressive youth nor match them accordingly across the three conditions.

“As in any real world study, it is always difficult to control for the levels of competence of the participating therapists and their adherence to the “purity” of each of the three treatment methods. Best efforts were made to control for this common problem by ensuring that therapists shared the same professional degree and level of clinical experience in each of the three methodologies and by providing training in the delivery of each model prior to the study.

‘The strength of the outcomes could be further enhanced with the inclusion of additional outcome measures and, ideally, long-term follow-up of the youth who participated in the study. It is important to note that the authors do not purport that MDT will generalize to any groups other than youngsters with conduct and personality disorders, (Apsche, et. al., 2005)

Apsche and Bass (2006a) in a “Review and Empirical Comparison of Three Treatments for Adolescent Males with Conduct and Personality Disorder: Mode Deactivation Therapy, Cognitive Behavior Therapy and Social Skills Training” examined a case where MDT was used to treat an adolescent with reactive conduct disorder, PTSD who had eight dangerous suicide attempts.

The reactive adolescent has similar experiences of the world as clients in Linehan's (1993) work; with borderline personality disorder. Their intense emotional pain has led them to "shut down" emotionally in order to control life's painful experiences. When they are in a situation that triggers fear, this reminded them of pain they could not control, and caused them to "relieve" the internal or external events that influenced emotional response. They reacted with anger or aggression; they also often dysregulated (Linehan, 1993).

Apsche and Bass (2006a) also found a reduction of internal distress, resulting from various psychological disorders, as well as a reduction of sex offending risk in the group that participated in MDT. Overall, the study indicates that treating typological issues without addressing the underlying compound core beliefs, again, appeared to be related to recidivism. This reinforced the ideas that often, these classifications are not immediately recognizable when treating these youths.

In a 2003 study, Apsche and Ward presented descriptive treatment results between two groups of adolescents who were sexually and physically aggressive. The results of this study demonstrated that MDT was superior to CBT in redirecting both physical and sexual aggression. The authors' results suggested that MDT was far superior by more than one standard deviation in reducing the internal and external distress in all categories as measured by the Child Behavior Checklist, (*CBCL*) and the Devereux Scale of Mental Disorders, (*DSMD*). MDT also reduced sexual offending in all behaviors as measured by the Juvenile Sex Offenders Adolescents Protocol (*J-SOAP*). Mode Deactivation Therapy reduced the non-static portion of the J-SOAP almost two standard deviations more than CBT. In addition, the authors Apsche and Ward (2003), indicate that treatment protocols were often complicated by the presence of conglomerate of personality disorders, as found by Johnson, et al., (1999 in their longitudinal study that childhood maltreatment results in the development of personality disorders in adolescents. The combination of conduct disorders and personality traits or disorders presents a challenge to the clinicians and researchers alike when working with adolescents.

Apsche & Siv (2005) stated that Conduct Disorder has been found to be a difficult disorder to understand and treat; problems and symptoms associated with Conduct Disorder include chronic violence, various forms of physical aggression, sexual aggression and property destruction. They point out that while Kazdin and Weiz (2003) delineate evidence based treatments practices for children with Conduct Disorder; no evidence-based procedures exist for adolescents over 14 years old with Conduct Disorder. They further, state that the prevalence rate for Conduct Disorder is 2% to 6% for children in the United States, as of 2005. They additionally submitted that clinical referral rates of 33% to 50% of cases referred to outpatient treatment: and 80% of these children and adolescents are likely to meet criteria for a psychiatric disorder in the future; presenting a major dilemma when attempting to treat a difficult disorder (Apsche & Siv, 2005).

MDT and Suicide

Apsche, Bass & Siv (2006) reviewed data from 12 years of published studies on adolescent suicide. It was found that the rate of personality disorders among adolescents who died by suicide were as high as 17%. It was also revealed that the rates of serious suicide were nine times higher with adolescents who were diagnoses with Anti-Social Personality Disorder, Borderline Personality Disorder and Narcissistic Personality Disorder. Links, Gould & Rathayake (2003), also reported that suicide rates for adolescents who had Borderline Personality Disorder were indicated at a rate of 44%. In addition, they indicated that adolescents with Narcissistic Personality Disorder were 9% more likely to die by suicide.

Adolescent suicide was indicated to continue to be a leading cause of death in North America (Links, Gould & Ratnayake, 2003). Reports show a five to one ratio of males to females of suicide in adolescents in Canada. Adolescents have the highest prevalence of risk behaviors including suicides. Suicide in adolescents between the ages of 15 and 19 rose 24.5 % between 1956 and 1994. During the past 30 years there has been an increase in the number of incidences of suicide in adolescents ages, 15-19 years of age, and data has shown important ethnic variations. The rate of adolescent suicides in males has risen from just under 6 per 100,000 to 17.8 per 100,000 in

1992 (Shaffer, Gould, & Hicks 1994). Between the ages of 9 and 19, suicide is the second leading cause of death for white males and the third leading cause of death among African American boys. The rate of suicide among adolescents is rising at an alarming rate over a ten-year span. It was found that 17% of adolescents aged 13 to 19 years met criteria for Conduct Disorder or Antisocial Personality Disorder. When suicide attempts were studied, it was found that 45% of the males had significant symptoms of Antisocial Personality Disorder. Adolescents with Borderline Personality Disorder represent 9% to 33% of all suicides. Narcissistic Personality Disorder or narcissistic personality traits were found in 14% of lethal suicides in a 15-year study of suicide by Stone, published in 1989.

Apsche and Siv (2005) completed a case study with an adolescent male with conduct and personality disorders who was actively suicidal. They found in this case study that MDT was effective in reducing suicidal attempts, thoughts and ideation in this adolescent. This study is the first attempt to test the effectiveness of MDT on suicidal adolescents in a larger group setting.

A history of suicidal behavior is found in 55% to 70% of individuals with personality disorders. An MDT study, examined the effects of MDT on a population of adolescents with a variety of personality traits. It found a decrease in their suicidal ideation and cognition as measured by the Beck Depression Inventory II and the Reynolds Suicidal Ideation Questionnaire (Apsche, Bass & Siv, 2006).

The sample comprised of 20 male adolescent residential patients who were in treatment for a year on average. All subjects were referred to the same residential treatment facility for the treatment of aggression. In this study, subjects were randomly assigned to one of the two treatment conditions at the time of admission based on available openings in the caseload of the participating clinicians. The two treatment conditions showed similarity the frequency of Axis I and Axis II diagnoses, age, and racial background. To ensure consistency in the delivery of the two respective treatments, therapists were specifically trained in one of the three treatment modalities. MDT has shown evidence of promise as an effective treatment in adolescents with conduct disorder, and personality disorder or traits (Apsche et al., 2005).

This study suggests that MDT might be effective in treating these adolescent with suicidal ideation, cognitions or beliefs. It appeared that MDT reduced the suicidal risk in this study as measured by the BDI-II and SIQHS assessments. MDT might be effective because it addresses both the personality disorder or traits and the Axis I disorders. Mode Deactivation Therapy was significantly more effective than TAU by over one standard deviation per category.

First, as all of the MDT studies thus far, it was completed in a clinical residential setting. Although all assignments to caseloads are random by assignments this limits randomization. These limits are also the strengths. The effects of MDT in less controlled setting suggest that the fidelity to the model might be more effective than more controlled studies. There are several limits to any clinical study that must be identified. Random assignments were made as openings occurred within the therapist's caseloads. These openings were often more controlled by the availability of aftercare services arranged by the referral source than by the specific skills of the individual therapists. Data suggested that there was a significant risk of serious suicide attempts for category of reactively aggressive conduct disorder. Conduct disorder -increased the risk of lethality, as well as aggression and other destructive behaviors such as suicidal and parasuicidal behaviors. (Links, Gould & Ratnayake, 2003) It was clearly stated that complications of conduct disorder were paired with Anti-Social Personality Disorder, Borderline Personality Disorder and Narcissistic Personality Disorder as being the manifestation of the disorder by lethal behaviors, both internally and externally. This prevalence underscored the necessity for the clinician to be aware of the personality beliefs as delineated in the COBB. When implementing MDT, the clinician is required to be aware of these risks of personality, and the indication of potential lethal suicide attempts.

Case Study of a Suicidal Adolescent Male

Apsche & Siv (2005) present a case study with a 17-year-old African American male who met the criteria as an appropriate subject for MDT. He had been diagnosed with PTSD, Conduct Disorder, Major Depressive Disorder and Borderline Personality Disorder. He had a history positive for seven serious and nearly lethal suicide attempts, including, an attempted involving hanging, which prompted admission to treatment with Dr. Jack Apsche, (Apsche and Siv, 2005). He had a tragic family history, including parental substance dependency that led to his mother's death and father's incarceration. He was also brutally abused by his grandmother and was sexually abused from the ages of two to ten. He sexually abused a four-year-old girl in his neighborhood when he was eight. At 14, he started to "hang out" on the streets, returning home only to shower. His school history included the need for individualized assistance in the classroom and disruptive behavior. He was often aggressive and truant.

The step-by-step approach of MDT as previously indicated in this paper, was used to treat Charles. He was discharged from treatment and moved with his brother to another state. Charles, at the time the authors published their article, was attending a university, and had recently reported that he had not attempted suicide since the since the admission connected event. He also reported that he continued to use "balance the beliefs" regulating exercises.

This case study results suggested that MDT was helpful in reducing lethal suicide attempts. The authors could not suggest MDT would be effective in treating adolescent suicide without further rigorous study. They held, however, that MDT might hold some promise in treating adolescent males with PTSD, Conduct Disorder, and personality disorders, for youth that had a history of potentially lethal suicide attempts. It was hoped that the results of this case study would prompt further study in a carefully monitored and controlled situation.

Further Validation of MDT Effectiveness

Apsche, Ward & Evile, 2003, Apsche & Ward, 2003b, and Apsche & Ward Bailey, 2003b presented information that demonstrates promise for MDT in offering empirically based therapy. Authors referred to the American Psychological Association (APA)'s Task Force on Prevention, which found that universal programming is not as effective as programs that are empirically based and designed for a specific target group, such as those with a typology of adolescents described in this paper. Weissberg, Kumpfer & Seligman, (2003) indicate that empirical literature regarding this area of working with complex adolescents is 'sparse' and that "the most important advances regarding the effective implementation of empirically supported" treatment are yet to come. It was hypothesized that MDT would prove to address the need for empirically supported treatment for the specific target group, sexually and physically aggressive adolescents with personality traits. Although Weissberg, Kumpfer & Seligman (2003) discussed this need in the context of prevention, application of MDT addressed this specific need as a methodology for adolescents both as treatment for existing problem behaviors, as well as for preventing problem behaviors by addressing the underlying beliefs. Apsche and the collaborative authors offered guidelines for empirically supported treatments for children and young people.

Apsche and Ward (2003d), showed that this indicated that MDT to be more effective than standardized normalized CBT in a descriptive study. Additionally, a 2003 study by Apsche and Ward found that MDT reduced personality disorder/trait beliefs significantly and taught the client to self-monitor and balance personality disorder beliefs himself. The study also indicated a reduction of internal distress, resulting from various psychological disorders, as well as a reduction of sex offending risk in the group that participated in MDT. Overall, the study showed that treating this population typology without addressing the underlying compound core beliefs, appeared to be promote recidivism.

Additional Studies

Apsche, Siv & Matteson (2005) examined a 13-year-old adolescent male, William, who engaged in severe aggression, self-injurious and impulsive behaviors. Prior to being given MDT intervention, he was treated with

DBT for thirteen months. Dialectical Behavioral Therapy had limited success in reducing his problem behaviors. He was then treated with MDT for four months. His problem behaviors were reduced significantly. It appeared that in this case study MDT was more effective than DBT in reducing his severe behaviors.

Since the inception of DBT, it has been shown to be an effective methodology in treating a variety of disorders. Apsche, Bass, Siv, and Matteson (2005), cite others studies that demonstrated the effectiveness of DBT with female juvenile offenders. The effectiveness of this approach had been demonstrated also with older populations. In these studies DBT has demonstrated its effectiveness with populations other than Borderline Personality Disorder cases. Apsche's study published in 2004 offers the first case study that examines the effects of MDT with a youngster who did not have successful with DBT intervention.

The case study was presented using a step-by-step case study procedure. Use of MDT suggested the potential for effective treatment of youngsters with similar backgrounds to a subject named William. William, a thirteen-year-old Caucasian American male, diagnosed with Post Traumatic Stress Disorder, Impulse Control Disorder, Reactive Attachment Disorder, Obsessive Compulsive Disorder and Personality Disorder Traits. William demonstrated a pattern of continuous disruptive behaviors, lying, social phobias, hoarding, aggressive and threatening behaviors, property destruction, academic performance and school behavior problems, as well as difficulties with peer relationships. He also showed enuresis with purposeful urination on furniture and clothing, and sexually inappropriate behaviors, including attempting to have sex with his sister, excessive masturbation with stolen undergarments from his mother and sister, masturbating with animals and in front of other children, early sexual experiences and inappropriately touching other children.

His case history involved benign neglect, abandonment, foster care placement, and substance abuse. William was referred to a residential program to treat his disruptive behaviors. William presented as an extremely anxious child with obsessive-compulsive features. Prior to the case study, William had been in treatment 13 months. William had received DBT individual and group therapy during that time.

Results from the Fear Assessment suggested that William was an individual who had anxiety and fear related to external areas, or issues outside of himself, over which he has little or no control. Endorsed fears indicated that William's behavior was in response or reaction to external stimuli, which he perceived as being threatening. This appeared to validate his history of sexual exposure and possible abuse, as well as strong family enmeshment. He endorsed the following Fears: being emotionally alone, being home alone, failing (life), being emotionally intimate, fear of crowds, fear of being alone, fear of being in a crowded room, fear of being dumb, fear of someone coming up behind him, fear of being touched by someone that you don't know well, fear of confronting his abuser, fear of being physically hurt for no reason, fears of his feelings and emotions, and fears of hurting someone and losing control. These Fears were matched with corresponding Beliefs to complete the Trigger, Fear, Avoids, Beliefs (TFAB) worksheet.

In anticipating that he could be in a situation where he may be confronted or reprimanded, his anxiety would increase and he would emotionally shut down. Anticipating the confrontation set in motion the cognitive, affective, behavioral, and physiological processes, William's cognitive system (preconscious processing, perceptions, beliefs, and motivational schema), physiological system, affective schema, and behavioral schema all activated simultaneously. With MDT therapy, deactivation of William's modes became evident. Addressing his unbalanced, dichotomous beliefs would prevent the rest of the sequence from occurring.

William's interpretation of his physiological sensations magnifies his fears of the anticipated physical and psychological re-victimization. Throughout the process of interpreting the signals that he received from his bodily sensations, such as the flush caused by anxious feelings related to the powerful fear of loss of control and the sequel of physiological responses, he responded with fear. This fear was compounded by the events that led to other fear, which involved the feeling humiliated by the perceived threat of victimization/vulnerability and loss of control in the presence of other people.

The final step in developing William's Case Conceptualization was to complete the Functionally Based Treatment Development Form. Ultimately, due to the pinpointed therapy driven from the Case Conceptualization, William's therapist was able to develop healthier beliefs due to all staff members working with him using V-C-R techniques, as described in his treatment plan, originating from his Functionally Based Treatment Development Form. This focused on issues such as William's belief about his inability to trust anyone outside the family. Validating his fears of not trusting anyone outside of the family, clarifying that he could trust one person outside the family at a time, and redirecting him to use the trust scales to objectively measure his level of trust for others, allowed William to open his mind to possibilities, thereby balancing his beliefs about trust. The process also taught William how to balance his beliefs for himself. As a result, he developed a new belief, to trust some people some of the time.

This case study again suggested that in at least this case, MDT was more effective than DBT in reducing physical aggression and self-injurious behaviors. It did not, however, suggest that MDT was superior to DBT; but it was noted that MDT was developed for this typology of youth and there is data suggesting that MDT could be an effective psychotherapy for adolescents. Apsche, Bass, Siv, and Matteson (2005) in their *Comparison of MDT and DBT: a Case Study and Analysis*, hoped to continue to develop MDT and conduct randomized studies to test its effectiveness as compared to DBT and other interventions.

Another step-by-step case study was made with a corresponding theoretical analysis based in MDT (Apsche & Siv, 2005). The methodology showed potential for use with subjects such as Peter. Peter was a 16.5 -year-old Caucasian male. He has been diagnosed with PTSD, Conduct Disorder and Personality Disorder Traits. Peter demonstrated a pattern of disruptive behaviors including; fire setting, lying, social phobia, aggressive and threatening posturing, property destruction, academic performance problems and school behavior problems, peer relationship problems and torturing animals.

His history indicated that Peter had demonstrated significant behavioral and impulsive problems since early childhood, which were manifested more prominently when he was four. During this time he was removed from his mother's care due to her continuous substance abuse. She reported using alcohol and cocaine during her pregnancy. He was placed with his grandmother who also failed to provide adequate supervision; as a result, he was removed from her care. From 2000 to 2003, he was placed in nine inpatient settings, including residential placements and hospitals. Peter reported that while still in the custody of his grandmother, he tortured animals in front of other children, engaged in sexual behavior with animals, and burned toys. He had a history of early sexual experience, specifically sexual touching of other children. He also reported that he set his grandmothers bed on fire while she was sleeping in it. Peter performed at the normal grade level at school, but he required increased structure and individualized attention. Peter has a history of repeated violations of school rules and disruption in class. He often was aggressive and truant. He was placed briefly at a hospital then moved to a residential setting on an island. Within a couple of days, out of staff supervision he started a fire, which destroyed over 40 acres of protected woodlands. An assessment indicated Peter had an average IQ. He struggled with low self-esteem, and on a sentence completion test, several times responded: "I wish I was never born". Significant DSM IV data includes PTSD, ADHD, and mixed features of borderline, antisocial, avoidant, and narcissistic personality disorders.

The case provided the structure of the conglomerate of beliefs and behaviors to address dysregulation through balancing the beliefs. Peter's Case Conceptualization included information regarding his presenting problems, test data, cultural issues, history and development, cognitive issues, and behavioral issues.

As previously discussed, studies suggest that the typology of youngsters such as Peter have a conglomerate of compound core beliefs associated with personality disorders. This conglomerate of beliefs may be a personality disorder reason why many youngsters fail in treatment. Additionally, Peter's fears, as indicated on the MDT Fear Assessment, were associated with his presentation as being "Proactive," suggesting that Peter was an individual who had anxiety and fear related to external areas or things outside of himself, over which he perceived little or no

control. Endorsed Fears indicated that Peter's behavior is in response or reaction to external stimuli, which he perceived as a threat, which appeared to be indicated by his history of sexual exposure and abuse.

Over the course of treatment, Peter became aware of his distressing feelings and he often was unable to activate his own cognitive controls, or “voluntary controls” to override this “primal” reaction to be able to mediate the conflict. However, once he was able to mediate the fears and avoidance, he showed the ability participate in supportive meetings; the anxiety he felt in such interactions began to decrease with each event.

Recidivism

Apsche, Bass & Siv (2005b) researched data involving a follow-up study reviewed outpatient data and recidivism for an 18-month post MDT. A two-year study summarized two treatment research works that examined recidivism data for two years in a post discharge group. The study compared MDT, CBT, and SST. The data from the studies of Apsche and his colleagues, (Apsche, Bass, and Siv, 2005a, and Apsche & Bass 2006a), were used to demonstrate the overall efficiency in treatment of MDT. The follow-up data signaled that MDT had positive generalization effects, as indicated in post-treatment review.

Apsche, Bass & Siv (2006b) presented a summary of the collected studies of outcome of Apsche.. It includes recidivism data for two years since treatment was terminated and the adolescents were discharged. Recidivism data was collected by written surveys sent to parents, guardians and the residents’ caseworkers. Phone calls were initiated as reminders to case managers and their supervisors to assure reliability. The summary of the data suggests that in three groups of equal size in a total population of 60 male adolescents, MDT was far superior to CBT and SST in reducing aggression, sexual aggression, and psychological distress as measured by the CBCL and DSMD. Further analysis suggests that MDT is superior in reducing recidivism over CBT and SST. Because of MDT’s superior results, it is hypothesized that the effects of MDT are superior in generalization to the home environments of the adolescents.

The results of the series of studies on MDT suggested that it might be an efficacious treatment for adolescents with problems with conduct and personality disorders, and with aggressive and other aberrant behaviors. The follow-up data also suggested that MDT might be effective, not only during treatment, but it might generalize to the home environment. The outcomes suggested that MDT showed promise as an effective out patient treatment approach (Apsche, Bass, & Houston, 2007).

First, the adolescents in this study were all from urban centers of the Northeastern United States. Most had a history of legal issues and charges. Many of these adolescents were extremely aggressive and most likely would not be participants in federally funded grant based research studies. These individuals in the MDT studies would most likely be “dropouts” from such studies because of non-compliance or aggression. In other words, these adolescents are troubled, aggressive, suspicious, largely under served, and not often represented in University based research, (Apsche, Bass and Siv 2006b).

Apsche, Bass, and Houston (2007) studied an outpatient replication of a previous study that examined the effectiveness of MDT on adolescent conduct disorders in male youth being treated in an inpatient setting. The research compared the effectiveness of MDT and Treatment as Usual (TAU) as treatments on adolescents with conduct and personality disorders in an outpatient setting. The results showed that MDT was superior in reducing overt aberrant behavior, including physical aggression and psychological distress as measured by the Achenbach Child Behavioral Checklist.

Given the prevalence of conduct disorders and its major contribution to juvenile anti-social behavior, societal violence, sexual violence and delinquency, there appears to be an urgent need for empirically based treatment methods for such youth. There were several interventions implemented to reduce antisocial behavior in disruptive disorders. Because many clinicians conducted therapy in a more eclectic fashion, the problem encountered was

difficulty identifying efficient treatments which could be effective in many treatment environments. Other researchers conducting a review of treatments for children and adolescents were they identified 82 studies carried out between 1966 and 1995 involving 5,272 youth. Of the 82 studies, they discovered that many were not well established with empirical validation, and many more did not indicate efficacious treatment. There were problems with identifying a comprehensive treatment approach that showed suitability, reliability and external validity.

MDT as Compared to DBT

Apsche, Bass, and Houston (2007) examined the effectiveness of MDT as compared to DBT, in a residential treatment center for adolescent males. This study was initiated to compare Mode Deactivation Therapy (MDT) and Dialectical Behavior Therapy (DBT) in the treatment of aggressive adolescent males in residential treatment. The analysis of the daily behavioral reports, which indicated a number of observed aggressive acts, was compiled; statistical analysis of the results ensued. It was found that all participants benefited from treatment regardless of the theoretical orientation used.

Clients were admitted to the same facility. They presented with physical aggression, suicidal ideation, with mixed personality disorders/traits. One group of clients was treated with MDT, while the other group received DBT treatment.

The sample size for each group type, MDT and DBT, was calculated based on the potential residential length of stay. Each group participant was randomly assigned to groups individually and randomly. Since this was a clinical study, there were no study drop-outs. Due to the nature of the residential treatment center, the clients in the study were not homogenous and presented with more severe behavioral problems than target populations in typical research therapy. Written informed consent was obtained from all parents or guardians.

The sample was comprised of 20 male adolescents at a residential treatment center. All subjects were referred to the residential treatment center for anger, aggressions, and externalizing problem behaviors. The clients were referred to their treatment group randomly. The first client assignment was to the DBT group and was determined by a "coin toss". The second assignment was to the MDT group, followed by DBT client assignment on an alternating basis, until each group was filled.

The DBT group therapists were all trained in DBT at the official DBT training center. The MDT group therapists were trained by the first author of this study. Training and supervision was provided by a doctorate level clinician for both groups. The MDT group was trained by the developer of MDT in order to reduce confounds that may have been produced by additional trainers. Participating therapists shared comparable professional degrees, training and clinical experience in each of the two methodologies.

Findings indicate that Mode Deactivation Therapy (MDT) may achieve superior results in reducing physical aggression in conduct-disordered and personality-disordered youth in a residential treatment setting. While both MDT and DBT reduced physical aggression in these adolescents, MDT was significantly more effective in reducing aggression in this particular study. These findings also support earlier studies indicating that MDT can be used as an effective treatment for reducing depression and suicidal ideation, as shown by BDI and SIQ results. Use of MDT demonstrated a significant decrease in all levels of behavior and psychological distress. (Apsche, Bass & Siv , 2006a).

The authors did not propose that MDT was more effective than DBT in any manner except in that particular, "real world study". They also did not generalize their results to other populations.

Again, it was indicated that the strength of the outcomes could be further enhanced with the inclusion of additional outcome measures and, ideally, with long-term follow-up of the youth who participated in the study. (Apsche, Bass and Houston, 2007)

MDT as Approach with Multiple Applications

Mode Deactivation Therapy can simultaneously address the multiple problems issues of conduct and personality disordered youth, while also accommodating the particular defensive characteristics of the adolescent. Given the prevalence of conduct disorders and its major contribution to juvenile crime, societal violence, delinquency and sexual violence, there is an urgent need for effective treatment methods for such youth. As one study has indicated, MDT showed merit for treating adolescents with sex offense behavior, as well as those with mental illness.

A total of 60 male adolescents participated in the study. All subjects were referred to the same residential treatment facility for the treatment of aggression and/or sexual aggression. In this study, subjects were randomly assigned to one of the three treatment conditions at the time of admission based on available openings in the caseload of the participating clinicians. The three treatment conditions showed similarity in terms of the frequency of Axis I and Axis II diagnoses, age, and racial background.

To ensure consistency in the delivery of the two respective treatments, therapists were specifically trained in the one of the three treatment curriculums/methods. The average length of residential treatment across all conditions was roughly 11 months.

The data indicates that Mode Deactivation Therapy (Apsche and Ward Bailey, 2004) may achieve superior results to traditional Cognitive Behavioral Therapy (CBT) and Social Skills Training (SST) in reducing both physical aggression and sexual aggression in conduct-disordered and personality-disordered youth in a long-term residential treatment setting. Moreover, while both treatments were effective in reducing physical aggression, only Mode Deactivation Therapy (MDT) demonstrated a significant reduction in rates of sexual aggression. This finding suggests that the technical modifications of cognitive behavioral treatment used in MDT may be better suited to the unique developmental and clinical presentation of these behaviorally disturbed adolescents and yield superior outcomes, especially with regard to sexual abuse issues.

At the same time, several factors may limit the strength of the conclusions drawn from the outcomes. First, the results were derived in a long-term residential treatment program and may not find replication in less intensive outpatient treatment settings. Second, there are inherent difficulties in identifying “pure” diagnostic types for multiply-challenged youth such as these. While there was striking similarity in the distribution of diagnostic categories across treatment conditions (e.g. Conduct Disorder, Oppositional Defiant Disorder, Personality Disorders), exact matching by diagnosis could not be realistically achieved in this real world setting. Moreover, while all of the youth had documented histories of physical aggression and nearly all had histories of sexual aggression, it was not possible to neither definitively distinguish individual youth as primarily sex offenders or primarily aggressive youth nor match them accordingly across the two conditions.

As in any real world study, it is always difficult to control for the levels of competence of the participating therapists and their adherence to the “purity” of each of the three treatment methods. Best efforts were made to control for this common problem by ensuring that therapists shared the same professional degree and level of clinical experience in each of the two methodologies and by providing training in the delivery of each model prior to the study. Training was provided by a doctorate level psychologist in both groups. The MDT group was trained by the first author and developer of MDT.

The strength of the outcomes could be further enhanced with the inclusion of additional outcome measures and, ideally, long-term follow-up of the youth who participated in the study. This study measured levels of psychological distress, including internal and external, as measured by the CBCL and DSMD. MDT demonstrated a significant decrease in all levels of behavior and Psychological distress.

Family MDT

It was important for the authors to state that MDT is indicated to be effective in treating certain underserved populations, such as African American youth and families. In Apsche, Bass & Houston's (2007) study the two treatments examined were: a parent training program based on the manual *Living with Children* and a videotape modeling parent training. While both treatments were effective, they were more psycho-educational programs geared toward parents rather than stand alone treatments for the adolescent with conduct related disorder. Another promising approach for the treatment of conduct disorder is multi-systemic therapy, an intensive home- and family-focused treatment that has been empirically validated. Multi-systemic Therapy has shown promise for antisocial youth and for adolescent sex offenders. However, this scenario requires a resource-rich combination of services (one of which is psychotherapy), and may not be a realistic option for interventions for most youth. CBT is widely employed in the treatment programs for behaviorally disordered youth across many settings and is frequently used with aggressive youth. There are clear limits to the effectiveness of CBT in the treatment of clients with personality disorders, especially Borderline and Narcissistic types, as Apsche & Bass, (2006a) states is pointed out by Young, Klosko and Weishaar (2003).

Apsche and Bass in the 2006 article, *Family Implementing Family MDT*, summarized the outcome of use of MDT as a treatment modality for families with adolescents who were at risk to be sent to congregate care facilities. Apsche, Bass & Houston (2007) represents a randomized study of the effectiveness of MDT as a Family Therapy to address the adolescents and families problem behavior.

MDT Family is a manualized treatment that examines the individual and collective beliefs of the families of conduct disordered adolescents. The MDT and TAU groups consisted of eight individuals and families.

Family Therapy Practice

Apsche, Bass and Houston, in 2007, presented a brief study showing the use of Family MDT versus TAU in a community setting. Mode Deactivation Therapy family therapy was initiated by implementing the Family MDT assessments. The Family MDT assessments resemble the individual MDT assessments. The family MDT methodology includes a Family MDT Workbook. This workbook is revised to structure the Family Therapy, following an MDT methodology. The workbook is designed to provide a collaborative effect for all family members. The Family MDT Manual addresses the following topics and components:

- Family Commitment to Treatment
- Responsibility for the Family
- Family Belief Analysis (Compound Core Beliefs)
- Mode for the Family
- MDT and Reactive Anger, Aggression, and Impulse Control
- Your Family's Beliefs and Problem Behaviors
- Problem Behaviors and NMDT
- Substance Abuse in Your family
- Empathy for the Family
- Becoming Survivors

1). **The Fear-Family Assessment:** an assessment of sixty items that identifies basic difficulties, anxieties, or fears of the family. Each family member completed the assessment individually and the scores were totaled and a mean score was determined across each item.

2). **The Family Core Beliefs Assessment:** an inventory of ninety-six questions related to the familiar beliefs systems. The Family Core Belief Assessment was scored in the same manner as the Family Fear Assessment.

3). **The Functionally Based Treatment Development Form:** a form that addresses the collective family beliefs and supplies the family a specific methodology to develop and maintain more functional family beliefs.

VCR Method

The families were taught how to balance their beliefs with the **V-C-R** method. To reiterate, V-C-R is a methodology of validation, clarifying and redirecting the belief of the family. While there may be some identification of opposing beliefs, this method attempts to expose the unbalanced or irrational, illogical beliefs deeply held by families in crisis. The individual components of the V-C-R method included:

Validation. Each family member’s thoughts and beliefs were validated initially. Therapists searched for grains of truth in each family member’s responses. It was important to assure each member that his/her responses were accurate as far as his/her interpretation of his/her perceptions. Each member was given appropriate reinforcement that he or she was certain that she or she fully understood and believed.

Clarification. Therapist clarified the content of responses. Therapists also clarified the beliefs that were activated. It was important that clinicians understand and agreed with the content of the clarification. The Clarification step was crucial in understanding the long held thinking schemas. This was clarification of the member’s perspective or reality and beliefs.

Redirection. Therapists redirected responses, to view other possibilities or the continuum of held beliefs. The goal of this step was to help the family member find the exception in the beliefs system. The redirection involved in examining the opposite side of the dichotomous or dialectical thinking. It was crucial to partner with the member to see the “grain of truth” in each of the dichotomous situations presented.

Deregulated Belief System

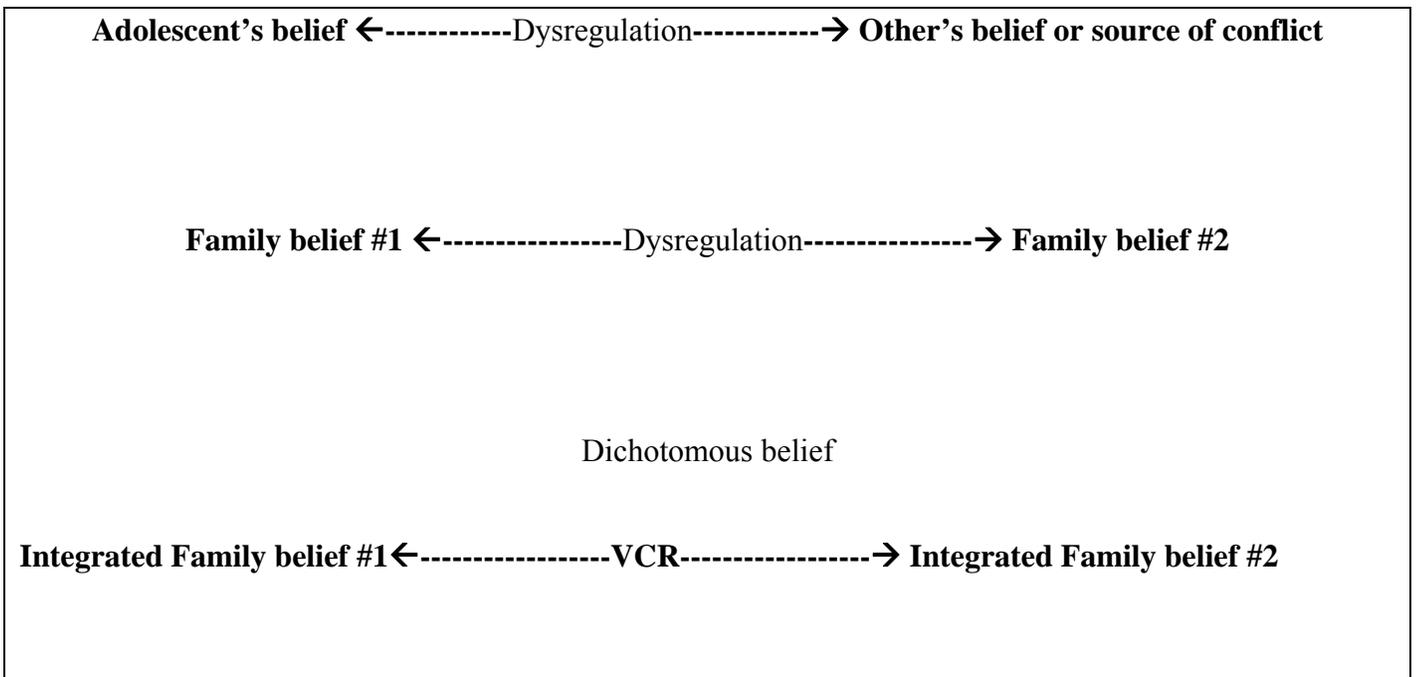


FIGURE 1: Diagram of the Dysregulation process

Figure 1 highlights the direction of the deregulated belief system. Mode Deactivation Therapy family therapy focuses on aiding the youth and family member to see both sides of the dichotomous beliefs and look for the truth and compromise in understanding the truth in both beliefs. The use of a continuum of belief was implemented in family therapy to examine the individual’s belief of truth in both of the dichotomous beliefs and situation.

Each individual in the family, as well as the family collectively completed the Conglomerate of Beliefs and Behaviors (COBB). The COBB examined each individual’s belief as well as their corresponding behaviors. Once the families Beliefs and Behaviors were determined they were compared to each individual’s beliefs and behaviors.

These methodologies addressed the specific behavior of each family member and contrasted the family at larges’ score. The behavior was explained and understood as the individual integrated his/her belief(s) and behavior(s) within the family system at large.

CHART 1: Family Beliefs, Behavior and subsequent behavior

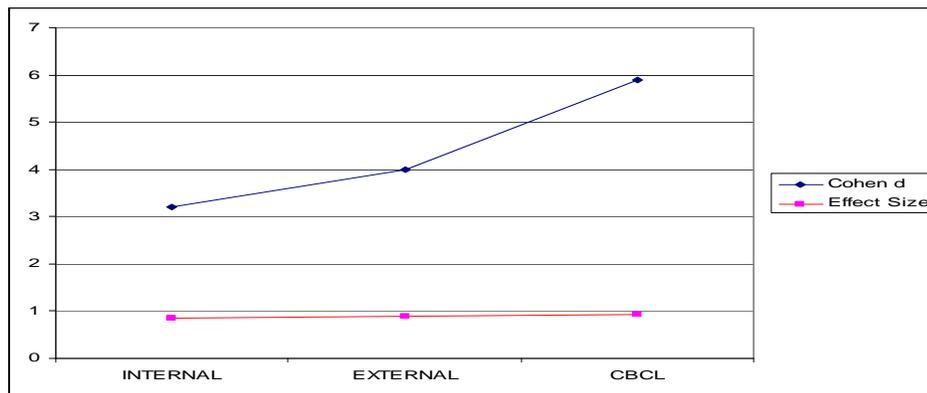
Client’s Belief	Direct Behavior	Sibling Reaction	Mother’s Reaction	Conclusion
“When I get angry my emotions go from annoyed to furious.”	Punches brother	Pain; runs to mother	Screams at client	Mother apologizes but criticizes again
		Isolates	“You are a f--- mess!” Hits client	Continuation of Conglomerate Family

If we look at this chart as an example of the client’s behavior, he punches his brother, he is isolated, the mother would, “put things right.” However, as a family, they said they waited for the “pain to go away” and things will go “back to normal.” “Normalcy” was a continuation of illogical belief schema, which in time would be the catalyst for a new cycle of self-mutilation in the future (Apsche, Bass & Houston, 2007).

The goal of the MDT therapist was to implement V-C-R with the family while pointing out and balancing the individual and family beliefs.

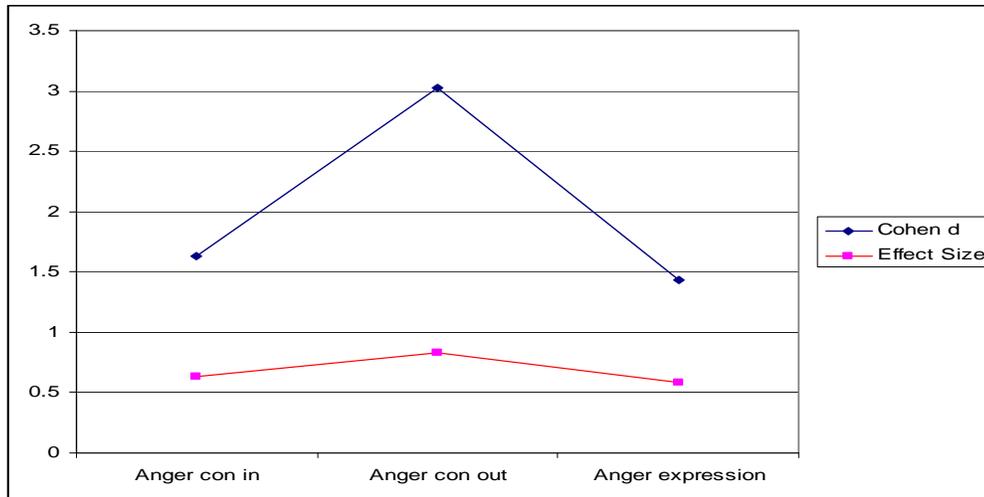
Further, Apsche, Bass, Zeiter & Houston (2008) completed a Family MDT clinical study of fourteen adolescents who evidenced problems such as sexual and physical aggression as well as oppositional behaviors including verbal aggression (Apsche & Bass, 2006). The results indicated that MDT out performed TAU. At the eighteenth month of observation the MDT group has zero incidents of sexual recidivism, while the TAU group had ten reported incidents. The MDT group reported three incidents of physical aggression while the TAU group reported twelve incidents. The results were promising for MDT as a family therapy, and indicate that further study with a larger group should be pursued (Apsche, Bass & Siv, 2006).

A more subjective but equally important measure was assessed – physical aggression. Although both intervention techniques impacted the client’s tendency to manifest anger as physical violence, it is important to note that the two-year follow-up showed not only maintenance of an ability to bind anger, but also a further lessening of its frequency. These data were derived from report by staff during the first month of the child’s treatment, then again during the last month. Inter-rater reliability was enforced by the supervision of the unit supervisors. The two year follow up data was reported by the child’s family and was to reflect the entire timeframe since discharge, for example the TAU group reported 59 incidents of physical aggression since discharge as compared to 2 in the MDT group. These data are suspect due to the difficulty to insure inter-rater reliability, but were included for the interpretation of the reader.



CBCL	Cohen d	Effect Size
INTERNAL	3.209	.848
EXTERNAL	3.985	.893
CBCL	5.89	.9355

As a final measure to assess meaningful outcomes, we decided to measure the magnitude of the result, rather than the probability that the result was due to chance. We employed the Cohen d statistic to measure the strength of the found outcomes as produced by effect size. The CBCL means indicated significantly large effect sizes for internal (.848) and external (.893) states. These effects sizes suggest that results analyzed were not due to chance.



STAXI	Cohen d	Effect Size
Anger con in	1.636	.6331
Anger con out	3.028	.8344
Anger expression	1.434	.5828

The results of the STAXI were also analyzed utilizing the Cohen d method to assure valid results. The results show that the conclusions were not due to chance. The statistic reveals a medium effect size for general anger expressed (.582), while the control of anger outward had a large effect size (.834). Controlling inward anger showed a medium effect size (.663). After ruling out chance, we can assume that the results of the study are valid and not due to chance (Apsche, Bass, Zeiter & Houston 2008).

Independent Replication Studies of MDT

Replication Study 1:

Murphy and Siv (2007) completed a replication study of Mode Deactivation Therapy. Each group, both MDT and TAU had ten adolescent males, who engaged in physical and verbal aggression. The results of this replication study indicated that MDT reduces physical restraint and physical aggression significantly better than TAU. Improvements in scores on the Child Behavior Checklist were approximately two standard deviations superior by the MDT group than the TAU group, in all three domains. This study was an independent replication of the results of a controlled clinical study of MDT.

It is important because the significant indications of the superior results of MDT with this adolescent male population. Also, significant to note is that recently Murphy and Siv (2007) amended and added to this study with the inclusion of effect size data to address the small sample size. The results of the effect size data suggest that MDT was significantly more effective than TAU based on effect size data.

Replication Study 2:

Thoder & Cautilli (2010) conducted an independent evaluation of the effectiveness of MDT in a residential setting with juvenile sexual offenders. Thoder & Cautilli found that MDT was superior to traditional relapse prevention cognitive behavior therapies to reducing the following:

- 1- Internalizing and externalizing disorders measured by the CBCL.
- 2- Aggressive beliefs towards others, measured by Belief about Victim assessment.
- 3- Critical clinical pathology as total scale as measured by the DSMD. (These areas include anger, delinquency, anxiety and aggression.)
- 4- The authors concluded that MDT as a third wave methodology was more effective than relapse prevention cognitive behavior therapies with adolescent male sexual abusers.

Ten Years of MDT Data Review

As part of a study measuring the effectiveness of MDT throughout ten years of application, Apsche and DiMeo (2010) reviewed a total of 458 male adolescent cases using MDT methodology. Of the total number, 204 participants had Conduct Disorder, while 254 had committed sexual offenses. In regards to Axis I diagnoses, 52% of the adolescents were diagnosed with Conduct Disorder, 45% with Oppositional Defiant Disorder, 51% with PTSD, and 20% with other Axis I diagnoses. In regards to Axis II diagnoses, 58% of the adolescents were diagnosed with Mixed traits, 40% with Borderline Personality Traits, 45% with Narcissistic Personality Traits, 2% with Histrionic Personality Traits, 30% with Dependent Personality Traits, and 20% with Avoidant Personality Traits. Population ethnicity/race included 55% African-American, 40% Caucasian, 4% Latin and 1% other. Thirty-one percent of the participants were 17-years-old, 44% were 16-year-old, 17% were 15-years-old, and 8% were 14.5-years-old. Of the 458 adolescents, 92% experienced four types of abuse, 54% witnessed violence, and 28% presented parasuicidal behaviors. The MDT study of this population found that there was a recidivism rate of less than 7% after treatment (Apsche, Bass, & Siv, 2006). Demographic characteristics are also presented in Table 2.

Effect Size

Data analyses for MDT individual, family, and the Murphy and Siv (2007) replication data show the methodology to be effective in most areas. The effect size (Cohen's *d*) and the effect size *r* for the MDT studies were in the large range of effect on the following individual measures (see Table 3):

- 1- Sexual Aggression
- 2- Physical Aggression
- 3- CBCL
- 4- STAX 1
- 5- JSOAP-II

The effect size for the MDT studies was in the large range of effect on the following family measures (see Table 4):

- 1- CBCL
- 2- STAX 1
- 3- Physical Aggression
- 4- Sexual Aggression

The effect size for the MDT studies was in the large range of effect on the following replication data (see Table 5):

- 1- CBCL
- 2- Physical Aggression
- 3- Therapeutic Holds

Medium effect size was on the family studies in verbal aggression only. The BDI in the replication data produced a small and negligible effect size.

Measurement Characteristics

All published studies implementing MDT in all areas were evaluated, as well as data from non-published studies. The method of meta-analysis is used to merge and analyze results from individual studies for the purpose of integrating and findings (Glass, 1976). The data point in meta-analysis is usually a measure of effect size. Effect sizes quantitatively express changes in targeted behavior in terms of standard deviations. Effect size information can be extracted from individual studies using standard methodology (Cooper & Hedges, 1994; Rosenthal, 1991), which requires that the study reports group means and standard deviation or measures of the differences between condition such as *t* or *F* statistics. The present meta-analysis used the DSTAT statistical package for the computation of effect sizes (Johnson, 1993).

One of the widely used measures of effect size is Cohen's *d* (Cohen, 1988), which was used in this study. For between-subject designs, Cohen's *d* = (mean of treatment group - mean of control group)/(pooled within - group standard deviation). For within-subject designs, Cohen's *d* = (mean of the post-treatment phase - mean of the pre-treatment phase)/(pooled within - group standard deviation). Within-subject studies generated a form of effect size (one based on intraparticipant variance, which is not comparable with conventional variance statistics), which does not permit equal weighing with studies that include independent treatment and control groups. Therefore, while procedures are available for the derivation of effect size measure from single-subject and within-subject designs (Allison, Faith, & Franklin, 1995), the present study included only group comparison designs to permit the traditional calculation of effect sizes.

Characteristics of Studies

These data were published in a chapter by Apsche & DiMeo (2010). They suggest that the MDT studies included 38 published studies and data accumulated, but unpublished, by Apsche. A total of 458 adolescents were included in the MDT individual studies; a total of 61 were included from the family MDT studies; and 30 were included from the replication study. Among studies of child therapy, Casey and Berman (1985) implemented an un-weighted least squares (ULS) method, closely corresponding with Cohen's (1988) conventions for medium (.5) and large (.8) effects. Along with the studies of child therapy, Casey and Berman used a ULS method to summarize studies from 1953 to 1983 and found an average effect size of .71 for treatment measure placebo and no-treatment controls among children ages 12 and younger. Sukhodolsky, Kassino, and Gorman (2004) implemented a meta-analysis of treatment outcome studies of CBT for anger related problems in children and adolescents, including 21 published and 19 unpublished reports. The mean effect size (Cohen's *d* = 0.67) was in the medium range and consistent with the effects of psychotherapy with children in general. Kazdin, Bass, Ayers, and Rodgers (1990) summarized studies published from 1970 to 1988 using ULS methods and reported mean effects of .88 and .77 for treatment of children ages 4-18 compared with no-treatment and placebo conditions respectively.

More recent meta-analyses of individual child and family therapies have used WLS methods to aggregate study effects. Weisz, Weiss, Han, Granger, & Morton (1995) summarized studies of individual therapies for children ages 1.5- 17.6 years, published between 1967 and 1993, and reported an average effect of 0.54. Two statistical reviews of the effectiveness of family therapy also used a WLS approach (Hazelrigg, Cooper, & Bourduin, 1987; Shadish, Montgomery, Wilson, Wilson, Bright & Okumabua 1993) and reported comparable effect sizes (i.e., from .45 to .50 and .36, respectively) for family treatments targeting child-identified problems. The purpose of the MDT

meta-analysis was to measure effectiveness of MDT across settings with adolescent males ages 14.5-18 with instances of trauma, physical aggression, problems with conduct, and personality traits.

Meta Analysis

Apsche, Bass & DiMeo (2010) published an extensive meta- analysis of 21 MDT studies. MDT studies with N's over seventeen and comprehensive data analysis were examined, as well as the large unpublished study with an N of 143. All previous unpublished studies with smaller N's were not included and were removed for clarity and to not rely on non-published studies or case studies with small data basis. The data for this meta-analysis included nineteen published and one unpublished MDT studies. The meta-analysis studies yielded a sample population of 573 male adolescents between the ages of 14 through 17. Participant characteristics included Axis I and II diagnoses, many with co-morbid presentation (Table 2). Conduct disorder (51%), oppositional defiant disorder (42%), and post-traumatic stress disorder (54%) were prevalent among the population. Additionally, 56% of the population presented mixed personality traits. Fifty-four percent of participants were African American, 43% Caucasian, 4% were Hispanic American and one percent are listed as other (mixed race). Ninety percent of participants had experienced all four types of abuse – sexual, physical, verbal, and neglect. Furthermore, 56% had witnessed violence and 24% were parasuicidal. Recidivism rates were less than 7%, and sexual offense recidivism less than 4% after two years post MDT treatment. Apsche , Bass & DiMeo's (2010) meta- analysis study demonstrated dramatic results that assured MDT's future as an evidenced based methodology for treating adolescents. The following tables of the meta analysis results clearly document these dramatic results.

Table six-a shows graphically the effect size as measured by Cohen's d.

Table 6a. Effect Size and Cohen's d

Cohen's d -Effect size-a

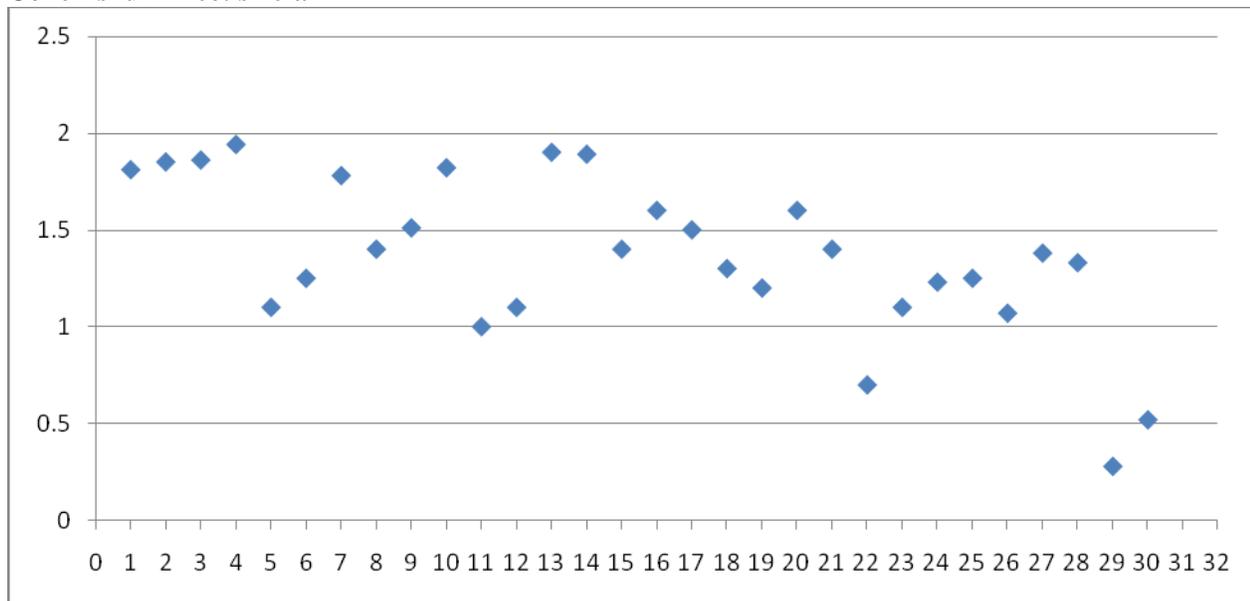


Table six-b shows graphically the effect size calculated *r* scores

Table 6-b. *Effect Size* calculated *r* scores
R scores- Effect Size-b

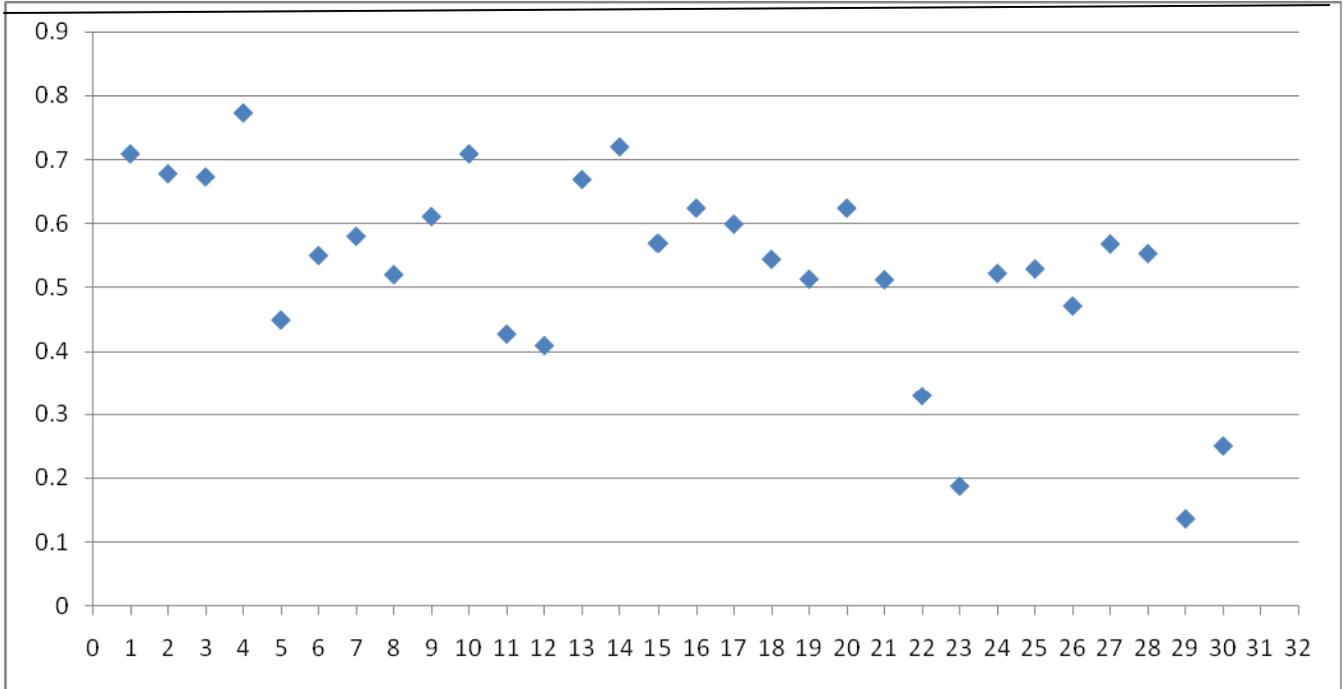


Table 6. *Effect Size and Cohen’s d Key*

#	Category
1	SO- Physical Aggression
2	CD- Physical Aggression
3	Total Physical Aggression
4	Sexual Aggression
5	CBCL INT
6	CBCL EXT
7	CBCL Total
8	CD STAXI Anger Con In
9	CD Anger Out
10	CD Anger Ex
11	SO STAXI Anger Con In
12	SO Anger Con out
13	SO Anger Ex
14	JSOAP Total
15	Family CBCL INT
16	Family CBCL EXT

17	Family CBCL Total
18	Family STAXI Anger Con In
19	Family STAXI Anger Con Out
20	Family STAXY Anger Ex
21	Family Behaviors- Physical Aggression
22	Family Behaviors Verbal Aggression
23	Family Behaviors Property Destruction
24	Replication- Physical Aggression
25	Replication- Therapeutic Holds
26	Replication- CBCL INT
27	Replication CBCL EXT
28	Replication CBCL Total
29	Replication BDI
30	Replication SIQHS

Mediation Analysis

Bass & Apsche are currently preparing a manuscript of an MDT study consisting of 120 individuals and their families. The measures of hypothesized mediators and the specific MDT mediators are as follows:

- 1- Mindfulness. Mindfulness is hypothesized to reduce anxiety and fears as mentioned by the Fear-R Assessment.
- 2- Acceptance/Defusion. These mediators are intended to reduce experiential avoidance by thoughts, feelings, and life experience as measured by the Anxiety Control Questionnaire (ACQ).
- 3- Balancing the Functional Alternative beliefs (FAB) by Validation, Clarification and Redirection (VCR) as measured by the Compound Core Belief Questionnaire (CCBQ). These hypothesized mediations reduce anxieties, fears, avoidance and personality beliefs. By doing so, it is hypothesized they positively effect the outcomes of reducing sexual, physical and verbal aggression as well as symptoms of PTSD. The early data suggests that these mediators are imperative in the overall effect of MDT individual and family therapy.

MDT and Recidivism

In many of the MDT Studies, Apsche, et al., (2005, 2006) have examined recidivism over several years and found recidivism rates often less than 7%. Apsche and DiMeo (2010) and Walker, McGovern, Poey and Otis (2004) examined ten separate studies of treatment for adolescents and they report promising results with cognitive behavioral methodology. Reitzel and Carbonell (2006) reported the following results:

“Published and unpublished data from nine studies on juvenile sexual offender treatment effectiveness were summarized by meta-analysis (N=2986, 260x known juveniles). Recidivism rates For crimes and offenses with or without treatment were:
 Sexual- 12.52%
 Non –sexual, violent- 24.73%
 Non- sexual, non- violent- 28.52%
 Unspecified non- sexual- 20.40% .”

The reported rates of recidivism for MDT studies by Apsche et al., (2010) was a total of 7% for all crimes and less than 2% for sexual offenses based on more than 650 adolescent males. Underwood (2010) replication study reports two-year results of a total recidivism rate of less than 7% and none for sexual offenses, and these data were monitored by a neutral agency.

Adolescent Mindfulness Manual

This workbook was designed for use by any adolescent considering a contemplative practice. However, it is of specific use to adolescents who are in therapy for depression, anger, pain and alienation from parents or authority figures. The manual works especially well with Third Wave methodologies such as ACT, FAP and MDT. The manual combines techniques for allowing the individual to learn mindful breathing, meditation exercise, imagery as well as mindfulness imagery to decrease stress, anxiety, anger and aggression. It is part of the MDT process and has been shown in the mediation analysis article to be a positive mediator in MDT treatment.

Conclusions

MDT has been shown to be more effective as other approaches such as CBT, DBT and SST. This review also showed the results of a thorough review of literature delineating the effectiveness of MDT in treating adolescent clients with reactive emotional dysregulation, who presented with behaviors involving parasuicidal acts, sexual offenses other aggression. Case studies confirmed that MDT showed as much merit as conventional cognitive therapy. Effect size data strongly suggests that MDT is the most effective methodology on this particular typology of adolescents. Clients with complicated histories of sexual, physical, or emotional abuse, as well as neglect, and multi-axial diagnoses, can be helped using this approach, enhancing clinical rapport.

Mode Deactivation Therapy is seen as preferred alternative to other approaches, which sometimes sets up an atmosphere of argumentativeness. This confrontational approach is contraindicated with juveniles who present with proactive or reactive disorders. Clinical attractiveness can be enhanced, which can lead to decreased resistance from the client.

Data indicates that MDT is effective in reducing the rate of physical and sexual aggression across treatment. Furthermore, the evidenced-based approach of MDT readily lends to providing clinical data in a real-word setting that has profoundly positive impact in reducing extremely life interrupting behavior.

MDT can be successful as an approach used in multiple levels of care, both as a preventive and interceptive therapy regarding aggression, sexual offense and suicidal behaviors.

MDT also shows promise in use with underserved populations, and brings sensitivity necessary to respond to certain culturally bound norms prevalent with special groups. MDT can greatly help the identified client and his family members to become stable and more productive in society.

The meta analysis of MDT demonstrated significant improvements for adolescents who received MDT in treatment. The meta analysis validated that MDT is an effective, evidenced based methodology for adolescent males, ages 14-18.

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Contact Information:

Jack A.Apsche, Ed.D., ABPP
Walden University
School of Psychology
College of Social and Behavioral Sciences
Walden University
Minneapolis, MN 55401
(571) 439-1069

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ACT for Leadership: Using Acceptance and Commitment Training to Develop Crisis- Resilient Change Managers

Daniel J. Moran
Pickslyde Consulting

Abstract

The evidence-based executive coaching movement suggests translating empirical research into practical methods to help leaders develop a repertoire of crisis resiliency and value-directed change management skills. Acceptance and Commitment Therapy (ACT) is an evidence-based modern cognitive-behavior therapy approach that has been and applied to organizational settings. When utilized as a leadership coaching model, Acceptance and Commitment Training (“ACTraining”) demonstrates effectiveness in increasing work performance and innovation while reducing work stress and work errors. The six domains of ACTraining, acceptance, defusion, values, contact with the present moment, self-as-context, and committed action are all reviewed as a model for executive coaching. Keywords: Acceptance and Commitment Therapy (ACT) ,acceptance, defusion, values, contact with the present moment, work stress and work errors.

On March 6, 2010, during a stress reduction symposium at the American Psychological Association’s Psychologically Healthy Workplace Conference in Washington DC, an audience member from the Federal Consulting Agency asked an invited presenter: “How do you help a government leader work effectively in a stressful situation? These leaders have a lot to deal with and there is a lot of pressure. They are change managers who also do crisis management. The citizens want them to be crisis-resilient change managers.”

The invited presenter said, “There are two things for leaders in this situation to understand: they need a better understanding of how to lead change and how to manage the stress of change. Next question.” The non-answer from a renowned expert not only took one question and made it two, but missed the spirit of the original question: Government leaders need to be assisted in how to lead others publicly during crisis and manage their own private struggles while producing change in the community. So the question is “Given the difficulty of many leadership challenges, how can behavioral science help leaders commit to principled action in the face of inevitable emotional strain?”

“Crisis-resiliency” is defined as an ability to recover from adversity and respond effectively during a stressful situation, especially when beleaguered by private events, such as fatigue, frustration, and self-doubt. “Change management” is conceptualized as executing an articulated action plan aimed at moving from a current situation to a desired future state, even in the face of minimal feedback. Executive coaching can aim at accelerating a leader’s abilities in both of these domains.

There are myriad approaches to executive coaching (Peltier, 2001), and the evidence-based executive coaching movement posits that translating empirical research into practice will lead to the most favorable outcomes (Wampold & Bhati, 2004). Stober & Grant (2006) suggest that “an evidence-based foundation for professional coaching that moves... toward contextually relevant coaching methodologies that incorporate both rigor and the lived experience of practitioners and client, will result in a comprehensive, flexible, and strong model of coaching” (p. 6). Acceptance and Commitment Training has an evidence-based foundation, is explicitly built from the philosophy of contextualism, stems from the staunchly rigorous science of behavior analysis, explicitly incorporates experiential exercises for the

client, and has an aim of enhancing the leader's behavioral flexibility. As such, ACTraining is up to the challenge of creating an evidence-based framework for executive coaching.

Why ACT is up to the challenge

Acceptance and Commitment Therapy (ACT; pronounced "act"), an evidence-based modern cognitive-behavior therapy approach, has been and applied to organizational settings (Hayes, Bond, Barnes-Holmes, & Austin, 2007). ACT has shown promise in clinical research for over two decades (Zettle & Hayes, 1986), and has since been shown to influence many important behavioral health measures (Hayes, Luoma, Bond, Masuda, & Lillis, 2006). When utilized as an organizational training model, it is typically called Acceptance and Commitment Training ("ACTraining") because it is not a therapeutic endeavor. ACTraining has demonstrated effectiveness in increasing work performance (Bond & Flaxman, 2006), reducing work stress (Bond & Bunce, 2003; Flaxman & Bond, 2010), increasing innovation (Bond & Bunce, 2000), improving acceptance of new training at work (Luoma et al., 2007) and reducing work errors (Bond & Bunce, 2003). Managers trained with the ACT model can have a measureable influence on the performance of their supervisees (Bond, F., personal communication). With these accomplishments in organizational settings, the ACT model seems reasonably applicable to answer the question posed by the Federal Consulting Agency consultant.

What is ACT?

ACT's framework, processes, and interventions are borne from a systematic, bottom-up approach, expanding upon basic operant psychology research and the evidence-based treatment literature (Hayes, Strosahl, & Wilson, 1999). Using mindfulness and acceptance interventions in conjunction with behavior change strategies and experiential exercises, ACT aims to foster and maintain psychological flexibility. Improvements in measures of psychological flexibility relate to a reduction in psychopathology measures, and an increase in measures of well-being and value-consistent behavior (Ciarrochi, Bilich, & Godesel, 2010). Admiral Thad Allen, retired U.S. Coast Guard admiral, and top leader in responses to Hurricane Katrina and Rita, and the Deepwater Horizon oil spill, states "Good leadership requires flexibility" (Berinato, 2010, p. 79). Psychological flexibility is "the opportunity for [a person] to persevere or change his or her behavior in the service of attaining valued goals and outcomes" (Bach & Moran, 2008, p. 6), and is emblematic of solid leadership because it demonstrates resolve in the face of crisis and stress, and commitment to executing important plans to create a better organization or community.

Psychological flexibility is more broadly defined as contacting the present moment fully, based on what the situation affords, as a mindful individual, changing or persisting in behavior in the service of chosen values (Hayes, Strosahl & Wilson, 1999). "Contacting the present moment fully" is important because the only time a leader can act is now. Environment and behavior only intersect in the current moment, and the more capable a leader is in being present, the more accurately the leader will perceive problems and potential resources, and the more likely his or her actions will be decisive and value-directed. Because of the ubiquitous influence of language and the distraction of other private events (i.e., emotions, sensations, urges), people are often not in contact with the present moment, but rather, they can be "caught up" in emotional and cognitive obstacles that take their focus off the current objective. ACT advocates mindfulness practice and other acceptance-based interventions to undermine problematic language processes that can influence a person to lose focus on what matters to them. "A mindful individual" is sober, awake, and aware of what "the situation affords," meaning the information from the environment is acknowledged as potentially important, and none of it is ignored or confabulated. In the presence of a comprehensive view of these environmental stimuli, the leader can alter his or her response pattern in the service of moving toward what is deemed important, or persist in a vital chosen direction. In summary, when a leadership repertoire is psychologically flexible, then the action pattern is clarified,

present focused, and values-oriented, even when private events and external situations might be an obstacle. This ACTraining definition of psychological flexibility, which is over a decade old, appears to be an aim that is well-suited to help managers of change during crisis situations.

The ACT model supports leaders move in the direction of their chosen values by implementing six core processes in the ACT coaching model: acceptance, defusion, self-as-context, contacting the present moment, values clarity, and committed action. (Hayes, Strosahl, Bunting, Twohig, & Wilson, 2004). The six core processes are interrelated and have reciprocal effects on the development of the other processes. During ACTraining, these six processes are used in conjunction and are not considered as robust when used as detached interventions. The six core processes in ACT form a hexagon model (Figure 1).

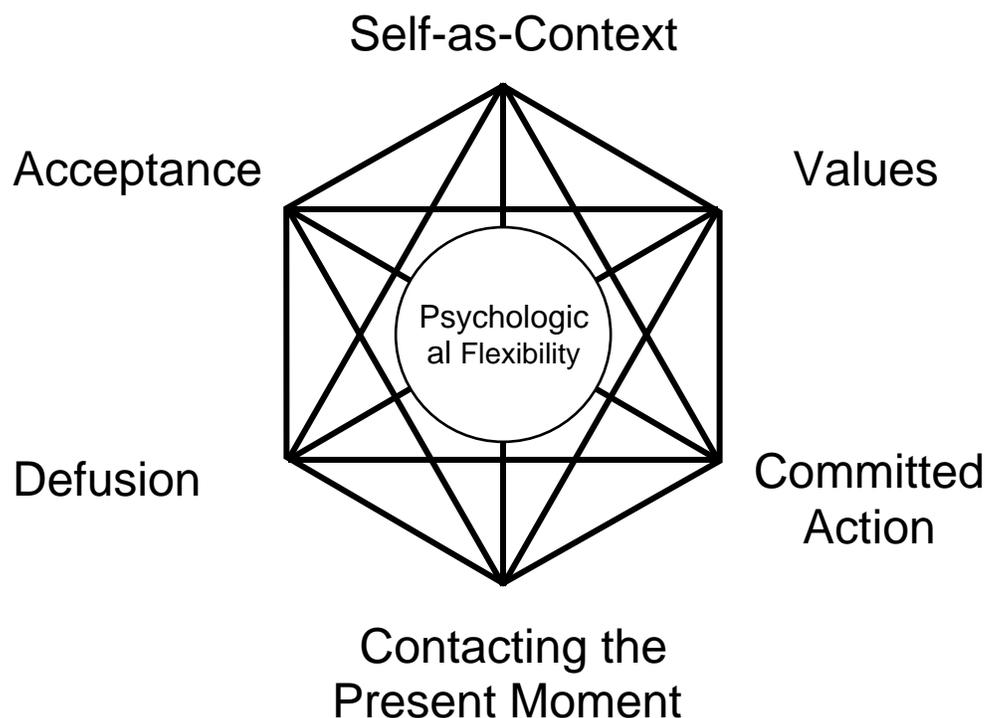


Figure 1. The ACT Hexagon Model. [N.B. This model has been slightly altered from the conventional form (e.g., Bach & Moran, 2008). The positions of Self-as-Context and Contacting the Present Moment have been switched to make future interpretations of the model more readable.]

The six interconnected ACT processes attempt to improve behavioral repertoires by developing greater psychological flexibility by assisting the person in recognizing that certain thoughts and emotions can present obstacles to valued action, and that taking a more mindful and accepting approach to these obstacles can assist in committing to measured and prudent actions. Each process in the ACTraining hexagon model is an area for coaching intervention, and will be used for conceptualizing how to help people be crisis-resilient change managers.

Acceptance

To “accept” is to “take in” or receive an event or situation, and in ACTraining, acceptance is an active willingness to simply notice and have one’s own psychological responses without trying to avoid them. When faced with a leadership concern, certain feelings and mood states are likely to arise, and they may be judged as aversive. Time and effort is potentially wasted in attempting to alter or avoid these inevitable emotional states. The ACT coach uses interventions to help the leader learn that emotions do not have to be changed or eliminated before effective action can be taken because leaders have the option to simply notice their emotions while behaving effectively.

Acceptance is often considered an unconventional approach because much of modern culture, and even mental health treatments, suggest that people can control their emotions and sensations. We hear children being told “Stop crying,” when legitimately upset. We also hear phrases like “Don’t worry about it,” “You should be happy about this,” and “Don’t get mad at me!” It appears our language conveys the message that people should control their emotions, and that it is simple to do so. But people do not typically exhibit a practical ability to easily control their thoughts and emotions. In fact, this control agenda, when aimed at private events, might actually compound leadership problems. For instance, by following through on an emotional control agenda, and in an effort to reduce anxiety feelings, leaders might stop performing anxiety-provoking responses, like attending social events, briefings, or work meetings, which in turn leads to a reduced social standing, and diminished understanding of recent intelligence. This reduction in information and social influence leads to further social anxiety which may lead to the vicious cycle of more avoidance. For another example, if a leader feels overwhelmed by a crisis, he or she can control the overwhelming feelings by procrastinating and focusing on less pressing matters. This control strategy might alleviate the overwhelmed feelings, but the crisis might be getting worse during this leadership absence.

To be clear, the focus of ACT is on acceptance of private events, not public events. In other words, the aim is not to have the client just accept a challenging external situation as if it were unalterable and something to simply tolerate. When there are problematic externalities, such as civil unrest, natural or man-made disasters, or iniquitous events, leaders do not consent to abide their existence. Rather, it is their job to change these external situations. However, struggling to rid oneself of private events (such as frustration, anxiety, anger or other internal psychological events that are likely to occur during these events) can be deleterious to giving mindful attention to the mission of changing these public problems. The acceptance interventions in the ACT model target the futile struggle with private events. When serving the public, working to diminish one’s own private events, such as worry or vengefulness, is not good leadership. Working toward valued outcomes is. U.S. president Woodrow Wilson (1908) spoke of public service in a manner consistent with ACT when he stated: “I am not sure that it is of the first importance that you should be happy. Many an unhappy man has been of deep service to himself and to the world” (p. 88). For people in leadership positions, stress is a proximal problem while valued outcomes are distal reinforcers. ACTraining for leadership recontextualizes the stressful proximal problems as part and parcel of executing important goals. Doing something worthwhile is likely to set the occasion for stressful feelings. For example, when a leader is clearly following through on her own values by choosing to hold a press conference to promote her sincere support for a piece of controversial legislature, she is extremely likely to feel “negative” emotions of angst, doubt, and anxiety. (N.B. In the ACT model, it is more workable to consider “negative” emotions to simply be “natural” emotions. The word “negative” is merely a verbal response made in the presence of certain natural emotions, and that label has been reinforced by the social community. See the Defusion section for further explication.) The ACT model suggests that actively feeling natural feelings without needlessly defending against them fosters opportunity toward effective action, rather than waiting to feel less anxious or more assured about such a decision. Leading difficult change is demanding on the leader. Willingness to have those feelings is a step toward greater psychological flexibility and a sign of change management directed toward valued outcomes.

ACT often relies on metaphor to help teach clinically relevant ideas to clients (Hayes, Strosahl, & Wilson, 1999). Metaphors are less likely to evoke a rigid repertoire when the client is learning a new view on how to lead, as might happen if the coach proscriptively told the client what to do as a leader. Metaphors can be more easily remembered than new rules, and have been shown to more likely evoke newly insightful behavior (Stewart & Barnes-Holmes, 2001). ACT trainers will often talk metaphorically in order to demonstrate how unwillingness and non-acceptance can be problematic, and about how “struggling” when caught in a “trap” actually leads to further problems. For example, ACT consultants can present Chinese finger cuffs to the client. These finger cuffs are tubes of weaved bamboo in which a person puts their left and right index fingers. Once ensnared, when the person tries to pull their fingers out of the weavings, the tube becomes more snug, and the harder the person pulls, the tighter the snare. Actually pushing both fingers together, demonstrating a willingness to be fully in the trap, loosens the weave, allowing the person more wiggle room, and greater flexibility to become unbound. Metaphorically, this demonstrates that coming in full contact with emotions that have been previously avoided will allow better focus on the matter at hand rather than on the concomitant emotional struggle. Acceptance and full contact with the situation is required for resolution. The same is true when faced with troublesome emotions.

The Quicksand Metaphor is an ACT intervention that can yield similar results. When an unsuspecting traveler unexpectedly falls into a quicksand pit, the first reaction is often to escape the quicksand. There is much struggle to get out of the current situation, but every time the person lifts a leg up, the other one sinks a bit further down. Ironically, the best way to survive a quicksand pit is to allow every part of the body come in full contact with the quicksand. Sprawling out and “floating” on one’s back on top of the trap, with as much surface area contacting the scary quicksand will prevent the person from sinking into the problem. Accepting one’s emotions fully and without needless defense is helpful because struggling to avoid these events is even more problematic.

These analogies (and dozens of other similar exercises from the ACT literature) can prepare a leader for crisis if trained properly. The leader learns that problematic external events will certainly occur during his or her tenure, and that concomitant private events such as anger and anxiety are natural. These private events are not inherently dangerous, but the *struggle and avoidance* of these emotions can lead to ineffective behavior. A willingness to *have* those feelings and sensations, fully and without needless defense, creates a context where the leader can focus on important external public issues.

Defusion

In addition to having problematic feelings and sensations, private *verbal* events (i.e., thoughts) also arise during leadership challenges. Human beings appear to have an unstoppable stream of consciousness and are constantly thinking. This ability to use language for describing, evaluating, and problem-solving is incredibly helpful to people, and certainly helps leaders thrive. Language skills can be a leader’s most incisive tool. However, during a provocative event, this internal monologue can be plaguing and unhelpful.

“Cognitive fusion” describes the problematic influence of private verbal events. Fusion occurs when thoughts are taken literally and then influence the person to act in a problematic manner. Fusion happens when a person inflexibly responds to verbal events and evaluations without the full consideration of the practical events of the present moment and/ or without regard of their personally chosen values. The word “fusion” implies that two different things are welded or melted together to become one thing. Metaphorically, this describes what happens with cognitions and the events to which they refer. For instance, a client who is fused with the cognitive event “This problem is unsolvable” does not mindfully notice these four words as merely a thought, yet instead takes that cognitive event as a literal truth thereby approaching the problem through the lens of “unsolvable.” Having a rigid relationship with one’s own

thoughts will likely impede flexible thinking, collaboration, and coming up with a solution. Fusing to the automatic thought “This problem is unsolvable” may lead to giving up on fixing the problem, which is antithetical to good leadership. Defusion allows the individual to see thoughts *as thoughts*, rather than regarding thoughts as literal truths about the world. This in turn, frees the leader to act on the basis of his or her personal values and the current environmental situation rather than on the automatic, unreasoned thoughts about the problem.

In ACT Training, defusion is typically introduced in a three-step process. The coach and client discuss the automaticity of thoughts, then discuss the undeniable power thoughts can have over behavior, and then finally collaborate on an experiential exercise that this power does not have to be so strong.

Automaticity

The ultimate aim of defusion is to have the client learn the skill of discriminating that he or she is simply having a thought, and to mindfully choose its effect on his or her behavior. This private verbal event does not have to result in behaviors that take away from the person’s ability to lead well. It is helpful for the leader to see that the thoughts that “happen between your ears and behind your eyes” are often completely out of voluntary control. One interesting exercise shows the automaticity very easily. The coach presents an unfinished, but very popular sentence that the client will know, such as “Jack and Jill went up the _____.” Obviously, the chosen sentence must be popular enough to evoke a response from the client. Most people answer “hill” aloud, and then are asked not to think “hill” when the phrase is presented again. Typically, people admit that all attempts to stop thinking “hill” are futile. Occasionally, clients say they replaced the word with another word, but the coach can always ask how the client would know that this substitution worked. The client inevitably must compare the substitute response to the word “hill” to check to see if their strategy worked. Even if the client says they cleared their mind or concentrated on something very intensely, re-presenting the stimulus “Jack and Jill went up the _____” will likely elicit the private event again. This exercise demonstrates that when people are not on guard, certain thoughts are conditioned to show up in particular circumstances. If the control agenda for preventing thoughts did work (and it rarely does), it takes a distinct amount of concentration and attention, which reduces the ability for a leader to behave flexibly in the face of challenges. This exercise shows that the environment and the person’s own personal history sets the occasion for certain thoughts to happen automatically. In other words, in some situations, a leader cannot help but think some things. It is important to make sure that the demonstration of automaticity is done with genuine caring for the client, in order to elucidate the properties of language for all people. The fact that it is beyond a person’s ability to prevent certain thoughts is not a weakness of the person, but a powerful by-product of our ability to benefit from language.

The power of language

The second step in a defusion exercise is to demonstrate that language is very powerful from a psychological standpoint. One typical ACT exercise used to convey this idea is to describe a lemon in graphic and evocative details. Talking about cutting a sour fruit in half and sucking the juice out of the lemon can elicit a salivary response, even in the absence of citric acid actually being on the tongue of the client. The actual lemon juice does not have to be present, but the psychological reaction can still occur in the presence of words about the actual event. Talking about roller coasters can give people goose bumps, and talking about repulsive events can lead to disgust responses. Talking about injustice can make people feel very angry and even be moved to do something about the problem. Much of this should be easily understood by the leader because good leaders often know the power of speech to motivate people into action.

Noticing language

The third step is the critical defusion piece of the intervention, and it is aimed to teach the client that despite how automatic and powerful words can be, they do not have to be so influential. After the client experiences salivation during the lemon exercise, he or she can be invited to join the coach in repeating the word “lemonlemonlemon” at a high rate for about 25 seconds. After this exercise, the word “lemon” typically becomes deliteralized. In other words, the client can perceive the word as simply a sound made with his or her mouth and throat. The meaning of words becomes less apparent after about 25 seconds of repeating (Masuda, et al. 2009). This demonstrates that words can be considered arbitrary stimuli, and that context imparts a word’s meaning. Such exercises help the client learn how to look at words from a new, more flexible context. People do not have to respond to words as if they were actually the thing they refer to. Words can be conceptualized as arbitrary stimuli in order to help the person gain some flexibility or distance from the on-going, potentially unhelpful stream of cognitions.

This intervention is not aimed to depotentiate the strength of words outright, but it is used to demonstrate that words do not have to be powerful. The word and the event become defused; they are no longer one and the same. This allows the leader to take a new perspective on the automatic, potentially powerful and deleterious private events that come up during times of crisis. Additional exercises and conventions of speech can support this more flexible view of verbal private events. For instance, clients can be taught to notice their private words as merely thoughts and not as decrees, by announcing “I’m having the thought that...” before each verbal event that has the potential to lead to inflexible behavior. A client saying “I’m having the thought that this problem is unsolvable,” may be less rigid in his or her responses to that problem.

Contacting the Present Moment

A mindful ACTraining coach would be prone to teach a change manager: “Lead now, because you cannot lead yesterday or tomorrow.” Behavior occurs only in the present moment, yet language has a tendency to pull a person’s attention from experiencing the ongoing present. Psychological flexibility is partially about either changing or persisting in behavior, but no matter what the leader is choosing to do, it will be done in the current moment. This is why it is advantageous for leaders to become adroit at contacting the experience of here-and-now. Mindfulness and meditation exercises can be influential on improving a leader’s ability to contact the present moment.

A robust review of the benefits of mindfulness and meditation goes beyond the scope of this paper, but in brief, there are scientifically supported reasons for engaging in mindfulness practice that can assist leadership skills. In a book-long review of this topic, Roemer & Orsillo (2009) conclude that “research suggests that mindfulness- and acceptance-based behavioral therapies hold promise for individuals... with a range of presenting problems, from significant, chronic conditions to milder presentations” (p. 9). Research participants given an eight-week course of mindfulness meditation showed that the more time participants spent practicing mindfulness, the more improvement they showed in their ability to be mindful in daily life with a concomitant improvement in well-being and dealing with psychological obstacles (Carmody & Baer, 2008). Mindfulness can be influential in “disengaging individuals from automatic thoughts, habits, and unhealthy behavior patterns and thus could play a key role in fostering informed and self-endorsed behavioral regulation” (Brown & Ryan, 2003, p. 823), and can be associated with enhancement of well-being (Ryan & Deci, 2000). Meditation practices have demonstrated greater reduction of psychological distress compared to progressive muscle relaxation (Broome, Orme-Johnson, & Schmidt-Wilk, 2005) and workers who engage in meditative practices have shown reduced physiological arousal, trait anxiety, job tension, substance use, insomnia and fatigue, while increasing general health, employee effectiveness, job satisfaction, and interpersonal functioning (Alexander et al., 1993). Additionally, participants in meditation training “grew more in their expression of leadership behaviors measured by the Leadership Practices Inventory” (McCollum, 1999, p. 149). The

accumulating data indicate that practice in contacting the present moment can foster greater crisis-resilience and commitment to leadership.

Mindfulness practice can be done as a secular activity. There are classic exercises to help build this beneficial skill, such as learning to pay attention to one's own breath while allowing private events (i.e., thoughts and emotions) to simply occur and be noticed, while reorienting back to one's breath if distracted by the private events. The leader is taught to follow his or her breath during inhaling and exhaling. When the inevitable thoughts and feelings occur, the leader is invited to simply allow these private events to happen in a detached manner, as if the thoughts were placed on a leaf floating down a stream, and then reorient attention back to his or her breath. Thoughts, images, sensations, and urges surely arise during the exercise, and the leader is encouraged to be aware of their presence as events that are happening "now," and not attempt to change the event. The leader is invited to embrace these stimuli as part of the on-going moment, and to refocus on breathing. The purpose of this exercise is often misunderstood to be about breathing, and it seems more prudent to conceptualize the exercise as being about the present moment. Breathing is always happening "now" so it serves as a simple and universal teaching tool about contacting the present moment. Yet the exercise could also be about feeling the sensation of the ground contacting one's feet during a walking meditation or the flavor of a mint placed on one's tongue. The client is invited to pay attention to those particularly related sensations, as exclusively as possible, while simply acknowledging and releasing any distractions from that chosen behavior.

In the ACTraining approach, mindfulness exercise helps the leader develop a new relationship with thoughts and emotions by strengthening the ability to notice private events without getting caught up in them or "hooked" by old patterns of thinking. In addition, the exercise helps build the skill of focusing on work tasks in the present moment. Maintaining a committed pattern of ongoing activity, even in the presence of distractions, will help the leader progress toward valuable outcomes. Engendering these abilities will allow greater psychological flexibility. If a person has certain goals to be reached, and there are unique obstacles to reaching the goal, old thinking patterns might lead to inert solutions. "Being present" allows the leader to look squarely at the current challenge, while being open to new solutions, and even weighing the merits of old options, to see what course of action will lead to advantageous directions.

Values

Much has been said about family values, corporate values, and the value systems that must be embodied by a leader. The term is ubiquitous in the leadership and management literature. In ACTraining, values are "verbally construed desired global life consequences" (Hayes, Strosahl, & Wilson, 1999, p. 206), and they set the context for discussing with the leader what are the vital and purposeful elements behind leadership goals. Values give leadership meaning. Wilson & Dufrene (2008) further define values as "freely chosen, verbally constructed consequences of ongoing, dynamic, evolving patterns of activity, which establish predominant reinforcers for that activity that are intrinsic in engagement in the valued behavioral pattern itself" (p. 64).

More succinctly, a person's values answer the question: "What you want your life to be about?" Working on values in ACTraining focuses on what the client describes as the desired, broad consequences related to his or her executive behaviors. Thus, leadership values can be assessed with questions such as, "What can you do to bring meaning to the lives of the people in the community?" or "What do you want your tenure as leader to stand for?" The answers to these questions guide the direction of the coaching, and also the leader's professional (and perhaps private) life. In 1860, U.S. historian Henry Adams said the chief executive office of the U.S. "resembles the commander of a ship at sea. He must have a helm to grasp, a course to steer, a port to seek" (Remini, 2002, p. xiv). Values are the course, goals are the ports, and according to a political science survey by Schlesinger (1997), they constitute the first requirement for

leadership greatness among U.S. presidents. In fact Franklin D. Roosevelt opined, “All our great presidents were leaders of thought at times when certain ideas in the life of the nation had to be clarified” (Jenkins, 2003, p. xv).

Values can be discussed as “chose life directions” and undoubtedly need to be clarified before a captain can start sailing. Intrinsic in leading is getting in front of followers and going a certain direction, and without a clarified leadership agenda, the captain and followers will be aimless. Assessing the leader’s chosen directions, and even codifying them as a touchstone for review in treacherous waters, will be an important part of ACTraining.

Clarifying values in the coaching relationship allow a few things to happen. First, knowing the direction the leader is choosing is critical to charting the course. One cannot map out a course without first knowing if he wants to head West or East. In a more partisan and perhaps oversimplified explanation, the leader usually must declare right-wing or left-wing leanings. However, direction of leadership values includes discussing the spectra of honesty-expediency, self-promotion-credit sharing, and representation of the electorate’s expectations-authoritative execution of one’s own convictions. The ACTraining coach helps illuminate what the chosen leadership direction is, and assists in constructing what patterns of action should be prioritized as a leader (see Committed Action section). Elucidating one’s core values – what the leader wants to stand for – is like determining an orientation point, a North Star, by which the leader can always refer to in order to assess if the leader should persist or change in his or her direction.

Second, clarifying values can support the leader in the challenge of accepting certain emotions that arise during difficult times. Values also bolster the leader’s abilities in defusing from unhelpful thinking patterns. In other words, the aforementioned coaching moves, acceptance and defusion, asks the client to do something culturally-deviant and demanding, yet knowing why you are choosing to do something difficult can dignify the pain in doing it. The ACTraining approach invites the client to “live in the space” of the very existential challenge that arises with the following dilemma: When committing to actions related to one’s core values, challenging emotions are likely to arise. And the pain that comes from moving toward important directions cannot be avoided, because any attempt to mitigate the pain is likely to slow, if not completely derail, progress toward the valued goals. So instead of avoiding the stress, strain, and emotional pain, the ACT model suggests acceptance of those emotions and defusion from the unhelpful thoughts. Values dignify this process by asking: “What do you want your leadership to stand for? Do you want your tenure to be about avoiding personal stress or leadership toward valued directions?” ACT coaching is not about training people to become masochistic, but rather to take a new perspective on the private events (emotions, images, sensations, urges, and thoughts) that inevitably arise while committing to vital patterns of action. Taking a journey in an important direction can have concomitant emotional baggage, and the ACT model suggests to the sojourner to “Take the baggage with you.”

Leadership as process

Values are not only linked to acceptance and defusion, but also to contacting the present moment. Leaders are consistently given the message that they must produce results, and it is important that such goal-directedness be reinforced for the client. However, goals are something to achieve in the future (either in the near- or distant- future) and values-oriented behavior can happen right now. An ACTraining coach can suggest that there be outcome goals and process goals. In other words, it is one thing to try to pass certain legislation sometime during one’s tenure, even if it takes a few years. It is another thing entirely to work toward that goal in an honest, forthright manner on a moment-to-moment basis. Leadership is not only about reaching the goal, but it is also about how that goal is reached.

Sportsmanship is not only about scoring a goal, but it is also about playing fairly and not tainting the score by cheating.

Leaders chose a bearing and set certain destinations along the course to assess that they are headed in the right direction. Values-based leadership is emblemized not by just reaching the final destination, but by how the journey was travelled. Each step is taken in the here-and-now.

Committed Action

U.S. president Wilson (1909) spoke poetically about the connection between committed action and clarified leadership values by saying, “I do not believe that any man can lead who does not act... under the impulse of a profound sympathy with those whom he leads - a sympathy which is insight - an insight which is of the heart rather than of the intellect” (p. 226). The ultimate aim of the ACT consulting model for leaders is to allow the individual to make committed actions based on a clarified value system (influenced by the law, constituents, and advisors) from a perspective unencumbered by obstacles of faulty thinking patterns, or of emotional distractions, and to execute these behaviors in the here-and-now.

Committed action is where the “rubber hits the road” in ACTraining. In other words, the ACT model is elegantly constructed to produce results so that there is traction between the leader’s behavior and the external environment. An empirically-supported behavior change treatment requires measurable, overt forward progress. Committed action is persisting or changing in measurable behaviors that are in service of chosen values.

In ACT treatment, this domain typically involves evidence-based behavior therapy treatments. In ACTraining, this part of the model includes the types of interventions that are related to improving the leadership and management repertoire. Using evidence-based coaching models and applied behavior analysis (Daniels & Daniels, 2007; Gilbert, 2007; Lees, 2010) inherently evokes committed action. Narrowly speaking, this might engage the leader in time-management practices, communication skills-building, or assertiveness training. It can also include enacting a contingency-management plan where the leader is either accountable to himself or the coach for engaging in a certain rate of leadership responses, which includes data collection and detailed reinforcers for meeting personal goals for improving leadership skills. More broadly, the focus of committed action might include a government leader obligating herself to a detailed, step-by-step action plan with her think tank in order to meet certain legislative objectives.

Conventional executive coaching often takes the form of presenting suggestions, rules, and training programs to the leader. Such directives can be helpful, but these antecedent interventions are limp without consequences tied to outcomes or objectives. Behavioral coaching typically weaves in a variant of contingency management that consequates defined goal-achievement. Such behavioral interventions likely lead to better outcomes and greater duration of the program, but do not usually address the other contextual obstacles that can impede executive behavior, such as plaguing thoughts, emotional avoidance habits, lack of clarified values, and concretized self-statements (see Self-as-Context section). The ACT model incorporates the tried-and-true behavioral coaching interventions aimed at accelerating leadership into a broader training context which addresses psychological obstacles.

Self-as-Context

Sun Tzu (1910/ 2010) spoke poetically about the connection between self-as-context and clarified leadership values by saying, “The general who advances without coveting fame and retreats without fearing disgrace, whose only thought is to protect his country and do good service for his sovereign, is the jewel of the kingdom” (p. 34). Some leadership advice suggests the leader be “selfless.” In ACTraining, the conventional idea of selflessness may play a role, but further clarification is needed. Most major

psychological theories discuss the concept of “the self.” Contextual behavioral science delineates three different senses of self: the self-as-content, self-as-process, and self-as-context.

Self-as-content

Self-as-content is expressed as verbal descriptions of characteristics and evaluations of one’s own person and history. This encompasses such statements as “I am a congressperson,” “I am tall,” or “I am bad at relationships.” This sense of self includes the “content” or the concepts people use to express their roles, proclivities, and attributes. When people are “fused” to these descriptions, it can lead to an inflexible behavioral repertoire. Once something is labeled, its use has a tendency to become less flexible. To illustrate the restrictiveness of labeling, Blackledge, Moran, & Ellis (2009) tell how a bench, which was once considered highly practical for sitting and resting, is discovered to be an “antique footstool,” and then revered, no longer sat upon, and considered to be put up for auction. When it comes to describing the content or conceptualizations of oneself, truly “buying into” such verbalizations can hem-in behavioral opportunities. Imagine someone saying, when asked to write a new initiative, “I’ve never been good at policy writing. I’m more directive and persuasive. Paperwork isn’t my thing.” With this self-as-content statement, the leader essentially restricts behavioral possibilities. While self-as-content is important in order to let social contacts know about one’s characteristics and accomplishments, strengths and weaknesses, these descriptions can become confining.

Self-as-process

Self-as-process is expressed as the verbal evaluations of one’s ongoing behavior. This includes verbal descriptions of overt actions, and also thoughts, feelings, and bodily sensations. The term “process” can be defined as a series of actions or natural occurrences (Encarta Dictionary, 2010), and self-as-process describes how the individual is engaging in a series of actions or natural occurrences in the on-going moment. For instance, while at a podium in front of a crowd, the leader can notice “I am giving a speech,” and is noticing self-as-process. “I am feeling exhausted,” can be another verbalization of the leader’s self-as-process. Both self-as-content and self-as-process are both verbally describable. They both encompass the “things” and “actions” related to oneself. Self-as-context is certainly different from both self-as-content and self-as-process.

Self-as-context

Self-as-context (SAC) “is not an object of verbal evaluations; instead it is the locus from which a person’s experience unfolds” (Bach & Moran, 2008, p. 10) Self-as-context is transcendent in that it has no verbal content or form and might best be described as “pure consciousness” (Hayes, Strosahl, & Wilson, 1999, p. 187). It can be considered the on-going experience from which a person will make their observations. The SAC is the continual point-of-view one privately encounters, and looks at the world from, throughout his or her life. It can be considered one’s unique perspective, and in this case, “perspective” is not synonymous with verbal judgments, but rather a non-verbal viewpoint. Self-as-context is likely the most theoretically complex part of the ACTraining model and discussing SAC didactically can be counterproductive; however, the experiential exercises performed in coaching often lead to a greater understanding than the academic discussion about the SAC. Experiential exercises are often used to help clients have greater contact with the SAC with the aim of increasing the person’s ability to accept private events, as well as establish a position from which to clarify one’s own values.

The classic ACT exercise for promoting a growing awareness of the SAC is the Chessboard Metaphor. The client is encouraged to envision her thoughts, emotions, and bodily sensations as chess pieces, and that there are two sides to the game: the “bad” and the “good” pieces. For instance, leaders are sometimes besieged by unconfident thoughts, feel inadequate, or are gripped by anxious feelings, and

these are often thought of as “bad.” These events can be conceptualized as the opponent pieces. Conventional wisdom, westernized thinking, and even CBT coaching models might suggest that the leader think positively to mitigate such private events. This places a new set of pieces into the chess game, such as: “I’m confident, strong, and unafraid.” The introduction of new “good” thoughts (or reintroduction of old disputational thoughts) might help the leader think rationally about her abilities and emotional status, but such a strategy will never truly rid the leader of such thoughts. In fact, it essentially influences the leader to be “up in her head” trying to avoid, escape, or eliminate unhelpful thoughts. This experientially avoidant move is not only distracting from the leadership mission (to manage change in the community), but might also exacerbate the lack of confidence when the leader finds that she cannot rid herself of thoughts by thinking other thoughts. The leader is invited to not take sides in this chess match, and to cease rooting for one set of pieces while hoping for the decimation of the opponent pieces. The ACT rationale for suggesting a different strategy is because one never can fully avoid certain private events that have been fluently conditioned to occur in the presence of particular environmental stimuli. And (metaphorically) if one cannot delete the chess pieces of feelings, thoughts, and sensations, perhaps it is more workable (and existentially authentic) to perceive oneself not as the pieces, but as the accepting and embracing chessboard. The chessboard sets the context for the game. It makes itself available to all that naturally arises in the course of a game and harbors no resentment to either side of the game. The chessboard simply provides a simple framework for the pieces and accepts their presence. A psychologically flexible, crisis-resilient change manager has the ability to make room for and accept the presence of certain thoughts, emotions, and sensations. The resilient leaders notices both “pieces” that say: “I’m not competent to deal with this problem” and “I am a well-trained problem-solver” fully and without defending against or rooting for either thought. The justifications for this perspective are like the two sides of the same coin: 1) spending time trying to win this mental chess game does not work because once private events are fluently learned, thinking disputational thoughts rarely stops them from happening, and 2) playing this private chess game is not a necessary part of change management. It is likely more expedient to simply execute value-based directives in the presence of these private events.

The experiential exercises help clarify that a person is *not* comprised of the mere verbal descriptions and cognitions they have been conditioned to say and believe about themselves. There is more to being a person than articulating one’s roles, memories, body, sensations, emotions, and thoughts. There is an on-going point-of-view from which all of these phenomena are observed and accepted. (In the ACT literature, the term “self-as-perspective” is sometimes used interchangeably with SAC.) The idea of incorporating SAC into executive coaching is to help the leader establish a solid perspective from which to observe, clarify, and direct one’s values, and from there, to move toward a committed action plan.

How can ACT influence crisis resilience and leadership?

ACT training attempts to shape up a behavioral repertoire so the leader can make a distinction between his or her self-as-context and other content, such as emotions, urges, and sensations that are experienced, and then accept those private events as they occur without pointlessly defending against them. The leader also learns to defuse from unhelpful thinking patterns while committing to action plans influenced by conscientious values clarification, and then executing those behaviors in the here and now. The ACT model has been demonstrated to lead to psychological flexibility (Ciarrochi, Bilich, & Godsel, 2010) which is likely to be a key ingredient to crisis-resilient change leadership.

The Federal Consulting Agency professional who posed the question about crisis-resiliency and change management was looking for a method aimed to improve the leadership qualities of public servants. The prudent answer to that question should include a comprehensive, flexible, evidence-based coaching model created from behavioral science. Preliminary evidence suggests ACTraining fits such a need because it dovetails nicely with the empirically supported behavior change strategies that executive coaches often use, such as assertiveness training, stress reduction approaches, and contingency

management programs. ACT also provides strategies to contend with private events (i.e., thoughts and emotions), promotes the clarification of leadership values, and incorporates the recent research demonstrating the benefits of mindfulness practice. Research on ACT's efficacy and effectiveness in clinical and industrial-organizational environments shows promise, yet further research is required to ascertain all the limits and benefits of the ACTraining model.

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Author Contact Information:

Daniel J. Moran, Ph.D., BCBA-D
1415 Maple Road
Joliet, IL 60432
(815) 735-0732
daniel.moran@comcast.net

An Application of Functional Analytic Psychotherapy In a Case of Anxiety Panic Disorder Without Agoraphobia

Miguel Ángel López Bermúdez, Rafael Ferro García and Manuel Calvillo

Abstract

Traditional methods of diagnosis are of little therapeutic use when diagnostic criteria are based upon topographical rather than functional aspects of behavior. Also, this sentence in the original seemed rather awkward and a bit unclear. In contrast to this, several authors have put forward experience avoidance disorders as an alternative which takes functional criteria into account. This case study presents the analysis and treatment of an anxiety disorder following the formulation of functional analytic psychotherapy. This psychotherapy is based on a therapeutic relationship which puts particular emphasis on natural reinforcement and eventualities which occur in a clinical context, relating them to a natural context, and establishing functional equivalences. The different stages of the treatment are described and details are given of the therapeutic relationship and the monitoring of the results over a period of 18 months.

Keywords: Functional Analytic Psychotherapy, Functional Analysis, Therapeutic Relationship.

According to the *DSM-IV* (APA, 1994) the disorders that occur with emotional tension and heightened sympathetic activation are classified as anxiety disorders. This system, following formal aspects as criteria for differentiation, classifies up to 12 different disorders within this classification. Despite the function of this “clarification” this taxonomy offers few clues when it comes to the choice, development and establishment of treatment programs.

To treat this type of disorder this is a wide variety of techniques coming from different theoretical bodies (cognitive restructuring, breathing techniques, interoceptive exposure, different forms of relaxation, hypnosis....) The choice of one technique or combination of several is taken on many occasions without considering etiological factors or the maintenance of the disorder in question.

This type of action highlights the eclecticism and the conceptual weakness of diagnostic systems like the *DSM* and the lack of cohesion between the clinical categories derived from them, the possible etiologies, the variables that maintain the disorder and their treatment.

As different authors note (Bisset & Hayes, 1999; Ferro, 2001; Hayes, Wilson, Gifford, Follette, & Stosahl, 1996), these problems presented by traditional classification systems are caused by their origins in structural models of evaluation in which the diagnosis is based on the form or topography of behavior. In contrast to this approach, a diagnostic method is suggested from a

functional perspective which has a potentially larger use, especially if one of the objectives of evaluation is the design of effective treatment programs. (Hayes & Follette, 1992). From this perspective, the same behavior can have different functions and, on the contrary, the same function can be served by different behaviors. (topographically different and functionally equivalent behaviors and vice versa)

Along these lines, Hayes & Follette (1992) describe a type of behavior followed by the escape or avoidance of negative emotional experience. This phenomenon has been called “experiential avoidance”, which refers to cases where a person avoids contact with a series of private experiences and looks to escape, avoid or modify the occurrence of the these experiences and contexts that could produce them. (Ferro, 2000; Friman, Hayes, & Wilson, 1998; Hayes, Strosahl, & Wilson, 1999; Hayes, Wilson et al, 1996; Luciano & Hayes, 2001) These authors have suggested “disorders of experimental avoidance” as an alternative to the traditional diagnostic criteria based on topographic or structural characteristics of behavior.

Logically, with an evaluation that considers functional criteria, the treatment applied should also be governed by the same principles. Therefore, from this perspective, a treatment is suggested that seeks to change the function of the private experiences that the person tries to avoid, rather than to change the form or context of them. In order to do this, alteration of the verbal/social context in which these experiences occur is proposed. Following these principles, and in keeping with a contextual perspective based on recent advances in verbal behavior: bidirectionality, literality of the language, equivalence relations, functional generalization, rule-governed behavior (Hayes S. C., Barnes-Holmes D., & Roche B., 2001), functional analytic psychotherapy has been developed (Kohlenberg & Tsai, 1991).

The framework of this therapy is based on an especially thoughtful client-therapist relationship. The therapeutic session is the context in which the client's problems should appear. Therefore, the therapist should evoke and distinguish the behavioral problems of the client, referred to here as type 1 clinically relevant behaviors. These appear very frequently in the therapy, especially at the outset. Normally, they are under aversive control and they are maintained by negative reinforcement. It is necessary to lessen their frequency and/or modify their function. Also it is necessary to evoke, distinguish, and reinforce the client's improvements, referred to here as type 2 clinically relevant behaviors. These do not often occur at the beginning of the therapy and it is necessary to increase their frequency. The causes or reasons that the client expresses about his/her behavior are another class of behavior, known as type 3 clinically relevant behaviors. The therapist should identify them, evoke them, and help the client to describe correctly the functional relationships between behavior and the variables that control it (Kohlenberg & Tsai, 1991; 1994; 1995; 1998; Kohlenberg, Tsai, & Kohlenberg, 1996).

This therapy emphasises the adoption of criteria that favor the consideration of the clinical session as a natural context where problems arise and psychological change is produced. Therefore, the following criteria of conduct by the therapist are formulated as rules that govern the therapist's behavior (Pérez Alvarez, 1996a). Rule 1 consists of observing clinically relevant behaviors. Rule 2 proposes the creation of a therapeutic environment that evokes these behaviors. Rule 3 reinforces the occurrence of type 2 clinically relevant behavior. Rule 4 observes potential therapist reinforcement of the client's behavior. Rule 5 describes the explanatory relationship between behavior and its sources of control (Kohlenberg & Tsai, 1991;1994; 1995; 1998; Kohenberg et al., 1996).

In summary, this psychotherapy stresses the importance of the therapeutic relationship, emphasizing the eventualities that occur within the sessions, natural reinforcement, the functional equivalence between what occurs inside and outside the therapy, functional analysis, and the shaping of verbal conduct. For further and more precise information, see Ferro & Valero (1998) and the classic texts of Pérez Álvarez (1996a, 1996b)

Below, a case of a panic disorder without agoraphobia according to DSM-IV is described that was treated following a formulation of this psychotherapy.

Method

Client

Julia is a 35-year-old married housewife with an 8-year-old daughter. She sought therapy because she felt very agitated, she had lost 24 pounds in a few months, and she often vomited what she ate. She reported feeling guilty, and cried frequently. She hoped that the therapy would "rid her of her constant nervousness and her obsessions, because sadness doesn't bother me". During the first few sessions were frequent comments such as, "I feel very agitated", "I don't know what to do with this nervousness", "I don't know what's wrong with me", "I feel guilty for not doing what I should", "since my depression my nerves have been damaged", "this is never going to stop", "Why is this happening to me?", "maybe you don't understand me because you don't study this in books.

Four years ago, Julia had become pregnant. She described the pregnancy as “horrible,” with her frequently being sick and constantly uncomfortable. She commented “I knew something was wrong”. In the fifth month, 3 days after she had been trapped in the elevator of her apartment building with her daughter and had experienced a panic attack, she miscarried. She expressed her conviction that the two things were related. She also made reference to a traffic accident where a relative and various acquaintances had died in a bus. When this happened she, in her own words, “fell apart” mentioning that she went to live with her parents “in a state of really deep depression”. She spent the majority of time in bed, she took a lot of medication, on occasion doubling the psychiatrist’s prescription, she barely carried out daily tasks, and in her own words, “life was an ordeal”. During this time, there were periods when she went to accident and the hospital emergency room up to twice a week where she was prescribed tranquillizers and sometimes neuroleptic drugs. She had been admitted to hospital on two occasions, where they various tests were performed, but nothing was found. She was diagnosed as having had “a nervous breakdown”. She didn’t accept this and continued looking for answers and doing more tests, some of which were quite sophisticated and were carried out in the respiratory department of a private hospital, at great financial cost to her.

After a notable improvement she refused to return to the family residence, a fourth-floor flat, saying it was “because there’s something about that flat”. Owing to her insistence, the family acquired a ground floor flat, moving there, according to her, for its comfort and convenience. This had occurred 3 years before coming to the clinic. During this period and up until now, Julia, in her own words, “without being what she had been”, has been able to lead an almost normal life with some relatively infrequent panic attacks. However, her state began to worsen some 2 months before the first session, with more frequent and more intense anxiety attacks and she declared that she couldn’t take it anymore. She also made comments such as these: “I feel very afraid that I’m going to fall again and this time deeper”. And she referred to worrying about her husband and her daughter.

Procedure

The formulation of the case follows the approach of Ferro, Valero & Vives (2000) describing the functional analysis of Julia’s problems, the selection of the behavioral problems, and finally the three phases of intervention.

The treatment took 5 months with a total of 14 sessions of approximately 90 minutes in duration. Furthermore, there was telephone follow-up 6 and 18 months after the conclusion. The first four sessions were dedicated to carrying out the functional analysis and selecting the clinically relevant behaviors. The following intervention sessions made a total of 10 consultations.

The composition of this article is based on the notes the therapist took and on the summaries and transcriptions of some dialogues that took place after each session. Julia met the criteria set by the *DSM-IV* for the diagnosis of panic disorder without agoraphobia; that is to say, she suffered from unexpected anxiety attacks with persistent unease about the implications and consequences that they could have. These difficulties weren’t accounted for by the presence of other mental psychological problems.

She already had experience with practicing different types of relaxation. Training in interoceptive stimulation, progressive muscular relaxation, and diaphragmatic breathing were methods that she already knew, but that reportedly had not worked for her. According to her, when she applied them, they didn’t work and she commented “it made me more nervous and depressed to see that I couldn’t do it”.

Owing to these reasons and others that are not relevant to this article it was decided to conceptualize the case as a “experiential avoidance disorder” and the ultimate therapeutic objective was to establish that the patient would become willing to be open to the risks that she had been avoiding.

Functional Analysis.

The client revealed a low level of social relationships, as she avoided them, spending the majority of her time at home. Subsequently, she received few positive social consequences. Furthermore, some relatives who visited her helped her with her daily chores, reinforcing and sustaining this dysphoric behavior. That is, the family reinforced the dysphoric behavior that she manifested, such as complaints, etc.

She also avoided having sexual relations outside of the period of 4 days before and after her menstruation. She never took any initiative nor was she sexually active outside this interval. Faced with her husband's proposal of having sexual relations, the patient claimed dizziness and headaches, and sometimes vomited. With these disguised mandates (Kohlenberg & Tsai, 1991) or impure tactics with mand functions (Skinner, 1957) Julia tried to prevent her husband from suggesting having sexual relations and avoided her subsequent reactions and her thoughts about a possible pregnancy, a risk that was very aversive for her.

She avoided the possible angry reaction of her husband and she blamed him for her irrational fears. She did not talk to him openly about her fear of becoming pregnant, just as she did not tell him that she did not want to continue living in their home, the fourth-floor flat where they were comfortable and they had friendly relationships with various neighbours.

Julia avoided travelling by bus, despite not having a driving license and often having to travel to a nearby town with hospital and specialized medical services. She only went if it was a sunny day and it was absolutely necessary. Even so, on occasions she didn't turn up to some medical appointments or she arrived late and said she'd missed the bus, and so on.

She avoided closed places, she hadn't been in a elevator again since she'd been trapped, and when she was obliged to go somewhere where she would be for a few hours, she ascertained the size of the toilets beforehand.

Her explanations were also incorrect. She hid the real reason for her behavior and sometimes avoided giving reasons. By these means, for example she gave inexact reasons for changing address, for buying heavy objects so that she was driven to her destinations, and so on.

For these reasons, the physical contexts in which the anxiety appeared extended or diversified and the avoidance behaviors diversified at the same time. That is to say, the discriminative conditions (including the contextual, interoceptive and verbal variables) of the anxiety became progressively more varied and were used in more situations. These responses with avoidance became more frequent because of negative reinforcement and positive reinforcement, such as attention from relatives. The result was the development of a wide repertoire of avoidance behaviors.

After completing the functional analysis, the following clinically relevant behaviors were selected:
Type I clinically relevant behaviours

- Excessive complaining about her life and her past. She frequently complained about what happened to her and why in the sessions. She also complained about what was happening to her at that moment.
- Her way of making requests was dysfunctional. She was generally hostile to others. Through her personal situation she managed to receive help from others and avoided some of her responsibilities.
- She refused to offer suggestions or response to questions that asked her to give explanations. She usually replied "I can't", "I don't know" or "you don't understand me" to the therapist's

questions about why she didn't go out more, why she hardly went to family reunions or celebrations, why she stopped doing daily chores, why she went to bed during the day, and so on.

- She showed avoidance behaviors. She didn't participate in social situations. She didn't talk about what really happened to her. She didn't have sexual relations. She didn't take lifts or buses, etc..
- The explanations about what happened to her were inexact or incorrect. She didn't speak plainly and frequently made reference to her problems to avoid aversive situations for her (family reunions, visits, trips, social activities etc) and also to elude some responsibilities and receive help from others.
- The way she considered what happened to her. She believed that her psychological state was not acceptable. She asserted that everyone else didn't think or feel as she did; they were free of certain thoughts and didn't ever experience emotional states as horrible as hers.

In view of these behavior types the following type 2 clinically relevant behaviors were proposed:

- To accept her past and the aversive experiences that had occurred in her life. Not to show intense emotional feelings when talking about her past, her depression, her suffering.
- To accept her emotional responses of anxiety and her thoughts for what they are. Julia thought that thinking "bad" thoughts was inappropriate for good people. If they were thought about a lot, then they would truly happen. Not to try to control emotions and thoughts.
- To take charge of her jobs and accept the more or less desirable risks that these imply. To accept her responsibilities with her domestic chores, journeys and all that should be done according her own values.
- To maintain satisfactory sexual relations. To say "no" openly without blaming physical discomfort. Not to limit activity to the pre- and post menstruation interval.
- To maintain social relationships. Not to avoid family reunions by blaming to various indispositions.
- To describe correctly the functional relation between behavior and its consequences. To explain openly what is happening to her, what she does and why, without using excuses or incorrect explanations.

Intervention

The description of this phase of the case follows the approach of Ferro, Valero and Vives (2000) & the suggestion of Kohlenberg & Tsai (1995) to divide the intervention into three differentiated phases.

Initial Phase.

This first phase consisted of the first month of treatment and included the first 4 sessions during which information about Julia's problems was collected, the functional analysis was carried out, and the first approach to the clinically relevant behaviors was produced, that were finally proposed.

In this phase an environment of trust and genuine interest in Julia was established [as Kohlenberg & Tsai (1991) suggest] The observation and identification of clinically relevant behaviors constitute an essential part of this phase, in which Julia was shaped into describing what happened to her, why she thought it happened and how she thought her past influenced her present problems. She identified what she had previously done to resolve her problems, what had worked and what hadn't, how she thought she could improve, and what she hoped from the therapist and the therapy.

Clients can come to therapy for various reasons. According to Kohlenberg et al. (1996) the function of asking for or looking for help can be of various types. There are patients who have a personal history of looking for help when they have problems; this is the way to face the problem and solve it. Another function would be that having problems and looking for help has been reinforced in the past by avoiding the real problem and generating another one. And, finally, one looks for help to obtain the care and attention of the therapist, because in the past this manner of having social relationships has reinforced them, generating dependent personalities. We are dealing with a case in which the reason for looking for help falls into the second function. Julia had previously looked for professional psychological and psychiatric help, asking for help for her anxiety and her depression, but she had never talked about her real fears.

In the first session her complaints were very frequent about her health (vomiting, dizziness, and in her own words, "as though I was going to loose my balance", muscular rigidity, heart acceleration, shortness of breath, shivering, etc) She also referred to the behavior of everyone else with phrases like "they don't understand me", "they are angry with me", "they have a go at me" and concerning what happened to her and why, she said, "the doctors haven't found out what's the matter with me", "why won't they make it go away?", and "what I'd like to do is go to bed and wake up a new person." She also complained about herself and her capabilities to do things with expressions like, "I haven't got the strength", "I don't know what to do", "I can't", and "if it happens to me in the street, what could I do?"

She insistently asked what she should do, about how what she had could be taken away, saying, "tell me what's the matter with me and do something so it doesn't happen to me". All these examples and other considerations suggest that having problems and asking for help constitutes a type I clinically relevant behavior.

The stance of the therapist in this moment was, fundamentally, to be a non-punishing audience for her, [as Skinner (1953) suggested], a constant in the whole process, to listen with genuine interest to her problems, and not to generate any doubt whatsoever in Julia and in the credibility that her remarks offered.

In this initial phase, the questions to discover the social verbal context in which these problems occurred were abundant. Such questions included inquiries such as "Why don't you go out?", "Why didn't you go and have dinner with your family?", "Why does it scare you so much being nervous?", and "What do you think you could do in order not to be like that?". One important and emblematic question at that stage was: "if you didn't feel this anxiety would you do very different things from what you do now?" "Do you think you could do them although you feel the anxiety?" The point was to concentrate on what can be done with the way one feels, instead of concentrating on feelings and trying to stop them or eliminate them.

At this time Julia was offered an explanation of her anxiety, of how it was acquired and how it was maintained. She was lead to see that it is an emotion common in all people, including "healthy" people; she was told that probably anybody with similar antecedents to hers would experience something similar and she was asked in various ways why these emotions scared her so much.

From the analysis of Julia's verbal behavior, a very high rate of disguised mands was observed. (Kohlenberg & Tsai, 1991) These functional relations appeared in the form of complaints,

self-invalidating manifestations, and references to physical discomfort. This is called “distressed behavior” by Biglan (1991) and its function is to make the occurrence of aversive risks less likely. A clear example is that the number of complaints or references to physical problems like pains, nausea, dizziness, etc. was significantly higher in situations where Julia noted the possibility of her husband suggesting having sexual relations. The frequency also increased if a family reunion or celebration was imminent, if it was necessary to travel, and so on.

During the sessions Julia also complained. She showed concern and adopted body postures related to suffering and said: “next week it is the communion of my nephew.” The therapist made her believe that he assumed that she would be going to the family reunion, asserting “your daughter will surely have a good time with her cousins!” The therapist believed that this comment would make Julia feel more nervous. On the one hand, she was helped to see that going to communion seemed to be necessary as the most appropriate thing to do, and on the other hand, contacting situations that she feared was shaped. She became more nervous. (Rule 2) From this initial phase, in reference to the above, the following dialogue stands out:

Client (C): “I don’t know if I’ll go”

Therapist (T): “Why wouldn’t you go?”

C: “If I feel like I do now, I’ll definitely not be going.” (disguised mand)

This illustrates the function that, in this case, being ill had for Julia; that is, she used this feeling to avoid exposing herself to risks that she feared.

T: “You’re right Julia, considering how bad you feel you’d be very brave if you went....”

The therapist, with this comment, left the complaint to one side and tried to make it more likely that she would go to the communion and have more social contact (Rule 3)

In the third appointment, some type 2 clinically relevant behaviors appeared at an early stage. Julia told the therapist that she had gone to the communion, thus confirming that the shaping had been effective (Rule 4). The therapist showed signs of surprise and joy and commented: “Don’t tell me that feeling as bad as you did you went to the communion; only you know how much you have suffered and the effort it was for you!! (Rule 3) Julia maintained that she hadn’t had as bad a time as she’d imagined At this moment the therapist took advantage to give examples of occasions where one suffers with thoughts and how different the events can be. (Rule 5)

The most frequent behaviors, however, continued to be of type 1 and more specifically, complaining. The posture that the therapist maintained when faced with the class of functional responses is illustrated through the following dialogue:

T: “What do mean by that?”

C: “Well, I don’t know....”

T: “Could you explain more clearly what you mean?”

C: Crying and suffering posture. “Nobody understands me, I thought you would but I see it’s not like that” (another example of a disguised mand)

C. “Aren’t you going to say anything?”

T : (After a silence) “Is this your usual reaction when you think that your husband or people don’t understand you, you cry and cry and moan...?”

The fact that the therapist insisted that Julia be more precise about what she wanted to say was a way of evoking type 1 relevant behaviors, in this case, and it occurred in this way (Rule 2). With regard to the therapist’s answer to type 1 behaviors it was very useful to relate behaviors that occur within the sessions with those that occur outside. In this way, as Kohlenberg & Tsai (1991) state,

clinically relevant behaviors can be evoked and the establishment of functional equivalents between the therapeutic environment and daily life are encouraged.

The therapist asked, afterwards, about her opinion concerning people who complained a lot, about whether she liked people to ask her for things, and about whether she normally asked for things. Julia admitted that the majority of the time she normally went over the top and that she didn't know why it happened. She also indicated that she didn't realize this at the time, but afterwards felt very bad and quite guilty. She supposed it was because she felt so nervous (relevant behavior types 1 and 3) She also commented that her only two friends told her often that she complained too much and that "I'm a moaner". In this moment she was relating what occurred inside therapy with what occurred outside (Rules 4 and 5; this is an example of the effectiveness of the therapists' shaping.)

She was then asked if she thought one could be nervous and at the same time not be hostile or blame others. Throughout the therapy and in different contexts examples of this relationship "being nervous and not hostile" (sometimes with herself, others with her daughter, or with the therapist) arose with no apparent intention. Relatedly, she was asked to think who she thought was a better person, one who suffers after committing an error, or one who accepts that they have committed the error and then does not worry about suffering. With this posture the intention was to undermine the equivalence of "to be a good person" with "a person who suffers".

In the fourth session, Julia was informed that owing to problems with the diary schedule the appointment would be at a different time and different day than usual. (Rule 2, trying to evoke relevant behaviors) Julia did not show any signs of annoyance (type 2 behavior.) The therapist made her realize that this pleased and delighted him by describing her behavior. (Rule 3)

In this first phase, Julia informed the therapist of the moments of anxiety that she had had during the week. During the time it took to complete the first phase, she had been to the hospital 6 times. She asked the therapist insistently what she could do in order not to feel what she felt. At the beginning of each session Julia was asked how she felt at that moment, and she almost always replied "very nervous" or "really bad, hysterical". The therapist usually replied "you must have made an enormous effort to come!" or "even so, you've come here today!" In the same manner, systematically, at the end of the sessions when Julia showed more signs of being calm, she was asked a similar question again and it was suggested to her that she compare how she felt then with how she had felt when she arrived (a way of evoking clinically relevant behavior). She usually replied "much better now". The therapist, therefore, asked "and what have we done to make you better, to make you feel calmer?"(Rule 5) This type of question disconcerted Julia who replied "well....we've been talking, we haven't done anything special." The therapist reinforced the tact function (Skinner, 1957) saying "exactly, that is what we've done, just talk. We haven't tried to do anything to make you calmer and nevertheless you feel a lot better." In this context, the therapist took the opportunity to shape Julia's verbal behavior in describing the relationship between feeling nervous, running risks, not doing anything to control her anxiety, and realizing she is calmer.

This phase covers sessions 5-9. During this phase, new and important elements were added to the functional analysis that was carried out initially and although some type 2 behaviors appeared, type 1 continued to be the most frequent. Julia showed new behavior that had not appeared before, which could have been seen as type 1 because of its problematic character; however, what appeared was understood as type 2. This is referring to fear of being pregnant as an example of type 1 and talking openly about her fear as type 2 behavior.

As has been described above, what worried Julia the most was her anxiety; she doubted that there was a possible solution. In the first sessions when she asked what she could do, the therapist replied that for the moment there was little that could be done (Rule 2, shaping at the same time not trying to avoid it). She said she felt desperate that it would never go away. In the fifth session, she said "this is never going to leave me; I'm never going to be

cured.” The therapist connected these thoughts to others she had told before about having an awful time in the communion or once she was there she’d had a good time or when she left to come to the clinic in a nervous state and thought she couldn’t get to the building, and so on (Rule 5). Also, it was commented to her that thoughts cannot be controlled at will, and that people cannot take them off like you take off tight shoes that bother you. (Rule 5) Julia said that she understood, but that an acquaintance of hers had been cured in less time (example of a mand in form of a manipulative request to pressurize the therapist, type 1 behavior) The therapist remained silent in an attempt to extinguish the disguised mand. Immediately afterwards, Julia asked what she could do to make herself better and taking advantage of the situation that had been offered, the therapist replied that each person learns to resolve their problems in different ways and described to her how and why her acquaintance had been “cured”, by not avoiding, but exposing herself to her fears. In short, very naturally, a model of behavior had appeared with which she had very probably identified. It is necessary to make clear that this dialogue was conducted with extreme care so as not to betray any professional confidence.

Afterwards, Julia was asked how she thought she had reacted in her life to resolve her own conflicts. She replied, crying, “I haven’t resolved them.” Immediately afterwards she made a review of different periods of her life and of the problems she had had, trying to highlight the way in which she had faced them. She said that now she realized that what she’d been doing was avoiding them and that in the same way as the example that the therapist has given on various occasions, each time they got bigger. The therapist made an observation so that she related what she usually did with the result she had obtained and he reminded her that she was in a psychology clinic. She began to cry and moan and to justify her behavior. The therapist remained in silence to weaken the frequency of the disguised mands in Julia’s repertoire.

Julia telephoned 2 hours before the sixth appointment saying that she wouldn’t be attending. When asked why she replied in tears that “I’m really ill and I don’t see myself getting any better” (again, a manipulative plea, another disguised mand, and a type 1 behavior). The therapist told her that he respected her decision and wished her a speedy recovery in a friendly manner, but without further comment (attempting to extinguish the behavior). Shortly after she called back to say that she would attend the appointment if that was still possible. She was told that it was, and the extinguishing of the behavior pattern was shown to be effective (Rule 4). Julia arrived seeming agitated. The therapist told her that he understood that the previous session had been very hard for her and expressed how pleased he was that she had come in spite of that, adding that this showed an excellent frame of mind for solving her problems, and that it would have been much easier for her to have stayed at home. Nonavoidance was reinforced. (Rule 3). She was grateful, but described herself as being in a mess, cried and said things such as “I don’t deserve this”, and “why does this have to happen to me?” When asked if anything had happened that she thought the therapist ought to know about, she replied that she had spent the night sleepless and vomiting. Asked again if she knew the reason why, she carried on crying and said that she didn’t. She resisted speaking clearly (type 1 conduct). The therapist’s silence encouraged her to show more symptoms of anxiety, crying and hardly maintaining eye contact. Then she broke the silence, saying:

C: last night I felt bad for my husband,... and we made love

T: I’m sorry, Julia, but I don’t really understand why you’re telling me this

C: ... just that we never use contraception ... and I’m really afraid of getting pregnant, ... that’s why I’m like this.

T: Now I understand you. Only you can know how much you’re suffering.

The therapist reinforced her clear expression of her fears (Rule 3).

Her emotional responses to the possibility of becoming pregnant were dysfunctional, a type 1 behavior, but her clear expression of them was taken to be a type 2 behavior, and was reinforced as such.

It should be noted that on other occasions when Julia had been told that she wasn't making herself understood, she complained and felt victimized, whereas on this occasion, her response was to clearly express her fear, and to describe it (Rule 2). The therapist highlighted this fact by showing his satisfaction (Rule 3), to which Julia replied that she no longer complained, it was of no use and that she had discovered that doing it made things worse because each person told her something different that confused her even further (type 3 behavior). The therapist agreed with her, saying that he, too, saw it like that. This type 2 behavior was reinforced and the situation and Julia's more adaptive responses were related to other contexts outside the clinic, and with other responses in more problematic situations. This factor, as previously noted, would contribute to laying the foundation that relating what happens in therapy to day to day situations that take place out of the clinic is of great therapeutic value.

After Julia had shown, for the first time, her fear of a possible pregnancy (type 2 behavior), in the seventh and following sessions, the topic was further investigated. As stated by Kohlenberg & Tsai (1991), paying attention to mysterious responses is a way of identifying behaviors that are clinically relevant. Her husband, with whom she had a good relationship, wanted another child, but she didn't dare tell him that she did not. She avoided telling him this openly because she thought it would disturb their relationship, saying "I don't want to upset him any more" On the other hand, she would convincingly say, "only children aren't happy" and that she saw herself as a bad mother for not giving her daughter a sibling. Aside from all this, she felt under pressure due to her age. In that moment, she was able to identify the fundamental reason why her situation had deteriorated in recent months; her worsening coincided with her husband becoming more insistent that they have another child. As she said, "he regularly wanted us to try". The situation was certainly difficult for her.

Her fears and her thoughts about becoming pregnant became the main focus of this stage of therapy. She made comments such as "if I got pregnant, I'd have to get in the hospital lift and that really would make me ill", "if the mother is nervous during the pregnancy, she'll give birth to a nervous child – the baby will be born with a damaged nervous system or will have nervous problems all his/her life", "if I got palpitations or fainted while I was pregnant, something could happen to the baby", and "several gynaecologists have told me that in order to become pregnant, you have to be very calm and not to become obsessed with it". She would say that she was very nervous, but that at least she wasn't becoming pregnant, a relief for her. That is to say, as paradoxical as it may seem, there were occasions when her distress was a discriminative condition of not becoming pregnant (aversive function) and served as relief, a consequential function of reinforcement.

Once this functional relationship had been established, the therapeutic aim was to break it. To that end, the therapist commented to Julia at the beginning of the eighth session that that morning he had had a thank-you visit from a girl he had treated 2 years previously who had been raped, "imagine how distressed she must have been when that happened,... she became pregnant...". Julia showed signs of distress. When asked about it, she said that she didn't know why she had become agitated. She supposed it was due to what she'd heard.

In that and in following sessions, the therapist took advantage of any opportunities to make seemingly unintentional comments such as "... I'm sorry to have kept you waiting, but I was talking to a friend on the phone. Everyone says she's the calmest person in the world. She's a young girl, more or less your age, and she's been trying to get pregnant for a long time. The gynecologist says that everything's fine... she's so calm that nothing gets to her..." The aim of this and other similar comments was to break the functional relationship previously described and to substitute it for a more adaptive functional equivalent: you can be calm and not get pregnant, and vice versa. The shaping of this rule in Julia's repertoire was understood to be a key aspect in her subsequent recovery.

The same analytic and therapeutic criteria served as a framework to explain other problematic behavior shown by Julia. When determinate stimulative conditions announced contingencies or contexts with aversive functions for her, she would “get ill”, suffering from dizziness, vomiting, pains... These symptoms were interpreted as a function of impure tacts with mand function. (That is to say, now for her, “being ill” was a discriminatory condition of the relief and of the consequential functions of positive reinforcement in the shape of care and attention. It also functioned as negative reinforcement avoiding contingencies she regarded as unwanted and She justified to herself and others that she would avoid these contexts.

This functional relationship also deserved special attention because of the type 1 relevant behavior that was to be weakened. The therapist, with the aim of weakening or breaking it, made comments such as “Remember how good you felt after your nephew’s communion?” “I see that you almost never go to some places because you’re ill, you could not go even if you weren’t ill”... “we can also do things because we feel like it. Additionally, any explanation of a situation in which Julia, without “being ill” chose not to expose herself to a specific contingency was reinforced. In this way, more adaptive type 3 relevant behaviors were shaped.

During the ninth session, when asked if she had noted any progress and how she had noted it, she said that she felt much better, and that she supposed it was due to having relieved her feelings, by saying things for the first time. As Kohlenberg & Tsai (1995) maintain, describing improvement is a way of evoking type 3 behaviors. The therapist explained that expressing with clarity what she felt, what she wanted, would contribute to psychological well-being and that if she had done it this time, she could do it on other occasions outside the clinic. She was invited to evaluate the therapy and to say what she had liked most and least, both about the therapy and the therapist. Julia’s following comment stood out: “what I’ve liked most is that you’ve got to the point...what you’ve done is to scrutinize my problems one by one” (Rule 5)

She also reported that she hadn’t been to the hospital in a month. When asked if this was because she hadn’t had any crises she replied that not exactly, she had had a crisis or two, but that they seemed to bother her less and that she had understood that going to hospital didn’t solve anything (type 2 behavior). The therapist reinforced this new response of Julia and her new emotional perspective.

Final stage

This stage is composed of sessions 10-14, during which new clinically relevant behaviors appeared, some of which verified the modification of determinate functional relationships and were significant in the resolution of the case. The type 2 behaviors that had emerged previously were reinforced and Julia was prepared for the conclusion of the therapy.

At the tenth appointment Julia was satisfied to be able to report that “for the first time in a long time we’ve had a satisfactory sexual encounter and I didn’t get up later to be sick... I even slept really well...yes I thought about pregnancy but it didn’t do my head in like before, and I thought about you and some of the things you say...” Julia was establishing links between therapy and her day-to-day life.

She also said that at that time she felt good even though she wasn’t going to have her menstrual period. That appeared to be a mysterious response and as Kohlenberg & Tsai (1991) maintain, provided a signal to identify clinically relevant behaviors. The therapist asked her to clarify (Rules 1 and 2). Julia replied that before “falling ill with the depression”, she used to feel very irascible and emotionally feeble for the 2 or 3 days preceding her menstrual period, and since her condition got worse, these days were the best of the month, as contradictory as that may seem. Asked about this, she said “that hasn’t happened this month, in fact, I’ve been as angry as I ever was before I got ill”. That is to say that for Julia, the biological and/or hormonal changes associated with

menstruation had been a discriminative condition of reinforcement contingencies, particularly negative ones as they meant she wasn't pregnant.

What Julia was saying at this time was that for her, these biological changes no longer had the same function of relief, possibly because in effect? there was nothing to relieve. This was another improvement (type 2 and 3 behavior) now that she was explaining and developing links between the real controlling variables. The therapeutic answer to all this, as well as reinforcing all that it had meant, included relating how well she was feeling to the new responses that she was making in situations she would have previously avoided. She was also encouraged to relate these consequential functions of positive reinforcement if she were to behave in similar ways in other areas of her daily life. She was told: "...maybe if you acted the same way in other situations you'd feel as good". Once again comparisons were being made between aspects of Julia's life and what happens in a clinical context (Rule 5).

In the eleventh session, Julia said that she felt very good, "too good", "and that scares me, a lot". This is a very significant type 1 behavior, in that it showed that, as Pérez Alvarez (1996 a) states, that for Julia "feeling good" meant a discriminative condition of punishment or aversive contingencies. She said things such as her husband was expecting more and more of her, that he let her take the bus alone, that he didn't seem to help her as much as before, and that her relatives, seeing her much better, thought that she was now cured, and paid her less attention and were harsher with her. She added that "now I know I'm not mad because you've told me so in many ways... but now I don't know what to think because very strange things happen to me". She also said: "I feel like something bad were going to happen... it's difficult to understand and maybe you think that I'm conning you but... I understand myself".)

Julia said that she felt very confused from feeling such contradictory things. The therapeutic answer to this type 1 behavior was to shape and explain that these feelings were normal, not at all pathological, and that they were fitting with her history. She was asked to compare them with her earlier feelings. Julia said that she preferred to feel as she did now and said "what I feel now is laughable when compared with how I felt before, and if I got over that then, I'll get over this which isn't even comparable". This was taken as a type 2 behavior because Julia was showing herself to be ready to accept this feeling defined by her "as if something bad was going to happen to me" without trying to eliminate it, and what seemed of greater importance (her explanation, type 3 behavior) on this occasion, did not appear to be serving an experiential avoidant function.

In the twelfth session, without being asked, Julia volunteered the following: "the feelings I told you about appear sometimes, but they don't bother me as much and I've done what I've wanted to do, I've even used the lift in my sister's apartment block, admittedly it's on the first floor, but every little counts" The therapist replied "You don't say! After you had such a bad time when you got trapped!", he reinforced this type 2 behavior, trying, as always, to do it naturally. Julia replied "I knew you'd be really happy..." We believe that forecasting the therapist's behavior is an improvement in itself. At this point, a review was taken of her achievements: she'd travelled by bus and would do so again if it were necessary and she'd taken an elevator for the first time in a long time and would do it again. She had had satisfactory sexual relations, she was eating more, sleeping better, she said that she was feeling much calmer, she felt neither sick nor faint, "I'm breathing much better and I've hardly had palpitations or that thing in my stomach for a long time", and "I don't go to hospital anymore because I'm not so scared of what I feel, perhaps because I see myself so much stronger.

She was next asked to specify in which other aspects she thought intervention could make her psychological well-being more complete. She said that she supposed there would be more things, but she saw herself as having the strength to deal with them on her own "although I don't want to stop coming to the clinic just like that". A follow-up appointment was made with Julia for three weeks later. In this thirteenth appointment the maintenance of her achievements was confirmed. She was asked to describe the possible reasons behind her improvement, appealing to the therapeutic value and

importance of exposing oneself to the contingencies which are feared as a fundamental part of the recovery process.

In this context, after a certain amount of hesitation, Julia said “I want to tell you something, but it’s really hard...” The therapist said “don’t tell me if you don’t want to... it’s not a problem if you don’t tell me now...” Julia then revealed that she had been subjected to sexual abuse by a direct family member as a child. She added that she didn’t think it had affected her much because it had happened very few times when she had been very young, and perhaps because of that, she hardly thought of it but she wanted to mention it to find out the therapist’s opinion. He thanked her for the trust she had shown in him and reinforced her having confided, despite the shame she had felt, that she had expressed herself clearly and hadn’t avoided her emotional responses.

The fourteenth and last session took place a month later. To begin, the maintenance of Julia’s achievements and related aspects were again discussed. However, for a large proportion of the time, current events were discussed. The therapist noted this with satisfaction. Julia said “now I know myself much better, and as you can see I am no longer unable to talk only of myself and my problems”. She herself proposed that they didn’t make another appointment if the therapist was in agreement, but asked if she would be able to return to the clinic if the situation worsened. This proposal was reinforced and she was told yes.

In the follow-up by telephone 6 months later and again after 18 months, Julia confirmed that everything was going well, that she was 5 1/2 months pregnant and although that fact sometimes caused her some anxiety, she said “it’s different because it doesn’t make me suffer”. She added that she was still taking lifts if it was necessary although “I don’t particularly enjoy it” and also said that she took the bus if she had to without it causing her any problem, even when it was raining.

Results and conclusions

In view of the results obtained, it can be said that functional analytic psychotherapy apparently was useful in the treatment of a client displaying panic disorder without agoraphobia. The functional analysis carried out and the selection of relevant behaviors were also accurate. The results were maintained for a period longer than a year and a half, as confirmed by telephone calls during the follow-up. Furthermore, Julia reported being 5 months pregnant, one of the avoidance behaviors that were propagating her problem. From this and other signs, it was evidence that Julia had adjusted herself to the values and the changes suggested during therapy.

Functional analytic psychotherapy as a theoretical framework from which to operate is based on a particularly thoughtful client-therapist relationship. It is necessary to develop in the therapist a repertoire of observing, identifying and evoking the occurrence of clinically relevant behaviors, The therapeutic response must also include the establishment of functional relationships between the clinical context and daily life. As proposed by Kohlenberg & Tsai (1995), the intervention was divided into three stages.

The authors maintain that in the first stage, by definition the frequency of type 1 behaviors is very high, as in this case. In this period, a genuine and trusting therapeutic relationship was developed, the functional analysis was carried out and clinically relevant behaviors were selected. Through the functional analysis, the individual history was described in relation to her avoidance pattern (Luciano, 2001), that permitted sensitivity to the avoidance behaviors that were to appear in later sessions. In the initial and intermediate stages, type 1 behaviors appeared in the shape of manipulative pleas, complaints etc. with high frequency. The therapist’s elimination of these manipulative requests and complaints was effective. We believe that certain therapy sessions produced a change in Julia’s psychological growth. In the fifth session, a functional equivalent was established between the way a friend solved her problems, and the situation being lived out by Julia, making her aware of how she might solve her problems with the therapist’s shaping. It is fitting to highlight the way in which the therapist shaped and exposed what Julia was actually hiding: the

avoidance of the sixth therapy session and the subsequent intervention, the way that her true fears at having had unprotected sexual relations appeared, or the way that she describes her fear of becoming pregnant for the first time.

We consider it to be particularly important that her fear of pregnancy was evoked and identified. Julia initially failed to mention the topic possibly because she herself didn't know the importance of this subtle source of control in the maintenance of her anguish. Given the clarity with which the etiological variables were identified, the anguish could have been understood to be a respondent without any mistake whatsoever. However, the emotion could also be understood to be a repeated reaction to attempt some change, achieving or avoiding something (Pérez Alvarez, 1996b). The relief she felt at seeing she wasn't pregnant turned out to be a source of control equally as powerful as the traumatic events she had been exposed to, contributing greatly to the anguish experienced by Julia. From the eighth session, Julia's complaints of illness as a disguised mand began to be extinguished and key rules were shaped for her continued therapeutic progress, such as the fact that it is possible to be distressed and get pregnant, just as it to be calm and not become pregnant. From the ninth session evaluation of her improvements began.

The multiple causes of her behavior were taken into account, something confirmed on establishing Julia's improvement following the identification and treatment of the implicated functional equivalents. The flexibility and constant self-evaluation that characterize this style of psychotherapy allowed the addition of new elements to the case. As indicated by Follete, Naugle, & Linneroth (2000), functional analysis is repetitive and self-correcting with pertinent corrections being made in proportion to whether the results are or are not desirable. Perhaps with a structured treatment package of traditional use, this would not have been possible.

In the final stage, type 2 behaviors became gradually more frequent and Julia's explanations of her problems became more functional. Different moments were important in the verification of her recovery. Two of that moments were when she describes the change in function of her menstrual period, and when she talks of having mixed feelings at having felt better for a time and shows herself willing to accept those feelings. Paying attention to this functional relationship and making it a therapeutic objective contributed to the final resolution of the case.

In the thirteenth session, she described sexual abuse from her childhood that wasn't treated as important either by her or by the therapist, but that she described as a sign of recovery. Describing things that had previously gone unmentioned, things which she would probably not tell anyone else, as stated by Kohlenberg and Tsai (1995) are a sign of recovery, and in this case, of change. In that session, Julia describes her achievements and improvements and shows signs of her increasing self-awareness through therapy.

The plurality of problem behaviors that clients show makes it simple to choose a category that contains problem behaviors identified by the psychologist in a given client. However, this plurality means that the choosing of category can be, at the same time, complicated in that none of the proposals would fit the case. That is to say, with reference to this case, according to the problem behavior we chose to highlight, another diagnosis could have been made and situated in another of the categories given by the *DSM-IV*. Noting formal or topographic criteria would not be a mistake either. Should the chosen treatment have been changed? However, two people with identical diagnoses can show different behavior patterns, in the same way that the benefit to each of them can vary considerably. This fact, despite being paradoxical and a criticism of traditional diagnostic systems, represents no contradiction whatsoever for this psychotherapy in which work is focused on functional types of response, not on isolated topographical responses. Julia's avoidance responses were varied, thus the importance of Rule 1, that of being sensitive to Julia's behaviors.

We consider this psychotherapy to be as much a way of working, as a way of practicing psychotherapy in itself. In the sense that it can be used by applying its rules and fundamental characteristics to other ways of practicing psychotherapy such for instance, acceptance and

commitment therapy (ACT), as in the examples of Dougher and Hackbert (1994) and Paul, Marx ,and Orsillo (1999).

We believe the use of questions in the comparison of events in and out of the clinic to be a very effective way of achieving improvements, because it helps clients to establish more appropriate rules about what has really happened and in identifying the controlling variables of the problems. The shaping of Julia's explanations and the therapist's own explanations referring to the problems encourage self-awareness that is, in itself, an objective of this psychotherapy. Furthermore, as has already been stated, the behavioral function of asking for help that the client brings to the clinic can show us the way in which they tend to face their problems, in this case by generating other problems in order to hide the real ones.

We agree with B. Kohlenberg (2000) when he describes the quality of the alliance or relationship between client and therapist as being a very important predictor of the results of intervention. This is something that Skinner (1953) had already realised. We feel that it is necessary to open lines of research in the study of therapeutic relationships and their role in shaping and natural reinforcement, that we believe to be important.

The importance of this study is rooted in the fact that it is one of the few complete descriptions of this psychotherapy. Other authors have described its effectiveness in different disturbances such as depression (Kohlenberg & Tsai,1994) (Bolling, Kohlenberg and Parker, 1999), personality disorders (Koerner, Kohlenberg, & Parker, 1996) in cases of sexual abuse (Kohlenberg & Tsai, 1998), and even in instances of anxiety disorders (Kohlenberg & Tsai ,1995). However, the only application to give a complete description is Ferro, Valero and Vives (2000). We believe it to be necessary to follow this path, describing the interventions carried out in different types of disturbance in order to see the differences and also the different working styles of differing therapists. A subsequent step would then be to compare its effectiveness with other therapies.

The authors accept that the study has limitations in terms of methodology which could have been resolved by taking different measures during treatment. For example, the use of questionnaires such as: Acceptance and Action Questionnaire (AAQ) and/or Beck Anxiety Inventory (BAI).

Despite of these limitations, from the point of view of the authors this work shows us an example of how to carry out treatment from beginning to end from FAP, with examples of CRB interaction and of the Rules in a case of Panic Disorder. Unfortunately there are very few case studies under this therapy and this is one of the points that this case study has to offer.

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Acknowledgment

Based on an article originally published in Spanish in *Análisis y Modificación de Conducta* (2002),28, 120, 553-583. We thank the editors and publisher of this journal for permission to publish this English translation.

Author Contact Information

Miguel Ángel López Bermúdez
Centro de Psicología y Logopedia
Plaza General Castaños, 12, 4º D.
Bailen. 23710-Jaen. (Spain).
Tel: +34 953 675027
E-mail: miquelop@cop.es

Rafael Ferro García
Centro de Psicología C.E.D.I.
Granada. Spain.

Manuel Calvillo
Centro de Psicología y Logopedia
Bailén. Jaén. Spain

Experimental Evaluation of Behavioral Activation Treatment of Anxiety (BATA) in Three Older Adults

Jarrold.S.Turner & David.J.Leach

Abstract

This report describes three single-case experimental evaluations of Behavioral Activation Treatment of Anxiety (BATA) applied with a 51-year-old male, a 62-year-old female, and a 53-year-old female, each of whom met DSM-IV criteria for anxiety. Each case was a clinical replication of an initial trial of BATA reported in Turner and Leach (2009). Treatment was delivered in twelve weekly 60-minute individual sessions and evaluated using an A-B-C phase change with repeated measurement design. Decreased scores in self-reported anxiety were obtained in each case and the improvements were maintained during a 3-month no treatment maintenance phase. Compared to baseline, each participant also recorded increases in activity levels in some key life areas during the treatment phase. These preliminary findings suggest that increased activation in functionally positive areas is associated with reported decreases in anxiety and that BATA could be an effective stand-alone treatment for anxiety in adults.

Keywords: behavioral activation (BA), anxiety, third-wave, single-case, time-series

Introduction

Behavioral Activation Treatment (BA) involves systematic and structured attempts to increase the level of meaningful activity in a person's everyday life, thereby helping clients to contact sources of positive reinforcement for behaviors that correspond with clinical improvements (Jacobson, Martell, & Dimidjian, 2001). BA has been classed as one of the 'new' or 'third-wave' behavior therapies alongside others, including Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 1999) and Functional Analytic Psychotherapy (FAP; Kohlenberg & Tsai, 1991) (Hayes, 2004). The third-wave therapies have a common emphasis on the application of principles of operant psychology including positive and negative reinforcement. Philosophically, they are grounded in radical behaviorism (Chiesa, 1994; Skinner, 1953). There are two current accounts of BA, Brief Behavioral Activation Treatment for Depression (BATD; Lejuez, Hopko, & Hopko, 2001) and Behavioral Activation (BA; Martell, Addis, & Jacobson, 2001) that are commonly applied in clinical settings.

BA has received strong empirical support as a stand-alone treatment for depression (Mazzucchelli, Kane, & Rees, 2009; Sturme, 2009). In their seminal study, Jacobson and colleagues showed that the BA component of cognitive-behavior therapy (CBT) was as effective in the treatment of depression as a full CBT package (Jacobson, Dobson, Truax, Addis, Koerner, et al., 1996). A more recent replication of the Jacobson et al. study showed again that BA was as effective as CBT in the treatment of depression, and that it was actually more effective than CBT for participants who were rated as being more 'severely depressed' (Dimidjian, Hollon, Dobson, Schmalzing, Kohlenberg, et al., 2006). Importantly, these findings have suggested that targeting overt behavior change alone was sufficient to produce corresponding improvements in covert correlates of depression (i.e., thinking and feeling).

The function of escape and avoidance behavior has been emphasised in recent behavioral models of depression (Kanter, Cautilli, Busch, & Baruch, 2005). In these models, depressed individuals show a class of responses defined by common functions of escape and avoidance. Depressed individuals tend to substitute behaviors that provide immediate relief for behaviors that might cause some short-term discomfort but can prove to be clinically helpful in the longer term. For example, avoiding contact with the social community by staying in bed all day can function to avoid exposure to situations that elicit aversive thoughts and feelings in the individual. The Matching Law (Hernstein, 1961) suggests that

response allocation (i.e. either avoidant or approach behavior) is a function of the relative reinforcement associated with each class of responses. Thus, concurrent schedules of negative reinforcement of avoidant behavior and decreased positive reinforcement of approach behavior maintain depression. BA is an effective treatment for reported depression because it leads to decreases in avoidance behavior as well as increases in approach behavior. Such changes lead to a higher probability of expanding behavioural repertoires maintained by response-contingent positive reinforcement, such that depressed individuals engage in more activities that have anti-depressant effects (Dimidjian, Martell, Addis, & Herman-Dunn, 2008).

Anxiety shares functional similarities with depression because (anxious) individuals who report high levels of anxiety respond to a relatively high frequency of negative reinforcement where avoidance behavior is commonplace (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). Avoidance is a key feature of the diagnostic criteria for an anxiety-related disorder (American Psychiatric Association (APA), 2000). Anxiety is a common mental health problem in Western societies with a lifetime prevalence rate of nearly 30% in the United States (Kessler, Berglund, Demler, Jin, Merikangas, et al., 2005) and a 12-month prevalence rate of nearly 20% or approximately 40 million adults (Kessler, Chiu, Demler, & Walters, 2005). Along with the human cost this represents an economic burden in excess of \$40 billion annually in the US alone, 85% of which is the cost of psychiatric and non-psychiatric medical treatment (Greenberg, Sistsky, Kessler, Finkelstein, Berndt, et al., 1999). Contemporary psychological treatments for anxiety require further development because clinically significant outcomes are not achieved in 20% to 80% of the clinical population who receive CBT and other empirically supported, established treatments (Barlow, 2002).

BA alone may be as effective in treating anxious behaviours as in the treatment of depressive behaviours. Increased access to response-contingent positive reinforcement for approach behavior with concurrent decreases in negative reinforcement for avoidance behavior could lead to greater engagement in activities that have anxiolytic functions, with a gradual extinction of anxious responses. Increased approach behavior may also result in behavioral cusps that are defined by Rosales-Ruiz and Baer (1997, p.534) as “behavior change that has consequences for the organism beyond the change itself, some of which may be considered important”. However, despite the functional similarities with depression, BA treatment has rarely been applied with participants reporting predominately anxiety symptoms. Also, in prior investigations of BA treatment of anxiety, there has been a tendency to confound traditional BA models as described by Jacobson et al. (1996) with the use of adjunctive technologies, such as gradual exposure and relaxation training (e.g., Hopko, Lejuez, & Hopko, 2004; Hopko, Roberstson, & Lejuez, 2006). Further, as far as can be ascertained, no study applying BA to either anxiety or depression has yet to include a measure of real-time activity levels even though increased activation is the primary aim of BA treatment.

This study investigated the effectiveness of behavioral activation treatment of anxiety (BATA) within a series of three older adults reporting clinical anxiety using single-case experimental designs. The BA approach utilised was pared down for research purposes to the essential elements of BA. The elements selected were those common to the main contemporary BA models for depression (e.g., BA, BATD) and supported by principles of operant psychology. All adjunctive treatment elements such as relaxation training and cognitive rehearsal were excluded. A core question asked was whether increased activation in important life areas was associated with self-reports of decreased anxiety over time. The research also aimed to address several limitations within the extant BA literature. For example, participants were included in the study if they met the DSM-IV criteria for an anxiety disorder but excluded if there were signs of co-morbidity (e.g., depression). Single-case experimental methodology was used including the establishment of adequate baselines before beginning treatment, using measures of real-time activity levels, and including measures of treatment fidelity from a random sample of 33.3% of all treatment sessions conducted for each participant. Treatment integrity is considered essential to the valid

interpretation of results from psychotherapy research (Waltz, Addis, Koerner, & Jacobson, 1993), yet is often poorly established (Perepletchikova, Treat, & Kazdin, 2007). Each case in this study is a replication of a previously-reported controlled clinical trial of BATA applied to a 64-year-old male (Turner & Leach, 2009).

Method

Participants

The three participants were recruited from the local community via an advertisement in a community newspaper asking for “anxiety sufferers” who would be interested in being involved in a study investigating a new treatment for anxiety. They completed a comprehensive intake assessment and were deemed eligible for participation due to having met the criteria for an anxiety-related disorder without meeting criteria for other Axis I disorders, according to the DSM-IV (APA, 2000). Diagnosis was confirmed using the clinical standards from the Structured Clinical Interview for the DSM-IV Axis I Disorders (SCID-I; First, Spitzer, Gibbon, & Williams., 1997).

Experimental Design

A single-case within-subject experimental (A/B/C) design was used for evaluating treatment effects on the reported anxiety levels of each participant. The A phase was baseline; B phase was treatment; and C phase was maintenance/follow-up. Standardised repeated measures of anxiety were collected during each phase and the participants were required to self-monitor their anxiety-related behaviours daily. They were not required to self-monitor during phase C to control for the potential therapeutic effects of self-monitoring alone (Barlow, Hayes, & Nelson, 1984).

Procedure

Potential participants who responded via telephone to the community newspaper advertisement were scheduled to complete the individual intake assessment. This assessment was conducted by the first author who was in his second year of Post-graduate training in Clinical Psychology. Initially, potential participants were provided with an information letter describing the features of the study and were given the opportunity to ask questions or state any concerns. Once formal consent was obtained the SCID-I (First, et al., 1997) was administered along with the Beck Anxiety Inventory (BAI; Beck & Steer, 1990) and the short version of the Depression Anxiety Stress Scales (DASS-21; Lovibond & Lovibond, 1995). If participants met DSM-IV criteria for an anxiety-related disorder, without also meeting criteria for other Axis I disorders, they were included in the study. They were provided with materials and instructions for self-monitoring and were required to return on-site for appointments at the University Psychology Clinic at weekly intervals for approximately 15 to 20 mins in order to submit their self-monitoring diaries and complete the BAI and the DASS-21 until the commencement of treatment.

Phase A: Baseline

During baseline, each participant was required to complete daily self-monitoring of anxiety and activity levels using diaries developed for this study. The participants were required to return on-site weekly to submit monitoring forms and receive new forms. Also, at each weekly meeting, participants were administered the BAI and the DASS-21. Each meeting was of approximately 15 to 20 mins duration. No treatment was conducted during these weekly meetings and any discussion was perfunctory and limited to the procedural concerns of accurate assessments and self-monitoring. The duration of the baseline phase A varied across participants and was determined by the length of time required to adequately establish stability in the obtained self-monitoring data using times-series analysis procedures implementing the treatment phase (Tryon, 1982). Participants’ baseline duration ranged from 28 to 38 days.

Phase B: Treatment

The duration of phase B was 84 days for all three participants. The treatment was termed ‘Behavioural Activation Treatment of Anxiety’ (BATA) and combined what were understood to be the

essential, common principle-based elements of contemporary behavioral activation (BA; Martell, et al., 2001) and brief behavioral activation treatment for depression (BATD; Lejuez, et al., 2001). Each participant received the same treatment as set out in the BATA protocol developed by the authors for use in the present study (available by request).

Treatment consisted of twelve weekly 60-min individual sessions. All treatment sessions with each participant were audio-recorded using a Digitech™ Digital Voice Recorder. One-third of the recordings of each participant's treatment sessions were randomly selected and independently rated for treatment integrity by the first and second author using a coded-interval recording sheet which included categories of therapist verbal-behaviors that were both compatible and incompatible with the specific treatment modality (Appendix A). Using partial-interval time-sampling, the listener was required to code the therapist's verbal behaviors for each 20 second interval for the whole session (Appendix B). Treatment was delivered by the first author on-site at Murdoch University in a standard-size, regularly furnished consulting room.

Treatment Description

The aim of BATA was to increase the amount of approach-oriented, socially important behaviors in the participant's daily life while decreasing the frequency of habitual avoidance behaviours. This was achieved by helping participants bring their overt behaviors more under the control of life goals and related scheduled daily-activities. BATA was delivered in an individual format over twelve 60 min weekly sessions. Throughout the treatment sessions the participants were given ongoing education about the function of their clinically-relevant behaviors and were shown how to conduct a standard functional (ABC) assessment of their anxiety-related behaviors. The key components of BATA were self-monitoring, psycho-education, functional assessment, goal-setting, activity planning and scheduling, activity reviews, and collaborative problem solving using a behavioral framework.

Phase C: Maintenance

The duration of phase C for each participant was 84 days (3 months) and the phase commenced immediately after the completion of the treatment phase B. This phase technically was not a return to baseline due to participants having not been required to complete formal self-monitoring. The aim was to observe participant behaviour independent of the structural variables inherent in the earlier baseline and treatment phases. During maintenance, participants were only required to return on-site for approximately 15 to 20 mins at 1 week, 2 weeks, 4 weeks, 8 weeks, and 12 weeks only for individual administration of the BAI and the DASS-21.

Measurement

A variety of measures were used in this study. The dependent variables were self-reported anxiety, and stress. In addition, self-monitoring was used to measure daily activity levels.

Anxiety Measures

The *Beck Anxiety Inventory* (BAI; Beck & Steer, 1990) is a 21-item questionnaire designed to identify symptoms of anxiety and is one of the most widely used measures of anxiety in clinical practice and research. The BAI has strong, well-established psychometric properties and is highly correlated with other measures of anxiety (Antony, Orsillo, & Roemer, 2001). It has been used across a range of populations including older adult outpatients (Kabacoff, Segal, Hersen, & Van Hasselt, 1997) and has been shown to differentiate anxiety from depression in large community samples (Creamer, Foran, & Bell, 1995).

The *Depression Anxiety Stress Scale-21* (DASS-21; Lovibond & Lovibond, 1995) is a 21-item questionnaire consisting of three 7-item self-report scales that identify the level of symptoms of depression, anxiety and stress as occurred during the previous week and has strong psychometric properties (Henry & Crawford, 2005). The DASS Stress subscale has been shown to be especially useful

in differentiating people who meet criteria for generalised anxiety disorder (GAD) and correlates highly with other measures of GAD (Brown, O'Leary, & Barlow, 2001). The DASS Depression scale is highly correlated with the Beck Depression Inventory and the DASS Anxiety scale is highly correlated with the BAI (Lovibond & Lovibond, 1995).

The *Daily Anxiety Rating Scale* (DARS) is an unpublished daily self-monitoring instrument developed by the authors. It utilises a subjective rating scale (0 = no anxiety to 100 = extreme anxiety), with the participants rating anxiety intensity during six time periods - waking to 9.00, 9.00 to 12.00, 12.00 to 3.00, 3.00 to 6.00, 6.00 to 9.00, and 9.00 to bedtime. Scores for each time period were summed and divided by the number of recording periods (i.e., 6) to calculate a daily average.

Activity Measures.

The Behavior Self-Monitoring Diary (BSMD) was developed by the authors for this study. It is a daily diary for recording minutes of activity during three time periods (waking to 12.00, 12.00 to 6.00, 6.00 to bedtime) under four broad classes of overt behaviour: 1) self and other (e.g., pet) care, 2) housework and errands, 3) paid or volunteer work, and 4) interests, hobbies and recreation (e.g., reading, education, visiting friends). Participants were instructed to record the time spent on a particular activity to the nearest 15 minute interval. They were also asked to record whether the reported activity was conducted inside or outside of the home and whether they were alone or with others at the time.

Data Analyses

The data are presented in standard graphical form for single-case experimental research. With self-monitoring data a visual aid was provided by superimposing a horizontal middle line, based on the phase median, across the baseline and treatment phases. To further improve the accuracy of the visual analysis, no-count rates (i.e., 0-mins) were omitted from the graphical display (White & Haring, 1980) but remained within the statistical analysis. Adjunctive non-parametric techniques were used for statistical data analysis. Changes in treatment and follow-up BAI and DASS-21 scores from baseline were analysed using time-series analyses to identify any non-random variations (Tryon, 1982). Baseline scores in self-monitored data from the DARS and the BSMD were also assessed for non-random variations (i.e., trends).

Results

Case 1

'Frank' was a 51-year-old male reporting a history of chronic anxiety with repeating periods of abdominal discomfort, tightness in the throat area, hot flushes, sweating, rapid breathing, and intense worry occurring since adolescence. According to Frank, events in two broad contexts typically occasioned his anxiety. Firstly, there were situations requiring him to perform social activities including lecturing and meeting people for the first time, and everyday social situations such as using public transport and making retail purchases. Secondly, there were everyday events that required him to complete some type of chore, such as paying bills, vehicle refueling and house cleaning. In addition, he reported that he often engaged in worry about his relationships, work, his long-term life direction, and anxiety itself. At intake, Frank met DSM-IV (APA, 2000) criteria for Social Anxiety Disorder (SAD; generalised) and Generalised Anxiety Disorder (GAD). At intake, he scored 20 on the BAI (moderate; Beck & Steer, 1993), 9 on the DASS-21 Depression scale (normal), 16 on the DASS-21 Anxiety scale (severe), and 24 on the DASS-21 Stress scale (moderate) (Lovibond & Lovibond, 1995).

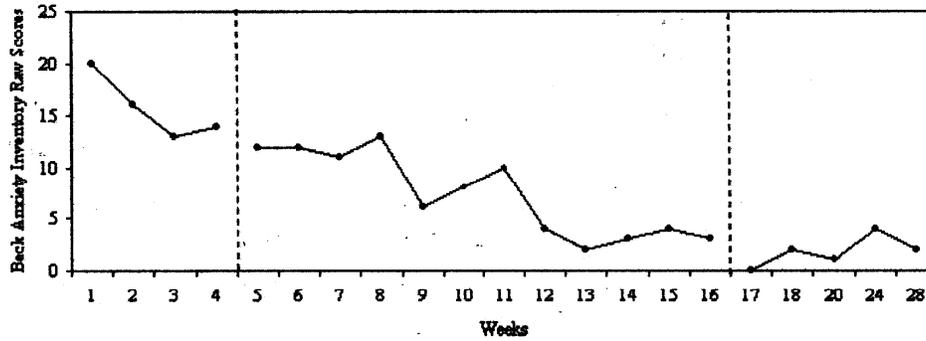


Figure 1: Case 1 BAI raw scores at baseline, treatment, and maintenance phases. Note: Scores below 7 = normal, 8-15 = mild, 16-25 = moderate, above 26 = severe.

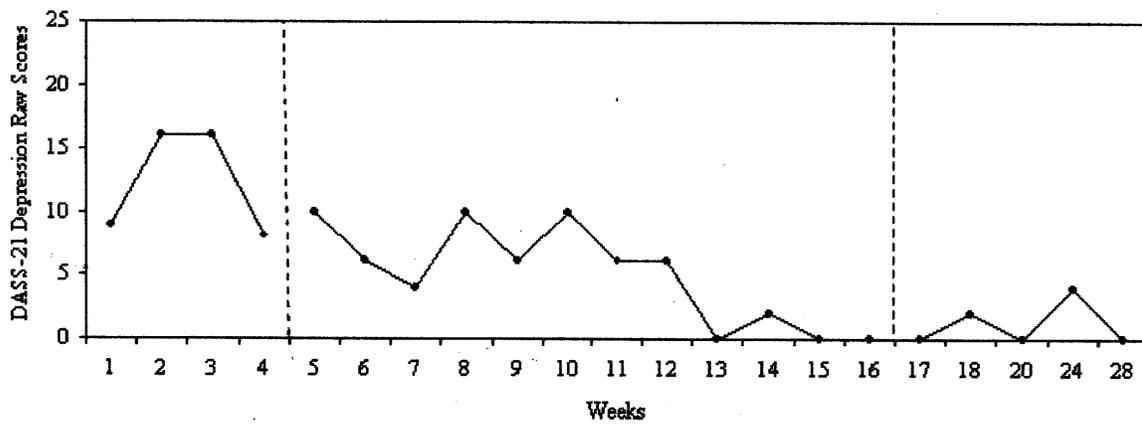


Figure 2: Case 1 DASS-21 Depression raw scores at baseline, treatment, and maintenance phases. Note: Scores below 9 = normal, 10-13 = mild, 14-20 = moderate, 21-27 = severe, above 28 = extremely severe.

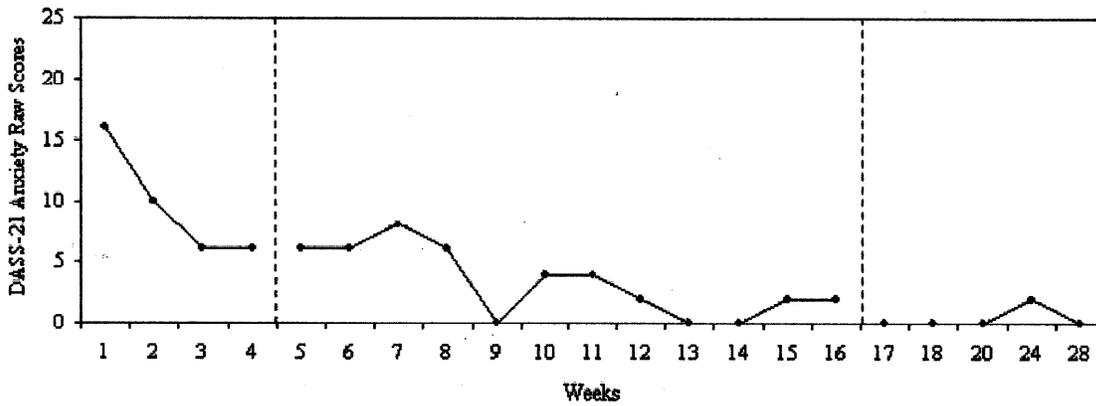


Figure 3: Case 1 DASS-21 Anxiety raw scores at baseline, treatment, and maintenance phases. Note: Scores below 7 = normal, 8-9 = mild, 10-14 = moderate, 15-19 = severe, above 20 = extremely severe.

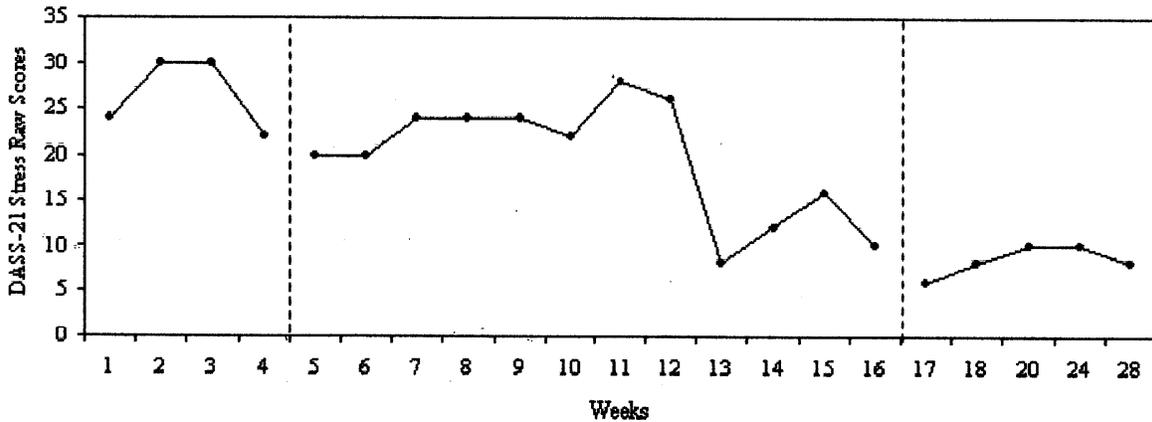


Figure 4: Case 1 DASS-21 Stress raw scores at baseline, treatment, and maintenance phases. Note: Scores below 14 = normal, 15-18 = mild, 19-25 = moderate, 26-33 = severe, above 34 = extremely severe.

Frank’s BAI scores are presented in Figure 1. Analysis of Frank’s combined BAI raw scores through the treatment and maintenance phases revealed evidence of a downward trend within the data, $Z = 3.43, p < .001$. Figures 2, 3 and 4 show DASS-21 scores through all phases. Analysis of Frank’s combined DASS-21 raw scores through the treatment and maintenance phases confirmed the presence of a downward trend within Depression scores, $Z = 2.57, p < .01$, Anxiety scores, $Z = 2.79, p < .01$, and Stress scores, $Z = 3.23, p < .001$.

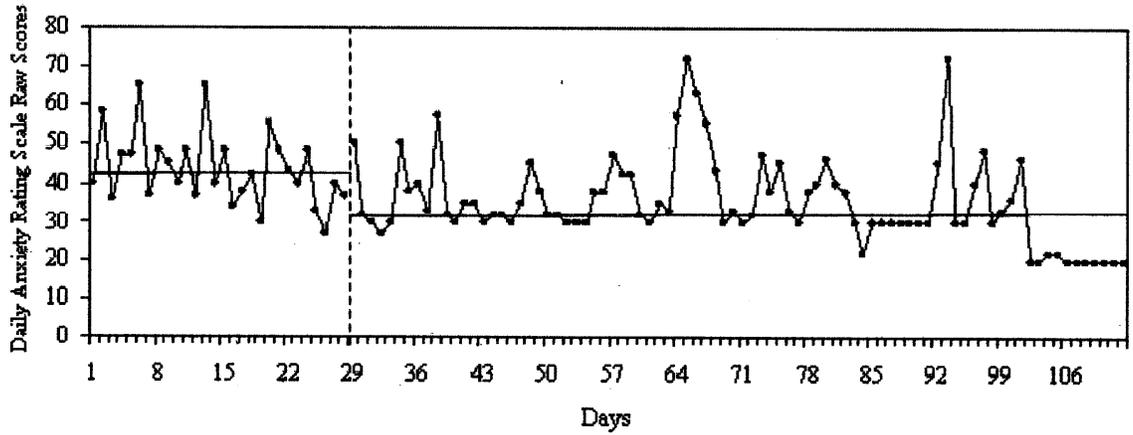


Figure 5: Case 1 Daily Anxiety Rating Scale (DARS) scores across baseline and treatment phases.

Frank’s DARS scores are presented in Figure 5. Analysis of the baseline phase revealed an absence of a significant trend within the data, $Z = 0.68, p > .05$. However, compared to baseline, there was a mean daily decrease during treatment in daily self-monitored anxiety of 8 points (18% decrease).

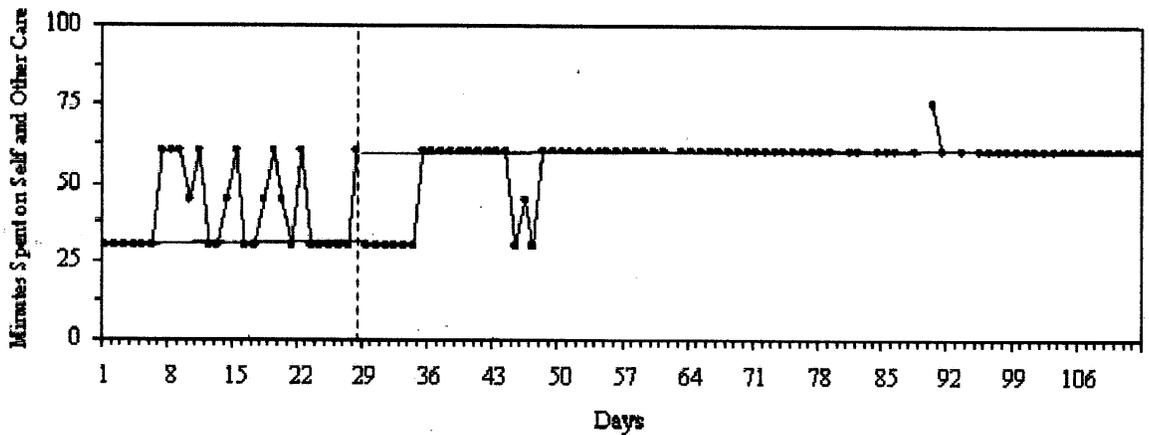


Figure.6: Case 1 Minutes spent per day on Self- and Other-Care across baseline and treatment phases.

Frank’s Self- and Other-Care data across baseline and treatment phases are presented in Figure 6. Analysis of the baseline phase revealed an absence of a significant trend within the data, $Z = 1.60, p > .05$. However, compared to baseline, there was a mean increase during the treatment phase in the amount of time Frank spent on self- and other-care of 11 minutes (27% increase) per day.

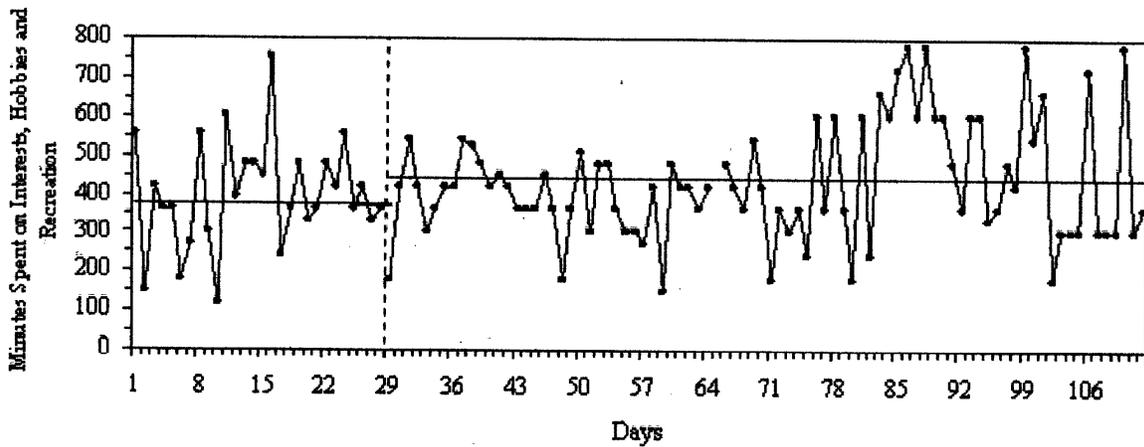


Figure 7: Case 1 Minutes spent per day on Interests, Hobbies, and Recreation across baseline and treatment phases.

Frank’s Interests, Hobbies, and Recreation data across baseline and treatment phases are presented in Figure 7. Analysis of the baseline phase revealed an absence of a significant trend within the data, $Z = 0.95, p > .05$. However, compared to baseline, there was a mean increase during the treatment phase in the amount of time Frank spent on interests, hobbies and recreation of 28 minutes (7% increase) per day.

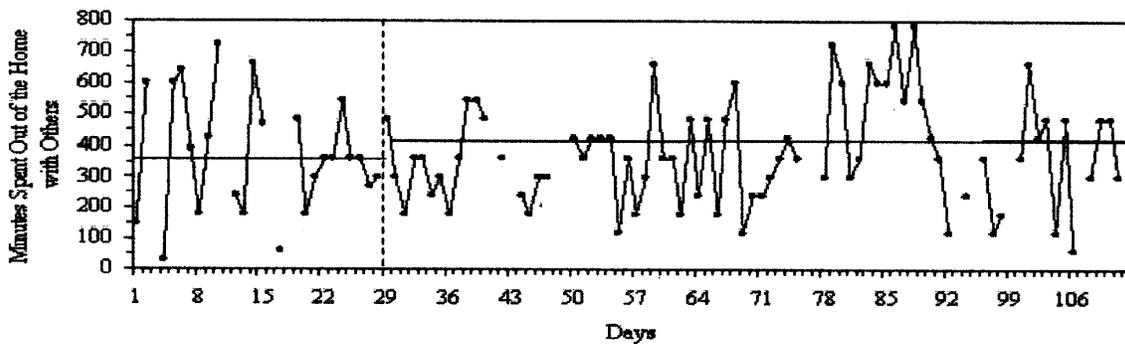


Figure 8: Case 1 Minutes spent per day Out of Home with Others across baseline and treatment phases.

Frank’s Out of the Home with Others data across phases are presented in Figure 9.11 (zero rates were omitted). Analysis of the baseline phase revealed an absence of a significant trend within the data, $Z = 0.01, p > .05$. However, compared to baseline, there was a mean increase during treatment in the amount of time Frank spent out of the home with others of 11 minutes (3.5% increase) per day.

All of Frank’s treatment sessions were audio-recorded and 33.3% ($n = 4$) of sessions were randomly selected and independently scored for treatment integrity. Inter-observer agreement on coded therapist verbal behaviors for all 20 sec intervals averaged 98.1% across scored sessions, with 94.5% of therapist in-session behaviour compatible and 5.5% incompatible with the treatment (BATA) protocol.

Case 2

“Mary” was a 62-year-old female who reported strong anxiety in relation to road- and vehicle - related activity. She stated that she had never driven independently, did not have a driving licence, had “always been nervous” when travelling in cars and buses, and experienced fear when walking adjacent to or crossing highly-populated roads and traffic intersections. According to Mary, on these occasions she would experience muscle tension, headache, dryness in the mouth, hot flushes, abdominal discomfort, and restlessness. She reported extensive patterns of self-talk characterised by the forecasting of potential life-threatening outcomes. She also reported more generalised aspects of anxiety, including ongoing and often uncontrollable concerns about finances, health, relationships, and her work. She often had night awakenings during sleep and complained of feelings of irritability and restlessness. She reported that she had been fearful of cars and car -travel since she was a child although she couldn’t explain why. In relation to her more generalised anxiety, she said that she began to experience more frequent and intense worry and stress subsequent to her migration to Australia three years prior to treatment. At intake, Mary met DSM-IV (APA, 2000) criteria for Specific Phobia (situational) and Generalised Anxiety Disorder (GAD). She scored 12 on the BAI (mild), 14 on the DASS-21 depression scale (moderate), 6 on the DASS-21 anxiety scale (normal), and 20 on the DASS-21 stress scale (moderate).

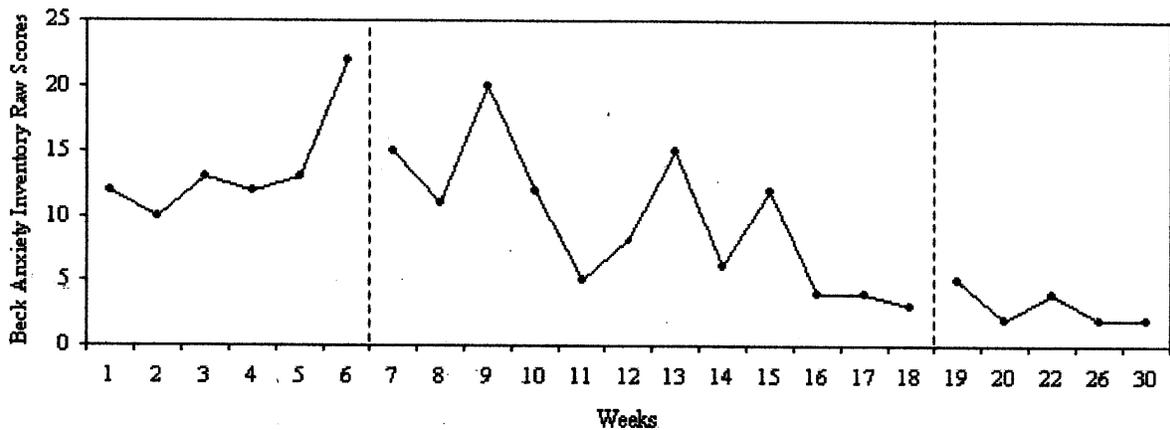


Figure 9: Case 2 BAI raw scores at baseline, treatment, and maintenance phases. Note: Scores below 7 = normal, 8-15 = mild, 16-25 = moderate, above 26 = severe.

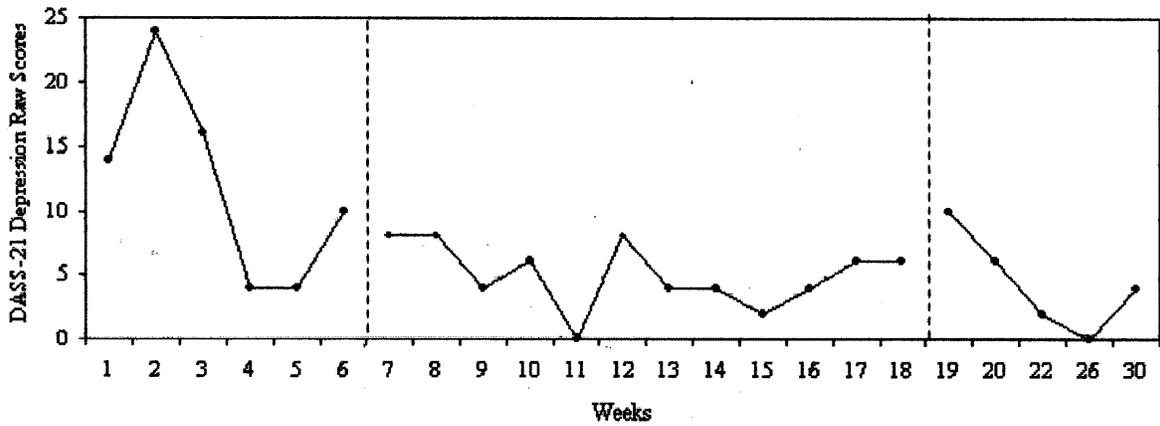


Figure 10: Case 2 DASS-21 Depression raw scores at baseline, treatment, and maintenance phases. Note: Scores below 9 = normal, 10-13 = mild, 14-20 = moderate, 21-27 = severe, above 28 = extremely severe.

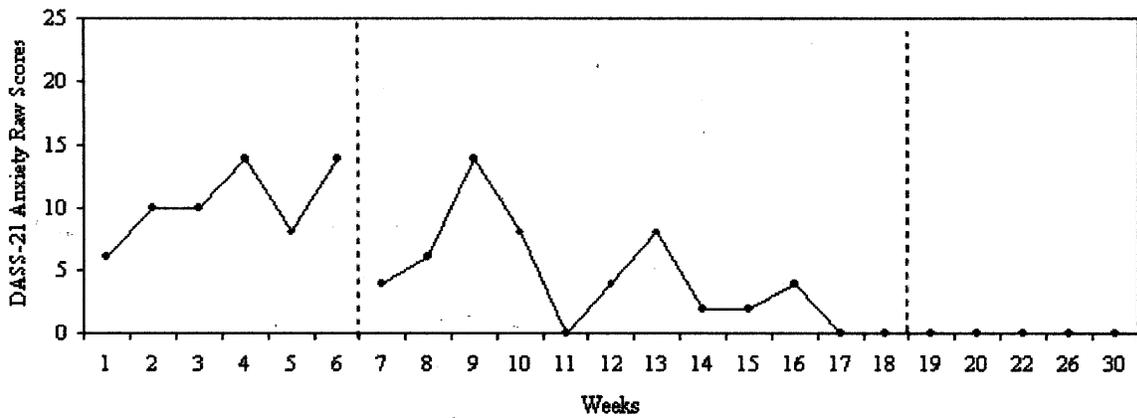


Figure 11: Case 2 DASS-21 Anxiety raw scores at baseline, treatment, and maintenance phases. Note: Scores below 7 = normal, 8-9 = mild, 10-14 = moderate, 15-19 = severe, above 20 = extremely severe.

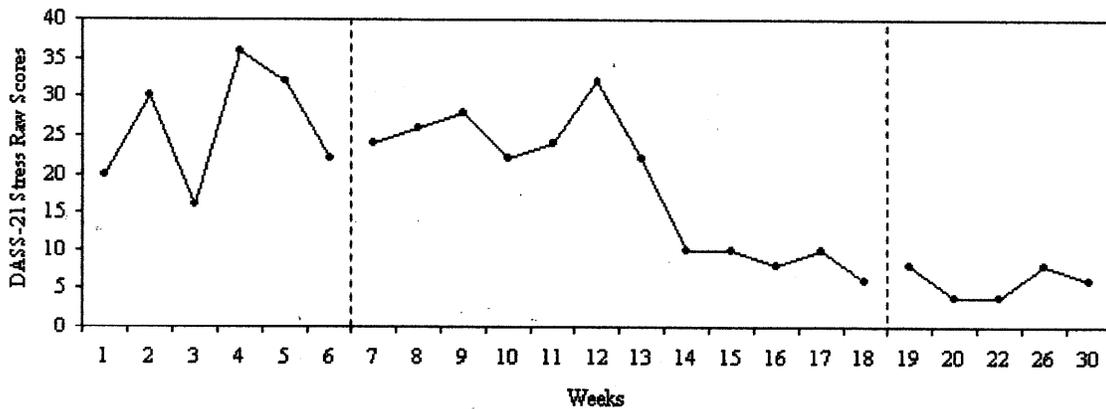


Figure 12: Case 2 DASS-21 Stress raw scores at baseline, treatment, and maintenance phases. Note: Scores below 14 = normal, 15-18 = mild, 19-25 = moderate, 26-33 = severe, above 34 = extremely severe.

Mary’s BAI scores are presented in Figure 9. Analysis of Mary’s combined BAI raw scores through the treatment and maintenance phases revealed evidence of a downward trend within the data, $Z = 2.25, p < .05$. Figures 10, 11 and 12 show DASS-21 scores through all phases. Analysis of Mary’s combined DASS-21 raw scores through the treatment and maintenance phases confirmed the presence of a downward trend within Anxiety scores, $Z = 2.19, p < .05$ and Stress scores, $Z = 3.75, p < .001$. There was no significant trend in Depression scores, $Z = 0.69, p > .05$.

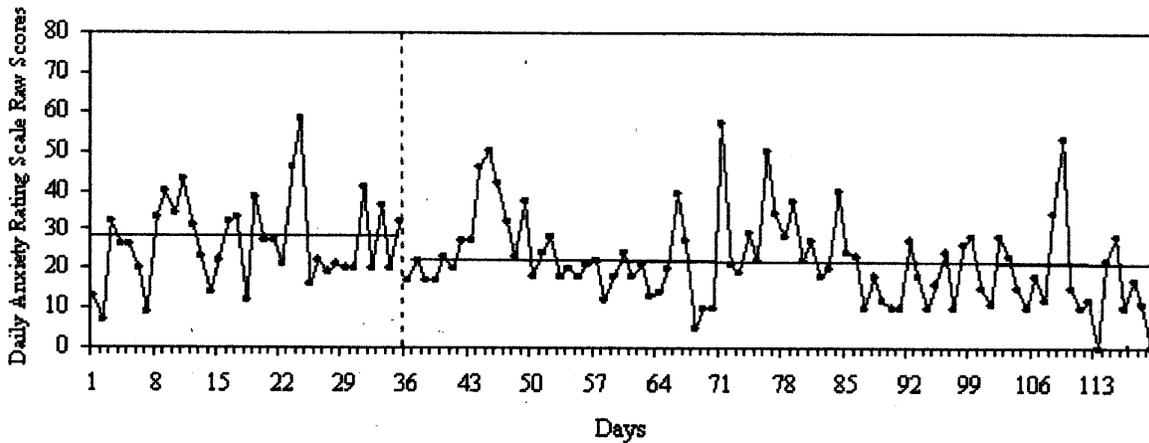


Figure 13: Case 2 Daily Anxiety Rating Scale (DARS) scores across baseline and treatment phases.

Mary’s DARS scores across phases are presented in Figure 13. Analysis of the baseline phase revealed no trend within the data, $Z = 0.004, p > .05$. Compared to baseline, there was a mean daily decrease during the treatment phase in self-monitored anxiety of 5 points (18.5% decrease).

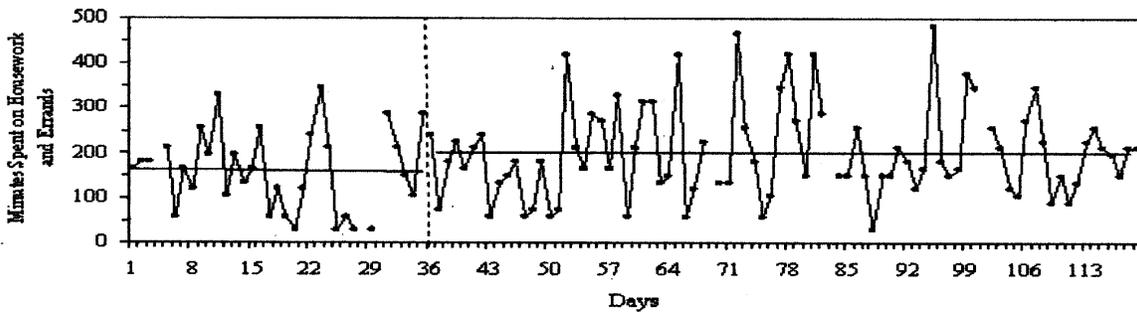


Figure 14: Case 2 Minutes spent per day on Housekeeping and Errands across baseline and treatment phases.

Mary’s Housekeeping and Errands data across baseline and treatment phases are presented in Figure 14 (zero rates were omitted). Analysis of the baseline phase revealed an absence of trend within the data, $Z = 1.46, p > .05$. Compared to baseline, there was a mean increase during the treatment phase in the amount of time Mary spent on housekeeping and errands of 48 minutes (33% increase) per day.

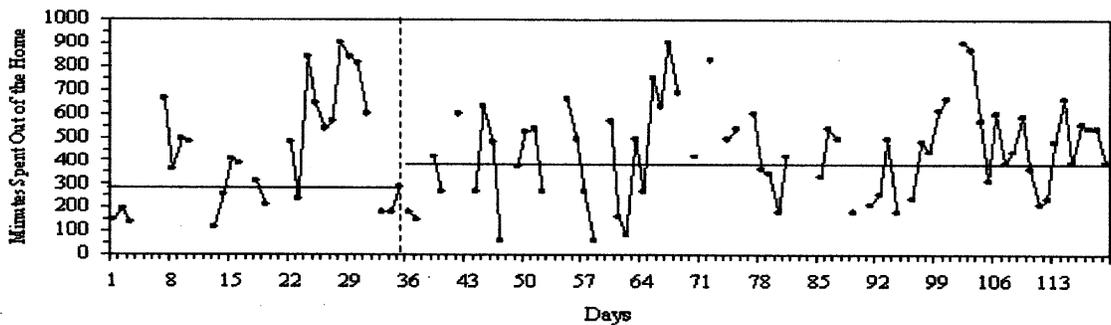


Figure 15: Case 2 Minutes spent per day Out of the Home across baseline and treatment phases.

Mary’s Out of the Home data across baseline and treatment phases are presented in Figure 15 (zero count-rates were omitted). Analysis of the baseline phase revealed instability within the data, $Z = 3.38, p < .001$. Compared to baseline, there was a mean increase during the treatment phase in the amount of time Mary spent out of the home of 25 minutes (7.8% increase) per day.

All of Mary’s treatment sessions were audio-recorded and 33.3% ($n = 4$) of sessions were randomly selected and independently scored for treatment integrity. Inter-observer agreement on coded

therapist verbal behaviors for all 20 sec intervals averaged 95.3 % across scored sessions, with 90.7 % of therapist in-session behaviour compatible and 9.3 % incompatible with the treatment protocol (BATA).

Case 3

“Stacey” was a 53-year-old female who reported having experienced such a large amount of stress and that her life had been “out of my control”. She said, “There’s too much going on in my head”, and “I feel anxious all the time”. She reported that her physical signs of anxiety included an accelerated heart-rate, “tingling” in her hands, light headedness, chest tightness, dryness in the mouth, difficulty swallowing, and muscle tension. She said that she often “found it hard to relax” and that she had experienced difficulty concentrating and remaining on-task for long lengths of time. She believed this was especially true when she was feeling anxious. Stacey reported that she had experienced episodes of brief and intense panic previously. She complained of past difficulties with self-management of her time and that she had been unable to be assertive with family, friends, and work colleagues. She reported that her feelings of anxiety would often be occasioned in everyday social situations in her workplace, and that in home, work and social settings she had engaged in worry behaviors that included ruminating and complaining to others about her finances, relationships, health, and work-situation. Stacey reported that her first experience of anxiety had occurred in young adulthood. She said she had “suffered for years” and that her condition had gradually worsened over time. At intake, Stacy met DSM-IV (APA, 2000) criteria for Generalised Anxiety Disorder (GAD) and she scored 13 on the BAI (mild), 0 on the DASS-21 Depression scale (normal), 4 on the DASS-21 Anxiety scale (normal), and 18 on the DASS-21 Stress scale (mild).

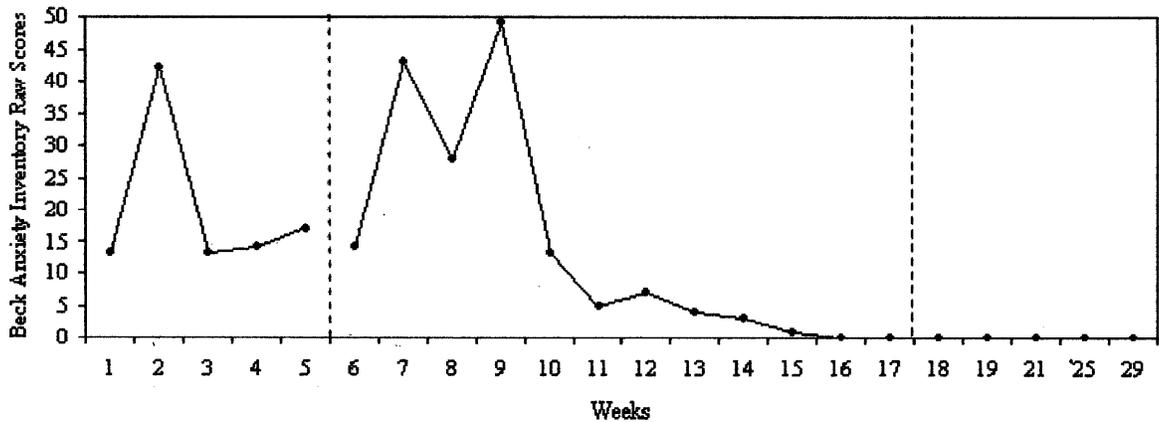


Figure 16: Case 3 BAI raw scores at baseline, treatment, and maintenance phases. Note: Scores below 7 = normal, 8-15 = mild, 16-25 = moderate, above 26 = severe.

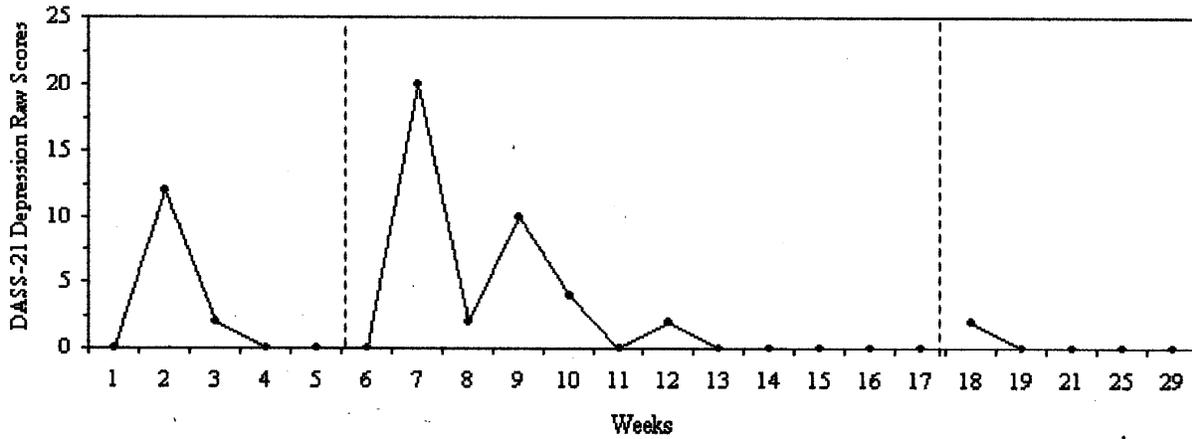


Figure 17: Case 3 DASS-21 Depression raw scores at baseline, treatment, and maintenance phases. Note: Scores below 9 = normal, 10-13 = mild, 14-20 = moderate, 21-27 = severe, above 28 = extremely severe.

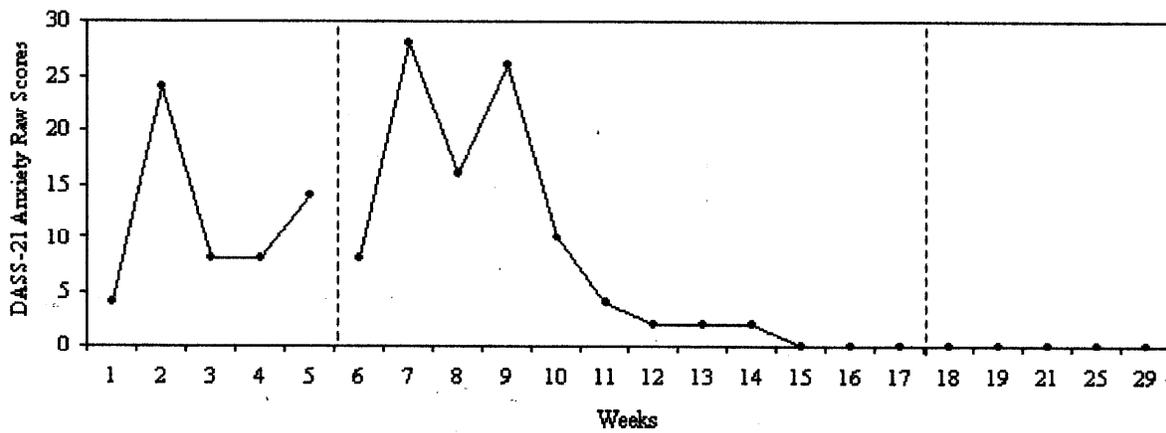


Figure 18: Case 3 DASS-21 Anxiety raw scores at baseline, treatment, and maintenance phases. Note: Scores below 7 = normal, 8-9 = mild, 10-14 = moderate, 15-19 = severe, above 20 = extremely severe.

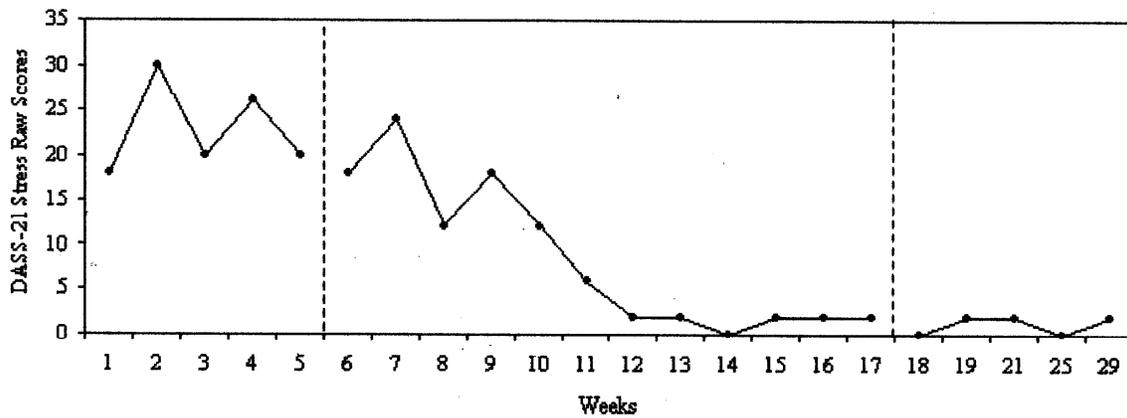


Figure 19: Case 3 DASS-21 Stress raw scores at baseline, treatment, and maintenance phases. Note: Scores below 14 = normal, 15-18 = mild, 19-25 = moderate, 26-33 = severe, above 34 = extremely severe.

Stacey’s BAI scores are presented in Figure 16. Analysis of Stacey’s combined BAI raw scores through the treatment and maintenance phases revealed evidence of a downward trend within the data, $Z = 2.74, p < .01$. Figures 17, 18 and 19 show DASS-21 scores through all phases. Analysis of Mary’s combined DASS-21 raw scores through the treatment and maintenance phases confirmed the presence of a downward trend within Anxiety scores, $Z = 2.84, p < .01$ and Stress scores, $Z = 3.59, p < .001$. There was no significant trend in Depression scores, $Z = 0.05, p > .05$.

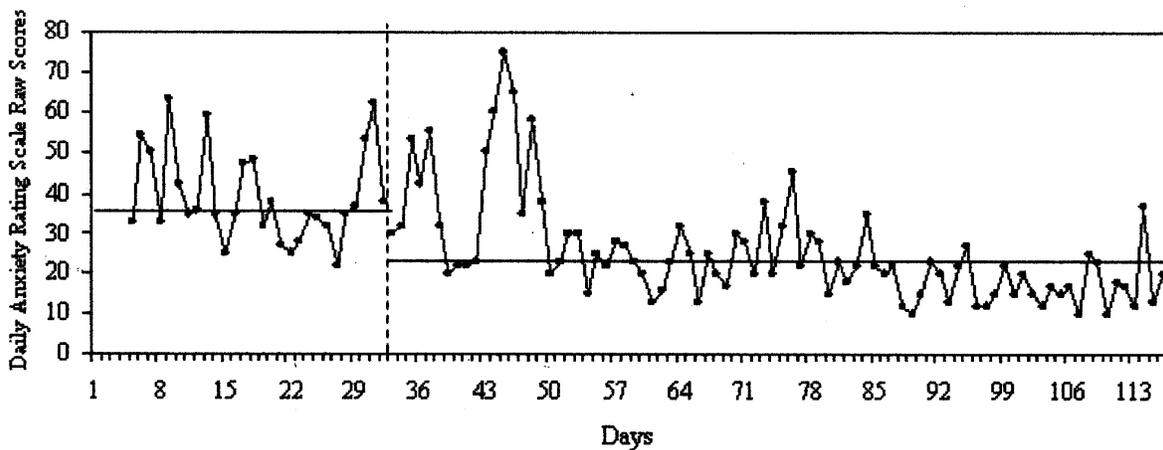


Figure 20: Case 3 Daily Anxiety Rating Scale (DARS) scores across baseline and treatment phases.

Stacy’s DARS scores across baseline and treatment phases are presented in Figure 20. Stacy completed a 32 day baseline. The first 4 entries were missing from her diary during the baseline phase. Analysis of the baseline phase revealed an absence of trend within the data, $Z = 1.29, p > .05$. Compared to baseline, there was a mean daily decrease during the treatment phase in self-monitored daily anxiety of 14 points (35% decrease).

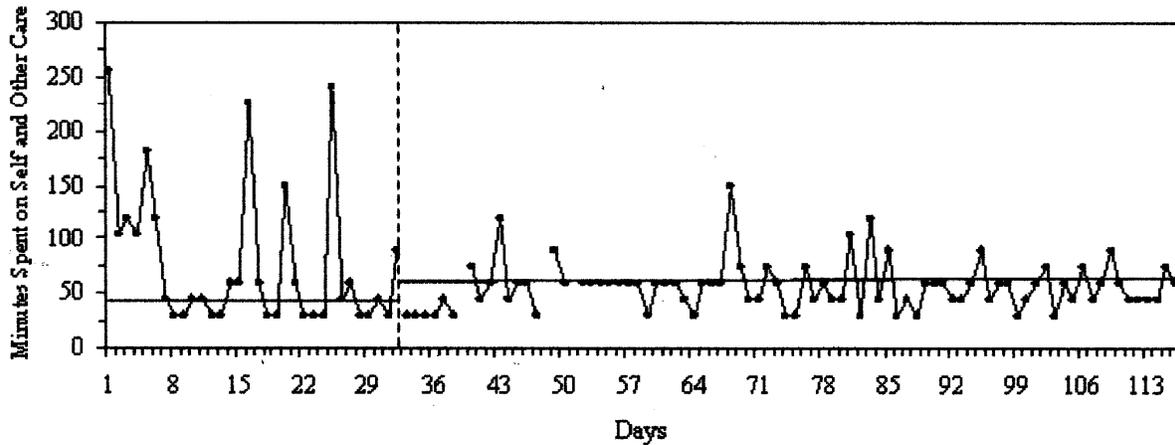


Figure 21: Case 3 Minutes spent per day on Self- and Other-Care across baseline and treatment phases.

Stacey’s Self- and Other-Care data across baseline and treatment phases are presented in Figure 21. Analysis of the baseline phase revealed an absence of trend within the data, $Z = 1.38, p > .05$. Compared to baseline, there was a mean increase during the treatment phase in the amount of time Stacy spent on self- and other-care of 23 minutes (30% increase) per day.

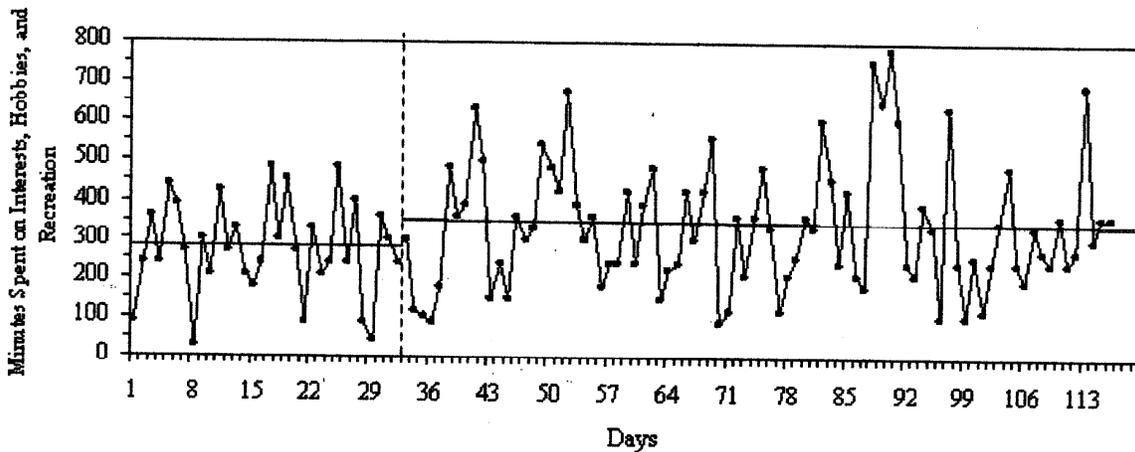


Figure 22: Case 3 Minutes spent per day on Interests, Hobbies, and Recreation across baseline and treatment phases.

Stacey’s Interests, Hobbies, and Recreation data across baseline and treatment phases are presented in Figure 22. Analysis of the baseline phase revealed an absence of trend within the data, $Z = 0.55, p > .05$. Compared to baseline, there was a mean increase during the treatment phase in the amount of time Stacey spent on interests etc. of 54 minutes (19% increase) per day.

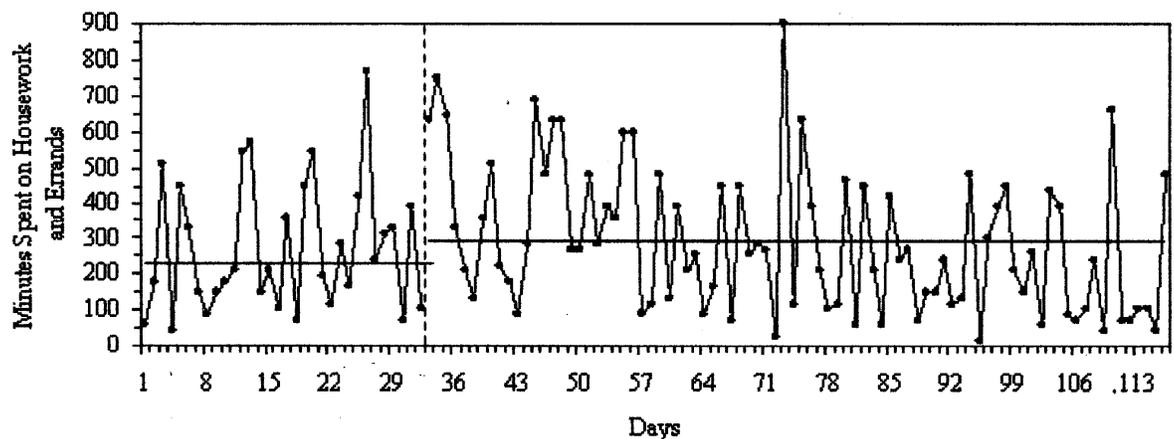


Figure 23: Case 1 Minutes spent per day on Housework and Errands across baseline and treatment phases.

Stacey's Housework and Errands data across phases are presented in Figure 23. Baseline analysis revealed an absence of trend within the data, $Z = 0.03$, $p > .05$. Compared to baseline, there was a mean increase during the treatment phase in the amount of time she spent on housework and errands of 19 minutes (7% increase) per day.

All of Stacey's treatment sessions were audio-recorded and 33.3% ($n = 4$) of sessions were randomly selected and independently scored for treatment integrity. Inter-observer agreement on coded therapist verbal behaviors for all 20 sec intervals averaged 93.9% across scored sessions, with 91.5% of therapist in-session behaviour compatible and 8.5% incompatible with the treatment protocol (BATA).

Discussion

This study describes three single-case experimental evaluations of behavioral activation treatment of anxiety (BATA). Each case was a replication of an initial clinical trial of BATA with a 64-year-old anxiety-sufferer, reported in Turner and Leach (2009). Dependent variables were self-reported and self-monitored anxiety, and self-monitored real-time activity levels. A measure of treatment integrity was included. Clinically significant decreases in self-reported anxiety on standardised measures (BAI, DASS-21) were shown in each case and were maintained up to a 3 month post-intervention follow-up. Decreases in self-monitored anxiety (DARS) corresponded with decreases in self-reported anxiety. In each case, the introduction of BATA corresponded with decreases in reported anxiety. There were also associated increases relative to baseline in the activity levels in some key life areas for each participant. Treatment integrity data showed that in each case the therapist's verbal behaviors were rated as highly matching the prescribed techniques outlined in the treatment protocol.

These data provide preliminary, promising support for the use of BATA with adults who primarily report symptoms of anxiety and confirm previous reports (Turner & Leach, 2009). They also provide evidence that real-time increases in activity-levels (activation) that are functionally related to anxious behaviours might be associated with decreases in anxiety. Few previous attempts to treat anxiety with BA have been reported and there has been a tendency to confound traditional BA models with the use of adjunctive technologies when treating anxiety, such as gradual exposure and relaxation training (e.g., Hopko et al., 2004; Hopko et al., 2006; Lundervold, Talley, & Buermann, 2006). In the BATA model, anxiety is conceptualised as a contingency-shaped disorder of avoidance behavior with associated affective and cognitive characteristics. Thus, the analysis of anxiety can include potentially modifiable

conditions in the anxiety-sufferer's environment and directly observable and measurable aspects of his or her behavior that form the basis of his or her treatment. The outcomes of this study suggest that the participants' increased approach behaviors replaced avoidance behaviors and were maintained by naturally occurring contingencies of reinforcement in their home, work, and community contexts. It is likely that the natural arrangement of contingent positive reinforcement for approach behaviors led to concurrent decreases in negative reinforcement for avoidance behaviors and a gradual extinction of anxiety responses. It may be concluded that the data provide provisional support that BATA is an effective and efficient model of treatment for anxiety, without adjunctive technologies or theories.

There were limitations to this study. Assessment and treatment delivery were delivered by one practitioner, potentially limiting the generalisation of the results. Changes in anxiety were determined by analysis of self-reported data and there was no independent objective measure of treatment outcomes. The activity measure used in this study was designed to measure the time spent engaged in broad classes of activity during waking hours. These self-monitored data were again not supported by independent, objective reports. The three participants in the study were willing to be involved in the research program and had identified themselves as chronic 'sufferers' of anxiety. As such, they were self-selected and there was no opportunity for random allocation to the treatment condition. Finally, although a relative strength is that the treatment integrity system developed and used in this study met almost all of the standards recommended for psychotherapy outcome research (Perepletchikova & Kazdin, 2005), it could be improved if future research used assessors who were not directly involved in the project.

There were notable strengths to this study. Multiple assessment methods were used to evaluate anxiety and activity. The self-monitored real-time ratio measure of daily activity levels (BSMD) used is unique in BA research and provided evidence of activation and its relationship to self-reported anxiety. The independent variable (BATA) was clearly defined and reliable treatment integrity data showed that treatment corresponded highly with the treatment protocol. Such measures are essential in experimental evaluations of clinical therapies if reviews of their effectiveness are to have meaning and validity. A single-case within-subject experimental design was used for each participant including follow-up measurement to 3 months. Efforts were made to establish a high quality baseline with adequate data for analysis and in each case the experimental conditions were replicated. Participants met the criteria for clinical anxiety and they received treatment under typical conditions in a normal clinical outpatient setting.

The outcomes of the study have important implications for the practitioner seeking to provide cost-effective treatment for adult anxiety in typical out-patient settings. In Australia, the public have had access to a federal Medicare-funded health rebate scheme since late that provides rebates of up to 90% of the scheduled fee for 12 individual sessions of private out-patient allied mental health services (including psychotherapy) per calendar year (www.health.gov.au/internet/main/publishing.nsf/Content/health-pcd-programs-amhpm). Thus, practitioners and their clients will benefit from straight-forward technologies that can produce clinically-relevant change across relatively brief time-frames. As Yates (1994) noted, the effectiveness of treatment should not only be assessed clinical outcomes but also by the use of temporal, personal, financial, and spatial resources. The findings of this study suggest that BATA produced clinically relevant outcomes over a short period of time for these clients who met DSM-IV criteria for anxiety-related disorders.

Finally, there have been calls for more accounts of the application of behavior analysis in the treatment of 'everyday' clinical problems beyond its more popular use in specialised populations such as individuals with developmental disabilities (Friman, 2010). Anxiety and depression occur frequently enough to be considered the 'common-colds' of clinical psychology. This report of BATA therapy supports its use in everyday, typical clinical settings with chronic adult anxiety sufferers.

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Author's Contact Information

Jarrold S Turner
School of Psychology
Murdoch University
South Street Murdoch
Western Australia 6150, Australia
E-mail: jarrod.s.turner@gmail.com

Accentuating Mode Deactivation Therapy (MDT) A Review of a Comprehensive Meta-Analysis into the Effectiveness of MDT

Jacquelynn Hollman

Abstract

A recent Meta-Analysis conducted by Apsche, Bass & DiMeo (2010) provided astonishing evidence regarding Mode Deactivation Therapy's (MDT) ability to effectuate change in youth with delinquent traits. Following is a brief review of the results presented in the analysis as a way of highlighting the capacities of MDT and promotes the implementation of MDT interventions in this challenging population.

Keywords: Mode deactivation therapy, MDT, ACT, DBT, CBT, meta analysis, real world treatment

In the terrain of Juvenile Delinquency, effectuating change amongst the factors contributing to the development and persistence of conduct disordered traits has proven particularly challenging (Litschge, Vaughn, & McCrea, 2010, Eddy & Chamberlain, 2000). For clinicians working with children whose behavioral difficulties include physical aggression, sexual deviancy, stealing, fire setting and truancy a compelling force exists in that they not only assist their clients, but also reduce recidivism for the greater good.

Mode Deactivation Therapy (MDT), developed by Jack Apsche, is a third-generation treatment designed specifically to address delinquent factors in males between the ages of 14 and 17. Then origins of MDT are eclectic, as it incorporates pertinent aspects of a variety of interventions such as Cognitive Behavior Therapy, Dialectical Behavior Therapy, Functional Analytic Psychotherapy and Acceptance and Commitment Therapy (Apsche & Ward, 2002, Thoder & Cautilli, 2010). MDT draws upon Aaron Beck's (1996) work in highlighting the importance of modes in psychological functioning. A mode, according to Beck, is a way to operationalize the cognitive structures which provide the channels through which live situations are processed. These channels, or modes, are developed from previous interpersonal experiences and situational factors which have highly impacted an individual's life either through emotionally laden content or repetitive experience (Apsche & Ward, 2002). Illuminating the facets of the modes is the MDT Case Conceptualization which, utilizes a variety of assessments, completed in a cooperative manner between the child and clinician, to ascertain the interpersonal scenarios which the child fears and avoids and the underlying beliefs which fuel the emotions, thoughts and situations the child works so pointedly to evade (Apsche, Ward & Evile, 2003).

MDT provides the framework for children to examine the channels through which their thoughts, feelings and behaviors are directed, within the context of a validating and safe relationship with an adult figure and goes on to allow them to reshape those patterns so that they have more freedom of choice in their everyday actions and power to create a future apart from the trajectory their past set for them. MDT has the capacity to provide the framework for adolescents to end the ingrained behaviors and habitual responses which can contribute to a delinquent lifestyle.

Studies examining MDT are showing its effectiveness in reducing various symptom sets accompanying the delinquent constellation. Most recently, Apsche, Bass & DiMeo (2010) completed a meta-analysis of key studies assessing the application and effectiveness of MDT. Within the meta-analysis are 20 studies (19 published and one unpublished to date) providing information regarding the

success of MDT, disseminated in residential and outpatient venues, to a male population in the form of individual and family therapy. In total, the meta-analysis examines the impact of MDT on 573 male adolescents between the ages of 14 and 17. The population was 43% Caucasian, 54% African-American, 4% Hispanic and 1% considered to be “other” or of mixed race. The array of diagnoses included Conduct Disorder (51%), Oppositional Defiant Disorder (42%) and Post-Traumatic Stress Disorder (54%). A portion (56%) of the population also exhibited mixed personality traits.

A stunning characteristic about the population was that 90% had experienced sexual, physical and verbal abuse, as well as having significant experiences of neglect. Over half (56%) of the participants in this study were witnesses of violence and almost a quarter (24%) of the adolescents were parasuicidal. Despite the prominence of traumatic experiences, MDT was a factor in the stabilization of the young men’s lives to the extent that the recidivism rate was under 7%. And, reoccurrence of sexual offenses was less than 4% after two years.

The meta-analysis was successful in providing additional validation of MDT in effectuating change in illegal sexual behaviors and the broader category of conduct disorders in adolescent males between the ages of 14 and 17. However, it was able to go one step further and also alter some internal structures as well (anger states were improved, but more severe experiences of depression were not significantly altered).

When considering these results, the typical critiques of investigations conducted in authentic therapeutic milieus can be considered. In such settings, small samples sizes, confounding variables, inability to truly assign the participants in a random fashion and the variability of presenting factors are only a few of the typical criticisms. At the same time, this meta-analysis has provided overwhelming evidence of the significant and effective impact of MDT on the lives of adolescent males with a plethora of presenting problems at the height of their dysfunction in a “real world” setting. The reality of the situation is that Conduct Disordered children are placed in residential treatment centers and treatment providers meet with these young men in such settings. MDT provides a solid framework, from a Practitioners and researchers in the Mental Health Field frequently underscore the clash between high-quality treatments proven effective in rigorous scientific conditions and the ability to utilize these interventions in “real world” conditions. A gleaming facet of MDT is in the studies providing evidence for its effectiveness took place in authentic therapeutic venues.

While this Meta-Analysis provides substantial support for the value of MDT in intervening in the lives of conduct disordered children, exciting areas of for further investigation remain available. Juvenile Delinquents tend to enter the therapeutic realm of no choice of their own. Typically, such individuals are ordered to participate in therapeutic services or

Follow-up studies regarding the child’s ability to utilize the information obtained through the MDT intervention apart from the original setting.

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Author Contact Information:

Jacquelynn Hollman, Psy.D.
 North Spring Behavioral Healthcare
 Leesburg, VA 20176
 E-mail: Jacquelynn.hollman@psysolutions.com

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