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Family mode deactivation therapy (FMDT) mediation analysis

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Abstract

Youth behavioral disorders are not only considered widespread and costly in terms of financial, human, and societal impact into adulthood, but also resistant to interventions, especially when related to childhood trauma and accompanied by continued social distress and comorbid conditions such as personality, mood, and substance use disorders. Mode Deactivation Therapy (MDT), a third wave contextual therapy approach derived from cognitive therapy principles, was developed in recognition of the need for this population. The MDT theoretical framework and methodology contains elements of mindfulness, Acceptance and Commitment Therapy (ACT), and Dialectical Behavior Therapy (DBT), but it is the unique Validation-Clarification-Redirection process (VCR) step that sets it apart from other contextual approaches. VCR is considered to be the core process component in MDT to affect therapeutic change by validating core beliefs as reasonable responses to past experiences, but exploring functional alternative beliefs. The main objectives of this study is to review evidence of the effectiveness of family-based MDT (FMDT) compared to standard treatment, and provide a preliminary randomized controlled group study of the mediation effects that VCR and other components have on the overall treatment mechanisms and outcomes. Recommendations for further study conclude the current scope.

Keywords

Mode Deactivation Therapy, MDT, mindfulness, ACT, DBT, CBT, adolescent, schema, family therapy, FMDT, trauma, conduct disorder

The extent of the problem and associated cost of youth behavioral disorders are often underestimated, which is exacerbated by the fact that these conditions, especially in the presence of childhood trauma and comorbid personality, affective, and substance use disorders are considered complex and challenging to treat. Boyle et al. (2011) estimated that over 15 percent of American youth have a clinical level behavioral problem, and a similar percentage have a developmental disorder, while there is substantial overlap between the two. The economic and social impact of adolescent behavior problems is considerable, spill over to families and communities, and persist into adulthood—it is estimated that half of adult disorders start by age 14 (Gullotta & Adams, 2005; Miller, 2004; Rhule, 2005).

Therefore, the pressing need to develop an efficient and effective contextual treatment for this youth population was recognized, which led to the conceptualization of Mode Deactivation Therapy (MDT). Already, more than 20 research studies have consistently provided evidence of the success of MDT when compared to a "standard" cognitive-behavioral therapy (CBT) treatment for adolescents with trauma-related, behavioral and complex comorbid disorders. It is recognized that widely applied benchmark treatment approaches could fail, especially when concurrent social, personality, and physical problems exist (Kingdon, Harsen, Finn, & Turkington, 2007). MDT is shown as a viable option under these circumstances, but more research is required to study the effect and interaction of individual process components on the overall mechanism of therapeutic change.

Literature review

Third Wave Therapy, or contextual therapies, was punctuated with Cognitive Behavior Therapy (CBT), since the onset of Mindfulness Based Cognitive Behavior Therapy and the development of specific contextual science based treatments, such as, Acceptance and Commitment Therapy (ACT), Dialectical Behavior Therapy (DBT), Functional Analytic Psychotherapy (FAP), and Mindfulness and Meditation from ancient Buddhist practices (Apsche, Bass & Backlund, 2012; Apsche, Bass & DiMeo, 2010). Even bodily disease and dysfunction have been shown to improve when all parts of human existence are treated instead of just the physiology or just the behavior. According to Barnes, Plotnikoff, Fox, and Pendleton (2000), the optimum is to treat the mind, body and spirit together.

In 1996, Beck demonstrated evidence of systematic biases across multiple domains suggesting that a more global and complex organization of schemas were involved in intense psychological reactions based on the multiplicity of related symptoms that the cognitive, affective, motivational, and behavioral domains in several psychopathological conditions that were expressed by the content, structure, and function in one's personality (Apsche, 2009a). Beck (1996) theorized the phenomena of "sensitization" of successive re-occurrences of a disorder. Such a disorder may be triggered by a less intense frequent experience, and coexist with other psychopathological phenomena, including personality traits that form a relationship between the conscious and unconscious processing of the information (Apsche, 2009a).

Mode Deactivation Therapy (MDT) has centered itself as one of the leading therapies to encompass balanced mind, body, and spirit philosophies. Research based on the principles of cognitive theory done at the Center for Cognitive Therapy at the University of Pennsylvania held extreme promise as the most effective treatment for adolescents and families regardless if the issues were simple, complex, or exasperated by comorbidity of multi-axial diagnosis (Beck, Freeman, & Davis, 2006). A meta-analysis conducted by Apsche, Bass, and DiMeo (2011) suggested that MDT was effective in treating such diagnostic constellations, reducing sexual and physical aggressive behaviors, as well as reducing the scores on the Child Behavior Check List (CBCL, Achenbach, 1991) and State-Trait Anger Expression Inventory (STAXI, Spielberger, 1999) by combining individual MDT with family MDT. Bass and Apsche (2013) reported—in recent literature—a 7% recidivism rate over a two-year post-treatment period, which supports evidence of the efficacy of MDT and demonstrated that MDT was significantly more effective than CBT in multiple categories, including anger, aggression, and recidivism.

The first 38 published and unpublished research papers proved that "finding supports the notion that MDT as a superior form of Cognitive Behavioral Therapy addresses not just the acting out behavior, but internal states as well" (Apsche, Bass & DiMeo, 2010, p.180). These studies were done with an extremely vulnerable population of juvenile males with Conduct Disorder that was compounded by sexual trauma and Posttraumatic Stress Disorder (Apsche, Bass, Zeiter & Houston, 2008). "Validation-Clarification-Redirection (VCR) is the fulcrum of the transformation of detrimental learned beliefs about the adolescent's environment that manifest destructive behaviors into ideas" (Apsche, Bass & Backlund, 2012, p. 2). Evidence highlighted in the recent literature review supports the effectiveness of MDT with VCR as effectuating the change when implemented in the intervention (Bass & Apsche, 2013). Its roots are found in combining elements from ACT, CBT, DBT, and social skills training with the unique VCR methodology and mindfulness practices. By centering on the individual and their mindfulness, adolescents with Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD) are not shamed by their behavior but empowered with their core existence; good, bad and dysfunctional. It is the VCR approach that connects the mind, body, and spirit in adolescents (Apsche, Bass & Backlund, 2012).

By incorporating treatment of the adolescent with family MDT (FMDT), disharmony within the

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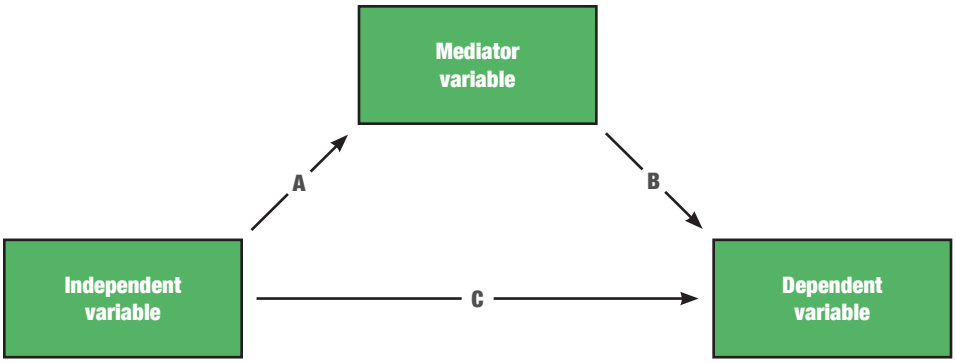

Figure 1. Simple mediation model
Source: MacKinnon, Fairchild, & Fritz (2007)

family was reduced, bringing the troubled youth and family together which enabled the therapist to maintain treatment through a two-year period. MDT compared effectively to Treatment as Usual (TAU) when it successfully tracked recidivism rates (Apsche, Bass & Houston, 2008). FMDT is a manualized treatment that incorporates CBT, DBT, ACT, and FAP administered according to the MDT Clinician's Guidebook (Apsche, 2009b). The process may take up to 8 to12 months with weekly individual and family group therapy. FMDT offers the therapist and the family the ability to collaborate and learn structure, measure, and track progress in treatment by using the Family MDT workbook that provides structure for the family therapy following the MDT methodology (Apsche & Apsche, 2009). By using the collective case conceptualization process, the therapist examines the process of family interaction, then using MDT, the therapist attempts to move the family to use a new script.

Literature explained that FMDT uses VCR to teach the family how to balance their beliefs, exposing the identity of irrational and illogical beliefs that the family, as a unit, deeply holds. The therapist validates the family's beliefs and searches for truth in each family member's response (Apache, Bass, & Houston, 2008). The therapist then clarifies the content of each family member's response and clarifies the beliefs that activated the response. This step is crucial to understanding the family's belief system. The final step in the VCR portion of the intervention is the redirection phase. The therapist redirects the family's response to view alternative possibilities or continuum of held beliefs. The goal here is to help the family members find the exception in the belief system.

Studies have shown that adolescents express internalized angry or hurt feelings with externalized expressions of various problematic behaviors. Apsche, Bass, and DiMeo (2011) showed that where the family demonstrates forms of aggression, verbal expressions of feelings and internal states may not be met with family support. MDT addresses this issue of non-support by teaching the family, as a whole, how to engage in dialog with each other without showing aggression. It must be remembered that the entire family is the client, not just the child. MDT has been shown to be an effective evidence based methodology specifically toward the population of male adolescents. Follow up studies have shown that families who have undergone MDT show less aggression and family synchronization has increased (Apsche, Bass, & Houston, 2007; Apsche, Bass, Zeiter, & Houston, 2008).

Mediation analysis in psychotherapy research

Although a great many research studies explore the efficacy of a wide variety of psychotherapy approaches for an equally broad range of conditions, there is a lack of evidence through which mechanisms these improvements are achieved (Kazdin, 2005). A mechanism can be defined as a group of components that are applied concurrently or consecutively to affect a desired change. Many of these practices or principles are well defined in the respective therapy protocols and some are shared across different approaches, but not all the variables that may affect treatment outcomes are always known or accounted for. According to Wilt (2012), each intermediate step in therapy is an intervening variable or mediator that plays a varying role in the ultimate outcome. By knowing when and how much such an element contributes to treatment goals, therapy methodology can be refined to make the process more effective through improved understanding of causality. Evidence of causal effects—*that* psychotherapy works—does not provide an explanation of *why* it works. Causal effects do not provide information of the mechanisms required to achieve the outcome. Therefore, a thoughtful and theory-grounded disentanglement of elements in therapy is required to separate and explore the interaction and effect of each one on change effects throughout the treatment process. This scientific investigative approach has been lacking in psychotherapy research until recently, but rapid improvements are made in conjunction with other disciplines such as neuroscience to ensure that psychotherapy evolves to its full potential.

Assuming that the path between treatment (independent variable) and outcome (dependent variable) is statistically significant, for a mediator to be relevant, the relationship between treatment and mediator, and mediator and outcome must also be significant (see Figure 1 above). To be relevant, change in the mediator has to precede any change in outcome, the mediator has to be distinctive from general effects of psychotherapy, and the effect must be consistent, replicable, and empirically grounded.

As with all psychotherapy research, interactions between variables are on many levels and directions, and not easily identified, isolated and measured. Therefore, to probe more deeply and meaningfully into the nature of causal relationships in psychotherapy, appreciation of the roles and distinction of mediators and moderators is worthy of attention in research conception and design. According to the classical reference on this topic by Baron and Kenny (1986), "a moderator is a qualitative (e.g., sex, race, class) or quantitative (e.g., level of reward) variable that affects the direction and/or strength of the relation between an independent or predictor variable and a dependent or criterion variable" (p. 1174). Whereas a moderator is a third variable that influences the zero-order correlation between a dependent and independent variable, a mediator accounts for the strength of the relation between the predictor and criterion (see Figure 2 on the next page). In order to compare and understand how and why psychotherapy leads to change—evidence that is still inadequate in terms of scientific grounding and statistical integrity—sound conceptual work is required to deconstruct therapeutic mechanisms in relation to mediators, moderators, and predictors (Kazdin, 2009). "Whereas moderator variables specify when certain effects will hold, mediators speak to how or why such effects occur." (Baron & Kenny, 1986, p. 1176). Therefore, a moderator is a variable that influences the strength of a relationship between two other variables, while a mediator is a variable that explains the relationship between the two other variables.

In deconstructing the potential influencers of change in the therapeutic process, it is possible to gain a deeper empirical understanding of the therapeutic change mechanisms that is supported by a valid theoretical framework. Kazdin (2007) have reminded us that "we know that therapy 'works', i.e. is responsible for change, but have little knowledge of why or how it works." (p. 2). This study—and similar future research—aims to explore the temporal properties and effects of the components of the MDT system, and how they interact with and influence one another at different stages in the process, while contributing to the evidence base of the effectiveness of MDT in specific applications.

■ Method of MDT analyses

The current research design was planned with a dual objective in mind, namely to compare the efficacy of MDT to classical CBT treatment for the adolescent population with behavioral problems complex comorbid conditions, and to determine the mediating effect of the Validation-Clarification-Redirecting (VCR) process that is unique to the MDT methodology on the therapeutic change process. At this time it is important to note that the comparison between MDT and CBT does not represent a mediation analysis, but is rather a comparison between respective outcome measures, in this case CBCL and STAXI-2 pre- and post-treatment results. As the therapeutic concepts, principles, and components differ greatly between the two approaches, it was not possible with the current research design to explore distinctive components to determine the mechanisms that underlie the apparent difference in therapeutic performance for the specific population. Although both treatment

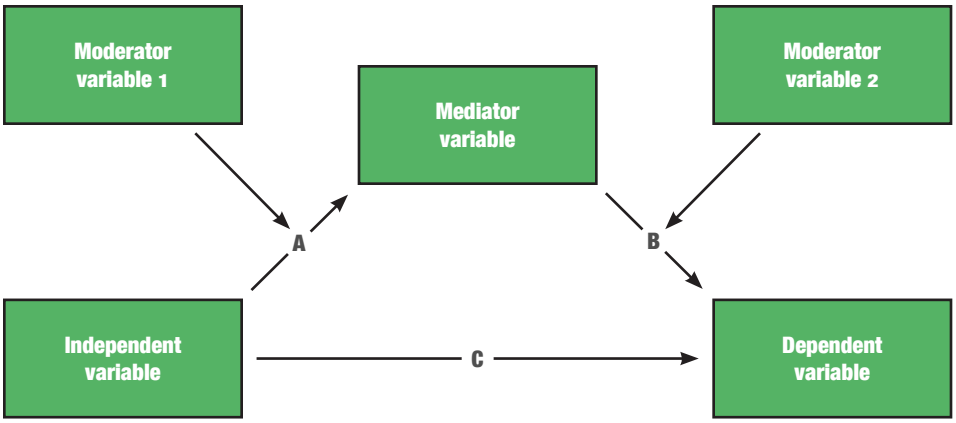

Figure 2. Integrated mediation model
Source: MacKinnon, Fairchild, & Fritz (2007)

approaches are framed on basic cognitive theory, the following core conceptual differences are expected to contribute in a lesser or greater extent to different therapeutic outcomes:

1. The classical CBT methodology approaches cognitions that underlie aberrant behavior as dysfunctional. Instead, MDT validates these cognitions as valid and reasonable expressions of core beliefs that originated from past distress and traumatic experiences.
2. CBT emphasizes behavioral change as the sole desired outcome in the treatment process without exploring underlying core beliefs and past experiences. MDT identifies core beliefs that ultimately relate to further distress and problem behavior with the objective to develop and consider more appropriate alternatives. Therefore the main objective of MDT is to redirect relevant core beliefs in order to positively affect thoughts, emotions, and behavior. The MDT rationale is that the approach creates less cognitive dissonance by addressing root causes with a more durable effect.
3. Classical CBT does not utilize mindfulness practices in therapy, whereas it is believed that MDT demonstrates the auxiliary value of mindfulness exercises in the ability to think, feel, and act without judgment of the self and others, improve emotion regulation, and explore core beliefs thoughtfully.
4. The Validation-Clarification-Redirecting (VCR) process is unique to the MDT methodology and is considered as an essential component of the efficacy of the therapy for adolescents with complex problems in an integrated social structure.

Therefore, as the differences between the two therapeutic approaches are far too distinct and multi-faceted, a component comparison would not be the most appropriate research approach. Also, an analysis of the VCR step as distinct mediating effect in MDT—as done in this study—could determine its value in the MDT process and influence on the therapy outcome, but not necessarily explain the apparent differences in efficiency between the CBT and MDT approaches. To achieve a deeper understanding of the mechanisms of MDT, a more comprehensive component analysis would be required; a study design that also isolates mindfulness to determine its discreet moderation effect on the family's core belief and ultimately behavioral changes. Hereby it is possible to better describe and qualify the causal pathways to treatment success by isolating and analyzing a more thorough range of intervening variables systematically (Hayes, 2009). This potential inherent structural design enhancement will be commented on in further detail in a later paragraph as an implication for further study.

Change and outcome measurements

By viewing the MDT methodology as the main independent variable that effects the treatment outcome—or dependent variable—the VCR step is acknowledged as an intermediate mediating component to achieve this change in a consecutive way. In this sense, the Compound Core Belief Questionnaire-Short Version (CCBQ-SV) has been applied as the quantitative assessment measure of VCR progress, with the Child Behavior Checklist (CBCL) and State-Trait Anger Expression Inventory-2 (STAXI-2) as measurement of behavioral outcomes.

Compound core belief questionnaire-short version (CCBQ-SV): The 96 self-report questions are scored on a 4-point Likert scale and is scored to identify and measure the strength of the underlying beliefs and thoughts of the adolescent, including beliefs that could be considered life-threatening or treatment-interfering (Apsche & DiMeo, 2012). The CCBQ-SV profile would initially be used in the case conceptualization to determine focus areas of the VCR process, but is also useful to monitor realignment of functional beliefs. The emergence of Functional Alternative Beliefs (FAB's) is the core outcome objective of the VCR step and is likely aligned with an improved change in behavior. The CCBQ form and scoring sheets are included in Appendices A through D. The CCBQ provides a quantitative measure of the client's maladaptive personality traits, of which the first eight scales are loosely based on the DSM personality disorder criteria. The last two scales present an indication of the treatment interfering and life threating (self and others) tendencies that are manifested. An easy visual representation of the CCBQ profile are created by plotting the results of the ten scales on a graph (refer to Appendix D).

Child behavior checklist (CBCL): The CBCL/6-18 is a parent-report questionnaire that consists of 118 statements about the child's behavior for which responses are score on a 3-point Likert scale. The eight syndrome scales—anxious/depressed, depressed, somatic complaints, social problems, thought problems, attention problems, rule-breaking behavior, and aggressive behavior—group into two higher order factors, namely internalizing and externalizing (Achenbach, 1991). The CBCL internalizing and externalizing scores are used as one MDT outcome measure as it relates to the nature of children's problems and how it is likely to translate into maladaptive functioning.

State-trait anger expression inventory-2 (STAXI-2): The STAXI-2 is a 44-item 4-point frequency scale questionnaire that distinguishes between three modes of anger expression: anger-out, anger-in and anger-control. Anger is a negative feeling state that is typically associated with hostile thoughts, physiological arousal and maladaptive behaviors as a response to a threat or perception of a threat. The MDT methodology utilizes the STAXI-2 test as it is useful to explore the ability of the adolescent to control or suppress excessive anger and his likely type of anger expression—inwards or outwards, as reactive and proactive aggression. According to Martin, Wan, David, Wegner, Olson, and Watson (1999), scores are also linked to emotional regulation and impulsivity, two important factors in dysfunctional behavior. As such, anger-in is associated with a general tendency to be emotionally inexpressive and linked to depression, whereas anger-out is more specifically related to the expression of angry emotions such as reactive aggression. It is also relevant to explore the anger-aggression relationship and underlying beliefs in the family context as experiences in the home such as parenting practices, child abuse and exposure to domestic violence are linked to aggression in children (Lochman, Powell, Clanton, & McElroy, 2006).

Previous comparative studies

Apsche, Bass & DiMeo (2011) published a meta-analysis by exploring the most recent research at the time on individual, family and replication studies. The results of that study suggest that both MDT and FMDT outperformed CBT and Treatment As Usual (TAU) in the following manner:

The 21 studies yielded a sample population of 573 male adolescents between the ages of 14 through 17. Participant characteristics included Axes I and II diagnoses, many with co-morbid presentation (see Table 1 on page 4). 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 para-suicidal. General participant recidivism was less than 7%, and sexual offense recidivism less than 4% after two years post MDT treatment.

It is evident from the target population profile in Table 1 that these adolescent males, aged between

Table 1. Meta-analysis participant demographic characteristics ($N = 573$)

Characteristics	%
Axis I	
Conduct disorder (CD)	51%
Oppositional defiant disorder (ODD)	42%
Posttraumatic stress disorder (PTSD)	54%
Other secondary	28%
Axis II beliefs	
Mixed	56%
Borderline personality	38%
Narcissistic personality	28%
Histrionic personality	2%
Dependent personality	30%
Antisocial personality	20%
Ethnicity/race	
African-American	52%
Caucasian	43%
Latin	4%
Other	1%
Ages	
14	10%
15	18%
16	42%
17	30%
Background	
Experienced abuse: sexual, physical, verbal and/or neglect	90%
Witnessed violence	56%
Parasuicidal	24%
Recidivism (two years post-treatment)	
General recidivism	< 7%
Sexual reoffending	< 4%

Source: Apsche, Bass, & DiMeo (2010)

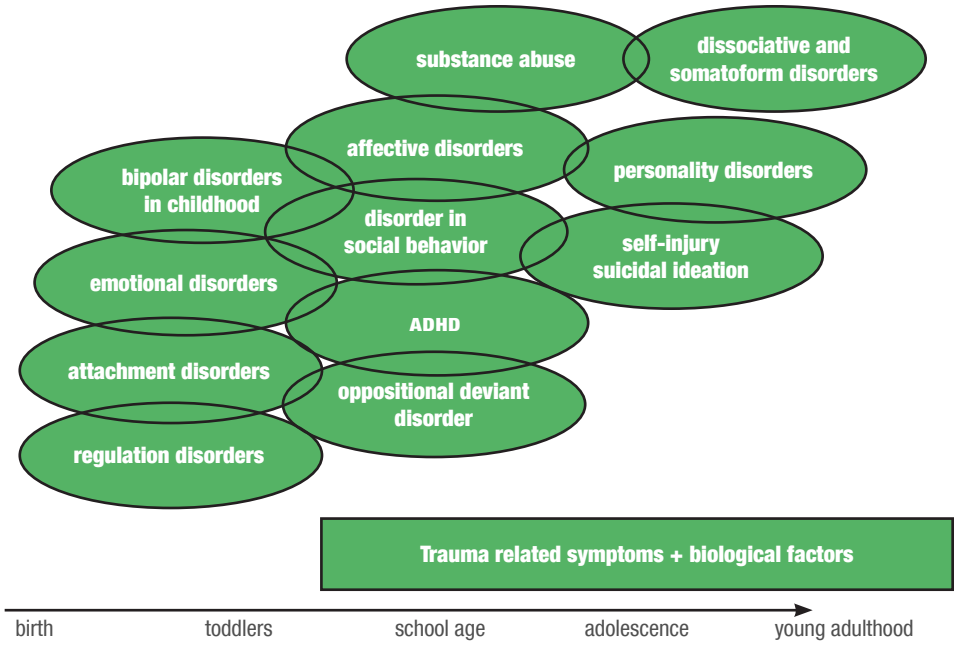

Figure 3. Developmental heterotopia of trauma
Source: Schmid, Petermann, and Fegert, 2013, p. 2

14 and 17 years, present behavioral problems as primary complaint with comorbid conditions of multiple personality disorders, anxiety, and depressive disorders preceded by a high incidence of trauma exposure—more than 90% of the participants have experienced some form of abuse and the majority (56%) have witnessed violent acts. As the participating youths have been mandated for residential treatment, it is important to recognize the unique characteristics that trauma exposure typically have on their response to treatment and the lack of empirical evidence thereof. Furthermore, their families or caregivers tend to engage in risk behaviors such as substance abuse and criminal behavior themselves, while many have a history of psychiatric problems and incarceration (Zelechoski, Sharma, Beserra, Miguel, DeMarco, & Spinazzola, 2013). As reflected in the participant sample profile, the typical youth in a residential treatment program has a unique and complex symptom presentation with disruptive behavior disorders, affective or anxiety disorders, accompanied by medical problems, somatic symptoms, PTSD, and substance abuse. Although multiple comorbid diagnoses are commonplace here, the MDT process is geared towards capturing and addressing the role of trauma in the full range of the youth's emotional and behavioral symptoms. As Van der Kolk (2005) observed: "Many problems of traumatized children can be understood as efforts to minimize objective threat and to regulate their emotional distress." (p. 403). This level of symptom complexity that is linked to childhood cumulative trauma and expressed as self-regulatory disturbances is commonly viewed as difficult-to-treat (Cloitre, Stolbach, Herman, Van der Kolk, Pynoos, Wang, & Petkova, 2009; Schmid, Petermann, & Fegert, 2013). However, this "developmental heterotopia of trauma" (p. 2)—as eloquently illustrated by Schmid and colleagues in Figure 3 above—is actively explored and managed in the MDT process by identifying, validating, and accepting the core beliefs that underlie and are reinforced by continued distress.

Youths in the participant sample are in the secondary school and adolescent age range, which is characterized by the widest range of trauma-related symptoms—including suicidality—and the onset of personality disorders that is more complex and mixed when associated with early trauma. As Widiger (2011) has shown, personality and psychopathology is interrelated, either influencing one another (pathoplastic relationship), sharing a common underlying etiology (spectrum relationships), or a composite of both mechanisms—the most common dynamic with complex developmental trauma. The approach of MDT for clients similar to the typical participant profile was developed by recognizing that "the more extensive the trauma exposure has been for the child, the greater and more complicated the residential treatment needs are." (Zelechoski, Sharma, Beserra, Miguel, DeMarco, & Spinazzola, 2013, p. 643). Therefore, the typical participant profile fits the study objective of determining the effectiveness of Mode Deactivation Therapy (MDT) for dealing with adolescents with complex trauma-related issues in a residential setting.

■ Results

A meta-analysis by Apsche, Bass, and Dimeo (2011) studied and combined the results of 21 individual MDT research studies with a total of 573 male adolescent participants to determine treatment effectiveness. The samples comprised of residential and out-patient settings, and individual and family sessions. A newer, separate study, which is the main focus of this report, was conducted with 84 male adolescent participants aged 15 to 17 years with the objective to compile a preliminary examination of the specific components of MDT and their effect on the therapeutic mechanisms.

Meta-analysis of a sample receiving individual MDT

The effect size results of the combined meta-analytic sample as reported in Table 2 on the next page are consistently meaningful as measured by Cohen's d effect size and in the context of the non-overlap between the research and control sample results. It is especially the expression of anger as incidents of physical or sexual aggression that MDT appears to influence in comparison to the CBT-based treatment-as-usual approach.

Cohen's *d* show large effect sizes with Sexual Offending (SO) Physical Aggression (1.85) and Conduct Disordered (CD) Physical Aggression (1.78). Total

Table 2. Individual therapy ($N = 573$)

Category-physical aggression	Cohen's Standard	*d*	*r*	% of non overlap
SO	Large	1.78	.664	47.4
CD	Large	1.85	.679	51.6
Total	Large	1.82	.669	75.4
Sexual aggression	Large	1.80	.669	71.9
CBCL	**Cohen's Standard**	***d***	***r***	**% of non overlap**
INT	Large	0.90	.410	68.1
EXT	Large	1.00	.447	73.1
Total	Large	0.95	.429	70.7
Conduct disorder-STAXI	**Cohen's Standard**	***d***	***r***	**% of non overlap**
CD anger con in	Large	1.10	.482	65.3
CD anger con out	Large	1.40	.573	62.2
CD anger ex	Large	1.80	.669	73.1
Sexual offending-STAXI	**Cohen's Standard**	***d***	***r***	**% of non overlap**
SO anger con in	Large	0.80	.371	73.1
SO anger con out	Large	0.90	.410	78.4
SO anger ex	Large	1.70	.648	78.0
JSOAP total	Large	1.55	.613	77.4

Physical Aggression and Sexual Aggression were also large at 1.82 and 1.80 respectively. Physical and sexual aggression were reported as the number of incidents during a certain period. Child Behavior Checklist (CBCL) scores were also large, yet somewhat smaller than the aggression effect sizes. CBCL scores measuring Internal states were 0.90 and External was 1.00. The total CBCL effect size was 0.95. The State-Trait Anger Expression Inventory-2 (STAXI-2) scores showed internal expressions of anger were not as controlled as external expressions of anger. With subjects who had the Conduct Disordered (CD) diagnosed delegation, STAXI-2 scores for inner control was 1.10. Conversely, the control for outward expression was 1.40. The total Anger Expressed effect size for this group was 1.80. STAXI-2 effect size scores for subjects who had offended sexually (SO) were slightly lower than those of the CD population. Inner control was 0.80. Outward expression of anger control was 0.90. The effect size for external aggression was slightly lower than the comparable result of the CD group at 1.70. Overall, incidents of aggressive behavior, and the expression of anger as measured by the STAXI-2 Anger Expression Index appear to be the most influenced by MDT compared to those of the TAU control group.

Meta-analysis of family-based MDT

As therapy in a family context is likely to be an important influencer of the efficacy and durability of treatment effects, studies done in this setting were separately examined in a second meta-analytic group. The effect sizes were also consistently large, with the exception of verbal aggression, which reconfirms the effectiveness of MDT with a male adolescent population compared to TAU control group outcomes.

Of the available studies, Cohen's *d* produced large effect sizes on all but one of the categories. The CBCL effect size for internalization was 1.40 whereas the externalization effect size was 1.60. The total effect size for CBCL was 1.50. STAXI-2 scores showed a 1.30 effect size for internal anger control, 1.20 for outward anger control, and 1.60 for overall anger expression. Physical expression of anger—as measured by the number of incidents of aggression for a specific period—was also large at 1.40, but the verbal expression of anger showed a medium effect size (0.70). Finally, related to physical aggression: Property aggression also showed a large effect size of 1.10. These results reconfirm the claim that MDT outperforms the CBT-based TAU approach consistently and significantly in the outcome areas as reflected by the selected evaluation measures.

The respective effect sizes in the individual and family MDT research study samples are compared in Table 4 above. Although a consistent outperformance of MDT over TAU is apparent in the large effect sizes, there is not clear difference visible at a first glance between outcomes in individual and family settings. This suggests that further exploration is required to determine whether participation of the family in the MDT process has an influence in the outcome strength compared to individual sessions only.

Although family therapy studies generally suggest that especially distressed families play a determining role in the psychological development of children, and that common sense would therefore follow that therapy as a family unit would produce the best results overall, this should be quantified in a component analysis. Thereby the unique role of the family and its interaction with therapeutic mechanisms can be better understood and the MDT methodology adapted to further improve treatment effectiveness.

Table 3. Family therapy ($N = 128$)

CBCL	Cohen's Standard	*d*	*r*	% of non overlap
INT	Large	1.40	.570	51.6
EXT	Large	1.60	.625	55.4
Total	Large	1.50	.600	53.5
STAXI	**Cohen's Standard**	***d***	***r***	**% of non overlap**
Anger con in	Large	1.30	.545	58.9
Anger con out	Large	1.20	.514	68.1
Anger ex	Large	1.60	.625	77.4
Behaviors	**Cohen's Standard**	***d***	***r***	**% of non overlap**
Physical aggression	Large	1.40	.513	61.1
Verbal aggression	Medium	0.70	.330	43.0
Property destruction	Large	1.10	.188	58.9

Table 4. Individual versus family MDT effect sizes

Measurement	*d* (individual)	*d* (family)
CBCL-INT	0.90	1.40
CBCL-EXT	1.00	1.60
CBCL-total	0.95	1.50
STAXI-anger con in	1.10	1.30
STAXI-anger con out	1.40	1.20
STAXI-anger expression	1.80	1.60
Physical aggression	1.82	1.40

FMDT mediation analysis

This supportive evidence sets the tone of the promise of MDT as a treatment for adolescents with trauma-based complex problems, which brings us to the essence of this paper. The main purpose of the current study was to examine the specific components of MDT, which we argue create more and deeper results of it being an effective treatment for anger and aggression in adolescent males. With the deeper examination of MDT we examined multi-factored specific therapeutic factors in a clinically representative sample of adolescents with combined Anxiety and Oppositional Defiant Disorder. A key component of MDT, the validation, clarification, and redirection (VCR) process, was a consistent factor in the treatment of anger and aggression. Evidence was found for mediation by the VCR component by using both the STAXI-2 and the Behavior Rating Scale (BRS) as anger and aggression outcome measures.

Participant characteristics and method. All participants were mandated for treatment and selected for the study group on a rolling basis as part of their intake into the functional treatment clinic. Inclusion criteria were aggression and behavioral problems, the presence and availability of a family or caregiver with whom the adolescent resided, aged 15 to 17 years, fluency in English, normal-range intelligence, and have no active psychotic symptoms. All participants agreed and signed informed consent forms. The adolescents were randomly assigned to the MDT experimental group or CBT-based Treatment-as-Usual (TAU) group, and the treatment fidelity of MDT and CBT was supervised by direct observation and checklists. Outcomes were measured by using the CBCL, STAXI-2, Behavior Rating Scale (BRS), and the Compound Core Beliefs Questionnaire (CCBQ) to assess scores before treatment commenced and after completion.

The typical participant profile is similar to previous MDT and FMDT studies (refer to Table 1). Most participants were diagnosed with Conduct Disorder (CD) (42%) or Oppositional Defiant Disorder (ODD) (44%), with Posttraumatic Stress Disorder (PTSD) (48%), Generalized Anxiety Disorder (GAD) (37%), and Major Depression (32%) also prominently represented. Almost all participants presented with a mixture of problems, which also included suicidality (38%), substance abuse (79%), and some form of aggression (>90%). It is very likely that the psychopathology is trauma- or attachment-related, as more than 90% of participants also experienced childhood abuse or neglect.

Table 5. Family study participant demographic characteristics ($N = 84$)

Characteristics	*N*
Axis I	
Conduct disorder (CD)	35
Oppositional defiant disorder (ODD)	37
Posttraumatic stress disorder (PTSD)	40
Anxiety	31
Major depression	27
Suicidal/parasuicidal	32
Ethnicity/race	
African-American	44
Caucasian	38
Latin	2
Ages	
15	37
16	38
17	9
Background	
All substance abuse	66
Alcohol	55
Drugs	60
Alcohol & drugs	55
Physical abuse	51
Sexual abuse	35
Neglect	68
Aggression	
Physical	52
Verbal	62
Sexual	12

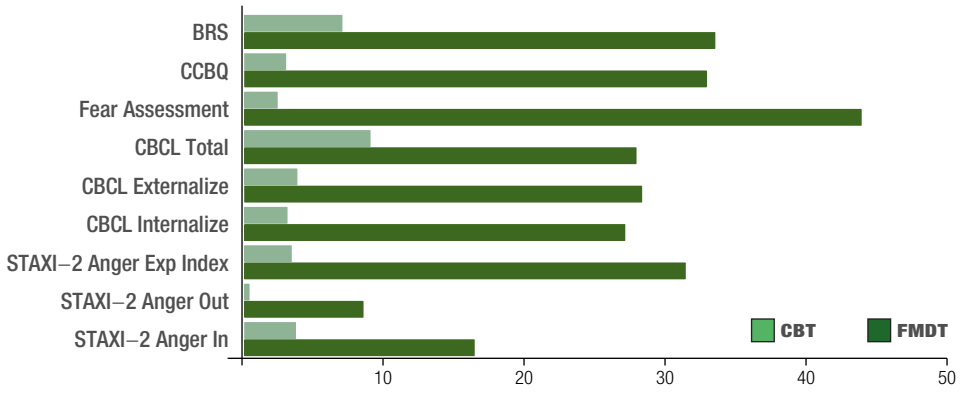

Figure 4. Differential results comparison

It is evident from the composite profile that these young participants have complex comorbid problems that are usually considered as difficult-to-treat with high relapse patterns. It is therefore considered necessary to work beyond dysfunctional behavioral expressions in a top-down approach in order to address underlying the mindset.

Results. Accounting for the change in the MDT scores, the effect of the MDT condition were reduced by almost half with the STAXI-2 Anger Expression Index from a mean difference of 31.4 versus 3.5 and with a new mean of 47.9 compared to 71.0 for the Behavior Rating Scale (BRS) Total. These reductions were significant for both the STAXI-2 and the BRS scores (Refer to Table 6 below).

All other measurement scores show similar improvement between intake and treatment completion for FMDT, with relatively insignificant improvement after CBT treatment (see Figure 4 above). The strengths of these comparisons and the apparent effectiveness of the FMDT treatment corroborates with the meta-analysis study results previously described, which adds to supporting evidence that MDT is an effective and superior treatment methodology for a challenging youth population.

As the Validation, Clarification, and Redirection (VCR) process step is a unique and fundamental component of the MDT theoretical framework and methodology, the hypothesis is that it acts as an important mediating component in the overall treatment process. VCR involves the development of functional alternative beliefs and its progress is measured with the CCBQ as previously explained. As expected, it appears from the results that both anger and aggression are indeed mediated by the VCR-Functional Alternative Beliefs (VCR-FAB). However, it needs to be noted that other mechanisms are also likely to play a role in the treatment process. As it was not the intention at the time, the current research design is not able to separate and determine the individual effects of these components, which may include elements not unique to MDT such as intent-to-treat effects, therapeutic alliance, client affect, mindfulness practice, and diagnostic accuracy. Future work involving additional and progressive intermediate temporal measurements through the treatment duration is expected to add much value to a deeper understanding of the mechanisms of MDT, and when and how the process is as effective as already demonstrated.

Table 6. Mediation group results at intake and post-treatment

			Intake				Post-treatment				Differential			
			FMDT		CBT		FMDT		CBT		FMDT		CBT	
Variable	**Items**	***a***	***M***	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***
STAXI-2	44													
Anger in		0.87	47.5	6.7	48.1	13.7	30.1	6.1	44.3	9.8	16.4	3.5	3.8	11.8
Anger out		0.92	49.3	8.2	48.6	12.2	30.7	7.1	48.1	10.7	8.6	7.1	0.4	12.7
Anger exp index		0.90	51.1	10.2	49.7	10.9	29.8	5.5	46.2	12.4	31.4	15.2	3.5	16.9
CBCL	96													
Internalize		0.92	75.6	7.8	74.2	8.7	48.2	8.3	70.4	10.3	27.1	8.1	3.2	4.4
Externalize		0.91	75.9	10.5	75.4	11.2	47.6	5.1	71.6	11.6	28.3	21.1	3.8	12.1
Total		0.90	75.8	12.1	75.1	10.3	47.9	6.2	71.0	12.3	27.9	6.3	9.0	12.1
Fear ass.	60	0.91	154.0	12.7	150.0	13.2	110.2	3.1	143.5	10.2	43.9	8.2	2.5	28.0
FCCBQ	96	0.93	137.9	36.0	135.3	32.2	104.8	3.3	131.3	27.1	32.9	12.3	3.1	6.1
BRS	2	0.88	36.2	11.8	38.1	12.3	2.7	3.5	36.2	11.1	33.5	6.2	7.1	7.2

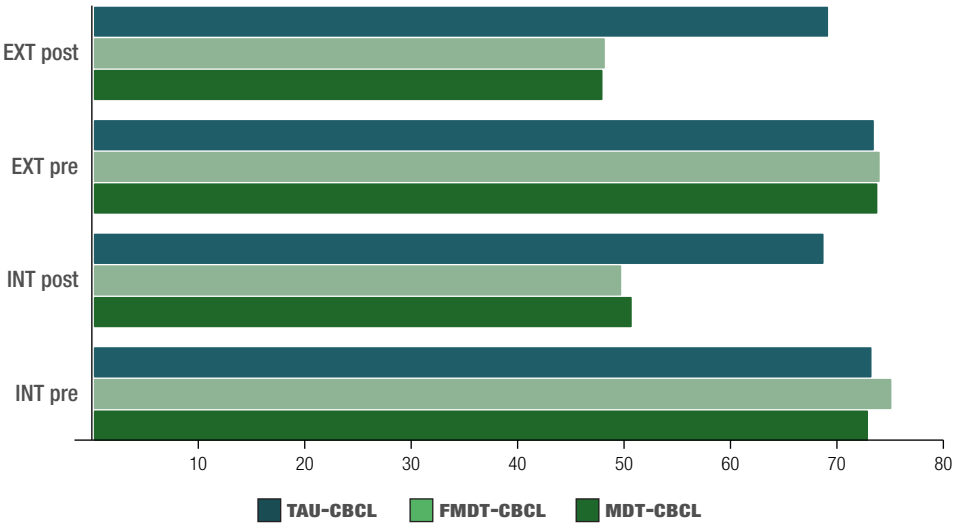

Figure 5. Comparison of CBL-scores with MDT, FMDT, and TAU

Nevertheless, these preliminary results already suggest that VCR has an important mediating effect on the treatment outcome. The reduction of the dysfunctional personality beliefs by the MDT group is significant in that it suggests that there is an association between these beliefs and the ability to control and avoid expression of anger and aggression. By measuring the MDT outcomes and the Compound Core Belief Questionnaire-Short Version (CCBQ-SV) slope, the measures that would be important for the replication of future research in MDT can be determined. As previously explained, our current research study was not designed to detect interior changes or reflect specific effects of anger or aggression such as internalizing issues measured by the CBCL throughout the treatment protocol. Such a research design, as proposed by Hollon, DeRubeis, and Evans (1987), will be able to produce cognitive and symptom change slopes during therapy, which is imperative to understand the different components and their effects and interactions during the therapy process. Therefore, in future studies, we recommend measuring mediation for anger and aggression outcomes repeatedly across time to provide for the generation of growth curves, which then could be compared and analyzed with each other within a model, similar to the approach adopted by Henggeler, Letourneau, Chapman, Borduin, Schewe, and McCart (2010), or compare the results in a latent mediation growth model (Cole & Maxwell, 2003; Selig & Preacher, 2009). However, preliminary indications showed statistical promise with $\beta = .71$, and $p < .001$, which indicate that these core beliefs—through the VCR component—have a strong relationship with anger and aggression outcomes and therefore mediate the MDT process in a statistically significant way. We also found that the externalizing score on the CBCL has a direct relationship to the mediator and also relates to the STAXI-2 anger out scores with an effect size of 1.73 ($p < .001$).

Therefore, as a process step that is unique to the MDT methodology, VCR contributes to the success of the MDT outcomes as measured by behavioral change. However, the question of how and when this change occurs, as well as the effect of other possible mediators and moderators, remains and provides scope for a more comprehensive session-by-session component analysis. Even so, the present study has several strengths. First, MDT was shown to reduce symptoms of aggression through changes in, or redirection of, maladaptive personality beliefs. This finding further strengthens the empirical validation of MDT as a treatment for these disruptive behaviors and their underlying belief and thought systems. It also implicitly suggests that these personality beliefs are indeed involved in the activation and expression of anger and aggression in adolescents, which is a central building block in the theoretical and conceptual framework of MDT as a contextual therapy approach. Furthermore, personality beliefs are not only underlying aberrant behavior, but the specific validation approach of the VCR element in MDT enables the development of functional alternative beliefs, which in turn causes positive changes in behavior, thereby creating an effective mediating effect.

The family as moderator in MDT

Another question, which has been briefly raised previously, is whether the participation of the family acts as a moderator in the MDT treatment process. It is very likely that the influence of the family unit interactions and their collective belief system impacts on the MDT-FAB pathway, either attenuating or strengthening the VCR effect depending on the orientation of the family. By comparing aggregated CBCL scores reported in previous MDT studies, a preliminary comparison between MDT (individual therapy), FMDT (family-based MDT), and TAU protocol is possible. As illustrated in Figure 5 above there is a discernable difference in CBCL scores when the MDT groups are compared to TAU results, but no statistically meaningful difference when individual MDT is compared to FMDT.

Although the results appears to be contrary to common sense expectations, the impression is shared by other studies, including research by Barkley, Guevremont, Anastapoulos, and Fletcher (1992) for ADHD, and Bent, Holder, Kolko, Birmaher, Baugher, Roth, Iyengar, and Johnson (1997) for Depressive Disorder. However, more recent studies contradicted these older studies by indicating the superiority of family-based treatment compared to individual therapy for specific adolescent populations and conditions such as depressive symptoms (Diamond, Wintersteen, Brown, Diamond, Gallop, Shelef, & Levy, 2010), and anorexia nervosa (Lock, Le Grange, Agras, Moye, Bryson, & Jo, 2010). One reason for the discrepancy—as pointed out by Kaufman and Yoshioka (2005)—is the relatively limited availability of studies of the effectiveness of family therapy as opportunities are limited and research complex and costly.

As such, it is a further objective and this and subsequent family-based MDT studies to contribute to the emerging evidence base of family therapy as an effective treatment modality for addressing adolescent behavioral disorders. However, as this absence of a quantifiable distinction in the outcome

Activity	Plan start	Plan duration	Actual start	Actual duration	Percent complete	Periods 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Assessments	1	4	1	4	100%	22%																		
Case conceptualization	5	3	5	3	100%					17%														
Mindfulness	8	11	8	11	100%								61%											
COBB	9	1	9	1	100%									17%										
VCR	10	7	10	7	100%										39%									
Reinforce & wrap-up	17	2	17	2	100%																	11%		

Figure 6. MDT session structure

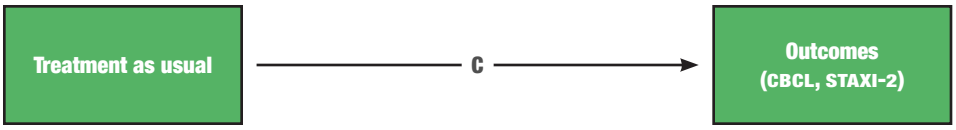

Figure 7. CBT process without moderator

between MDT and FMDT as measured by CBCL raises the question whether participation by the family in therapy is sufficiently effective to offset additional cost and complexity, further work is required. This is not a straightforward issue as it appears on the surface. According to Walsh (2003), there is also a paucity of studies examining separate process variables. Therefore it is necessary to disentangle and study the effect of other variables such as therapist-adolescent-family interaction in session, collective family values, intra-family dynamics and its possible influence on the reliability of outcome measures such as the CBCL as a self-report measure.

■ Discussion

If both MDT and Treatment As Usual (TAU) were equally effective in reducing anger and aggression, the first step of the mediation goal would have been the overall treatment method and the analysis would have stopped there. Therefore, it was by using a treatment control in the first place that we are able to establish the need and justify our examination of the mediated effects of MDT. Because TAU was utilized as the control, the results of this study supports our contention that MDT has an impact on anger and aggression through mechanisms that are likely specific to MDT treatment, as opposed to non-specific factors affecting treatment. It is important to note at this time that there are two key practical differences between MDT and classical CBT, namely the Validation-Clarification-Redirection (VCR) process step and the practice of mindfulness. The first—unique to the MDT methodology—is explored together with the family for over 39% of the typical treatment duration, while the latter is introduced after the assessment and case conceptualization stages and continues until treatment completion (61%). Refer to Figure 6 on page 7 for the typical basic MDT session structure and course.

Randomized controlled trials—as have been done in this study—is particularly useful to evaluate the effects of treatment relating to both the efficacy and effectiveness of therapy in a particular setting and population. Efficacy testing determine whether an intervention produces the desired results compared to a control, whereas efficacy estimates the degree of beneficial effect within the experimental group (Gartlehner, Hansen, & Nissman, 2006). Therefore, another strength is that this study reports on aspects of both efficacy and effectiveness research with a robust clinically representative population sample (Nathan, 2004; Nathan, Stuart, & Dolan, 2000; Kaufman, Rohde, Seeley, Clarke, & Stice, 2005). Because of this, the sample can potentially enhance the external validity of this study in terms of generalizability. Also important is the clarity and integrity of the MDT and CBT group methodology and well-defined measures of mediation and outcomes, which afford the opportunity for independent replication.

However, there are also several limitations of this study that must be noted. First, the study was completed by the founder of MDT and his research team. This is important to note because the first author has a vested interest in the success of the study, which can therefore not be considered as independent research. However, all the guidelines of therapy practices, mediation analysis, and multiple regression research were followed in an objective, transparent, and ethical manner to the best of our abilities. The second drawback is that the mediators were measured only at intake and post-treatment, simultaneous to the measurements of anger and aggression outcome. Thus, there might have been increases, decreases, or fluctuations of the measures in the interim that would be important for replication of future research in MDT, as well as to better understand when and how different elements contribute to the therapeutic changes.

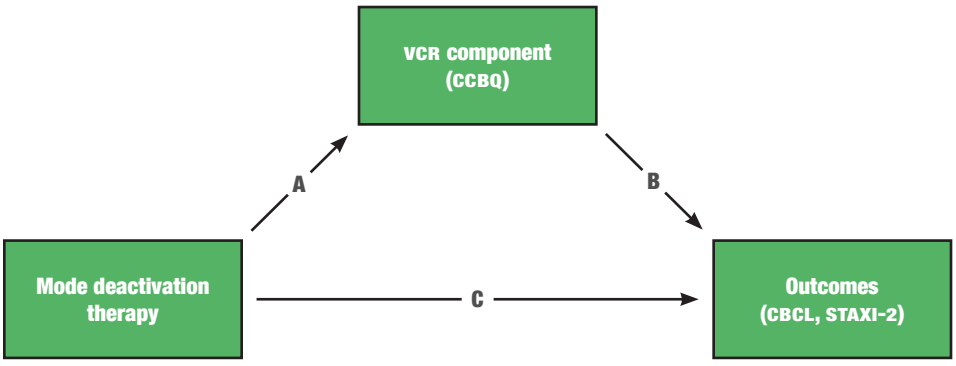

Figure 8. MDT process with VCR as mediator

Although definitely contributing to the overall understanding of the MDT process and its effectiveness, we are of the opinion that the two MDT mediation studies to date, namely Apsche, Bass, and Backlund (2012), and Bass and Apsche (2013), and including the current design and data set, is not truly (in a strict technical sense) mediation analyses. Their research designs are based on Figures 7 and 8, and therefore really resemble a straight comparison between the outcomes of MDT and classical CBT rather than an analysis of mediator(s)/moderator(s); as does the previous 20 or more MDT/FMDT research studies as well.

However, preliminary evidence is produced that proves that there is indeed some correlation between VCR as determined by CCBQ and behavioral outcomes (B/O measured by CBCL and STAXI-2). We further believe that the issue is that VCR is not so much a component of MDT that can be disentangled as it is the core of the approach. Furthermore, it is not the only element that distinguishes classical CBT from MDT—therefore its isolated effect cannot be examined by a straight comparison between MDT and CBT, but that a more comprehensive component analysis is required to understand the temporal and strength effects of different treatment components.

Apart from the different philosophy between MDT and CBT in acknowledging and validating the role of core beliefs in behavior, we also propose that the mindfulness component be similarly applied to both the experimental and control group (Mindfulness-based CBT/MBCT instead of classical CBT); to better isolate the VCR methodology in future studies. With the present evidence, it is our best interpretation that the mediation process in Figure 9 may best chronicle the MDT distinctive process, with VCR driving behavioral outcomes through FAB/CCBQ, but with the mindfulness component that impacts as moderator on the CCBQ → Behavior process flow. Hereby we suggest that mindfulness techniques mostly operate in the beliefs → thoughts → emotions → behavior paradigm of the MDT treatment framework.

Similarly—and as previously mentioned—the family aspect is also likely to exert a moderating influence, but on pathway A instead (refer again to Figure 9 on the next page). Therefore, in our best judgment based on existing evidence and observation, the influence of family system interactions in treatment likely has an effect on the existence and maintenance of belief systems, both in functionality and tenacity. On the other hand, the behavioral expression of core beliefs through intermediate thoughts, feelings, and emotions can be moderated by a keen observation and awareness of the self and environment in the present moment. For this reason, mindfulness training is expected to act as a moderator on pathway B above by influencing behavioral expression through a recognition of triggers and emotion regulation by a nonjudgmental process of acceptance.

■ Conclusions and future implications

Everything considered, Family-based Mode Deactivation Therapy (FMDT) continues to show great promise as an effective treatment for adolescents with trauma-related problems, disruptive behavior, and complex comorbid presentations. Both the

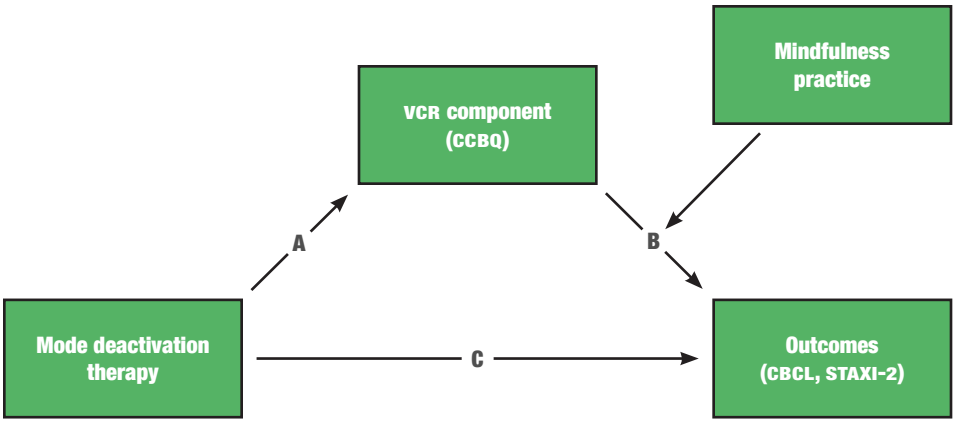

Figure 9. MDT process with mediator and moderator

post-treatment outcomes and durability of change at follow-up with MDT groups are very positive when compared to a classical CBT-based "treatment-as-usual" (TAU) control group. The basic preliminary mediation study demonstrated that the Validation-Clarification-Redirection (VCR) process step that is unique to the MDT methodology and theoretical approach is statistically correlated with the behavioral outcomes as measured by CBCL and STAXI-2. However, to qualify as a *bona fide* mediator in the therapy process, changes brought on by the VCR component have to precede changes in outcome measurements, a fact that could not be established with the current research design. Furthermore, other elements of the MDT process, some of which are shared by other psychotherapy practices, are also likely to influence the course of therapeutic change. In the case of FMDT, the two most likely elements to interact with the process pathways are the family participation and mindfulness training components. As explained previously, it is likely that both of these act as moderators with effects on the core belief system and the expression of responses arising from the core beliefs respectively. In order to move forward with the validation of FMDT as an effective treatment for the particular population, and facilitate a deeper understanding of the treatment change process components and their interrelated effects, the following research design elements are proposed for future study within a fair-sized group representative of the target adolescent profile.

1. Measurement of behavioral aspects with CBCL and STAXI-2, as has become the established norm in MDT research.
2. Measurement of core beliefs and functional alternative beliefs with the CCBQ, which determines the level of dysfunctional personality traits that are present (refer to Appendices A through D below).
3. Assessment of the four construct scales of mindfulness with the Kentucky Inventory of Mindfulness Skills (KIMS), or a similar instrument.
4. Completion of all the measurements by all participants at pre-treatment (before session 1), after initial evaluations but before introduction of mindfulness (between sessions 5 and 7), after completion of VCR (before session 17), and at post-treatment (after session 18). It should be possible to separate the effects of different therapy components by using these five different temporal intervals. Session numbers are as per the typical schedule (refer to Figure 6 on page 7).
5. Preferably, the measurements must also be repeated at a follow-up period of at least 18 months. Hereby the durability of components can by deduced by their respective maintenance or relapse.

These data sets are expected to provide the research team with adequate scores to conduct a meaningful component analysis with VCR as a possible mediator and mindfulness as a possible moderator. The process can also be replicated with a control group only receiving individual MDT sessions, whereby the effect of family participation can be explored. Any difference at the follow-up period may be especially meaningful as it is expected to reflect the positive and more lasting effect of MDT therapy collectively, with the family present. Ultimately, family-based MDT continues to offer great promise for a challenging but important population, and a deeper understanding of the therapeutic mechanism could facilitate even stronger improvements.

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■ Appendix A

COMPOUND CORE BELIEFS: SHORT VERSION (CCBQ-SV)

Name _____ Date _____

Please read the statements below and circle HOW OFTEN YOU ENDORSE EACH ONE.

		Never	Sometimes	Almost Always	Always
1.	Everyone betrays my trust. I cannot trust anyone. (III) (TI)	1	2	3	4
2.	If I am not loved, I am unhappy. (V)	1	2	3	4
3.	I am so exciting, others always want to be with me. (VI)	1	2	3	4
4.	I cannot trust others, they will hurt me. (X) (TI)	1	2	3	4
5.	If I trust someone today, they will betray me later. (III)	1	2	3	4
6.	I am only fulfilled by being with a strong person. (V)	1	2	3	4
7.	Others are critical, thereby they will reject me. (II)	1	2	3	4
8.	There is no problem if others know I did something. (I)	1	2	3	4
9.	Other people have hidden motives and want something from me. (X)	1	2	3	4
10.	Whenever I hope, I will become disappointed. (III)	1	2	3	4
11.	Others make better decisions than I; I cannot make up my mind. (V)	1	2	3	4
12.	When I feel, it may be unpleasant. (II) (LT)	1	2	3	4
13.	Unless you have a videotape of me, you cannot prove I did it. (I) (TI)	1	2	3	4
14.	If you criticize me, you are against me. (VII)	1	2	3	4
15.	If I don't make myself known, others will not know how special I am. (VI)	1	2	3	4
16.	Things never work out for me; I never get a break. (XI)	1	2	3	4
17.	If I am not on guard, others will take advantage of me. (X) (TI)	1	2	3	4
18.	I am so brilliant and special, only a "gifted" few understands me. (VII)	1	2	3	4
19.	When I am bored, I need to become the center of attention. (VI)	1	2	3	4
20.	If I give others the chance, they will hurt me. (X)	1	2	3	4

		Never	Sometimes	Almost Always	Always
21.	When I am angry, my emotions are extreme and out of control. (III) (LT)	1	2	3	4
22.	Others are stronger and I need them to cope. (V)	1	2	3	4
23.	I am inadequate; I will do whatever I must to hide it. (II) (TI)	1	2	3	4
24.	My "inner feelings" and intuition are all I need; rational thinking doesn't help. (VI) (TI)	1	2	3	4
25.	When I get angry, my emotions go from annoyed to furious. (III)	1	2	3	4
26.	If I am afraid something will be unpleasant, I will avoid it. (II)	1	2	3	4
27.	Others are unreliable, will let me down, or reject me. I need to protect myself. (III)	1	2	3	4
28.	When others are paying attention to me, I am never bored. (VI)	1	2	3	4
29.	Others may demand, but I do things my way. (XI)	1	2	3	4
30.	If I let others know me, they will take advantage and hurt me. (X) (TI)	1	2	3	4
31.	When I hurt emotionally, I do whatever it takes to feel better. (III) (LT)	1	2	3	4
32.	Anything is better than feeling unpleasant. (II) (LT)	1	2	3	4
33.	If I act silly and entertain people, they won't notice my weaknesses. (VI)	1	2	3	4
34.	If I let others know information about me, they will use it against me. (X)	1	2	3	4
35.	If others notice me, they will see my inadequacies. (II)	1	2	3	4
36.	People tell me or say things to me, and mean something else. (X)	1	2	3	4
37.	Life at times feels like an endless series of disappointments followed by pain. (III)	1	2	3	4
38.	If I feel bad, I can't control it. (II) (LT)	1	2	3	4
39.	I can do what I want; consequences don't affect me directly unless I am caught. (I) (TI)	1	2	3	4
40.	Consequences only matter when I am caught. They are for others. (I)	1	2	3	4
41.	If others think they can get away with taking advantage of me, they will use me and information about me. (X) (TI)	1	2	3	4
42.	If I don't take what I want, I won't get what I need, and I deserve it. (I)	1	2	3	4
43.	I try to control and not to show my grieving, loss, sadness, but eventually it comes out in a rush of emotions. (III) (LT)	1	2	3	4
44.	If I don't think about or deal with a problem, it is not real. (II)	1	2	3	4
45.	People are not worth being around if they criticize me. (II)	1	2	3	4
46.	My feelings about myself are so poor that I will do whatever I need to do to compensate for this. (III)	1	2	3	4
47.	Whenever I try to feel better, I will make things worse and feel more pain eventually. (III)	1	2	3	4
48.	If they ask me to do something I don't want to do, I'll pay them back. (XI)	1	2	3	4
49.	I do it because I can; I deserve to get what I want. (I)	1	2	3	4
50.	Whenever I need someone they are not there for me; there is no one I can count on. (III)	1	2	3	4
51.	Rules are for others. (VII)	1	2	3	4
52.	If people don't respond positively to me, they are not important. (VI)	1	2	3	4
53.	I need to avoid situations in which I am the center of attention; I should be behind the scenes. (II)	1	2	3	4
54.	I don't have to follow the rules for other people. (VII)	1	2	3	4
55.	It's OK to do what I do as long as I get away with it. (I)	1	2	3	4
56.	I would rather not try something new than fail at something. (II) (TI)	1	2	3	4
57.	I have every reason to expect wonderful things for myself since I am so special. (VII)	1	2	3	4
58.	I've been treated badly, so whatever I need to do to get what I need is OK. (I) (TI)	1	2	3	4
59.	My "gut" feelings tell me what I need to do; that is more important than thinking through problems. (VI)	1	2	3	4
60.	I never make decisions on my own; I always need support. (V)	1	2	3	4
61.	Unpleasant feelings usually escalate and then get out of control…and get worse. (II) (LT)	1	2	3	4
62.	My needs are more important, and others' needs shouldn't interfere. (VII)	1	2	3	4
63.	I will con people to get whatever I need; it's not a problem. (I)	1	2	3	4
64.	Since I am so talented and gifted, others should promote (help) me get what I want. (VII)	1	2	3	4
65.	Others should not criticize me; if they do, it's because they usually can't understand me. (VII)	1	2	3	4
66.	If people don't care for themselves, whatever happens to them is their problem. (I) (TI)	1	2	3	4

		Never	Sometimes	Almost Always	Always
67.	Circumstances dictate how I feel and behave. (VI)	1	2	3	4
68.	When I am abandoned, I feel like life is over. (V)	1	2	3	4
69.	If people do not show me respect and give me what I am entitled to, it is intolerable for me. (VII)	1	2	3	4
70.	Most of my relationships with people are extremely intimate, because people love to be around me or with me. (VI)	1	2	3	4
71.	I am happiest when people pay attention to me. (VI)	1	2	3	4
72.	I cannot handle my life without support. (V)	1	2	3	4
73.	I am needy and weak inside, no matter what others see. (V) (LT)	1	2	3	4
74.	I tell a girl or boy anything I need to get sex, or what I want. (I) (TI)	1	2	3	4
75.	I must be subservient to all in authority; I cannot make it on my own. (V)	1	2	3	4
76.	I don't need to work to achieve; things should come my way because I deserve it. (VII)	1	2	3	4
77.	Whenever I end a relationship, I immediately find a new one. (V)	1	2	3	4
78.	Most people are not as gifted as I am, and my behavior lets them know it. (VII)	1	2	3	4
79.	Whenever I am not getting attention, I am bored. (VI)	1	2	3	4
80.	Being alone is terrible. (V) (LT)	1	2	3	4
81.	If I don't "take care" of tem first, then they will get me. (I)	1	2	3	4
82.	I cannot cope like others; I need support. (V)	1	2	3	4
83.	Others' feelings are not as important as achieving a goal for myself. (VII)	1	2	3	4
84.	If other people get any information on me, they will use it against me. (X) (TI)	1	2	3	4
85.	Other people expect too much from me. (XI) (TI)	1	2	3	4
86.	If others are too bossy or demanding, I don't have to follow them. (XI)	1	2	3	4
87.	Authority figures tend to be controlling or demanding and act like they are in control. (XI) (TI)	1	2	3	4
88.	Others always have hidden motives and I cannot really trust anyone. (X)	1	2	3	4
89.	If I don't want to do something, my mood changes and I withdraw emotionally. (XI)	1	2	3	4
90.	If I let others know "who I am", they'll know my weaknesses and use them against me. (X)	1	2	3	4
91.	I never like to show my anger directly, but others know when I am angry. (XI) (TI)	1	2	3	4
92.	Others should not tell me what to do; I will eventually do what I want to do anyway. (XI)	1	2	3	4
93.	I have to keep myself from being dominated by authority figures, while gaining their acceptance and approval. (XI)	1	2	3	4
94.	Others often attempt to get one over on me by exploiting or harming me in some way. (X)	1	2	3	4
95.	I really am self-sufficient, but I often need others' help to reach my goals. (XI)	1	2	3	4
96.	Authority figures usually stifle my creativity and prevent my progress toward goals. (XI)	1	2	3	4

Appendix B

CCBQ-SV SCORE SHEET

Circle all beliefs endorsed as "always" or "4":

I 8, 13, 39, 40, 42, 49, 55, 58, 63, 66, 74, 81	**II** 7, 12, 23, 26, 32, 35, 38, 44, 45, 53, 56, 61	**III** 1, 5, 10, 21, 25, 27, 31, 37, 43, 46, 47, 50
IV 2, 6, 11, 22, 60, 68, 72, 73, 75, 77, 80, 82	**V** 3, 15, 19, 24, 28, 33, 52, 59, 67, 70, 71, 79	**VI** 14, 18, 51, 54, 57, 62, 64, 65, 69, 76, 78, 83
VII 4, 9, 17, 20, 30, 34, 36, 41, 84, 88, 90, 94	**VIII** 16, 29, 48, 85, 86, 87, 89, 91, 92, 93, 95, 96	

Circle all beliefs endorsed as "almost always" or "3":

I 8, 13, 39, 40, 42, 49, 55, 58, 63, 66, 74, 81	**II** 7, 12, 23, 26, 32, 35, 38, 44, 45, 53, 56, 61	**III** 1, 5, 10, 21, 25, 27, 31, 37, 43, 46, 47, 50
IV 2, 6, 11, 22, 60, 68, 72, 73, 75, 77, 80, 82	**V** 3, 15, 19, 24, 28, 33, 52, 59, 67, 70, 71, 79	**VI** 14, 18, 51, 54, 57, 62, 64, 65, 69, 76, 78, 83
VII 4, 9, 17, 20, 30, 34, 36, 41, 84, 88, 90, 94	**VIII** 16, 29, 48, 85, 86, 87, 89, 91, 92, 93, 95, 96	

Circle all beliefs endorsed as "sometimes" or "2":

I 8, 13, 39, 40, 42, 49, 55, 58, 63, 66, 74, 81	**II** 7, 12, 23, 26, 32, 35, 38, 44, 45, 53, 56, 61	**III** 1, 5, 10, 21, 25, 27, 31, 37, 43, 46, 47, 50
IV 2, 6, 11, 22, 60, 68, 72, 73, 75, 77, 80, 82	**V** 3, 15, 19, 24, 28, 33, 52, 59, 67, 70, 71, 79	**VI** 14, 18, 51, 54, 57, 62, 64, 65, 69, 76, 78, 83
VII 4, 9, 17, 20, 30, 34, 36, 41, 84, 88, 90, 94	**VIII** 16, 29, 48, 85, 86, 87, 89, 91, 92, 93, 95, 96	

Circle all beliefs as endorsed on the CCBQ-SV:

Endorsement of Beliefs	Life-Threatening (LT)	Treatment-Interfering (TI)
Endorsed as "always" or "4"	**IX** 12, 21, 31, 32, 38, 43, 61, 73, 80	**X** 1, 4, 13, 17, 23, 24, 30, 39, 41, 56, 58, 66, 74, 84, 85, 87, 91
Endorsed as "almost always" or "3"	**IX** 12, 21, 31, 32, 38, 43, 61, 73, 80	**X** 1, 4, 13, 17, 23, 24, 30, 39, 41, 56, 58, 66, 74, 84, 85, 87, 91
Endorsed as "sometimes" or "2"	**IX** 12, 21, 31, 32, 38, 43, 61, 73, 80	**X** 1, 4, 13, 17, 23, 24, 30, 39, 41, 56, 58, 66, 74, 84, 85, 87, 91

■ Appendix c

PROFILE SCORES: CCBQ-SV

Client Name: _____ Date: _____

Therapist Name: _____

	Personality traits	# of 4's endorsed	# of 3's endorsed	# of 2's endorsed	Total	Score
I	Antisocial Personality Traits	× 3	× 2	× 1	/12	
II	Avoidant Personality Traits	× 3	× 2	× 1	/12	
III	Borderline Personality Traits	× 3	× 2	× 1	/12	
IV	Dependent Personality Traits	× 3	× 2	× 1	/12	
V	Histrionic Personality Disorder	× 3	× 2	× 1	/12	
VI	Narcissistic Personality Traits	× 3	× 2	× 1	/12	
VII	Paranoid Personality Traits	× 3	× 2	× 1	/12	
VIII	Passive Aggressive Personality Traits	× 3	× 2	× 1	/12	
IX	Life Threatening Beliefs	× 3	× 2	× 1	/9	
X	Treatment Interfering Beliefs	× 3	× 2	× 1	/17	

■ Appendix d

PROFILE CHART: CCBQ-SV

Client Name: _____ Date: _____

Therapist Name: _____