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## Combining Cognitive-Behavioral Conjoint Therapy for PTSD with 3,4-Methylenedioxymethamphetamine (MDMA): A Case Example

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### ABSTRACT

Treatments for posttraumatic stress disorder (PTSD) have evolved significantly in the past 35 years. From what was historically viewed as a pervasive, intractable condition have emerged multiple evidence-based intervention options. These treatments, predominantly cognitive behavioral in orientation, provide significant symptom improvement in 50–60% of recipients. The treatment of PTSD with MDMA-assisted psychotherapy using a supportive, non-directive approach has yielded promising results. It is unknown, however, how different therapeutic modalities could impact or improve outcomes. Therefore, to capitalize on the strengths of both approaches, Cognitive Behavioral Conjoint Therapy for PTSD (CBCT) was combined with MDMA in a small pilot trial. The current article provides a case study of one couple involved in the trial, chosen to provide a demographically representative example of the study participants and a case with a severe trauma history, to offer a detailed account of the methodology and choices made to integrate CBCT and MDMA, as well as an account of their experience through the treatment and their treatment gains. This article offers a description of the combination of CBCT for PTSD and MDMA, and demonstrates that it can produce reductions in PTSD symptoms and improvements in relationship satisfaction.

### ARTICLE HISTORY

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MDMA; couples; CBT;  
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The field has made enormous strides in the treatment of PTSD in the past 30 years. From what was once viewed as a pernicious, intractable disorder deserving a palliative treatment course, PTSD is now considered a treatable condition with various evidence-based intervention options. The majority of these interventions are cognitive-behavioral in approach (e.g., Cognitive Processing Therapy, Resick, Monson, and Chard 2016; Prolonged Exposure, Foa, Hembree, and Rothbaum 2007; Cognitive Behavioral Conjoint Therapy (CBCT) for PTSD, Monson and Fredman 2012). Cognitive-behavioral interventions for PTSD have been found effective in meta-analyses (e.g., Watts et al. 2013), adopted throughout healthcare systems (e.g., Karlin et al. 2010), and thousands of clinicians have been trained through ongoing dissemination efforts (e.g., Chard et al. 2012; Foa, Gillihan, and Bryant 2013; Monson et al. 2018). Cognitive Processing Therapy (CPT) and Prolonged Exposure (PE) have received support as strongly recommended in treatment guidelines (e.g., APA 2017; ISTSS 2018).

These treatments, however, do not work for all of those who receive them. For example, 50–60% of

people no longer meet criteria for PTSD in the most successful treatment trials (Foa et al. 2005; Monson et al. 2006; Resick et al. 2002), yet this leaves millions of people every year who do not respond adequately to existing treatments. Additionally, the current model of individual weekly or biweekly psychotherapy does not fit the needs of all individuals with PTSD. Alternative approaches are needed, both to improve treatment outcomes and to address participant interest in alternative modes of treatment administration. The current study, illustrated through the use of a case example, combines CBCT for PTSD with MDMA, a medication with growing evidence for its efficacy for treating PTSD.

PTSD has been conceptualized as an interpersonal disorder, given the impact it has on interpersonal relationships, and also the interpersonal nature of meaning making post-trauma that occurs when PTSD is present (Monson, Fredman, and Dekel 2010). Cognitive-Behavioral Interpersonal Theory (C-BIT) outlines the relationship between PTSD symptoms for an individual and for close others in their psychosocial system (Monson, Fredman, and Dekel 2010). PTSD impacts the functioning of not only the individual with PTSD, but also their relationships.

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Conversely, the functioning of close others and relationship functioning impact PTSD (e.g., Bradley et al. 2005; Lambert et al. 2012; Shnaider et al. 2014). CBCT for PTSD makes use of this interpersonal dynamic in the treatment of PTSD, and notably addresses the desire for close others to be involved in treatment. CBCT for PTSD targets both PTSD symptoms and relationship satisfaction by increasing understanding of PTSD within the context of the relationship, dyadic skills (e.g., communication, problem solving, and conflict management), behavioral approach tasks, and dyadic cognitive restructuring of thoughts that are preventing recovery (Monson and Fredman 2012).

Because of the nature of avoidance with PTSD, along with stigma regarding seeking mental health care and concern regarding treatment (e.g., Stecker et al. 2013), involving close others in PTSD treatment can be useful. There may be strong investment in engaging in care for the sake of the relationship, if not only for the individual (e.g., Meis et al. 2013). There is growing evidence for the effectiveness of CBCT, with strong outcomes for the reduction of PTSD symptoms, as well as improvements in partner functioning and in relationship functioning (Monson and Fredman 2012; Monson et al. 2004; Shnaider et al. 2014). CBCT has been found to be effective with distressed and non-distressed dyads (Monson and Fredman 2012; Shnaider et al. 2014).

MDMA, an atypical psychedelic compound, was used as a therapy-facilitating tool before it was placed in Schedule I in the United States (Greer and Tolbert 1986; Passie 2018; Passie and Benzenhofer 2016; Riedlinger and Riedlinger 1994). MDMA has shown promise in the treatment of PTSD when coupled with non-directive, supportive psychotherapy (Mithoefer et al. 2011, 2013, 2018b). MDMA's neurobiological effect includes activation of the prefrontal cortex and dampening of activity in the amygdala, as well as release of neurotransmitters such as serotonin, dopamine, norepinephrine, and hormones such as oxytocin, cortisol, vasopressin, and prolactin (Carhart-Harris et al. 2015; de la Torre et al. 2000; Dumont et al. 2009; Emanuele, Arra, and Pesenti 2006; Feduccia and Mithoefer 2018). Coupled with the intentional creation of a therapeutic context, set, and setting, this neurobiological effect enables what has been theorized as an optimal zone of arousal, as well as possibly allowing for a type of fear extinction (Feduccia and Mithoefer 2018). We posit that the neurotransmitter release and changes in brain activity may also allow for flexibility in cognition, given the altered affective and sensory state, as well as increased feelings of empathy (Kuypers et al. 2014), positive or clear affect (Green et al. 2003), openness (Gamma et al. 2000), and less constrained cognitive processing (Carhart-Harris et al. 2015), which may address elements of trauma reappraisal targeted in cognitive therapies. Additionally, it is posited that the

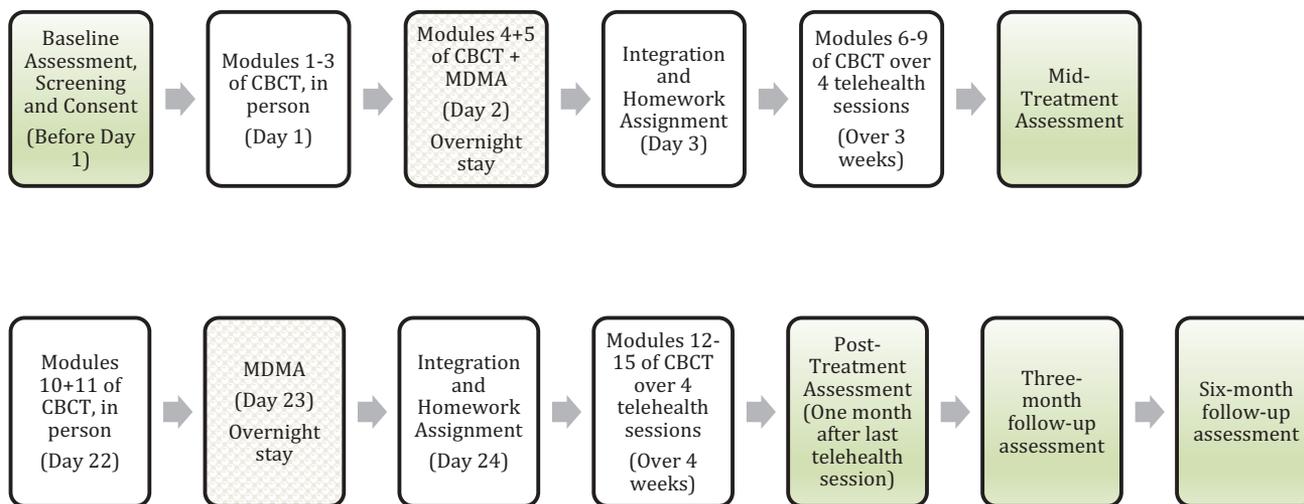
experimental expectancy effect of taking a psychedelic compound, as well as the "special" nature of the context of therapy (massed dosing, full-day sessions, significant pre-treatment discussion and consent, contact with therapists daily following MDMA sessions), may allow for optimal treatment gains. The sense of empathy produced extends to therapists, partners, and also to the client, allowing for more thorough examination of thoughts and emotions with a sense of care and understanding, as opposed to fear. The MDMA session experience may create a salient example of what it may feel like to no longer have PTSD, and therefore offer a scaffold on which to continue to improve following the session. The current article provides a case study of one couple involved in the trial to offer a detailed account of the methodology and choices made to integrate CBCT and MDMA, as well as an account of their experience through the treatment and their treatment gains.

## Method

### *CBCT protocol and session flow*

CBCT is a 15-module, three-phase, protocol-based, dyadic treatment for PTSD (Monson and Fredman 2012). Each module is typically delivered in a 75-minute psychotherapy session. The relationship between the members of the dyad is considered the client in therapy, and all interventions are designed to address both people. Phase one of the treatment (two modules) includes psychoeducation about PTSD and addresses barriers to safety, including understanding and working with anger and irritability. Phase two (five modules) emphasizes the development of communication and problem-solving skills, and introduces behavioral approach tasks aimed at reducing avoidance. Phase three (eight modules) consists of dyadic cognitive work to address stuck thoughts related to the trauma, including areas related to acceptance and blame, trust, power, control, emotional intimacy, physical intimacy, and posttraumatic growth. Out-of-session assignments are used to practice skills and techniques learned in session.

In this case study, two full-day MDMA sessions were added to the CBCT protocol, during which both members of the dyad were given MDMA. The first MDMA session was placed after module 5 of CBCT, which is mid-way through phase two (see Figure 1). This placement was selected in order to place the MDMA session directly after the couple had learned and practiced communication skills, as we wanted the couple to have these skills in order to share their experiences and be able to communicate effectively during their MDMA session and afterwards. The second MDMA



**Figure 1.** CBCT+MDMA Treatment Flow.

session took place after module 9 of the CBCT protocol, which is near the beginning of phase three of the protocol, and in the heart of the trauma processing around themes of acceptance and blame. The rationale for placing the second MDMA session there was to facilitate trauma processing and to prime the participants with self-referential, trauma-related content.

The first three modules of CBCT were delivered in one day (see Figure 1), with time during breaks for the couple to complete homework exercises. This procedure was both feasible and acceptable to the participants. Subsequently, two modules of CBCT were condensed the next morning prior to the first MDMA administration. Four modules of CBCT were delivered over videoconference over the following three weeks, and then two modules of CBCT were conducted in person the day before the second MDMA session. The final four modules of CBCT were delivered weekly over videoconference after the second MDMA session. The CBCT modules that were delivered over videoconference were done so due to pragmatic considerations; the couples and therapists often did not live in the same city and all would travel to meet for the in-person sessions. CBCT has been demonstrated to be effective when delivered over videoconference (Morland et al. 2018).

### MDMA sessions

The design of CBCT + MDMA includes a team of two therapists, with no specification as to the gender of the therapist, deviating from the norms of a male and female therapist dyad used with MDMA-assisted non-directive, supportive psychotherapy (Mithoefer et al. 2018a). The therapists were present with the dyad throughout all

components of the therapy. During the MDMA sessions, the participants, who were seated in reclining lounge chairs, were encouraged to spend time “inside” (e.g., with headphones on with pre-selected instrumental music playing and with eyeshades). This time “inside” alternated with time “outside” (e.g., headphones and eyeshades off, speaking with the partner and therapists). The alternating pattern of time spent inside and outside lasted for approximately six hours, during which time hourly subjective units of distress (SUDS) ratings were recorded and blood pressure and temperature were checked per the safety protocol.

Participants stayed overnight at the study facility the night of the MDMA session with a night attendant, and then met with the therapists the following morning to debrief and assign out-of-session assignments. Daily phone check-ins ensued for seven days to maintain supportive contact and check in on any adverse reactions to the medication. The second MDMA session followed the same procedure as the first.

Participants were given 75 mg of MDMA for the first session, with an optional supplemental half-dose (37.5 mg) offered at 90 minutes post-administration to elongate the session (the participants in this case study both took the supplemental half-dose). Ninety minutes post-administration was chosen as this is the time where the MDMA has reached full effect for the majority of participants. For the second MDMA session, participants were offered the choice of 75 mg or 100 mg as their initial dose of MDMA (in the case described here, both members of the dyad chose 100 mg), and therefore the supplemental half-dose was 50 mg. The choice to offer an increase in dose was done based on the option to create a stronger felt effect of the MDMA, as 75 mg is the lowest

dose used in other studies of MDMA for the treatment of PTSD (e.g., Mithoefer et al. 2018b). All MDMA doses were administered via oral capsule. Participants were required to refrain from eating from midnight the night before the MDMA session, and the MDMA was administered by 11 AM on the day of the session.

### **Assessment and inclusion**

Ethics approval was obtained from the Copernicus Group in the US and Ryerson University in Canada, and written informed consent was obtained from participants. The study took place in a private practice facility in the Southern United States. Assessments were conducted by an independent rater pool. Participants completed assessments at baseline, post-treatment, three-month follow-up, and six-month follow-up, and completed the PTSD Checklist (PCL-5, patient or partner version; Weathers et al. 2013b) and a one-item rating of relationship satisfaction (Couples Satisfaction Index, CSI; Funk and Rogge 2007) at every session. Participants were assessed on the Clinician-Administered PTSD Scale-5 (CAPS-5; Weathers et al. 2013a) at each assessment time point, and the Structured Clinical Interview for the DSM-5 (SCID-5; First et al. 2015) at baseline to determine eligibility. PTSD symptoms and relationship satisfaction scores are considered the primary study outcomes.

Participants had to be over 18 years of age, and one member of the couple had to have a diagnosis of PTSD. The partner could not have a diagnosis of PTSD. Current substance use disorder, active suicidal planning or intent, mania, and psychosis were psychiatric exclusionary criteria for both partners. Severe partner aggression was also an exclusionary criterion. Participants were medically screened for safe inclusion, including of heart rate, cardiac functioning, blood pressure, and any major medical condition, and participants were required to taper off of all psychiatric medications.

### **Case example**

#### **Case background, assessment, and therapists**

The participants, Stuart and Josie,<sup>1</sup> were recruited as part of a pilot study of CBCT + MDMA. They were referred to the study by Stuart's individual therapist. Stuart had been attending therapy for several years to address his trauma-related symptoms. While he had experienced periods of symptom abatement, the symptoms returned and, within the past three years, they had become increasingly problematic for him and for his relationship with his wife, Josie, and their three grown children. Stuart and Josie were both in their mid-50s at the time

of treatment. They were both Caucasian and were employed full-time. Stuart had not previously received a cognitive-behavioral treatment for PTSD. He had received a course of Eye-Movement Desensitization and Reprocessing (EMDR; Shapiro 2001). Stuart had not shared much regarding his traumatic experiences with Josie, because Josie reported being concerned about the effect they might have on her if she should hear them.

At baseline, Stuart's CAPS-5 score was 43 (range 0 to 80; Weathers et al. 2013a), his PCL-5 score was 66 (all versions range 0 to 80; Weathers et al. 2013b), and his baseline relationship satisfaction on the one-item CSI measure was 3 (on a scale of 0 to 6, with 0 being Extremely Unhappy and 6 being Perfect). He did not have any current comorbid disorders on the SCID-5, and met criteria for past Major Depressive Disorder and past Alcohol Use Disorder. Josie had no psychiatric diagnoses per the SCID-5, and rated Stuart's posttraumatic symptoms as a 53 on the PCL-5. Her relationship satisfaction was a 3.

The therapists consisted of one female, early-career clinician who took the role of CBCT expert, and one male, late-career clinician who had extensive experience with MDMA-assisted psychotherapy. Both clinicians underwent training in the other modality in order to facilitate treatment development and create a common understanding of the administration of MDMA in psychotherapy.

Stuart's traumatic event was repeated sexual assault in childhood by his father and his father's work colleagues. Through the course of therapy, Stuart came to realize that he had been groomed by his father's friends, and that his father had been coerced and blackmailed into sexual acts with Stuart by his friends. Stuart reported immense guilt and shame surrounding the events, particularly because he recalled always wanting to go to work with his father, and desperately wanting his father's approval. Stuart's confusion about his early sexual experiences resulted in what he described as an unwanted focus on being submissive and seeking out sexual scenarios consistent with that experience. This created strain in the relationship with Josie, because this was not a dynamic she enjoyed.

#### **Course of treatment and outcomes**

In phase one of CBCT, Josie and Stuart identified that emotional numbing and irritability, as symptoms of PTSD, had impacted their relationship. They were able to identify how the different symptom clusters interplayed together to maintain PTSD, and noted particularly how avoidance of emotion fed that cycle. Work was done early

on in the treatment to work through Josie's concerns about hearing traumatic information, based on the understanding that how the information is shared in therapy would not be traumatizing for her and that she would be supported in responding to Stuart.

In phase two of CBCT, Stuart and Josie worked to develop skills such as paraphrasing. They were also taught skills to express specific thoughts and feelings related to PTSD that created strong emotion for them both. The development of those skills was used to prime the couple before their first MDMA session, and the couple was prompted to use the skills during the session when they wanted to share thoughts and emotional experiences.

Prior to the first MDMA session, both partners expressed anxiety, having never used any type of non-ordinary state of consciousness-inducing medication before, and not knowing what the experience would bring up cognitively and emotionally. During the first MDMA session, Stuart, unprompted, went chronologically through his traumatic experiences. He reported staying with the memories and sensory details, much of which he had previously avoided. Stuart experienced strong emotional reactions, such as crying and grief in the sessions, and did not try to stop or escape those experiences. Stuart also had strong visceral reactions in the MDMA session, including muscle tightening and sweating as he reviewed traumatic memories while "inside." Following this session, Stuart reflected, "There's no easy fix—I need to work through the darkness."

Josie was able to discuss her challenges in coping with Stuart's PTSD and the impact on their relationship, her mental wellness, and their family more generally, in the MDMA sessions. She reported strong positive experiences and the sensation of finally being able to relax, which she reported as being atypical for her. Josie reported that "I just have overall inner peace—it's amazing. There is no price anyone can pay for that."

Stuart and Josie are religiously devout, and cited their faith as a key ingredient in their individual lives and relationship. Religious symbolism was rife throughout their MDMA sessions, including Josie reporting that she felt as if "Jesus is holding my hand and walking with me." Stuart and Josie used this type of referent frequently in therapy, although the sensation appeared heightened and comforting in the MDMA sessions.

Following the first MDMA session, neither Stuart nor Josie reported significant emotional or physiological challenges in the subsequent days. Stuart reported feeling fatigued, but emotionally and psychologically much lighter. Stuart's self-reported PTSD symptoms reduced markedly following the first MDMA-

facilitated session; he attributed this to "a new understanding of the traumatic experiences and acceptance."

Josie and Stuart completed behavioral approach tasks in the three weeks between the two MDMA sessions, such as organizing to spend time with Stuart's sister and having conversations about emotions. Moving into phase three of the treatment, Stuart and Josie tackled stuck thoughts, which are dysfunctional cognitions that maintain the cognitive loop that contributes to the cycle of PTSD symptoms. They worked through stuck thoughts related to themes of blame, trust, and control for Stuart (such as "I didn't do enough to stop what happened. It was my fault," which resulted in the alternative thought "It wasn't my fault, I know that now. I was a little kid and I didn't have a choice"), and related to emotional intimacy for Josie (such as "We can't let other people into our lives," which resulted in the alternative thought "I can learn to let other people in and become close to them").

The second MDMA session closely resembled the first, although Stuart did have some time of peace and gentle pleasurable experience by the end of his second session. Josie continued to have a supportive, relaxing, and engaged experience during the second session. Following the second session, Stuart's symptoms were almost non-existent, and remained so through follow-up, with several waves of strong emotions over the months that he attributed to paying attention to different memories from his childhood that he had avoided previously. At post-treatment, Stuart's CAPS-5 score was 1, and his PCL-5 score was 4. Josie's PCL-5 score of Stuart's symptoms was 1. They both rated their relationship satisfaction as 5. These gains were maintained at three- and six-month follow-ups.

## Discussion

For this couple, CBCT + MDMA had the intended effect—resolution of PTSD symptoms and improvement in relationship satisfaction. The intensive nature of the treatment facilitated participant engagement and commitment, and it can be posited that the context, set, and setting of multiple full days together, as well as the empathy-inducing effects of the MDMA, created strong therapeutic bonds between the couple and the therapists. The issue of homework completion early in treatment was mitigated by condensing modules together and having breaks within the therapy session itself to do homework.

Stuart attributed much of his reduction in symptoms to a better, clearer understanding of the events that occurred, and acceptance of both the events and himself.

This understanding allowed the struggle around the memories and experiences to cease, which resulted in less numbing, avoidance, and irritability. Memories of the traumatic events that entered his mind following the therapy were often described as being examined with curiosity and interest, as opposed to fear and displeasure. Stuart and Josie both described feeling a strong sense of this (the trauma, their journey together, this treatment, Stuart's recovery) having happened "for a reason," and felt bonded for having gone through the therapy together. The salient, shared experience of the intervention, as well as experiencing what it felt like not to have the overlay of PTSD present during the MDMA sessions, created a lasting impression for Stuart and Josie that they were able to integrate and move forward.

For Stuart, the CBCT + MDMA experience offered a new template to make sense of his traumatic experiences, and allowed him the space to think and experience through the memories and assumptions he had made about the event without the overlay of fear and anxiety. That ability to take a nuanced look allowed Stuart the opportunity to make meaning of the events in a way that felt helpful to him, and unlocked the cycle of PTSD symptoms. "I have my life back and for the first time in my life I look forward to a renewed future.... I live my life now with hope where despair ruled before. That is a pretty huge realization for me.... It's like a light has been shined into the darkness of my soul" (Stuart, 11 months post-treatment in an email to the clinicians).

For Josie, the CBCT + MDMA experience allowed her the opportunity to no longer feel she had to "walk on eggshells," and to experience relief from anxiety and tension. Together, Stuart and Josie were able to share the experience of Stuart's traumatic memories, and face them in a united and accepting manner. They both cited having the template of the skills offered in CBCT, such as the skills of paraphrasing and the tools of behavioral approach and challenging thoughts, as helpful in creating a common language and roadmap for them.

This case example demonstrates that the combination of CBCT + MDMA was feasible, effective for this case, and well-tolerated by the couple. They were able to follow the protocol as designed, and were engaged in out-of-session work and all therapy sessions. This case also demonstrates that the delivery of CBCT can be condensed (e.g., having the course of therapy delivered in two months as opposed to four to five months; see also Fredman et al. 2018), elements can be delivered effectively via videotherapy, and that the addition of MDMA was viewed as useful to the clients. Additionally, this case demonstrates that the use of an evidence-based stand-alone treatment for PTSD can be combined effectively with MDMA, as previous studies

of MDMA-assisted psychotherapy for PTSD have used non-directive, supportive psychotherapy, which alone is not considered an evidence-based PTSD treatment.

The specific setting created for the therapeutic use of MDMA (a comfortable room, the ability to lie down, the use of music and eyeshades) and set (the presentation of this medication as an adjunct that could help facilitate therapy), as well as context (in the midst of a trauma-focused PTSD intervention), are key elements that need to be considered. The context prepares the clients for engaging with trauma-related content in the sessions. The set and setting are following principles outlined in the early psychedelic-assisted psychotherapy literature (Greer 1985; Grof 2001), and described in a treatment manual used in recent MDMA clinical trials (Mithoefer et al. 2018a). While appealing and standardized in this context, their individual effect and necessity is not yet known.

Although the findings from this case are positive, additional research is needed to explore whether this treatment will be helpful for other couples presenting for treatment.

## Note

1. Names have been changed. Some identifying characteristics have been changed in order to protect participant confidentiality, although all data are accurate.

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