

Running head: CLINICAL POTENTIAL FOR USE OF LSD AND MDMA IN TREATMENT OF TRAUMA

HEALING HIGHS: THE CLINICAL POTENTIAL FOR THE USE OF LYSERGIC ACID
DIETHYLMIDE (LSD-25) AND 3,4-METHYLENEDIOXY-METHAMPHETAMINE (MDMA) IN
THE TREATMENT OF PSYCHOLOGICAL TRAUMA

by

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Abstract

Trauma, including Post Traumatic Stress Disorder, is a prevalent and challenging issue in the psychology field, with a number of treatment approaches with varying degrees of success. Historically, the psychedelic substances lysergic acid diethylamide (LSD-25) and 3,4-methylenedioxy-methamphetamine (MDMA) were used in therapeutic settings, under the supervision of trained practitioners. However, prohibition and the subsequent scheduling of these substances as illicit effectively halted their use in therapy and ceased exploration of their therapeutic potential. As a result, a generation of therapists has been uninformed of the potential of these psychedelic substances as an adjunct to psychological therapy, including in the treatment of trauma. This qualitative thesis will aim to uncover the history behind these substances, their relationship to psychotherapy, and the more recent utilization of them in our culture of psychotherapy through a best practices document analysis and synthesis. Exploring the use of psychedelics in treating trauma will provide further insight into the ways in which we approach and deal with psychological healing.

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Chapter 1: Introduction

This thesis will present an analysis and synthesis of information on two psychedelic substance, LSD and MDMA, and their place in psychotherapy practice as it relates to the treatment of trauma. It will offer valuable and accessible reference for counsellors and non-medical psychotherapists in understanding alternative methods of treatment for posttraumatic stress disorder. As a result of both of these substances being removed as an available prescribed method of pharmacology, there is limited experience and information in the psychotherapy community, which this thesis will review in addition to the recent renewal of clinical research utilizing them in conjunction with traditional psychotherapy methods. A focus on how these substances have been used historically in addressing the necessary conditions for effective treatment, including development of the therapeutic alliance and improving the experiences of the debilitating symptoms of PTSD, will be discussed. The aim of this thesis is to provide a manner of orienting current therapeutic practitioners to the therapeutic potential, concerns, and best practices of using these psychedelic substances as an aide in the treatment of psychological trauma.

The use of pharmaceutical drugs to combat mental health issues has been going on for decades, ushered in by the use of Thorazine for psychosis in the 1950s, or lithium for mania (Fink, 2000). Prescription drugs are used in an attempt to alleviate symptoms of mood, anxiety, or psychosis. We permit, and at times demand, pharmaceuticals be administered to those who are suffering with psychological pain, including experiences and effects of trauma. A variety of psychological therapies have proven to be helpful for trauma related issues, including Cognitive Behavioural Therapy, Prolonged Exposure Therapy and Eye Movement Desensitization and Reprocessing (EMDR), but efficacy is not always long term (Oehen, Traber, Widmer, & Schnyder, 2012). At times, medications may be beneficial in supporting the client's improvement

of symptoms, in combination with psychotherapy. Oehen, et. al (2012) explain that the only FDA approved medications at this time are Selective Serotonin Reuptake Inhibitors (SSRIs) and Serotonin-norepinephrine Reuptake Inhibitors (SNRIs), which seem to have only moderate impact on managing the symptoms. Furthermore, there are individuals who, despite a range of available treatment approaches and medications, find no solace from their traumatic suffering, and may benefit from alternative methods. Decades ago, substances that we now view as dangerous or illegal, were used to help guide individuals with psychological pain to a more manageable and functional place. Before the Controlled Substances Act was initiated in 1970 in the United States, psychedelics such as lysergic acid diethylamide (LSD) and 3,4-methylenedioxy-methamphetamine (MDMA) were used within clinical settings to address reactive issues such as trauma and anxiety. Unlike current pharmaceutical approaches, which seek to medically blunt or temporarily alleviate symptoms of distress, psychedelics were used within the psychological therapy session to enhance the process of therapy through diagnosing the problem, facilitating the therapeutic alliance and enhance memories and insights (Grinspoon, & Doblin, 2001). The Controlled Substances Act, which made psychedelics illicit substances, therefore eliminated the progression of this therapeutic tool by making it inaccessible to, not only general society, but psychotherapists and physicians as well (Friedman, 2006).

Nature and purpose of the study

LSD was discovered in 1938 by Alberta Hoffman (Yensen, 1985), a discovery which produced extensive literature on psychological effects and potential therapeutic uses. Specifically, widespread use and research was conducted in the 1950s in regards to the psychosis-like effect, reflective of schizophrenia, it could produce, a claim which eventually faded but was replaced by the possibility as using it as an aid for the therapeutic process (Pahnke, Kurland, Unger, Savage, &

Grof, 1970). Similarly, MDMA has its roots in the early 20th century, with a patent by Merck in 1912, and first documented in therapeutic trials in 1978 (Mithoefer, 2011). MDMA was explored as an adjunct to psychotherapy throughout the 1970s and 1980s, used widely by psychiatrists and therapist prior to becoming a Schedule I drug in 1985 when it was commonly known as ‘Ecstasy’ on the streets. Despite research being curtailed, and a generation of therapeutic professionals developed in the meantime, these psychedelic substances are being revisited and promoted as possible tools for addressing a variety of mental health challenges. Like any substance or medication, there are important risks and benefits, both of which both are important to understand considering the therapeutic potential.

Recent literature suggests the therapeutic potential in using psychedelics in treating trauma, specifically treatment resistant Post-Traumatic Stress Disorder (PTSD) because of the experience the individual has while under the influence of the substance and the facilitated and supported environment in which it occurs (Friedman, 2006; Mithoefer, 2011). However, with a generation gap in implementation, it is important that the new generation in the therapeutic community be informed of the nature of these studies and proposed therapeutic uses of psychedelics. As a result of the culture of substance demonization and prohibition, there is potentially a bias against the use of non-pharmaceutical medication as a result of fear, judgment, and lack of accurate information.

This possibility is at the centre of the purpose of this thesis, which is to provide a comprehensive exploration of both historical and current research into the therapeutic potential for the use of LSD and MDMA as it relates to the treatment of PTSD. The intention is to produce a comprehensive analysis that discusses historical literature including clinical trials, followed by a competent synthesis and analysis of the clinical potential of these medications as an adjunct feature of psychological therapy for PTSD. Exploring the literature through a psychotherapy lens

will provide an in-depth depiction of this topic to inform therapeutic practitioners, while highlighting considerations and recommendations for future exploration. The method utilized is a thorough literature review, to provide the historical perspective, current knowledge, and future possibilities. The literature will provide insight into the history and cultural context of these substances, the influence of the political climate, as well as examples of effective therapeutic implementation as it relates to PTSD, and areas of caution when proceeding forward with this therapeutic tool.

Scholarly context

Research into psychedelics began early in the 20th century, and expanded following World War II (Friedman, 2006). The increasing illicit use during the 60s and subsequent scheduling of psychedelic drugs mostly curbed research and exploration to further their use within the clinical setting, but is reemerging as a possible way to support the healing process for individuals who struggle with a variety of mental health issues (www.maps.org). The first clinical uses date back to the 1950s with Dr. Ronald Sandison, and continued with a multitude of studies. The Multidisciplinary Association for Psychedelic Studies (MAPS), a non-profit organization advocating for the legalization of psychedelic substances, cited over 4200 studies in one of their bibliographies (Friedman, 2006). This illustrates the rich history of research prior to the demonization of these substances. Efforts have been made in recent years to allow for the clinical use of psychedelics, resulting in a variety of stage one and two trials in Europe and the United States, and some further progress in Spain (Mithoefer, 2011). Research is also beginning in Jordan, Israel, and Canada. MAPS continues to be a strong advocate and voice of many prominent researchers in this field and a large body of work and an active group of advocates is working to lay the foundation for ongoing research and development in this area of study. Grinspoon, &

Doblin (2001) offer valuable reflection and analysis of historical use of psychedelics, and are significant advocates in the work MAPS is moving forward with.

Our Western culture is, generally, opposed to the use of non-pharmaceutical, sociologically alternative methods of psychological healing, which has been constructed over the decades by the political climate and societal factors (Friedman, 2006). Virtually every culture on earth has used psychedelics for traditional-historical religious use or recreational and spiritual use (Sessa, 2014; Friedman, 2006), which brings to light the importance of considering political and cultural perspectives in this exploration. These considerations are arguably critical to understand the place of LSD and MDMA in the range of medical therapies, as they have shaped societal perspectives and responses to even the concept of ‘illicit’ substances. Our culture is that of demonization and stigmatization, which has effectively eliminated alternative options for individuals who have had no relief from mainstream approaches to trauma therapy. MAPS has sought to deconstruct these fear-based responses by providing research based information, and fought to restore the therapeutic use of psychedelics. As a result, these approaches are beginning to reappear in the literature. The suggestion is not to provide psychedelic substances to society and push for acceptance, but rather to approach it as a psychotherapeutic tool, provided and overseen by trained professionals. As practitioners, it is arguable that the higher ethical standard is that we be versed in possibilities, and remain critical of our assumptions or biases.

Definitions

To comprehensively examine the literature and provide a relevant synthesis and analysis to inform practitioners, it is important to clearly outline the terms and concepts. Having a clear understanding of what is meant by psychedelics and trauma will be important to the purpose of this examination.

Psychedelic and hallucinogenic are terms frequently used interchangeably in the literature, but this paper will exclusively refer to psychedelics in regards to the substances of LSD and MDMA. Psychedelic means ‘mind-manifesting’, and was first used in 1956 to describe a group of substances that produce significant psychoactive effects (Friedman, 2006). Previously, these substances had been referred to as hallucinogens, a term which is still seen in some literature. However, not all psychedelics have hallucination-inducing effects, and therefore psychedelic is my preferred term when exploring this topic. Psychedelics are further defined in Friedman’s literature as non-addictive substances, which provide a change in mood, perception and thought without causing significant physiological or psychological changes. These substances include both naturally occurring substances such as psilocybin as well as synthesized substances such as LSD. MDMA is considered a hybrid between a psychedelic and an amphetamine, but is frequently classified as a psychedelic, as it will be in this paper.

It is important to clearly outline what is intended by the concept of trauma within the scope of this exploration. The American Psychological Association website (apa.org) defines trauma as an emotional response that an individual experiences following a terrible experience such as a natural disaster, accident, assault or other form of abuse. This can be an event that the person experiences personally, witnesses, or learns about happening to a loved one (APA, 2013). The emotional responses experienced could be depersonalization, amnesia-like experiences, or derealization, all of which serve to defend and separate the individual from the pain of the traumatic experience and down-regulate their responses in future overwhelming situations (Brier, Scott, & Weathers, 2005). Emotionally, longer-term effects may include affect dysregulation, aggression against the self or others, and somatization (van der Kolk, Roth, Pelcovitz, Sunday, & Spinazzola, 2005). A person may experience other longer-term effects following their experience,

including flashbacks or nightmares, or physical effects such as headaches, difficulty sleeping or nausea. For many, counselling can be a beneficial way of processing these events and reducing the impacts or symptoms. Dissociation as a trauma response, as described by Brier et al (2005), also exists in the experience of Acute Stress Disorder, another possible outcome for an individual exposed to a terrible experience. For others, however, these symptoms may persist and lead to what is termed Post Traumatic Stress Disorder (PTSD), in which the symptoms are cause clinically significant distress in the person's life, making areas such as work or social interactions difficult (APA, 2013). Individuals who develop PTSD experience intrusive thoughts and memories of the trauma experience, as well flashbacks or nightmares. In addition, they develop anxious feelings they previously did not have, and they can easily be triggered to vividly remember the trauma, and go to great lengths to avoid locations or other elements that may remind them of what they experiences. Their lives become disrupted by the ongoing impacts of their trauma experience, as these symptoms persist for at least one month following the traumatic event (American Psychiatric Association, 2000). For these individuals, therapy may be beneficial, and at times pharmaceutical intervention is required as well. Despite the various approaches found to be effective in treating PTSD, including exposure-related therapeutic approaches of Cognitive Behavioural Therapy, Prolonged Exposure Therapy or Eye-Movement Desensitization and Reprocessing in combination with SSRIs or SNRIs, PTSD still has high suicidality rates (Oehen et al., 2012). Literature has pointed to the need for improved treatment modalities to address this issue. Within the context of this paper, PTSD and trauma will be used interchangeably to refer to the instances of PTSD that are chronic and treatment resistant, as this is what the suggested psychedelic studies are addressing in their research. Though PTSD and its treatment will be briefly addressed, extensive exploration is beyond the scope of this document. The interested

reader is encouraged to refer to literature including Najavits, L.M (2012); Keller, S.M., Zoellner, L.A., & Feeny, N.C. (2010); and Pratchett, L. C., & Yehuda, R. (2011).

Assumptions, limits, and scope

The scope of this exploration is to review the use of two psychedelic substances: LSD and MDMA, and their therapeutic potential in trauma treatment. The primary focus will be on MDMA as a catalyst for psychotherapy relating to trauma, with LSD included to provide context and contrast. A variety of other psychedelic substances have been researched for their effect on a different mental health challenges, including Mescaline, Psilocybin, and Ayahuasca, and are equally compelling for exploration, however this would be beyond the manageable scope of this thesis. Additionally, psychedelics including MDMA and LSD have been researched for a wide variety of mental health issues, but only trauma will be addressed in this paper. Also, a wide variety of literature exists addressing additional trauma treatment approaches, which are also outside of the scope of this exploration.

An assumption contributing to this exploration is that psychological trauma is an individual experience with many variations and characteristics, and not all sufferers will recovery easily, completely, or at all. Some individuals will go through a variety of interventions to get over their trauma symptoms, but will have limited or no relief. Despite the possibilities of trauma-informed and psychotherapeutic interventions as well as pharmaceutical strategies, it is likely that some individuals will continue with their suffering and may benefit from alternative approaches. Historically, psychedelics have been used to support individuals in therapeutic explorations of their experiences and emotions, with documented success in relieving symptoms of PTSD, anxiety, and other associated trauma symptoms (Pahnke, Kurland, Unger, Savage, Grof, 1970; Mithoefer, 2011; Sessa, 2014). The scheduling of these substances removed them as an accessible

option for therapists to utilize, and for clients to experience, in treating trauma. This has led to a culture of fear and animosity towards these substances, and virtually eliminated them as a treatment for those suffering from trauma symptoms. Therapists should consider the possibility that the historical documentation of using these substances provides insight and direction as to how to utilize them in current practice. When other trauma interventions are not working, this approach could be considered an option. The assumption is also that current practitioners are ingrained in a culture that does not see this as an option due to the demonized and stigmatized nature of these scheduled substances. Therapists need clear information and understanding about how this process works, and should be knowledgeable about the risks and benefits. By thoroughly exploring and demonstrating the therapeutic potential of psychedelics, a protocol for the use of psychedelics in therapy could be established and the culture of fear around these substances may be transformed.

There are limitations to this approach. Primarily, relying purely on literature without the use of human subjects narrows the available content and information, restricting new primary data and synthesizing only existing data. In addition, there is the possibility for bias in the selection and review of the literature. I endeavour to assess literature that spans both time and perspective, to allow for an in-depth and non-bias analysis. The restricted scope of this document may also exclude important information, which I will attempt to mitigate by referring the reader on to if they are so inclined.

Significance

Exploring the use of psychedelics in treating trauma will provide further insight into the ways in which we approach and deal with psychological healing. It will offer the opportunity for professionals to expand their concept of healing and understand more wholly the needs of

alternative approaches in this area. It can be difficult to avoid getting caught in repeating comfortable patterns resulting from entrenched belief patterns about how we should, or can, approach complex psychological issues. This thesis will provide a balanced professional perspective on what could ultimately be a useful, and even innovative method of enhancing the efficacy of psychological therapy for PTSD. The intention is not to demand any one particular therapeutic paradigm, but rather to illustrate the potential to create such possible paradigms.

Understanding the therapeutic potential for the clinical use of psychedelics, specifically LSD and MDMA in the treatment of psychological trauma will provide counselling professionals with insight to alternative protocols for healing trauma in clients who have been unsuccessful in their pursuit of improved psychological wellness. It may serve to challenge existing bias and judgment, and to inform of the impacts of such responses. The next chapter will review the literature to provide a synthesis of existing knowledge and establish the theoretical foundation of the use of LSD and MDMA for addressing PTSD.

Chapter 2: Literature review

The existing literature on the use of LSD and MDMA in the treatment of trauma offers important insight into the history and utilization of these substances. This literature contains facts about the historical use of these substances as prescribed treatments, and point to the potential therapeutic use of LSD and MDMA. Of great importance is the now-classic literature that emerged early on in the therapeutic exploration of psychedelics. This literature will help create the backdrop for the more recent literature, which is informing the future of psychedelics in psychotherapy. In determining appropriate literature, the focus was on clinical trials, case studies, and literature reviews from before 1980 to help develop the historical context prior to the implementation of scheduling these substances.

Search Strategy and Inclusion Criteria

For this particular set of literature, the focus was primarily on LSD, and the articles uncovered helped to paint a picture of how utilization and attitudes about this substance contributed to the therapeutic community. Following this, the literature searched addressed the use of LSD or MDMA in trauma or PTSD treatment, to narrow the results and avoid including all articles that pertain to the use of psychedelics in a therapeutic context. Literature describing the use of a wide variety of psychedelics for issues ranging from end of life anxiety, addiction, and depression exists, so it was imperative to narrow the focus and remain targeted on the question at hand. Though PTSD is classified as an anxiety disorder, focus remained on PTSD specifically rather than broadening the search to include more general anxiety related articles, as such the most current explorations are more specific to MDMA. Search terms including LSD, MDMA, PTSD including variations of this term (post traumatic stress disorder, posttraumatic stress disorder, and post-traumatic stress disorder), treatment resistant PTSD, therapy, psychotherapy, psychedelics,

trauma, and specific individuals names such as Cohen, Doblin, Greer, and Parrot were used in gathering appropriate articles. Primary sources were given priority, which allowed for rich exploration of the classical studies in this area. What emerged was much like a timeline outlining the story of LSD and MDMA. Early articles spoke most specifically about LSD, later followed by literature on MDMA closely associated with the time of scheduling and a noticeable gap in the literature. The timeline picked up again most prominently in the early 2000s, with a marked presence in the past ten years. The focus on current literature was aimed at these most recent years, and it was noticed that MDMA overtook LSD in prominence within clinical studies, specific to PTSD. This underscores one reason for choosing these two substances, as the literature led to a consideration that current literature on MDMA cites its uses for PTSD specifically, while LSD explorations have turned to other anxiety disorders. However, MDMA-assisted approaches are heavily informed by historical LSD protocols. The current example of this will be explored in the review of the literature, as well as a description of the history, demonization, and resurgence of this area of interest in the treatment of trauma. To begin illustrating the context for the potential to utilize LSD and MDMA in the treatment of trauma, an examination of literature on trauma, PTSD, and treatment resistant trauma will be presented.

The context: Trauma

Key words: trauma, PTSD (and variants), treatment resistant, therapy, psychotherapy, treatment, therapeutic alliance, hyperarousal, hypoarousal

Despite the availability of a variety of therapeutic approaches to deal with the experience of trauma, some individuals may be unresponsive to interventions. Posttraumatic stress disorder arises when an individual fails to recover from a traumatic event which was experienced either directly, witnessed, or learned of a traumatic event occurring to a loved one, and continues

experiencing symptoms for at least one month following the trauma (APA, 2013), and their PTSD symptoms may continue for much longer. Through medication, therapy, or a combination of both, some may find healing and return to living a life free from interfering trauma symptoms, but others may not. A wide range of interventions exist, apart from the psychedelic therapies suggested, as the basis of this thesis, but will not be discussed in this document. Rather, a general conceptualization of PTSD will be established, and the reader is encouraged to pursue the references for more in depth reading on this topic.

Traumatic events are not only about war and combat, where PTSD has its roots as ‘shell shock’ experienced by veterans. The traumatic experience is anything that threatens life and safety, real or perceived. The response to the trauma does not always happen immediately, and can arise months or years later. As pointed out by Dunlop, Kaye, Youngner & Rothbaum (2014), the wide variety of published guidelines on treatment modalities for PTSD has resulted in considerable inconsistency about effectiveness of approaches across studies. This variability creates difficulty in defining treatment resistance, as that would require a consistent standard. Through exploration of existing standards of efficacy, these authors identify that PTSD is typically found to be most improved through trauma-focused therapy, and antidepressants such as Venlafaxine and SSRIs (p. 512). Some factors may impact the course and effect of treatment, including time since the trauma, number of traumas, injury as a result of the trauma, severity of PTSD symptoms, and experience of childhood trauma (p. 516). Who the person is, and their own internal resources also contribute to developing PTSD symptoms. Inadequate coping skills to deal with such psychological distress also increase the likelihood that PTSD symptoms will occur, intensify, or become chronic (Warner, Warner, Appenzeller, & Hoge, 2013). Though risk factors that contribute to chronic experiences of PTSD are not well understood, it is likely that biological

and environmental elements effect the progression (p.829), and it is believed that up to one third of individuals with PTSD will develop chronic symptoms (Koenigs, & Grafman, 2009). Despite trauma-focused psychotherapy and pharmacotherapy, these individuals may continue to struggle with symptoms for years before finding relief, if they do at all. For many, PTSD experiences result in comorbidity with other issues such as substance use, other anxiety disorders, and depression. Few individuals have ‘just’ PTSD, and therefore assessment of possible comorbid disorders must be completed and addressed in any treatment protocol.

For some individuals facing their trauma, they may experience a brain and body response of hypo-arousal, in which their ability to engage in the process is depleted as they dissociate and shut down, unable to take in information or effectively process their experience. This is a common symptom of PTSD, described in the DSM symptoms as avoiding or numbing, and can present as dissociation and disengagement. The dissociation does not only occur after a traumatic event, but often individuals describe having this experience during the event, identifying it as alteration in time, experience of pain, or perceptions. This disassociation has been found to instigate a discontinuity of the conscious memory and of memory regarding the traumatic experience, resulting in fragmented or compartmentalized memories (Lanius, Vermetten, Loewenstein, Brand, Schmahl, Bremner, & Spiegel, 2010). As these authors explain, the dissociation that occurs during the event alters the way in which the memory is encoded in the mind, which can make it difficult for an individual to then access the information when they have returned to a non-aroused state. This may be observed as the individual seeming emotionally detached from their story of trauma, or having a seemingly fragmented memory, as well as an avoidance of cognitive and emotional processing of the trauma. These dissociative experiences have been found to predict the development of chronic PTSD, as they continuously avoid reminders of the trauma (p. 640). As

opposed to their system becoming excessively agitated, as occurs in situations of hypo-arousal, their system effectively shuts down or 'freezes'. From a neurobiological viewpoint, their prefrontal cortex, or 'higher brain' suppresses the response of the limbic system, including the amygdala, effectively reducing the emotional response, which is observed as the detachment seen in hypo-aroused PTSD individuals (p. 643). Alternatively, individuals who experience a re-living of their trauma, through incidences of flashbacks for example, have an aggressively stimulated system resulting in escalating heart rate and activation of the limbic system (p. 641). For these individuals, their prefrontal cortex fails to inhibit their limbic system, resulting in an increased fear response. As Lanius et al. (2010) explain, one group is essentially under-modulated in their emotional regulation while the other is over-modulated, as demonstrated by brain scans and imaging in clinical explorations. With either response, the emotional responses are dysregulated and unmanaged, resulting in poor integration. An individual with PTSD may experience either response, or both responses, even simultaneously. Each response affects the integration of the memory and experience of the trauma, as a result of the individual's necessary brain functioning of rational, cognitive functioning going offline and leaving only the primitive limbic system to dictate response (Van der Kolk, & Najavits, 2013). Within the therapeutic context, this suggests that it is unlikely for a client to be able to integrate therapeutic interventions during times they are activated (either in a hyper- or hypo- response), or re-living, their trauma experience. They will not be engaged with the therapist, or the process, and will continue experiencing unresolved PTSD symptoms. Conceptualized in a more emotion-focused manner, the individual can only effectively do therapeutic work within the space that exists between hyper- and hypo arousal, termed the window of tolerance (Mithoefer, Wagner, Mithoefer, Jerome, & Doblin, 2011). Individuals with

PTSD have a very narrow window of tolerance, and become easily overwhelmed or shut down, limiting the way in which therapeutic approaches function or can be effective.

In exploring PTSD, chronic or otherwise, it is important to consider the role attachment plays in the individual's experience in order to better understand treatment and the therapeutic relationship. For many, PTSD exists as a result of an experience of betrayal, abandonment, or other related crises of attachment, which has implications for development across the lifespan (Van der Kolk, & Najavits, 2013). This, then, impacts the therapeutic relationship and the ability for the individual to connect with another person. Trust and openness are sacrificed as the individual responds in a way in which keeps them protected, which may alter their trajectory in therapy as a result. Therapeutic alliance is a key element in establishing motivation and has been found to be associated with improved treatment outcomes (McLaughlin, Keller, Feeny, Youngstrom, & Zoellner, 2014), and is therefore important to consider the potential impediments and how this may help guide treatments. These authors suggest that the experience of negative feelings or depressive symptoms, and the need to keep the self protected hinders the development of therapeutic alliance, as the power of mutual positive emotional expression is important to developing interpersonal alliances. Furthermore, it was found that the therapeutic alliance is even more influential and necessary in working with individuals with PTSD, and is hypothesized that the development of a trusting relationship provides a healing and corrective interpersonal experience that supports the resolution of PTSD experiences (p. 114). Being able to establish a strong therapeutic connection with the client could be transformative to their experience. The role of the therapeutic relationship in facilitating the therapeutic use and efficacy of psychedelics in establishing continues.

PTSD, including chronic experiences of PTSD, is a devastating experience of fear and anxiety. A variety of approaches have been found to be useful in addressing these symptoms, but it is important to recognize that not every individual will be responsive to these approaches and understanding more alternative methods is both important and pragmatic. A more in-depth exploration of how LSD and MDMA have been incorporated in therapeutic settings follows.

The history: LSD

Key words: LSD, Lysergic Acid Diethylamide-25, psychedelic, psychedelic therapy, therapy, psychotherapy, entheogen, hallucinogen, Sidney Cohen, Albert Hofman

Discovered in 1943 by Albert Hofman in Switzerland, Lysergic Acid Diethylamide-25 (LSD) was immediately of interest to psychotherapists and psychiatrists (Bliss, 1988). Instigated by scientific explorations and applications of the fungus ergot, and the isolated alkaloid ergotamine, which was utilized in the medical field as a hemostatic remedy and for migraines, Hofman endeavoured to find a way to develop it synthetically. Once he succeeded, in 1938, he put it aside and did not return to it until 1943 when he, unexplainably, decided to revisit its synthesis. It was during this revisiting that Hofman himself became accidentally exposed to it and experienced curious effects of restlessness, dizziness, and intensely vivid dreams that night (p. 523). Bliss (1988) goes on to describe that Hofman determined LSD to be an exceptionally potent psychoactive substance in which everything is experienced as real, with virtually no hangover-like effects or impairment of the development of memory during the experience (p. 525). Hofman considered this substance to be of interest for a variety of uses, including therapy, but did not consider it a risk for leisure use given the discomfort he had experienced while under the influence. In fact, he acknowledged the risks of LSD, indicating that any inappropriate use outside of controlled manners could be problematic (p. 520).

Bliss (1988) notes that it is important to consider the psychology climate at this time, as progress was being made in better understanding the brain and the chemical elements involved, resulting in conflicting debates about the cause of mental illness. Initially, LSD was considered as a substance to be used to induce psychosis to allow clinicians to better understand the experience of individuals diagnosed with schizophrenia, and potentially lead to a cure (p. 527). This led to a variety of laboratory studies in animals, specifically to determine toxicity. Hofman noted that no LSD poisoning had been found to occur, and that any deaths as a result of LSD ingestion was undoubtedly caused by the mental disorientation that occurs with inebriation, as the psychic effects were largely unpredictable (p. 528). It was found to induce hallucinations, disturbances of affect, depersonalization, and a reliving of repressed memories, frequently in a euphoric and mentally relaxed manner (p. 529) but at times producing significant distress. It was this tendency to permit the reliving of repressed memories while also maintaining mental relaxation that peaked the interest of the psychotherapy community. From this, two approaches of therapy emerged utilizing LSD, psycholytic therapy and psychedelic therapy. Psycholytic therapy, as described by Bliss (1988) involves therapy clients receiving a low to moderate dose of LSD in sequential sessions, using the substance as only an aide to the process, with the client then working to integrate their LSD experiences and insights gained. This process, in many ways, heavily relied on the therapist to guide and support the integration, though it was observed that clients seemed to require the therapist much less than therapy without LSD. Alternatively, psychedelic therapy involved clients receiving high doses of LSD with the therapist there to guide them while they were under the influence, until the client experienced an experience similar to a spiritual rebirth. Very little talking or processing occurs, and the therapy is short lived as it is considered unnecessary beyond the session in which the LSD is administered (p. 546). It was Ronald Sandison who initially termed

these therapies, through his exploration of LSD's application to treat neurosis and his identification that therapists seem to take one of the two approaches, either providing a gentle social readjustment and supportive therapy or more aggressive models of psychedelic therapy approaches (Sandison, 1954). Pahnke et.al (1970) refer to the psychedelic approach as psychedelic-chemotherapy, and also added a third approach termed psychedelic-peak therapy in which much of the work is done during the peak, or transcendental, portion of the LSD session, but significant work is done pre-session and post session to facilitate integration of the insights gained within the drug session. It is important to note that no therapy advocates for the use of LSD involved simply providing a client with the substance and having them use it on their own, without supervision. In all approaches, the therapist, and often a nurse, is present for the entire LSD session, which could last up to 12 hours depending on the dosage administered (p. 1857).

Sandison and colleagues conducted a variety of studies on the use of LSD for mental illness in the 1950s. He noted that individuals who received LSD as part of their treatment underwent highly personalized experiences that closely reflected the individual's psychic struggles (Sandison, 1954). He identified three distinct of LSD highs: generalized and non specific including a lightness in the body, changes in the environment resulting a sense of fluidity or plasticity, and non-personal hallucinations; recollection and reliving of past memories of childhood; and archaic hallucinatory images that are an exact representation of what the individual may experience in their dreams, as connection to the deep unconsciousness, which is experienced with intense vividness and realness (p. 508). Sandison indicated that the ability to relive past memories was of importance in the application for the therapeutic community, as the conditions that permit the individual to experience their neuroses exist in the conscious relationship with the

more universal elements of psychic life. It was from this suggestion that Sandison, and others, developed a context of the implications of LSD psychotherapy.

Implications for Therapy

Hofman's accidental discovery of the effects of LSD and the resulting studies and explorations opened up an avenue of therapy that delved deeper than traditional talk therapy, and was less intrusive than approaches such as electric shock therapy or lobotomies. Though the initial consideration to utilize it as a way to better understand psychosis and gain insight into what occurs within the mind of someone with schizophrenia, therapists eventually moved away from it, as the differences between the experiences (such as LSD-induced hallucinations are not typically experienced as being real) became more evident (Bliss, 1988). It opened up a spiritual path with few side effects and virtually no addictive qualities, and provided therapists with a tool to allow their clients a fast tracked way to connect with deep and meaningful explorations. The experiences, though, were not consistent, and clearly the current emotional stance of the individual must be taken into consideration before considering the use of LSD therapeutically. It is important to determine the strength of their ego, or their "ability to retain integrity of personality under all changing internal and external conditions that an individual meets in life" (Vanggaard, 1965). This ego is in charge of perception, memory, thought processes, and repression or development of defense mechanisms (p. 434), and therefore plays a role in the response to LSD treatment. If an individual has a weak ego, they are susceptible to adverse responses or increases in neuroses while under the influence of LSD, whereas someone with too controlling of an ego may be resistant to the influences of LSD and be focused on maintaining control. Gaining an understanding of an individual's ego mechanism is an important consideration in the assessment of suitability for LSD treatment.

The concept of set and setting play an important role in the use of substances, and LSD is no exception. Set is defined as expectations of the experience that the individual has, prior to using the substance, and includes concerns about safety of the drug, the individual's mood, attitude and general personality (McCabe, 1977). This underlines the importance of considering the client's current state of emotions, as it can change their experience. McCabe (1977) also explained that he found individuals who tend to be paranoid or obsessive personalities are at more risk of having adverse responses during psychedelic experiences. The second component of the experience to consider is setting, which includes the environment in which the substance is taken (including the social elements such as who is in the environment) (p. 108). The contributions of both set and setting allow for the possibility of mystical and insightful experiences while under the influence of LSD (Elcock, 2013). It also highlights the differences between utilizing LSD in a therapeutic setting versus a social or recreational setting. Clearly, if both set and setting are considered, a therapeutic setting is created with a very specific intention and consideration regarding preparation, environment, and expectations. This differs significantly to how an individual may use LSD in a recreational manner, in expectations, intentions, and the individuals involved.

Pahnke, et al. (1970) describe the mystical-like experience one may have while under the influence of LSD as having a sense of oneness, loss of space and time, deeply felt positive mood, sense of wonder, meaningfulness of psychological insight, and often have difficulty expressing the experience verbally. With such an experience, in combination to the reconnection with repressed memories, it can be imagined how impactful this kind of experience could be in a therapeutic setting. Ego defenses in the individual, which serve to protect the unconscious and resist connecting with memory and emotions, can be reduced when using LSD, providing an increased ability to access memories, therefore creating a rich forum of accelerated psychological

processing. The sense of euphoria and safety that one can potentially experience while under the influence of LSD assists the client in uncovering their repressed memories with a sense of calmness, and without the threat of danger that may block the individual from accessing these aspects when sober. Grof, one of the most well known LSD therapists, considered LSD to be a tool to achieve regression and break down resistance, to facilitate the client revisiting traumatic times in their life and identify and process problematic patterns (Jacobs, 2008). Though individuals can have anti-therapeutic responses such as fear and terror, the realm that is most therapeutically relevant and rich is the emotional element in which the client will experience intense emotions, at times feeling overwhelmed (p. 1858). It is important that the practitioner facilitating the session be skilled at managing these experiences, to ensure the session remains stabilized and the client is offered the greatest opportunity to explore their insights. Pahnke et al. also describe the influence of “afterglow”, which carries forward positive feelings and energy post-session and can continue to effect mood and behaviour. It is during this time that post session work can be of great value, particularly in regards to relationship challenges in the individual’s life (p. 1858). Again, it is evident that the integration of the experience into the individual’s life is a key factor of the process.

Pos (1966) argued that there are a variety of factors to take into consideration that may affect the experience within the LSD session, and therefore what can be considered therapeutically significant. For example, variables within the session such as dosage level and how it is administered, as well as variables specific to the response of the individual including their genetic and physiological factors and any previous experience with LSD may influence the experience (p. 332). He does seem to agree on the influence of set and setting, stating that who is present in the process, as well as the attitudes and relationships with self and the therapist are potentially relevant

to response as well (p. 333). The personality of the client also effects how, or if, they will use their psychedelic experience, and Pos suggests that all of these factors bring into question the “LSD-25 state” and that generally speaking, there is little uniformity across sessions with clients using LSD (p. 337). Some clients, he points out, seem to resist the effects of LSD-25, and maintain ego defenses and repression of unconscious material, as they seem to obsessively focus on control. Other individual may have a psychedelic experience followed by a period of relief from their previous symptoms, but relapse months later. A number of clients were found to have intense psychedelic experiences but return to their usual ego defenses very soon after the session. Generally, Pos found that it was virtually impossible to predict the outcome of the session, even with extensive pre- session experience with the client (p. 340). Studies conducted by Shagass, Charles, and Bittle (1967) suggested that individuals who exhibited the greatest response of insight within the LSD session showed the greatest improvement in their symptoms. However, these individuals also reported rates of relapse in the months following, and additional LSD sessions were provided or at least strongly considered (p. 476). Early studies, particularly those described by Sandison (1954), frequently used multiple LSD sessions, and relied on the interpretation of the strong archetypal and metaphorical representations that emerge during each session. He also noted that established rapport prior to LSD sessions was beneficial but that if there was little relationship between therapist and client, the LSD treatment itself seemed to establish it on its own (p. 514). A certain trust in the LSD, as well as the therapist and in the clients themselves is important, and may be increased by the use of LSD under the guidance and support of the therapist and other personnel (p. 514).

The dependence on interpretation of the material that arises from an LSD session can be a challenge of LSD therapy. Jacobs (2008) describes a framework proposed by Margolis that relates

pattern recognition and integration to the therapeutic benefits of LSD therapy. It is suggested that when information coming into the brain is not congruent with established patterns or expectations, it becomes interpreted by higher levels of the mind and can undergo transformation (p. 437).

LSD, he explains, alters the bottom-up processes of the brain, and allows for more information and therefore greater integration and assimilation of the information. The higher-level interpretations and concepts are what make LSD a potential adjunct to therapy, as it allows for the individual to achieve a new understanding of the information they are accessing (p. 437). This could include the access to repressed memories or difficult memories to achieve a different understanding of them and allow for alleviation of the symptoms.

A positive and contained LSD experience can be described as a state in which the individual enhanced ability to decrease the ego defenses opens up a valuable therapeutic opportunity, and can be approached from different angles depending on the experience. As described above, LSD could be administered in different levels and frequencies, producing different responses and therapeutic experiences. Some of these experiences could be terrifying or adverse, even with the support and guidance of therapist. However, from its beginnings as an accidental discovery to a tool for psychotherapy, LSD was widely utilized by the medical and therapeutic community (Mithoefer, 2011). Though results in LSD varied, it was still accepted as a valuable aide with fewer side effects than the tranquilizers or antidepressants that existed as alternatives. It was not expected to become a recreational drug, which is ultimately did, leading to a political response that will explored more thoroughly at a later point. LSD was not the only psychedelic used by therapists, and quite some time after its discovery, therapists began to turn to MDMA for similar reasons.

The history: MDMA

Key words: MDMA, 3,4-methylenedioxy-methamphetamine, trauma, therapy, psychotherapy, MAPS, Doblin, Shulgin

Though the history of MDMA is significantly less dense or extensive as LSD, the substance itself did have very early beginnings, though it's human and therapeutic use would come much later. It was first synthesized in 1912 by the pharmaceutical company Merck, in their search for adrenaline-like substances, but was not used with humans until much later (Benzenhofer & Passie, 2010). It was not until several decades after its first synthesis that Alexander Shulgin continued exploration of this substance, during his synthesizing of a variety of psychoactive substances that he developed in his private lab and tested on himself. It is suspected that he may have synthesized MDMA in 1965, but it may not have been as a target of research as he did not conduct his usual self-trials. It was not until 1978 that Shulgin began publishing his explorations of MDMA in humans, in partnership with David Nichols (Benzenhofer, & Passie, 2010). In this initial paper, Shulgin makes reference to the street use of MDMA, indicating that it seemed to have some presence in the illicit drug scene in 1970, and briefly identifies the psychotomimetic properties including its ability to evoke an easily controlled emotional and sensual state of consciousness. Subsequent papers made reference to the introduction of MDMA as an adjunct to psychotherapy in 1976, beginning on the West Coast with therapists on the East Coast following suit soon after (p. 1357). Unlike LSD, as previously discussed, MDMA was not discovered and then considered for use in clinical settings, and it was not considered a medical substance or an illicit substance for several years. Few documents outline its therapeutic use prior to it becoming a Schedule I substance in 1985, effectively making it illegal for production and consumption (Mithoefer, 2011). From this point on, MDMA became a drug of choice for the increasingly

popular rave culture, gaining the street name “Ecstasy”, perhaps for its propensity towards euphoric, emotional and connected experiences individuals had when under the influence. Some therapists who had used it within their therapy approaches prior to its scheduling, made efforts to continue utilizing it, running the risk of losing everything due to the illegal nature of MDMA. The implications of it within the psychotherapy field were meaningful and, for some, worth the risk.

Implications to therapy

After Shulgin and Nichols published documentation of MDMA’s therapeutic effects of MDMA in 1978, and quietly began suggesting it to a small number of therapists, it became a helpful adjunct to therapy not unlike LSD before it. Unlike LSD, however, MDMA did not seem to come with the same risk of adverse reactions or negative experiences within the session, as noted by Shulgin in his original description of it being ‘easily controlled’ (Mithoefer, 2011). It did not create the same depersonalization aspects or perceptual changes that typically accompany LSD inebriation. Cohen (1985) noted that despite several therapists using MDMA in a therapeutic setting, up until that point virtually no scholarly papers had been written on it, but that much of what he was hearing in the community was eerily reflective of similar perspectives and considerations of LSD years before. Prior to it becoming a Schedule I substance, MDMA was available for physicians to use as long as it was synthesized by them or a pharmacist, which produced a handful of clinical studies, one of which is explored by Greer, & Tolbert (1986), and included 29 participants. This study excluded any individuals who had a variety of physical health issues such as high blood pressure, heart disease, liver disease, or pregnancy, as well as any previously existing complicated mental health challenges (p. 319). Both set and setting were addressed and participants were thoroughly informed of expectations and agreed upon parameters to assure both participant and clinician safety. Doses of MDMA ranging from 75-150mg were

administered, with a second dose of approximately 50mg offered after 2 hours when the effects would begin to decrease. Sessions lasted five to eight hours, and follow up occurred soon after (p. 320). It was found that every participant experience some benefit in the session, primarily positive mood, and nine of the individuals with DSM diagnoses reported an improvement in their diagnosis (p. 322). Of course, there were aspects of discomfort, again for every participant, ranging from jaw tension and shakiness to fatigue lasting days after the session and difficulty sleeping (p. 321). It would seem, though, that generally the experience was positive and meaningful, with no serious side effects or adverse reactions. This implied that it could be a beneficial aide to insight-oriented psychotherapy, which seemed to be embraced by the therapeutic community. Over the years, additional experiences indicated that MDMA facilitated an elevation in mood, a decrease in fear, and a strengthening of the therapeutic alliance, in addition to deepening acceptance, forgiveness and understanding (Grinspoon, & Doblin, 2001). All of these elements contribute to necessary conditions for effective therapeutic work, and create a strong image of how MDMA added to therapeutic practice.

The effects of MDMA on the brain have direct implications for being introduced as an adjunct to PTSD treatment. As previously discussed, current supported theory suggests that trauma responses have their basis in the brain structures of the prefrontal cortex and the amygdala. Specifically, increased amygdala response of the fight-or-flight reaction contributes to PTSD experiences. MDMA acts on the brain in a manner that reduces the response of the amygdala, therefore decreasing the avoidance response and improving emotional regulation (Johansen, & Krebs, 2009). As well, MDMA increases oxytocin and serotonin release, allowing for the strengthening of the therapeutic bond and improved ability to tolerate painful memories (p. 390). It is important to remember, that the use of MDMA as an aide in therapy requires that it be a

controlled, supported setting, with a pure substance. This is much different than the image of the illicit drug scene in which individuals are using contaminated 'Ecstasy' of unknown amounts, in uncontrolled environments. Individuals who received MDMA as a tool in their therapeutic process were screened, prepared, and provided follow up to assist with integration of their experience into their lives. This became more difficult to access with the addition of MDMA to the Schedule I drug list, and in many ways left this therapeutic aide to rest in history with the other psychedelics substances (Parrott, 2007).

Prohibition and the end of research: Implications and impacts

Generally, discussion of the use of illicit drugs can be considered taboo, or at least, uncomfortable. We are faced with numerous stories of the destruction of hope, dreams, and life at the hands of drugs, to the extent that an entire war has been waged upon them. The 1960s brought an escalation of psychedelic use among the public, the psychotherapy community included, as individuals expressed their dissatisfaction and resistance to current paradigms and limitations (Friedman, 2006). Psychedelics were expanding the limits of therapy, and of individual spirituality and insight, and this may have been perceived as threatening. The US government, threatened by increasing use of the substances, banned their use not only for the public but for those who had been utilizing them in professional contexts as well (p. 43). This move towards prohibition occurred to a lesser extent other places in the world, though some exploration continued in Europe, though primarily with other psychedelics such as Ibogaine and Ketamine (Oram, 2014). It has been suggested by Oram (2014) that the issues establishing efficacy of LSD for psychiatric uses contributed to its addition to the illicit drug list, as it had proved problematic to prove this through clinical trials, as it is understandably difficult to create a double-blind study using a substance with such obvious effects as LSD. So LSD's role in psychiatry waned, and moved underground and

ultimately decreased in use all together. Similarly, in 1985, the Drug Enforcement Agency (DEA) was successful in deeming MDMA to be a Schedule I drug, despite evidence and testimony from various physicians who suggested it be considered Schedule III drug, which would still permit its use as a medication (Mithoefer, 2011). This effectively ended the research into MDMA's safety, efficacy, and place in therapeutic work, which is evident in the obvious gap in available research through much of the 1990s and into the early part of the millennium. Documentation that does exist during this time is most often a review of historical literature rather than primary research.

Reviewers of the scheduling of MDMA (Friedman, 2006; Blainey, 2014) have concluded that it likely occurred as a result of fear, misinformation, and misleading or misinterpreted science. Fears of the toxicity of MDMA and the potential for harm or death contributed to the call for criminalizing it, claims that have since been debunked. Friedman (2006) explains that many of the potentially harmful effects that may occur when an individual is under the influence of MDMA occur not as a result of the substance itself, but rather as a result of various other psychological factors. Again, set and setting are important elements to the psychedelic experience and can therefore strongly contribute to the individual having either a pleasurable or negative experience. For example, one of the reported harmful effects of MDMA use include hyperthermia, as a result of overexertion and dehydration, both which are likely to occur at a rave where MDMA is recreationally used (p. 44). This article also outlines the possibility of intense spiritual experiences which one may have difficulty integrating. Again, these are issues that occur in recreational settings and are outside the intended therapeutic setting in which these behaviours and challenges could be mitigated. Criminalizing psychedelics as a fear-based response to their social use and consequences eliminated them as a source of spiritual and therapeutic means. With the prohibition of LSD, and later MDMA, therapists lost touch with substances that seemed to increase the rate of

healing in therapeutic work as a result of increased trust and decreased resistance to exploring regressed memories. Instead, focus moved to the use of approved pharmaceuticals such as SSRIs and SNRIs, benzodiazepines, tranquilizers, and other substances, often with more side effects or risk for dependency. Prohibition effectively blinded a generation of therapists (Friedman, 2006), who may have instead become convinced that ‘illicit drugs’ have no place in the therapy session.

The Resurgence

Research into psychedelics is coming back, and gaining momentum. This is due largely to the Multidisciplinary Association for Psychedelic Studies (MAPS), based out of the USA and headed by Rick Doblin, which was established in 1986, as prohibition continued to gain motion. MAPS supports the exploration of psychedelics within a medical, legal, and cultural context, and is involved with many recent and current studies, and is laying a foundation for ongoing clinical trials of psychedelics (www.maps.org). Exploration into the therapeutic use of MDMA has returned to the literature over the past several years, as well as LSD and other psychedelics. In some ways, MDMA has overtaken LSD in its application to therapy, simply for the fact that it is more easily controlled and fewer individuals experience adverse effects during their experience (fewer “bad trips” so to speak). LSD has become more directed at end of life anxiety, and so remains a strong player in the future treatment of anxiety issues (of which PTSD is one), having recently completed the second stage of a double-blind, placebo controlled study, the first of its kind since the 1970s (www.maps.org). It has been MDMA that has emerged recently as a potentially powerful tool in addressing PTSD, an anxiety disorder that is becoming ever more problematic in our society as a result of war and natural disasters. Traditional pharmacotherapy, even utilizing new medications, has not necessarily proven to be the most effective angle for tackling this issue. Mithoefer, Wagner, Mithoefer, Jerome, Martin, Yazar-Klosinski, Michel,

Brewerton, & Doblin (2011) cite that research using 22 different classes of medications for PTSD was, at best, inconclusive in evidence of effectiveness in treating PTSD, though other studies do indicate favourable results using SSRIs or SNRIs. In addition, therapy-only approaches to PTSD show even less statistically significant results, and combined there are still between 25-50% of individuals who do not find benefit in the existing approaches (p. 440). Clearly, other options are necessary, and the history of psychedelics in supporting therapeutic interventions has provided a distinct background for current, relevant studies to be instigated.

Clinical trials have been conducted to explore the safety and efficacy of MDMA in the treatment of chronic PTSD, with the hypothesis that MDMA could be given to individuals with chronic, treatment resistant PTSD with no harm, and in conjunction with psychotherapy could provide an improvement in PTSD symptoms (Mithoefer, et al., 2011). It is possible that one mechanism of MDMA is its ability to widen the window of tolerance, allowing the individual to remain engaged in the process without experiencing overwhelming anxiety or disassociation even when they are exploring the traumatic experience (as in exposure therapy) (p. 440). Similarly, the release of both serotonin and oxytocin may allow for the individual to engage in an emotional manner with the therapist, strengthening the therapeutic alliance and improving their capacity for remembering their traumatic story. These authors also noted several changes in the brain chemistry, as observed in brain imaging scans, related to the amygdala and prefrontal cortex, as it relates to the fear response, suggesting that MDMA may essentially reverse some of the abnormal responses found in individuals with PTSD (p. 441). Their study, conducted with 20 individuals with PTSD, was similar to historical approaches done with LSD or the very few historical studies of MDMA. Individuals received pre session therapy, without any drugs, as well as integrative sessions following the experimental session in which they were administered either MDMA or a

placebo. A co-therapist team of one man and one woman conducted the 8-10 hour experimental session, and follow up was done over the following two months (p. 444). Each participant was given two sessions with the drug administered, three to five weeks between active drug sessions, and weekly non-drug sessions in between. Throughout the experimental session, participants were guided through periods of conversation as well as periods of introspection, which was individualized for each participant, based on what seemed appropriate. Follow up, integrative sessions began the following day (p. 445). Results of this Phase II study indicated that MDMA could be administered, with close follow up and support, to carefully screened individuals with PTSD with acceptable side effects, to achieve statistically significant improvements on PTSD symptoms (p. 449). This is an important clinical trial, because even though it involves a small sample size with little diversity (all Caucasian females), it suggests MDMA for PTSD treatment is a worthwhile direction to explore, and begins to build the foundation for future trials. From this study, a method of psychotherapy involving conducting MDMA-assisted therapy was developed, which will provide future explorations with a standard in which to work from, or challenge. This psychotherapy method can be found as a handbook on the MAPS website (www.maps.org).

The investigation continues, with Oehen, Traber, Widmer, & Schnyder (2012) conducting their own study, to prove the concept and reliability of the trials by Mithoefer, et al. (2011). This more recent study also had a small sample size (12 individuals), but used an active placebo (lower dose of MDMA) for the control group, as with a substance like MDMA it is exceptionally difficult to use a truly double-blind approach (Oehen, et al., 2012). They also provided three experimental MDMA sessions, and hypothesized that PTSD symptoms would remain stable at the one year follow up (p. 42). Using the psychotherapy method developed by Mithoefer et al. in their earlier trial, Oehen et al. built from this model to provide comparison and contrast. Their results

indicated that MDMA-assisted psychotherapy for individuals with chronic, treatment resistant PTSD proved to be *safe* within their outpatient setting, but did not necessarily indicate significant symptom reduction (p. 49). Much of the contrasting findings they noted, in comparison to the Mithoefer et al (2011) study, was attributed to their use of an active placebo (p. 49), though they suggest that further studies be conducted to verify the results noted in the Mithoefer et al (2011) study. In addition, Oehen et al. suggested that three MDMA-assisted sessions be provided, as their results indicated this created a distinguishable difference from two sessions.

To better understand if MDMA-assisted psychotherapy was helpful in both reducing PTSD symptoms and maintaining that reduction, Mithoefer, Wagner, Mithoefer, Jerome, Martin, Yazar-Klosinski, Michel, Brewerton, & Doblin conducted a follow up study in 2012. Included in their follow up, in which the participants who had received the placebo were provided opportunity to receive MDMA-assisted psychotherapy, a third MDMA session was included in response to the results found by Oehen et al. (2012). This follow up study indicated that there was some long lasting, clinically relevant improvement on PTSD symptoms as a result of the MDMA-assisted psychotherapy approach (Mithoefer, et al., 2013). In addition, it has been determined that there is very low risk for substance abuse as a result of receiving MDMA-assisted therapy, and there were no reports of impact to neurocognitive functioning (p. 9). Overall, their follow up findings indicate a promising direction for PTSD treatment, as three doses of MDMA as an adjunct to therapy, in a supportive setting, with training therapy professionals could provide long term, low risk benefits by reducing PTSD symptoms.

As with any novel approach or direction, there is the potential for risks as well as benefits. Though recent preliminary clinical trials suggest a promising new direction for PTSD treatment, it is not without its risks and important considerations. For example, the side effects experienced

during the MDMA experience can be uncomfortable, as well as the effects experienced when recovering from the MDMA high. Specifically, fatigue or insomnia, low mood, and increased irritability or anger may occur as a result of the depleted neurotransmitters, with some individuals experiencing these at clinical levels (Parrott, 2014). This could be considered potentially dangerous when considering how these effects may exacerbate symptoms experienced by individuals with PTSD, and would require a considerable monitoring. Also, individuals with existing psychological vulnerabilities as a result of biological imbalances or genetic issues are not considered appropriate for MDMA-assisted approaches, as it may result in increased symptoms (p. 39). As has been stated at several points already, MDMA for psychotherapy is much different than suggesting an individual 'self medicate' through using recreationally, as careful screening is imperative for appropriate use of this approach, as well having a trained therapist guiding and supporting the process. The MDMA-assisted approach involves comparatively low exposure to the substance than to psychotherapy itself. Without the psychotherapy component, little if any change is likely to occur, nonetheless be sustained (p. 40). The approach proposed and utilized by Mithoefer et al. (2011) embedded only two (and later three) MDMA sessions within several weeks of psychotherapy, resulting in much of the experience participants had actually being psychotherapy-focused. The MDMA served to potentially accelerate the process, including the depth of the therapeutic relationship. However, the risk of the individual seeking out MDMA in order to feel the pleasurable sensations they may experience while under the influence needs to be considered. Even if much of the approach is focused on psychotherapy, the individual who is suffering with PTSD symptoms may become fixated on the peacefulness they experience when using MDMA and seek this out on their own. Though current studies have found this unlikely, it is something that must be considered as MDMA-assisted psychotherapy explorations move

forward. It seems imperative to continue approaching this with MDMA as an aide to therapy as the focus, not MDMA as the therapy. This is an important distinction to make, both to individuals seeking treatment for PTSD, and to the psychotherapy community who may continue to approach this with hesitancy and decades of stigmatized attitudes alongside them.

Conclusion

Despite decades locked away from therapeutic uses, psychedelics are making an appearance as potential treatment means for difficult psychiatric challenges. Without the ability to prevent PTSD, it is the responsibility of the medical and psychotherapy community to develop effective, accessible and novel treatment approaches to offer these individuals. Decades of studies and thousands of documents were conducted on LSD before it escalated as a recreational drug and found itself under political scrutiny and subsequent ban. MDMA had a much less scientific start, finding its way to both the streets and the therapy room before being considered too dangerous to be available under any considerations. This prohibition created a gap in both research and utilization, leaving a generation of psychotherapists with resulting stigma and fear of these illicit approaches. Yet, as with many pharmacological means, careful screening and training could point to a useful treatment, when other treatments have failed. Emphasis continues to be placed on the use of these psychedelic substances as an adjunct to therapy, requiring training, supervision, and careful consideration in its utilization. With training, information, and guidance, perhaps the new generation of psychotherapists could regain access to historical means of offering healing. The following chapter will present the method of the synthesis and analysis of these studies, leading to what it means for this current generation of therapists.

Chapter 3: Methods

The review of the literature illuminated the existing information on both the historical context of psychedelics in psychotherapy, and current considerations. The method chosen for this thesis is to analyze the best practices documented in the existing literature on the clinical potential for LSD and MDMA. A best practice analysis exemplifies qualitative research methods, as it is interpretative and emergent, and allows for themes and realizations to emerge throughout the data exploration (Creswell, 2003). The professional literature, including the documented experiences or opinions of experts in the field provides data, which can then be interpreted and analyzed (p. 182) as it pertains to the needs and rights of the clients, and the responsibilities of the clinician. The literature, specifically, will be reviewed in this thesis as personal interviews or observations with current experts in this area is beyond the scope of this thesis. This consideration will provide further recommendations for research to further expand and transform existing practices. This current chapter will provide a comprehensive explanation of how the literature was reviewed, in preparation for the analysis that will follow in the next chapter.

Design and approach

With the question in mind about the theoretical potential for the use of LSD and MDMA in the treatment of psychological trauma (ie: PTSD), I endeavoured to uncover the history behind these substances, their relationship to psychotherapy, and the current or recent utilization of them in our culture of psychotherapy. To do this, I chose a qualitative method of descriptive research, incorporating an analytical approach, in which the focus of analysis is documents. This method was chosen as it allows for the development of context as it relates to LSD and MDMA through a thorough exploration of literature and clinical studies. The analytical approach focuses on interpretation and exploration of historical documents as a way to better conceptualize the current

context (<http://www.mu.ac.in>). In addition, due to the current status of these substances as Schedule I drugs, it would be legally and ethically challenging to explore the use of these substances in psychological therapy beyond the literature. It was determined that document analysis would ethically provide appropriate information to meet the needs of this thesis and adequately address the issue of the potential therapeutic use of LSD and MDMA in the treatment of psychological trauma. This involved extensive document searches, adhering to exclusion criteria, and separating them based on the issue addressed.

Sample selection and procedure

The existing literature was the focus for the study, specifically peer reviewed journal articles. This allowed an academic overview of the history and current context of the research question. The documents used were found on EBSCOHost Academic Search, EBSCOHost Psychology and Behavioural Sciences Collection, PsychInfo, Cengage Learning Inc., Routledge, Taylor & Francis Group, and SAGE Publications. The documents selected also fell between the years of 1950 and 2015, which allowed the history of LSD, specifically, to be captured and provide a historical understanding of this substance, as well as MDMA as it arrived later to the literature. Literature of the last fifteen years allowed the renewal of the therapeutic potential of psychedelic research to be incorporated, and also provided direction in seeking the classical research as key researchers referenced in current literature were focused on in searching historical documents, such as Shulgin and Cohen. Noticing these names referenced multiple times in current literature led to searching them specifically to discover their classical documents. Focus was maintained on LSD and MDMA in the literature, to maintain the narrow focus and avoid expanding into the other psychedelic substances. Terms of therapy, psychotherapy, and anxiety were used to search the historical literature on LSD, as much of the classical literature was less

specific on the focus on LSD in a psychotherapy context. Recent literature remained focused on trauma and PTSD, which showed the renewal of research on MDMA and allowed for the gathering of information pertaining specifically to best practices in using MDMA as an adjunct to psychotherapy. To include documentation on the effects of prohibition, articles found with the described method were scanned for this specific topic, and the search was expanded to include literature addressing the issue of drug prohibition, attitudes towards illicit drug use, and domestication of substances.

Once documents were gathered, they were divided by topic: LSD, prohibition, MDMA, and current clinical studies. This allowed for a more focused review of each document and opportunity to reduce the volume of literature discovered. An initial number of 60 articles were gathered, which was reduced to 30 through reviewing the exclusion criteria of date, substance, psychological issue addressed, and if it addressed the question of the clinical therapeutic potential of the substance. Some documents contained information in more than one category, and were reviewed multiple times. Each document was reviewed to extract history, context, strengths, limitations, and results. Classical articles, primarily focused on LSD and psychotherapy, provided literary material with historical content, which has informed current literature and clinical studies. This allowed for a system of comparison as well as development of theory and approach. Once all articles were gathered and separated by assigned topic, the literature was reviewed and summarized, as presented in the previous chapter. To address the thesis question, emphasis was given to current documentation of clinical trials, including how health and safety of participants was attended to, with reliance on the influence and interpretation of historical literature. This remains congruent with analytical research, in which the past is used to develop an understanding and interpretation of current practices (<http://www.mu.ac.in>).

The focus of the document analysis is to acquire available information relating to clinical potential for using the psychedelic substance of LSD and MDMA in a psychotherapeutic manner, specifically to understand the best practices of this emerging approach. The themes that were sought pertained to benefits, risks, considerations, and protocols in using these psychedelics as an adjunct to psychological therapy. Protocols were deemed especially relevant in determining set, setting, participant selection, and how to protect the rights and health of the participants. Historical literature pertaining to LSD use in psychotherapy was heavily relied on to provide an understanding of the existence of psychedelics in psychological therapy, in general. In addition, the influence and effect of prohibition and stigmatization was attended to in the data, to amplify context and considerations.

The use of descriptive analysis, relying on analytical research of existing documents as they relate to the clinical potential of the use of LSD and MDMA in the treatment of psychological trauma, provides an effective approach to obtain the themes and considerations necessary to inform non-medical therapeutic practitioners of possible alternative treatment paradigms. A thorough exploration and interpretation of historical documents as well as comparison to current clinical trials and literature provides a comprehensive guide to using these substances as an adjunct to psychological therapy for individuals suffering with PTSD. The results of this document analysis will be presented in the next chapter.

Chapter 4: Results

The previous chapters have established the intention and direction of exploring the therapeutic potential of LSD and MDMA in the treatment of psychological trauma. This chapter will present the results of the document analysis, specifically addressing the emerging themes of best practices for non-medical psychotherapy practitioners in considering this approach. The data collection procedures will be reviewed, followed by results gleaned from the document analysis in relation to the historical influence of best practices, current protocols emerging from the resurgence of research, and a conceptualization of the role of the therapist and client in the process.

Data Collection

Data was gathered through a process of literature review and analysis, with literature falling between the years 1950 to 2015. Existing literature that provided most relevant results to address the thesis question were clinical studies, both historical and more recent. To find appropriate literature, search words used included therapy, psychotherapy, anxiety, PTSD, and trauma in combination with LSD, MDMA, and psychedelic. Literature was found on EBSCOHost Academic Search, EBSCOHost Psychology and Behavioural Sciences Collection, PsychInfo, Cengage Learning Inc., Routledge, Taylor & Francis Group, and SAGE Publications. From the number of documents gathered, I eliminated irrelevant articles based on date, psychological issue addressed, psychedelic referred to, and if the clinical potential of LSD or MDMA was addressed. It was important to remain focused on the two psychedelics identified in the thesis question, as well as the psychological issue of trauma (PTSD) to maintain the scope and intention of this thesis. To capture the role and influence of prohibition on the research and utilization of LSD and MDMA in psychotherapy, I searched for articles that included drug prohibition, attitudes towards

illicit drug use, and domestication of substances. The resulting group of articles were reviewed in depth for the themes including: number of participants, number of researchers or personnel involved in the session, dosage of LSD used and how it was calculated, experiences reported by participants, and changes in their behaviour or experience of trauma. I repeated this process with articles referencing MDMA, of which fell into the last fifteen years to allow the development of the renewal of research to emerge. This allowed for a depiction of best practices and protocols to emerge and illustrated the clinical potential for the therapeutic use of these substances in the treatment of psychological trauma.

Historical influence on best practices

The existing literature on the use of LSD in the context of psychotherapy offered important and relevant insight into how this substance has appropriately been used within therapy sessions. Focusing on this literature provided information on how pioneers of this approach introduced LSD into psychotherapy, researched it, and suggestions for future application of this therapeutic aide. Blewett and Chwelos (1959) developed the *Handbook for therapeutic use of lysergic acid diethylamid-25* to provide a guideline for both individual and group therapy approaches using LSD. This handbook outlines not only the types and experiences and responses a participant may experience when under the influence of LSD in a psychotherapeutic session, but also guidelines and considerations for facilitating this process. Of importance is their statement of the unpredictability of LSD, as the experience while under the influence is unique to each person, and without specific training and preparation the session could become unruly and disrupt its use as a therapeutic tool (p. 12). This statement is further supported by their suggestion that the practitioner involved in facilitating the session be very familiar with the effects and experience of LSD, which is achieved by having taken LSD themselves on several occasions. This suggestion is

consistent in the Chandler and Hartman (1960) research, which indicates the therapist should have extensive self-exploration including up to 40 sessions with LSD to intensely investigate and understand all aspects of their own unconscious. This, they explain, allows the therapist to be well versed in the common symbols, projections, and transference issues that may occur. Having extensive experience with LSD allows the therapist to be better prepared to deal with the experiences of the participant within the session, as well as supporting the integration of the experience in the daily lives of the participant (Blewett & Chwelos, 1959).

Setting

All literature describing the use of LSD is consistent in the use of multiple professionals when facilitating LSD assisted therapy. Blewett and Chwelos (1959) state that in individual and group settings, the therapist and at least one other staff is present throughout the experience, while Pos (1966) indicate that there is both a male and female present in every session, often the female being a nurse or social worker. Generally, it is not advised to have others in the space during the session, as it can be disruptive or even stressful to the client while under the influence (Blewett & Chwelos, 1959; Pos, 1966). The physical space is suggested to be comfortable, with intentional avoidance of clinical objects, so as to create a warm and inviting space (Blewett & Chwelos, 1959; Chandler & Hartman, 1960). It was suggested that any furniture in the space be sturdy, in order to hold up to the possible physical outbursts or urges of the individual under the influence of LSD, as some individuals may become restless or potentially aggressive (Blewett & Chwelos, 1959). Familiar items such as photos of family or friends, or other personal objects can be present (p. 22) and may elicit responses from the individual while experiencing LSD. Early clinical studies suggested the use of music to facilitate the experience for the client (Blewett & Chwelos, 1959; Chandler & Hartman, 1960; Pos, 1966), provoking emotionally charged reactions such as

memories or fantasies. However, Chandler and Hartman (1960) also found that the use of earplugs could help facilitate a deeper psychic experience for the individual by reducing distractions, particularly for those who did not seem to initially respond to the LSD dose. The necessity for a calm, comfortable environment with as few distractions as possible is a consistent theme in the literature.

Set

The preparation prior to the LSD-assisted therapy session is an important factor in conducting the process in a manner that supports psychological safety. This includes adequate screening prior to selection to participate in LSD-assisted therapy sessions. The literature consistently indicates the need to choose suitable individuals carefully, being aware of indications and contraindications for the process. Prior therapy was not found to be a prerequisite, though a number of individuals had experienced both talk therapy and pharmaceutical therapy (Chandler & Hartman, 1960). In some instances, such as Shagass, Charles, and Bittle (1967), at least six pre-session meetings are conducted to explore and understand the problem the individual is experiencing as well as what to possibly expect during the LSD-assisted session. The impetus for seeking LSD-assisted psychotherapy should be understood, and if it is found to be appropriate, it is suggested that a thorough history be taken including any the formulation of any psychological diagnosis (Chandler & Hartman, 1960). In choosing suitable candidates, exclusion criteria consisted of: history of psychotic breaks, current or active psychosis, suicidal depression (p. 287), or individuals who's symptomology or personality suggests a weak ego which may result in psychopathic, depressive, paranoid, or schizophrenic development (Vanggaard, 1965). It is possible that individuals with a weak ego or a personality predisposed to resistance or suspicion, who will attempt to control the experience or experience difficulty giving themselves to the

introspection sought through using LSD as an adjunct to the therapeutic process (Blewett & Chwelos, 1959). Following thorough screening, appropriate preparation of the individual is required.

Though it is not possible to predict the response of any one individual (Blewett & Chwelos, 1959), adequate preparation and information may improve the effectiveness of the session, and reduce the likelihood of adverse responses as a result of anxiety or fear (Chandler & Hartman, 1960). This preparation, according to Chandler and Hartman, may include specific examples of the possible experiences they may have or the projections and symbolism of the unconscious that may occur. It was found that the more information and understanding the individual has about the procedures and experience prior to having the LSD therapy session, the greater the therapeutic value of their experience (p. 287), while ensuring their complete cooperation and willingness in order to capture the most effective therapeutic response (Blewett & Chwelos, 1959). These authors provide a thorough guide to preparing the client, including suggesting pre-treatment sessions and even having the client write an autobiography or list of questions related to what they hope to get from their LSD experience (p. 26). Every individual involved with the LSD-assisted psychotherapy should be well informed and prepared ahead of time to reduce negative experiences.

LSD has a reputation as a result of the recreational use it became famous for when members of society began self-administering LSD in the 1960s, and its subsequent prohibition. Individuals may worry about experiencing psychosis, or becoming a drug abuser as a result of LSD in psychotherapy. These anxieties could easily affect their experience while using the substance within psychotherapy, as part of their 'set' expectations. Though initially considered a 'model psychosis', distinct differences between actual psychosis and hallucinations one might

experience while under the influence of LSD led to this consideration being largely abandoned (Bliss, 1988). Also, initial studies of LSD suggest it had benefits in treating substance use, specifically alcohol use, rather than initiating abuse (Novak, 1997), and many effects of the LSD experience are unpleasant and therefore unlikely to become a drug of abuse (Bliss, 1988).

Dosage and number of sessions

The literature has various suggestions of dosage for the LSD-assisted sessions. The earliest literature indicates a range of 100micrograms-1000micrograms, with the typical effective dosage being 300-600micrograms (Blewett & Chwelos, 1959). They indicate that the dose presumed to be effective is administered first and only if there seems to be little response will small increments (200-300 gamma) be given. Doses may be given in either pills or liquid form, with pills being preferred as the dose can be more easily controlled (p. 31). A set number of sessions is not recommended explicitly by these authors, however there is no indication or discussion of more than one LSD session, followed by prompt in-person follow up (p. 47). Pos (1960) similarly used 200micrograms-1000micrograms, with the mean dosage being 369micrograms, administered intramuscularly, in two to three LSD sessions. The sessions observed by Vanggaard (1965) indicate a common dosage of 400micrograms-500micrograms, with as low as 125micrograms being used in one client. In this study, individuals received lengthy treatment, spanning more than twelve months and including up to 40 LSD sessions.

Outcomes

Individuals who participated in LSD-assisted therapy sessions reported, and were observed, experiencing a variety of responses. Chandler and Hartman (1960) describe common themes that were elicited in LSD sessions, including effects on the ego functions in which the individual does not lose touch with orientation to space or time, but does gain deeper insight and connection to

levels of their own psyche. This allows for repressed memories to surface, or new perceptions to be gained through focusing more emotions and projections, and perhaps experiences of hallucinations in which the individuals is aware it is not actually reality (p. 291). In addition, dissociative and somatic responses are described in all reports (Chandler & Hartman, 1960; Pos, 1966; Vanggaard, 1965). Individuals receiving LSD-assisted therapy were evaluated on improvement following their treatments, typically ranging from outstanding improvements to no improvement or conditions worsened. In the study conducted by Chandler and Hartman (1960), 110 participants were involved and 88 reported some level of improvement in their psychological health, which is a much higher percentage of improvement than those observed by Vanggaard (1965) in which of 21 participants, only five participants reported improvement and 13 described no improvement or worsening conditions, and three experienced some improvement over time. Chandler and Hartman (1960) describe participants experiencing a reduction in their presenting symptoms, reports of improvement by family or friends, behaviour change in other areas of their lives, and an increase in therapeutic progress. For example, they site that several participants had had up to six years of talk therapy with little or no improvement, and after multiple LSD sessions were considered markedly improved (p. 295). Specifically, the uncovering of childhood memories provided the greatest therapeutic benefit (p. 296). Pos (1966) found that 12, of 24, participants had improvements, though five experience immediate or delayed relapse, while 12 others experienced an immediate resistance to the LSD treatment and required further exploration or treatment. Therapeutic success, according to this author, included a shift in the ego or defense mechanisms. Blewett and Chwelos (1959) reported that, when using the method outlined in their handbook specifically, LSD provided a meaningful improvement of the positive therapeutic aspects and noticeable therapeutic potential.

Though it is nearly impossible to predict the kind of experience an individual is going to have while experiencing LSD inebriation, it was posited that individuals who have a more insightful (also termed psychedelic or mystical) session are more likely to experience or maintain behavioural change in their lives post session (Shagass, Charles, & Bittle, 1967). In their study of 20 psychiatric patients, 12 were found to experience insightful responses to LSD sessions. These kinds of responses were defined as connecting to forgotten childhood memories followed by integration of this material and self-acceptance with a commitment to improve (p. 472). Pos (1966) reported that individuals under the influence of LSD realized, and may even act out, an unknown aspect of their personality, or would relive past experiences in a manner that allowed for understanding and integration. Others may concretely interpret symbols that showed up in their experience, including acting out transference experiences with the nurse or therapist in the room (p. 338). These experiences seem to indicate some processing or explicit therapeutic value, while other individuals may avoid meaningful experiences by focusing obsessively on a question or object (p. 338).

This handbook acknowledged that there are questions of the contribution LSD could lend to the therapeutic process, the client-therapist relationship, and its relation to existing psychological theory, and posited that LSD would become the most common adjunct to psychotherapy within the next thirty years. Interesting, this drug became prohibited less than a decade after this suggestion.

Current best practices: MDMA

Initial trials

Documents of current clinical studies are useful in understand the current best practices, and are largely summed up on the Multidisciplinary Association for Psychedelic Studies (MAPS)

website (www.maps.org). The literature also offers understanding as to the effects individuals report when receiving LSD or MDMA-assisted therapy, both to their general well being and to their experience of trauma symptoms. Though the therapeutic potential of MDMA in psychotherapy was tested earlier in 1980 to 1983, with Shulgin in attendance to consult (Greer & Tolbert, 1986), it was largely untouched following it being deemed illicit in 1986. It has returned to the light of research over the last fifteen years, with some of the most recent clinical trials focusing on MDMA-assisted psychotherapy for PTSD, with previous LSD trials informing the procedures, which will be further reflected on in the following chapter.

The clinical study described by Greer and Tolbert (1986) outlined that all participants for the MDMA-assisted therapy sessions were carefully screened after being referred from psychotherapists or friends of the authors, with the explicit intent to have an MDMA session. An extensive consent was also reviewed and obtained from participants, and they were assessed for specific medical conditions that would exclude them from the study. These included hypertension, hyperthyroidism, hypoglycemia, diabetes, impaired liver function, glaucoma, and pregnancy; in addition, psychological issues, which had caused any impairment socially or in relation to employment, also met the criteria for exclusion (p. 319). The individuals received their MDMA dose, of 75mg-150mg, in their homes, after having fasted for six hours to avoid nausea and facilitated more rapid absorption of the substance (p. 320). Similar to LSD sessions, the sessions were conducted both individually or in groups, music was used, as well as eyeshades at times, to promote a more internal process, while the therapists remained present to interact as seemed necessary. Individuals were offered an additional dose of 50mg, or up to 75mg, around two hours when effects may be diminishing, and sessions ended around five hours. Each session lasted about between five and eight hours, and follow up conversations were conducted very soon after, while

questionnaires were conducted later to assess the impact of the experience (p. 320). All 29 participants experienced some level of benefit during their session, from an increase in loving feelings for others present, enhanced ability to communicate and to receive positive and negative feedback, improved self confidence, or lowered defenses resulting in a therapeutic process (p. 320). Almost all (22 individuals) reported enhanced cognitive abilities, such as increased insight into their problems or patterns, or improved mental perspective (p. 320). These authors do point out that there are less desirable effects that may occur during the session such as jaw clenching, the urge to urinate, sweating, and shaking, as well as after the session, including an increase in anxiety and experiences of insomnia (p. 321). Despite this, 16 of the 29 participants experienced a significant therapeutic benefit, as they felt a great deal of progress had been made towards their individual goals, and the nine with DSM psychiatric diagnoses all experienced improvement of their symptoms (p. 326). It was therefore determined that MDMA could be utilized as an adjunct to therapy without harm to the individual, with the hope from this study was to encourage or facilitate further research into the use of MDMA as an adjunct to therapy, which would not occur until over twenty years later.

Recent trials

The first North American clinical trial of using MDMA as an adjunct to therapy for the treatment of PTSD since prohibition in 1985 completed its phase two trial in 2010 by Mithoefer, Wagner, Mithoefer, Jerome, & Doblin (2011). Following this, Oehen, Traber, Widmer, and Schnyder (2012) conducted their own research to confirm the findings of the initial study. MDMA had continued to be used in other countries, such as Switzerland, until 1993 (Oehen, et al., 2012), and clinical trials had begun phase one studies (for safety) had been conducted not only in the USA, but also Europe, Israel, Jordan, and Canada, with phase two studies being initiated

(Mithoefer, 2011). The results of this recent 2010 study has inspired and informed ongoing studies as research into using MDMA as an adjunct to therapy for PTSD continues.

Mithoefer, et al. (2011) conducted their study using randomized, double-blind procedures, using the active MDMA substance or an inactive placebo (psychotherapy only), whereas Oehen, et al., (2012) introduced an active placebo (lower MDMA dose) in their randomized, double-blind study. The initial study with Mithoefer, et al. (2011), involved twenty individuals who had struggled with chronic PTSD, as defined in the DSM, with little success with psychotherapy or pharmacotherapy were screened by telephone to identify any medical or psychological exclusion criteria including Borderline Personality Disorder or current Axis I DSM diagnoses except anxiety or affective disorders, substance use (more than 60 days clean), and eating disorders. They were all required to reduce and abstain from other psychiatric medications prior to the study, and urine analysis was conducted before the sessions to rule out drug use (p. 442). Participants received two MDMA-assisted therapy sessions, three to five weeks apart, lasting about eight to 10 hours, following by an overnight stay. Those who received the active substance received a dose of 125mg with an optional second dose of 62.5mg around two hours into the session (p. 444). The participants had eight follow up sessions to facilitated integration, with the initial session occurring the day after each experimental session, with three more during the following month and a final session two months after the second experimental session (p. 444). These sessions allowed for reflection, emotional processing, and opportunity to determine how to integrate the learning or insight into other areas of the individual's life.

The study conducted by Oehen, et al., (2012) involved only twelve participants who were recruited from psychiatric units, trauma centres, and therapists in Switzerland and had at least six months of psychotherapy and three months of psychotropic medications. Similar inclusion and

exclusion criteria were met, as in the previous study, and all participants were allowed to continue current psychotherapy with their current therapist, but were not to adjust the frequency of sessions (p. 42). Three all-day sessions with either the full dose (125mg, with a 62.5mg dose after 2.5 hours) of MDMA or the active placebo (25mg of MDMA with a 12.5mg dose after 2.5 hours) were conducted with a male and female co-therapist team, with a follow up session conducted the next day and two further sessions one week apart to help facilitate integration of the insights (p. 45). Therapists contacted the participants on a daily basis for the week following the experimental session to monitor psychological wellbeing and after effects of the MDMA (p. 45). Further follow up was conducted up to one-year post experimental session, for a total of 12 non-drug therapy sessions (p. 46). These procedures closely reflect the previous study by Mithoefer et al., (2011), with the exception of the active placebo, number of MDMA-assisted sessions, and length of follow up.

Set and Setting. The sessions in both studies were conducted in a comfortable setting, with a male and female co-therapist team. Each individual received two, 90-minute preparatory sessions to discuss what to expect, including how therapy would be conducted and the possible effects of MDMA (Mithoefer, et al., 2011). In contrast, Oehen, et al., (2012) provided three preparatory sessions. During the experimental sessions in each study, the individual was able to sit or lay down, with the therapists sitting on either side. They were given opportunity to wear eyeshades if they chose, or simply close their eyes and listen to relaxing and emotionally provocative music (p. 444; Oehen, et al., 2012). Individuals were invited to experience quiet internal reflection balanced with therapeutic conversation, in a non-directive or limiting manner (Mithoefer et al, 2011; Oehen, et al., 2012). The setting and approach was largely the same between the studies, with the number of MDMA-assisted sessions being the primary difference.

Outcomes and experiences. Individuals participating in MDMA-assisted psychotherapy studies were evaluated for PTSD diagnoses based on standardized tests including CAPS and IES-R as outcome measures (Mithoefer, et al., 2011; Oehen, et al., 2012). In both studies, MDMA-assisted therapy sessions in combination with non-drug psychotherapy sessions produced statistically significant improvements in PTSD symptoms for the individual, with little side effects. The results from Mithoefer, et al., (2011) indicate that a high number of participants no longer met the DSM criteria for PTSD and experienced improvements in functioning in areas of their life such as employment. These results are comparable to other treatment modalities for PTSD, which is important given the resistance to other treatment approaches the participants had experienced (p. 449). In the study conducted by Oehen, et al., (2012), reevaluation of the Clinician Administered PTSD Scale (CAPS) following experimental sessions did not yield statistically significant results, but self-report of the individuals did indicate symptom reduction. Both studies reported the same negative effects as Greer and Tolbert (1986). Overall, this study found that though MDMA could be administered safely and without significant risk, it did not produce significant results in regards to reducing PTSD symptoms (p. 50). It could be assumed, then, that additional exploration is needed to further understand how to effectively utilize MDMA-assisted psychotherapy in the treatment of PTSD.

Role of therapist: Addressing risks and creating safety

There is importance in understanding the role of therapist in the process of using MDMA-assisted psychotherapy, as it is the therapy that remains the focus of treatment and not the substance itself. As previously stated, this is not a case for providing MDMA to an individual and suggesting they use it independently, but rather it is an opportunity to bring it into the psychotherapy session and utilize it as a therapy aid. It is possible that the individual has their own

concerns about the use of MDMA in a therapeutic setting. Given the potential impact of society's prohibitive stance on psychedelic substances, it is possible the individual offered MDMA-assisted therapy may have hesitations or assumptions about the process. There have been suggestions that MDMA use, when taken on the street as 'Ecstasy', could diminish cognitive functioning in users (Mithoefer, 2011). This potential risk was not found to be a definitive risk in studies with illicit users (p. 39). As PTSD is associated with high levels of co-occurring substance abuse, and street level 'Ecstasy' has been known to be a drug of abuse (Mithoefer, et al., 2012), it is important to consider the potential of abuse of MDMA as a result of therapeutic use. Studies have indicated that as a result of the supervision and administration of MDMA in the therapeutic setting, with close follow up afterwards to integrate and manage emotional effects, participants were unlikely to pursue self-administration of 'Ecstasy' or want to abuse the substance (p. 7). Greer and Tolbert (1986) found that many participants reduced or eliminated other substance use from their lives following MDMA-assisted sessions. In regards to the potential to abuse MDMA itself, these authors explain that the diminished positive effects when taken regularly or in high doses, as well as the increase in undesirable side effects reduce the likelihood of it being chosen as a drug of abuse (p. 326). In the clinical trials, MDMA is used within the therapy process two or three times, with supervision of the therapist, with a number of non-drug sessions occurring before and after to support the integration of the insights gained through the MDMA session (Mithoefer, 2011). The approach used by the therapist was generally non-directive, allowing the processing of trauma-related material as it presents itself, which underlines the importance of the therapeutic alliance and process as paramount to the process (Parrott, 2007), as the material elicited from the session can be difficult to process. Parrott also suggests therapists have experience of their own with using MDMA, so as to better understand the process their client may be going through (p. 185). Pre-

session preparation is important in establishing appropriate set, which has consistently been found to contribute to efficacy of the substance and positive outcomes (p. 187). Adequate preparation and follow up may also help mitigate challenges of post-session MDMA effects on the mood, including the tendency towards anxiety or depression as a result of the effects on serotonin and dopamine (p. 188). The therapist, or co-therapists as is frequently cited, remain present with the individual throughout their MDMA-assisted session. To effectively address issues of safety for the client, consent is obtained prior to involvement in MDMA-assisted psychotherapy, as well as having medical staff on hand should any medical issues arise (Mithoefer, et al., 2011; Oehen, et al., 2012). Medications may be administered to help manage experiences of anxiety or distress as the effects of the substance wear off, and the effects of insomnia or anxiety in the day or days following (Mithoefer, et al., 2012). A thorough screening for medical and psychological issues is conducted as part of the inclusion and exclusion criteria in each study, which further supports the safety of each participant. The focus should remain on MDMA as an aide to the therapeutic process, with the safety of the client remaining paramount, and the involvement and supervision of the therapist of importance to the process.

Conclusion

Clinical studies on the therapeutic potential for the use of MDMA in the treatment of PTSD closely reflect the procedures and intention of the historical studies of LSD in psychotherapy. From this, a protocol of practice is emerging, relying heavily on the supervision and involvement of the co-therapist team, set, and setting of the therapeutic process. Current results of studies of MDMA in the treatment of PTSD yield promising results, but not definitive results. Some participants experience a reduction in their PTSD symptoms, but the number and studies are small and further research will elaborate on these results. What has been determined is

that MDMA can be administered as an adjunct to the psychotherapy process with limited risk to safety and limited side effects. For some participants, their symptoms of PTSD were reduced through the use of MDMA-assisted psychotherapy, while others remained unchanged or minimally effected. The following chapter will further interpret and integrate these results into a broader understanding of the therapeutic potential of these substances in the treatment of PTSD.

Chapter 5: Discussion

Decades ago, psychedelic substances such as LSD and MDMA were invited into psychotherapy as a means to facilitate therapeutic rapport, personal insight, and resolve emotional health challenges. Prohibition halted exploration into the extent to which these substances could be utilized, but interest has begun to reemerge over the past several years, demonstrating the therapeutic potential for the use of LSD and MDMA in the treatment of psychological trauma. This chapter will discuss the implications, limitations, and meanings that have emerged from the document analysis, as well as my own personal interpretation and insights.

Reflection of context

Posttraumatic stress disorder (PTSD) is a growing concern in our society, with limited effective approaches to treat it. Currently, psychotherapeutic approaches including trauma-focused interventions and psychopharmacological interventions including SSRIs and SNRIs provide possible approaches (Dunlop, Kaye, Youngner & Rothbaum, 2014) for individuals to find healing and resolution of their symptoms. It has been stressed that there is a need to develop better approaches and pharmaceuticals to treat chronic PTSD symptoms (Oehen, Traber, Widmer, & Schnyder, 2012), of which psychedelics should be considered a possibility.

In the 1960s, LSD was quietly used by many psychotherapists to treat client complaints of anxiety, depression, and addiction. The effects of LSD initially were distinguished for its apparent replication of psychosis, offering insight in to the experience of those diagnosed with schizophrenia (Bliss, 1988). Beyond this application, which eventually was abandoned, LSD seemed to improve therapeutic alliance and offer a connection to the unconscious that permitted the individual to gain insight into their problematic behaviours and resolve their symptoms (Chandler & Hartman, 1960). Using LSD under the close supervision and guidance of a trained

psychotherapist in addition to regular ‘talk therapy’ sessions was found to be effective for some participants, provided they were adequately screened and followed up with. Though it is relatively impossible to predict the experience one might have while under the influence of LSD, common themes of reduction of ego defenses, and a deeper connection to the psyche occurred within the therapeutic sessions (p. 291). Individuals received sessions prior to the LSD-assisted therapy to identify the problem and prepare them for what the LSD session may be like, which addressed the very important element of ‘set’. Furthermore, the setting was comfortable and conducive to introspection, involving pleasing music, pictures, and space to lay down during the session. The involvement of the personnel involved remained gentle and non-invasive, and provided safety and interpretation of the content that arose from the session. These early clinical trials, prior to LSD becoming illegal in mid 1960s, provided a foundation of practice, which had led to positive impacts to the therapeutic aspects and potential (Blewett & Chwelos, 1959), and informed future practices with psychedelics.

The influence of these early LSD-assisted sessions can be noticed specifically in the approach developed for the use of MDMA in psychotherapy. With careful screening, preparation, and follow up, individuals who received MDMA-assisted therapy may experience a reduction of their PTSD symptoms. Similar to historical LSD-assisted therapy, sessions are attended by a co-therapist team, last several hours, involve targeted focus on developing appropriate set and setting, and provide non-drug sessions as part of the therapeutic approach. There are few clinical trials addressing this treatment, with results indicating statistically significant improvements as well as limited improvements. Recent and current trials indicate the importance of talk-only sessions, using MDMA only as a tool to facilitate the therapeutic process.

Implications and recommendations

The implications of utilizing psychedelics such as LSD or MDMA as therapeutic aides are evident but controversial. Prohibition and the war on drugs facilitated an attitude towards illicit substances, not only removing psychedelics from the repertoire of psychiatric tools, but also creating a culture of resistance and judgment by the upcoming generation in the psychotherapy community. Having been contaminated by the stories of tragedy, destruction, and animosity towards drugs that alter the state of consciousness, all Schedule I drugs took on a demonized image. Without ongoing research and clinical studies demonstrating how the psychedelic substances could be utilized to treat psychological issues, attention turned towards the studies on talk therapy approaches and pharmaceutical efforts.

Results of previous trials have offered promise, with caution, but challenge the current practices of treating PTSD. Pharmaceutical interventions including antidepressants, anti-anxiety medications, or even low dose anti-psychotic medication has been the primary approach to working with individuals with PTSD, at times in combination with psychotherapy methods. These medications are taken by the individual on a daily basis, often for months or years, in an effort to provide effect and stabilization from a physiological perspective. In addition to the cost of this approach, both to the individual as well as the health care system, individuals may experience undesirable side effects. Psychedelics in the context of therapy are used for only a portion of the treatment, acting as a facilitator of the process rather than a daily, regular required medication. This could reduce the cost to the health care system, and to the individual. Current studies suggest that MDMA can be administered as an adjunct to psychotherapy, without significant risk or lasting adverse side effects. Therapists are required to be well versed in the experiences of MDMA (or,

LSD), and are encouraged to have personal experience and attend to set and setting in order to provide the most effective and therapeutic experience.

The literature reviewed and results uncovered provide insight into how these substances can be utilized in a therapeutic manner, which differs from recreational or illicit use of them. Every study, recommendation, report, and consideration that was uncovered is heavily informed by the need for training, appropriate application, and preparation of the individual. The therapeutic use of psychedelics is not a case of suggesting an individual experiment with these substances on their own, or in a social setting. Rather, it is a carefully considered, professional, and defined process in conjunction with traditional talk therapy sessions. The application is to utilize LSD or MDMA as a therapy tool, used only a few times under direct supervision of therapists and, often, medically trained individuals such as nurses. The material elicited from these psychedelic-assisted sessions is then processed with the therapist, not left for the individual to navigate and integrate on his or her own. They are not, as pointed out by Sessa (2014) recreational substances, bought on the street, but medications developed in a lab, by the medical profession. This differs significantly from recreational or 'street' use, in which individuals take an unknown amount of the substance (due to adulterants or other unknown factors as a result of the method of obtaining it), focuses likely on the social situation they are in and the 'feel good effects', and resumes their lives following the come down experience. In these cases, it is possible for the individual to experience negative outcomes if they are not properly caring for themselves or do not have others who are able to guide them. For example, they may dance excessively with little water intake and become overheated or dehydrated, they may find themselves interacting with people in unsafe situations, or acting out altered perceptions in unsafe environments. In psychotherapy, a specific approach of establishing set, setting, and facilitating integration is

becoming established in order to produce the safest and most rewarding effects. For individuals who have had limited, or no, progress with traditionally accepted therapeutic interventions for psychological trauma, there is the potential for lasting symptom reduction as a result of using MDMA as an adjunct to therapy.

It can be assumed that advances in medical technology and knowledge have produced an increase in understanding the effect of trauma, since the 1960s when psychedelics were part of the therapeutic repertoire for some psychotherapists. These increases, then, allow for a better understanding of how PTSD is experienced, from a physiological perspective, and can therefore also begin illuminating how psychedelics may facilitate change for individuals struggling with this experience. These same advances in medical understandings have produced pharmaceutical approaches to address mental health issues, as well as the ability to view and monitor the brain in an increased capacity, which offers additional insight into the physiological mechanisms that allow this. This information will continue to inform the psychology field and the development of effective approaches to deal with trauma.

Current results indicate that MDMA and LSD can be administered within a psychotherapeutic context with little risk, and have the potential to reduce symptoms of emotional and mental distress. Like any approach or intervention, the results do not claim to be uniform and applicable to every individual. The results do not suggest these substances become readily available for public consumption, or that they be used to solve the world's problems, but they do indicate that additional exploration of their application within the psychotherapeutic context be further explored. Challenging the prohibition-informed context of the current therapy field, as well as negative perceptions from the medical field, are required in order to navigate and discover novel approaches to longstanding emotional health issues. Well developed clinical trials with

larger sample sizes, adequate controls and mechanisms of assessments will allow a better understanding of how these psychedelic substances can be helpful to resolving issues of psychological trauma. Using past studies to elaborate and edit practices will provide a comprehensive best practices approach moving forward. Perhaps, though, the greatest challenge will be fighting the stigma and fear attached to these demonized, illicit substances. This could be improved through increasing the number of studies, providing accurate and relevant information, and demonstrating the effectiveness while comparing the process to the cost (both financially and physically) of current pharmaceutical interventions. To increase the access to this kind of process, however, the political culture of prohibition will have to continue to be addressed. In addition, further defining how these substances function to reduce symptoms would be beneficial in advocating for their access in psychotherapy. Mitigating the depressive and unpleasant come down symptoms may also be an important factor in effectively utilizing MDMA, specifically, with a population that already suffers from increased anxiety and depression, and will require further exploration and explanation.

Limitations

There are limitations to the approach utilized in this thesis, which also reflects limitations of historical documents. Early clinical studies on the use of LSD and MDMA in the therapeutic context were, by current standards, poorly designed and suffered validity issues. This, in turn, creates some weaknesses in the review of these studies. It is important to consider that many of the studies had small sample sizes, no control groups, and relied primarily on self-report or researcher observation and opinion in order to establish the results. However, current clinical studies have taken steps to address these issues, including developing control groups, double-blinding the studies, and utilizing standardized tests and measurements in order to establish effect (Mithoefer,

Wagner, Mithoefer, Jerome, Martin, Yazar-Klosinski, Michel, Brewerton, & Doblin, 2011; Oehen, et al., 2012). The historical context of psychedelics in psychotherapy, through the exploration and analysis of LSD use, has provided important considerations as research moves forward in this area.

The limits specific to this thesis include the narrow scope of the literature search, as the focus was only on two psychedelic substances and their psychotherapeutic connection to the treatment of trauma. There are a vast number of articles pertaining to the psychotherapeutic use of LSD as it relates to other mental health challenges, which were not included in the scope of this thesis. In addition, using only literature as the data source reduced the depth of knowledge and content available, which may have been improved by accessing methods such as interviews with professionals in the field.

Personal insights

As part of the generation of the ‘war on drugs’, I received an education, which, upon reflection, was informed directly by prohibition and political climate. Not once in my journey of becoming a counsellor was I exposed to the role psychedelics had played in the history of psychotherapy and medicine. Instead, I bought into the demonization of all illicit substances, viewing anything not prescribed by a doctor as ‘wrong’ or ‘problematic’. My first response to initially learning of the resurgence of psychedelics in the research for mental health was of great opposition and disbelief. However, I had to consider what I had noticed about the role of pharmaceuticals over the course of my career. I had begun to notice how frequently they were abused, how the side effects could be hugely impactful and difficult, and how readily they were accessed and accepted in our current society. Then I looked at how psychedelics were used, and noticed a stark difference: psychedelics were used as a short-term intervention with only those who met the criteria, with the support and guidance of a trained professional. I took a step back,

and reevaluated my perceptions, beliefs, values, and opinions. Then I looked closely at the literature, which is what has been presented in these chapters. Perhaps psychedelics are not the destructive, deadly, horrifying substances I had been led to believe they are; perhaps they hold therapeutic value when utilized in a specific, intentional manner.

Sharing with individuals of my generation that I was exploring how psychedelics can be utilized as an adjunct to psychotherapy provoked responses reflective of my own initial reaction. Frequently, friends or colleagues would scoff or roll their eyes, or become defensive that illicit drugs be considered for such delicate issues such as trauma treatment. This clearly speaks to the culture of prohibition in which we have all been raised. In contrast, when I would describe my focus to individuals of older generations, they would almost always respond with understanding and insight into their own knowledge of the historical uses of these substances. At first I was confused by this, and felt as though I had simply been kept in the dark all these years, before I realized I was experiencing the effects of prohibition. This, in turn, strengthened my commitment to find a way to present the information for therapists of my generation to understand and consider when seeking alternative approaches for clients suffering with unresolved trauma experiences. It, in fact, is our prerogative, as therapists intent on supporting clients in reducing their suffering and improving their lives, to understand all possible options and the risks and benefits associated with them. I am not suggesting every individual who experiences trauma be handed a dose of psychedelics with the promise of recovery, but I am suggesting an open, informed mind to provide ethical and accurate possibilities. I no longer leer at the possibility of introducing ‘illicit’ substances into therapy as a method of healing, because I have seen the destructive potential of legal pharmaceuticals first hand, and have now explored the literature on psychedelics to uncover a method of utilizing them in a safe and facilitative manner. I also do not consider this the answer

to every issue, for every client, and feel it is imperative to approach this with mindful consideration of implications and appropriateness for every case. I consider it my responsibility to be informed, and educated, on existing strategies in the therapeutic community.

Conclusion

“Mind-manifesting” psychedelic substances such as LSD and MDMA have a controversial history, complicated by their widespread illicit street use over the years. However, they were initially utilized in the therapy room decades ago, as a way to increase introspection, provoke repressed memories, and reduce anxiety responses to difficult emotional material. In conjunction with talk-therapy sessions with a trained and informed professional, both of these substances have been found to reduce distressing symptoms associated with trauma. The early studies of LSD in therapy have provided rich and enlightening material in which to build current best practices in using MDMA-assisted therapy for the treatment of trauma. Research is building, due largely by the ongoing efforts of MAPS, and is beginning to build a case for how to bring MDMA, and other psychedelics, into mainstream mental health treatment. The literature reviewed in this thesis offered a general approach to best practices and established therapeutic potential, as the future of psychedelic research and trauma treatment continues.

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