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The Implementation of Mindfulness and Dance/Movement Therapy for

Women with Postpartum Depression: A Literature Review

Capstone Thesis

Lesley University

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Dance/Movement Therapy

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Abstract

This literature review discusses the impact and effectiveness of using mindfulness-based interventions and a dance/movement therapy approach on mothers with postpartum depression (PPD) to promote their holistic well-being. The experience of giving birth and the transition to motherhood can be rewarding and remarkable, yet challenging and overwhelming. It is widely suggested if a mother who suffers from postpartum depression is left untreated and unattended, the ongoing depression and emotional distress can have negative impacts on their child's well-being and development. The practice of mindfulness with women with PPD is suggested to be significant in reducing depression and improving psychological well-being especially concerning a decrease in stress and anxiety. Dance/movement therapy, a bodily-oriented modality with its emphasis on non-verbal expression and communication, is used to foster a mother's well-being, and their attachment and attunement with their child. This thesis aims to explore the existing research on the implementation of mindfulness-based interventions and a dance/movement therapy approach on women with postpartum depression.

Keywords: Postpartum depression, postnatal depression, mindfulness, mindfulness-based interventions, dance/movement therapy, dance movement therapy, depression.

The Implementation of Mindfulness and Dance/Movement Therapy For
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Introduction

Postpartum depression is a non-psychotic disorder that affects approximately 10 to 20% of women globally in both high- and low-income countries (Moore Simas et al., 2019), however this mental health issue often remains unattended and undiagnosed (Stewart et al., 2003). Untreated postpartum depression can have devastating long-term effects that impact the well-beings of the mother, the relationship within the family, and the children (Moore Simas et al., 2019). The mother's ongoing emotional distress can lead to negative impacts on her children's behavioral, cognitive, developmental, emotional, and interpersonal well-being in later life (Stewart et al., 2003). Mothers with PPD also report having difficulty coping with the change and emotional distress caused by childbirth and the transition to motherhood.

Mindfulness-based interventions (MBIs) are widely suggested to be effective and significant to enhance psychological well-beings and facilitate greater awareness to self, others, and their environments. Dance/movement therapy (DMT) is used to work with new mothers to enhance their relational and shared experience with their baby aiming to foster well-being in the mother and enhance mother-infant attachment that is crucial for the child's development (Doonan & Bräuninger, 2015).

My hypothesis is that the combination of a mindfulness based and DMT approach can provide mothers diagnosed with PPD an all-encompassing treatment to enhance their self-awareness and acceptance when dealing with the transition into motherhood. This could also improve emotional distress and help mothers to connect and re-connect to their shared

experience with the infant. An attuned mother with a better sense of well-being could potentially foster positive outcomes in a child's development and attachment.

This thesis aims to explore the existing literature in the clinical population of PPD, MBIs, DMT, and the relationships of these research areas previously mentioned. The implementation of a body-mind approach to working with mothers with PPD continues to be an emerging method. My interest in this topic stems from my past clinical research experience and passion in using movement approaches and mindfulness as the primary approach of my clinical practice. I previously had experience with conducting 8-week mindfulness-based interventions with women who presented clinical symptoms of PPD in Hong Kong. This experience brought a spark of insight to my interest in broadening my knowledge related to mindfulness and dance/movement therapy in clinical settings. Numerous research studies have emphasized reducing depressive symptoms and improving psychological well-being using body-mind treatments with PPD. This thesis focuses on the use of dance/movement therapy and mindfulness-based intervention as healing modalities within this literature review.

Method

This capstone thesis aims to examine the overlaps between the use of a mindfulness-based approach and dance/movement therapy in mothers with postnatal depression. The objective of this literature review aims to increase understanding of the potential gap in the existing literature relating to the use of DMT and body-mind approach in mothers with PPD. For the research strategy of this literature review, I utilized the Lesley University library page to search for journal articles and e-books in the PsychINFO and Academic Search Premier databases. I have included English language references from 1982 to 2019. My search terms

included “postpartum depression,” “postnatal depression,” “pregnancy,” “mother,” “depression,” “mindfulness,” “mindfulness-based,” “mindfulness-based intervention,” “MBI,” “MBSR,” “dance/movement therapy,” “dance movement therapy,” “DMT.” I obtained copies of relevant journal articles and organized them in a reference management software called EndNote. All relevant articles were critically read, reviewed, and examined by the author for its value to be included in this literature review.

Literature Review

This literature review investigates specifically at the use of MBIs and DMT as healing modalities for women diagnosed with PPD. I conduct a critical review of existing literature as well as indicating conclusions based on what was found and what aspects of the literature may be insufficient.

Postpartum Depression

Postpartum depression is also known as postnatal depression, alternative terms include perinatal, maternal, puerperal depression. According to Moore et al. (2019), PPD is the most common medical complication of childbirth. PPD is a non-psychotic disorder that affects approximately 10 to 20% of women globally in both high- and low-income countries (Moore Simas et al., 2019), however this mental health issue often remains unattended and undiagnosed (Stewart et al., 2003). Postpartum affective illness is categorized into three common forms that vary in its prevalence, clinical profile, and treatment: postpartum blues (the blues, baby blues), non-psychotic postpartum (or postnatal) depression, and puerperal (postnatal or postpartum) psychosis (Stewart et al., 2003). Untreated postpartum depression can have devastating long-term effects that impact the well-being of the mother, the relationship within the family, and the children (Moore Simas et al., 2019). The mother’s ongoing depression can lead to negative

impact on her children's behavioral, cognitive, developmental, emotional, and interpersonal well-being in later life (Stewart et al., 2003).

As most of the research studies focused on the clinical *diagnosis* of PPD, the focus of this thesis is the clinical *population* of postpartum depression. On the other hand, the postnatal blues condition lasts only for hours to days with no treatment required. Puerperal Psychosis is the most severe but rare form of postnatal affective illness with a prevalence of only 0.1 to 0.2%. Evidence-based research shows that the development of puerperal psychosis is biological and genetic, and demographic and psychosocial aspects are not likely to be the major factors. Postpartum depression is the most common form of postnatal affective illness that requires treatment and because of this prevalence, it will be the focus of this thesis.

For screening purposes, the Edinburgh Postnatal Depression Scale (EPDS) was the most widely used screening tool for the symptoms of PPD (Moore Simas et al., 2019). The observed symptoms of PPD usually begins within 1—12 months after delivery (Moore Simas et al., 2019). The clinical profile and symptoms of PPD are similar to the symptoms of major depression in women who have not gone through childbirth, which includes depressed mood, low energy, and inability to experience pleasure (Sheydaei et al., 2017). Reports of suicidal ideation are also common (Stewart et al., 2003). Screening and diagnosing PPD can be difficult as there is great overlapping of somatic symptoms associated with childbirth and the symptoms of major depression, such as sleep deprivation, increased in/loss of appetite, diminished libido, and fatigue. Less severe presentation of postnatal depressive symptoms can be easily dismissed as typical or natural outcomes of childbirth (Stewart et al., 2003). Other common symptoms of PPD is characterized by tearfulness, despondency, irritability, feelings of guilt, and sleep disturbances, poor concentration and memory (Sheydaei et al., 2017; Stewart et al., 2003)

Qualitative Literature related to PPD

According to a literature review by Stewart et al. (2003), women with PPD are challenged with the discrepancy between the expectation and reality of motherhood and childbearing. Mothers may also experience overwhelming feelings and excessive worry during this transition period about the child's health and their own changing lifestyle as a new mother (Stewart et al., 2003), which has led to the associated feelings of inadequacy (Sheydaei et al., 2017) and guilt of not meeting their social role. The feeling of isolation (Stewart et al., 2003) is also highlighted in the mother's experience during the perinatal period.

Chan et al. (2002) conducted a qualitative phenomenological study, which examined the lived experience of Hong Kong Chinese women diagnosed with PPD. The study aimed to examine the subjective experience of depressive symptoms, investigate the factors perceived by participants as associated with their depression, and identify the help-seeking behaviors of the participants (Chan et al., 2002). The associated factors identified from the data included: (1) feeling trapped in the situation; (2) feeling ambivalent towards the baby; (3) uncaring husband; and (4) controlling and powerful in-laws (Chan et al., 2002). The central theme included the "feeling of entrapment" (Chan et al., 2002, p. 576), and the study's findings suggested a need in Chinese women for internal and external support to cope with the change and emotional distress caused by childbirth and new motherhood.

The existing literatures have indicated the need for all-encompassing interventions and treatment to address a mother's struggle in their mental, emotional, psychological, and social well-being when going through the transition to motherhood and their emotional distress. It is also important to facilitate opportunities for mothers to explore and understand the new

relationship with their child and the new dynamic in the family in order to cope with this significant life-changing event.

Common treatment for PPD

Pharmacotherapy is considered a widely used approach for women with depression during pregnancy and after delivery. The overall use of antidepressant medication in pregnant women has an estimated prevalence of over 7% and around 75% of women diagnosed with depression are mostly referred for pharmacological treatment (Dimidjian et al., 2016). Among women treated with antidepressant medication, study reports a high rate of discontinuation with over 50% discontinuing treatment during pregnancy and approximately 70% experienced depression relapsing after discontinuation (Dimidjian et al., 2016). Research shows that many women in their pregnancy and after childbirth refuse medication for depressive symptoms and prefer non-pharmacological interventions due to worry of unknown negative outcome to the developing baby when exposed to breastfeeding (Cohen, 2010).

Pharmacotherapy is a symptoms-oriented approach and does not target the underlying problems that lead to the emotional distresses that are experienced in mothers with PPD, such as the insecurity and transition of the new role as a mother, the need to cope with the stress of childbearing. This indicated the need to address other healing modalities to provide effective treatment and intervention for women suffering from depression and other emotional distress during pregnancy and the postpartum period.

Using the body-mind approach as a healing modality is an emerging idea in the field. A bottom-up process is one of the crucial elements in a mindfulness-based intervention and dance/movement therapy approach. The process enhances the mother's awareness to notice their

internal feelings and thoughts, and explore new ways of relating self to the world which can lead to enhanced well-being and healing. This non-invasive method has been an appealing tactic for mothers with PPD who do not prefer a pharmacological approach.

What is Mindfulness?

Mindfulness is the ability to focus our attention on the present here-and-now moment, the way of simply “noticing” and “being”; it is also to the ability to raise awareness of our body sensations, emotions and feelings, and thought with acceptance and openness. Mindfulness is also defined as being present to experience the present moment with a non-judgmental attitude; noticing, observing, and accepting those thoughts, feelings, and sensations as they come and go (Kabat-Zinn, 1990).

Since the 1980s, the practice of mindfulness has been increasingly implemented in the field of clinical psychology with an emerging evidence-based foundation. Kabat-Zinn’s research (1990) and clinical work of implementing MBIs in health care system in the United States was considered a significant starting point (Hughes et al., 2009). Mindfulness-based stress reduction (MBSR) is an eight-session intervention originally implemented in a hospital setting (Kabat-Zinn, 1990). The outcome of MBSR shows positive outcome for improving participants’ physical problems including hypertension, heart disease, chronic pain, and psychological well-beings including anxiety and stress (Kabat-Zinn, 1990). In the context of a five-facet operationalization framework, mindfulness is defined as the “capacity to (a) observe, (b) describe, and (c) act with awareness of present moment experience, with a (d) nonjudgmental and (e) nonreactive attitude” (Cash & Whittingham, 2010, p. 177).

Mindfulness can be defined as a “mental discipline” (Beattie et al., 2017, p. 175), or it can even be adopted as an attitude for living and “being” in this world. It involves the construct of “reperceiving or decentering, defined as a shift in perspective associated with decreased attachment to one’s thoughts and emotions” (Brown et al., 2015, p. 1). The concept of decentering is suggested to enhance psychological mechanisms, which includes self-regulation, value clarification, cognitive flexibility, and exposure (Brown et al., 2015). For mothers who suffer from PPD, they often experience a feeling of entrapment related to their emotional distress, the ambivalence and insecurity of becoming a mother, and the feelings of uncertainty and lack of experience to meet their child’s need. Without the flexible cognitive ability to reperceive or decenter from ruminating negative thoughts into simply noticing the presence with self-compassion and self-empowerment, the negative thoughts and emotional distress stops the mother from being present for their child. This can negatively impact the connection and attachment within the mother-child relationship. Mindfulness helps mothers notice these emotional distresses and ruminating thoughts. Through practicing mindfulness, women can “observe”, “be aware”, and “notice” their own presence, thoughts and emotions before they make a conscious action to respond to their own needs and their child’s needs.

The underlying mechanism of applying a mindfulness approach to working with new mothers with depression is to increase their self-awareness, which in turns enhances their coping, insight, overall well-being, and moderate negative thinking patterns. These are crucial to help mothers with PPD managing the transition to motherhood and coping with the newborn baby (Beattie et al., 2017). It is hypothesized that the greater the mindfulness ability to self-regulate and be self-aware, the more enhanced a subject’s mental well-being will be (Beattie et al., 2017). With a better mental well-being and mindfulness ability, a mother can potentially be more

available and capable in providing a secure and compassionate environment for their child, hence developing stronger and healthy mother-infant relationship and attachment.

The Structure of Mindfulness-based Intervention

In the past decades, there has been an increase in research studies using MBIs as psychological approaches in perinatal care and it has been showing promising positive outcomes and potentials. Mindfulness-based Stress Reduction (MBSR) and Mindfulness-based Cognitive Therapy (MBCT) are two commonly known and researched forms of MBIs. They are considered as the “golden standard” (Taylor et al., 2016, p. 3). Both models consist of eight weekly group sessions that last for approximately two to three hours and an additional full-day session. During each weekly session, the participants are encouraged to engage in 30 to 40 minutes practices of mindfulness verbally led by facilitator, such as mindful breathing, body scan, mindful walking, and raisin meditation. The experiential of mindfulness practices is usually followed by facilitator-led discussion. Facilitator also encourage the participants to engage in daily home mindful practice of both formal and informal mindful practice (Taylor et al., 2016).

Nowadays, researchers continue to modify and refine the MBIs to adapt to and target the populations of mothers during their pregnancy and postpartum period (Taylor et al., 2016). Sacristan-Martin et al. (2019) proposed a mindfulness-based intervention protocol aiming to investigate the effectiveness of an adapted Mindfulness-based Childbirth and Parenting (MBCP) program comparing to the treatment as usual (TAU) group (Sacristan-Martin et al., 2019). The MBCP program consists of 10 sessions with each session lasting 2 hours long (eight sessions before childbirth and two sessions [at three-month and six-month] after childbirth). This article included a comprehensive and descriptive outline of the adapted MBCP program, where the knowledge and skills of mindfulness will be extensively introduced to participants during

sessions using formal guided practices, interpersonal practices with discussion, and the application of formal and informal mindful home practice. In addition, the attitude of mindfulness is involved in this program in order to facilitate participants making use of mindfulness in daily living. The anticipated research study can potentially provide significant insights on the impact of the MBCP program on perinatal women and their wellness.

The Impact of Mindfulness-based Interventions on PPD

Mindfulness-based interventions are widely suggested to be effective and significant to enhance diverse aspects of well-being in perinatal period such as physical well-being (Hughes et al., 2009), psychological well-being, mindfulness ability (Shi & MacBeth, 2017; Taylor et al., 2016), cognitive functioning (Chiesa et al., 2011). Physical distress includes chronic pain, pain related to labor and pain management after childbirth. Psychological well-being includes the symptoms of depression, anxiety, and stress. This literature review focuses on how mindfulness affects mother's psychological well-being, cognitive functioning, and the mother-child relationship.

Chiesa et al. (2011) conducted a systematic review that summarized and analyzed some of the existing articles about the relationship between mindfulness meditation practices (MMPs) and cognitive abilities (Chiesa et al., 2011). The finding of these studies provided objective measures of attention, memory, executive function, and other related measures of cognitive functioning. The authors had taken into account the challenges related to providing a comprehensive description of the specific characteristics of each MMP. The present review has encompassed the most consistent frameworks of MMP, which included MBSR, MBCT, Vipassana meditation, Zen meditation, and MMP. In short, this study summarized that the reviewed studies showed mindfulness training is associated with significant enhancements in

selective and executive attention, as well as the ability of open monitoring and noticing of internal and external stimuli, which is known as “unfocused sustained attention” (Chiesa et al., 2011, p. 449). This positive outcome of cognitive functioning and attention is particularly crucial for mothers with PPD who become preoccupied by from devastating rumination of negative and self-critical thoughts during the perinatal period (Taylor et al., 2016).

The practice of mindfulness is suggested to be beneficial to the parent-child relationship and attachment patterns due to parents having enhanced awareness of their own emotions and thoughts as these impact upon their child’s behavior (Hughes et al., 2009).

A qualitative study completed by Lönnberg et al. (2018) aimed to evaluate participants’ experience of a Mindfulness Based Childbirth and Parenting (MBCP) Program. Participants, including ten mothers and six fathers, were expectant couples who participated in the MBCP program and the pregnant women were assessed to have an increased risk of perinatal anxiety, depression, and stress. After participants received the MBCP program, an in-depth interview was conducted with the participants between four and seven months after childbirth. The MBCP program integrated the foundation of mindfulness with related education regarding psychobiological processes including pregnancy, childbirth, postnatal adjustments, and the needs of an infant. Two main themes are reported, which included acceptability, and “a new way of relating” (Lönnberg et al., 2018, p. 3) to themselves and the external world. The second theme was derived from four sub-themes: (1) relate self to others with enhanced compassion and insight; (2) promote coping with the fear and pain associated with childbearing; (3) receive help for struggles with caring for the child; and (4) be more present and patient when relating to each other (Lönnberg et al., 2018). The study reported a variety of participants perceived the MBCP intervention as helpful. Participants reported an increased capacity to focus and that they gained

a wider perspective, enhanced curiosity, acceptance, and non-judgmental attitude which resulted in experiencing improvement in their daily living (Lönnberg et al., 2018). The learned skills in the MBCP program also helped participants to cope with parental challenges such as going through labor and delivery, sleep deprivation, trouble with breastfeeding, and stressful moments with the child.

What is Dance/Movement Therapy?

According to the American Dance Therapy Association (ADTA), dance/movement therapy is defined as “the psychotherapeutic use of movement to promote emotional, social, cognitive, and physical integration of the individual, for the purpose of improving health and well-being” (ADTA, 2020).

Dance/Movement Therapy (DMT), one of the body-mind approaches, is a healing modality that can enhance a person's holistic well-being, including physical, emotional, and spiritual aspects. Numerous studies were conducted where DMT was implemented to foster well-being with the pregnant mother, children, and caregivers (Doonan & Bräuninger, 2015; Loman, 2016; Van Puyvelde et al., 2014). To the best of my knowledge, there is a limited amount of research studies applying DMT work to the clinical population of PPD.

Attachment

According to Bowlby (1982), attachment behavior is defined as “any form of behavior that results in a person attaining or maintaining proximity to some other clearly identified individual who is conceived as better able to cope with the world” (p. 668). In a mother-infant relationship, the mother is the primary caregiver and attachment figure, the mother’s sensitive caregiving behavior and response is crucial to provide their child with a sense of security (Bartholomew & Horowitz, 1991) that fosters continuous exploration, development, and growth

in the world (Bosquet & Egeland, 2006; Doonan & Bräuninger, 2015). In attachment theory, it is widely suggested that the quality of the mother-infant relationship is one of the most critical factors of a child's well-being (Brumariu, 2015). There is a crucial connection between attachment and emotional regulation in the developmental stages of the child, these patterns of attachment and relationships continue throughout the child's life span (Bosquet & Egeland, 2006). Research studies show that the secure attachment between mother-child is associated with positive developmental outcomes, such as between mental health and emotional regulation, coping, and social competence (Brumariu, 2015).

The integration of attachment theory and DMT served as the theoretical framework of psychological intervention to help a mother during the perinatal period to foster their well-being and the mother-infant relationship.

Kestenberg Movement Profile and Pregnancy Work

Loman's clinical and research work (2016) applied the Kestenberg Movement Profile (KMP) in her DMT work with pregnant women, parents and children at Judith Kestenberg's Center for Parents and Children. The research study was conducted starting from pregnancy to the prenatal period and followed young children through the age of six with their parents. It is suggested that the early attunement between the mother and the fetus provided a crucial foundation for empathic understanding between the mother and the unborn child (Loman, 2016). According to Kestenberg Amighi et al. (1999), attunement, also known as movement empathy, is described as the kinesthetic feelings of mutuality and responsiveness to feelings and needs being felt through the sharing of muscle tension rhythms into the expression of muscular tension flow. The synchronization in rhythms and mutual empathy are the key elements to complete attunement.

“The process of kinesthetic *attunement* required for fetal movement notation contributes to the foundation for *attachment* between mother and unborn child” (Loman, 2016, p. 226). According to Loman (2016), the learning of fetal movement notation helps the pregnant mother to develop sensitivity to the fetal movements and tension changes of their child. The fetal movements of a baby develop and change throughout the pregnancy journey, the fetal movement varies such as kicking, twisting, fluttering, pressing, and changing of positions. As the baby inside a mother’s uterus grows bigger and bigger, the space available to the child reduces, and the baby engages in fetal movements with a greater force (Loman, 2016). It is crucial to provide training for the expectant mothers to be sensitive in noticing their baby’s preferred modes of tension changes and identify those fetal movements that can only be felt and perceived but not seen. Pregnant women can respond to their baby’s fetal movements by mimicking those same movement patterns and tension changes on their bellies using their hands. The goal of the Prenatal Project was to prepare parents for childbearing, explain the preferred movements of the fetus and newborn infant, and foster the development of early mother-infant attachment.

This model also provides the pregnant mother with KMP-inspired exercises and a modified back massage to support their growing body during the pregnancy period and childbirth (Loman, 2016). Special creative expression and movement exercises were taught to assist pregnant women to match and experience the intensity and rhythms of contractions during childbirth, as well as to “help the expectant mother’s body actively support, stretch, and adjust to the fetus” (Loman, 2016, p. 227). When the baby is finally born, the mother is consciously and extensively prepared to notice and respond to their baby’s movement pattern that they learn to perceive during pregnancy before they could see it. With this special and intimate affective attachment being formed before childbirth, the child is familiar with their mother’s movement

pattern as the movements and motions that were felt inside the mother's belly (Loman, 2016). This signifies the mother's non-verbal acceptance and willingness for the baby to "be" as they are.

During the postpartum period, besides experiencing the typical developmental phases in the child, a mother also experiences their child's critical developmental issues including tantrums, emotional distress, problems with sleeping, feeding and biting, and separations (Loman, 2016). All these issues can potentially cause emotional distress and negative impacts on a mother's psychological well-being and overall health when trying to meet the child's need. The KMP approach aims to help the mother "demystify these developmental issues" (Loman, 2016, p. 226) through learning creative and practical nonverbal tactics to soothe the child and foster healthy attachment and relationship.

Using Movement to Foster Attachment and Mother-Child Relationship

A quantitative and qualitative study conducted by Doonan and Bräuninger (2015) used a dance/movement therapy approach to help the healthy mother to adapt to the transition of motherhood and their baby. With the use of psychodynamic theory, attachment theory, developmental psychology, and DMT as the fundamental theoretical framework, this study model also helped the mother to explore the sharing of her physical, emotional, and social space with her child. For infants up to six months, engaging in movements such as rolling, rocking, and twisting can enhance the building of trust and eye contact. For infants that are eight to nine months, the preferences for moving together and mirroring with mother resembles a development in relational space between the mother and their child. The child also has grown "from 'being moved by' the mother to 'moving with' the mother", the use of relational space with their mother changes along with their developmental stages (Doonan & Bräuninger, 2015,

p. 236). This also indicates the child's increasing physical autonomy and the significance of the mother's ability to attune to the child. The theoretical framework of attachment theory and DMT also suggests that the concept of mother as the secure base holding a safe space for potential exploration by the child. Doonan and Bräuninger (2015) suggests that relationship play is encouraged in the DMT session through incorporating activities such as balancing, cradling, rolling, swaying, swinging, sliding, and rocking. These activities can in turn enhance the mother and their child's understanding of body, self-confidence, communication ability, and the sense of physical and emotional security. Mothers reported that the exploration of mother-infant bonding, social interaction with other mothers, and attunement with the child are the most significant and beneficial aspects of the DMT session. The study also reported that the opportunity for mothers to share their concerns and experience related to parenting are helpful and beneficial. Mother also commented on increased and extended application of using music, dance, and movement to engage with the child in home setting.

Dance/Movement Therapy and Postpartum Depression

The Intuitive Mothering dance therapy program (IM-Dance) is an 8-week experiential intervention implemented within an outpatient psychology group program in a hospital setting (Loughlin, 2009). This IM-Dance model included concepts of “the shared somatic partnership, neurobiological aspects of intuitive learning, and the contribution of mutual play within the liminal space” (Loughlin, 2009, p. 70). The model aimed to promote mother-infant responsiveness for infants and their mothers diagnosed with PPD. In the research timeframe, the IM-Dance was conducted following the maternal depression group program, which included 9-week CBT for mothers, three additional sessions including the fathers, and a 3-week mother-child psychoeducation group. This study suggested that the IM-Dance showed a significant

reduction in maternal anxiety and depression, parenting stress, and improvement in mother-infant interaction.

Research suggested that the infants interact and recognize their mothers through their face, voice, odor, and tend to mirror their mothers' facial expressions. These observations showed in infants' social openness and served to have an interpersonal significance to enhance interaction that are intuitively and continuously nurtured by the mothers (Van Puyvelde et al., 2014). In a mother-infant dyad, continuous alternating and refining patterns of mutual matched and mismatched engagement states happen in daily interaction. This process of synchronization can facilitate shared joyfulness, which can also facilitate infants' neurobiological wiring and human intersubjectivity. Van Puyvelde et al. (2014) introduced a mother-infant group therapy model that utilized movement, music, and singing to facilitate "maternal-infant intersubjectivity" (p. 220). The term intersubjectivity is used to describe the "interpersonal processes of mutual engagement and relatedness" and "mutual awareness of shared attention, shared experienced, 'shared minds', and a sense of togetherness" (Van Puyvelde et al., 2014, p. 224). The present study conducted a total of five weekly sessions (mother-infant group in the morning for 30 mins and mother-only group in the afternoon for 90 mins) over a 5-week period within a psychiatric residential setting for mothers with severe postnatal depression and their infants. Four mother-infant dyads were included in this data analysis, all sessions were recorded digitally. A coding scheme is used during the sessions to observe the shared interaction and reciprocal responsivity on a dyadic level, types of involvement include initiation, response, and response initiation. The observation of the DMT session overtime showed an increase in autonomy and dominance of intersubjectivity in the creative process of playful interactions and moments between the mother and their child. The study finding showed significant increase in intersubjectivity moments and

total time of intersubjectivity, an increase in autonomy and self-efficacy within the mother-infant relationship.

Integrating Mindfulness and Dance/Movement Therapy

Marich and Howell (2015) discuss a holistic wellness practice, called *Dancing Mindfulness*, that integrates mindfulness meditation and spontaneous dance “as the vehicle for engaging in the ancient practice characterized by non-judgment, loving kindness, and present-centered awareness” (p. 346). In a traditional meditation approach, a mindfulness practice usually implies simply noticing and observing experiences with a non-judgmental attitude in a sitting or lying-down posture with stillness and quietness. *Dancing Mindfulness* is a modern emerging practice that utilizes movement and dance to resonate with the practice of present-focused meditation.

In Barton’s clinical and research work (2011), she implemented and evaluated a program known as *Movement and Mindfulness* for participants with severe mental illness. This is a bodily-oriented intervention designed and established within an outpatient psychosocial rehabilitation setting. The program incorporated components derived from traditional group counseling, eastern philosophy of the practice of mindfulness, DMT, and yoga therapy-based techniques. According to Barton (2011), this evaluation of the combined implementation of yoga, mindfulness, and DMT aims to promote advocacy and recognition of these modalities as crucial components of recovery and healing for individuals experiencing chronic or severe mental illness.

Pinniger et al. (2012) conducted a randomized controlled trial comparing Argentine tango dance to mindfulness meditative practice and a waitlist control group. The findings show a significantly greater decline in depression levels in the tango group and the meditation group,

compared to the control group. Participants in the tango group also reported a greater reduction in stress, when compared to the meditation group and the control group. The authors suggest the implementation of tango dance and the practice of mindfulness meditation as “effective complementary adjuncts” (p. 1) for treating depression and/or including its components in a stress management intervention.

Embodied-Artistic Model for Self-Reflective Process

Kawano (2017) developed a systematic embodied-artistic model to qualitatively examine interview data using movement. This article tracked the process of developing a DMT model aiming to transform the participants’ interview data from verbal information into a DMT narrative. An art-based research approach is described as engaging in a creative process to communicate, explore, examine, and produce. This embodied-artistic movement process can enhance the forming and arising of new meaning in the research process and/or the discovering of an alternative perspective of scientific findings (Kawano, 2017). The study also suggests the parallel process between a dance/embodied-artistic approach and scientific research, the process in both cases includes preparation, incubation, illumination, and evaluation.

In this literature review, I have attempted to adopt the qualities of this embodied-artistic approach aiming to process and reflect on the findings of this literature review. I have conducted a movement improvisation for three different timepoints throughout the process of constructing my literature review: (1) the initial stage of gathering research articles and related resources for my research topic, this movement improvisation resembled the preparation and incubation stages; (2) during the work of constructing and completing my literature review section, this movement improvisation resembles the illumination stage that serves to organize, explore, and reflect on the existing research findings; and (3) the completion of my literature review and the

beginning of my discussion section. The last movement improvisation resembles the evaluation stage. This movement-based process aims to consolidate my understanding of the existing findings and interpret the available research, as well as to explore and give rise to novel and alternative meanings in my research topic. I used this embodied-artistic approach with the aim to use my body as the tool to embody and navigate through the existing findings, and discover new insights and meanings. I have recorded each of my movement improvisations in a digital video format and have assessed and reviewed them with using "self as the witness". I recorded themes that arose during the embodied movement process and/or during the re-accessing/viewing process after my movement improvisation. I have summarized and reorganized these themes, and have elaborated on these themes in relation to the population of PPD and the use of mindfulness and DMT.

Movement Improvisation #1: Opening a Pandora's Box or a Precious Gift?

During the movement improvisation, a theme of "finding a balance" was noticed. This aligns with my research interest of discussing a potential method to incorporate the mindfulness-based intervention and a dance/movement therapy approach into the clinical population of women with postpartum depression. When reviewing my recorded video, I observed my movement with delicacy and directed focus on the frontal middle level space and that has given rise to an interpretation around this imagery. It seems like I am trying to contain a form of energy in my hands, an unknown form of energy but with weight and gravity to it. I was engaging predominantly in using hands and arm movements with delicacy. My movement looks like I am exploring an unknown treasure, but my interpretation is that I am not sure if this would be a pandora's box or a precious gift. This movement improvisation represents a mother with emotional distress who is dealing with the uncertainty of pregnancy, giving birth, and being a

mother. As a witness, my interpretation was that this could be considered the experience of the mother exploring the baby inside their belly, experiencing childbirth, and later holding the baby in their arms; and that this experience can be interpreted as remarkable, overwhelming, or as both. My association to this is that a mother can think that the newborn baby feels like a disaster or the most precious gift that can happen in life. Most often, the relationship, values, and meaning of this shared journey of a mother with the baby are perceived and felt, instead of seen. It is the stage of exploration and discovery, for the journey of a mother going through the perinatal period and the journey of investigating this research topic. I also engaged in full body movement with this “gravitational energy orb” in my hand, which resonates with my reflection on a mother's exploration of their relational space with their baby.

Movement Improvisation #2: Surrender

During the movement improvisation, a theme of “surrendering to the ever-changing force” was noticed. When reviewing the videotaped movement experience, I engaged in inward flow movement using my arms and hands to apply a weighted push and press into my different body parts such as my head and chest. The collision of force resembles the image of “getting hit” by the reality. Instead of resisting the external force, I redirect the force from the initial point of impact and disperse it through my body like powerful ocean waves. When a woman has to face the critical life event of having a new life form growing in their body, the process of “surrendering” happens and lasts throughout the perinatal journey. The mother’s body figure slowly changes with an enlarging belly as the growing fetus takes up more space which leads to significant changes in a mother’s body size, body posture, and the alignments of their lower back and pelvis in order to adjust to this growing baby. This indicates a level of physical and emotional surrender of the mother’s body figure as an autonomous self, and an interpretation that

the mother is passively adapting to these uncontrollable changes including the physical body image and the social role of a pregnant woman. During the pregnancy period, when dealing with a diverse range of fetal movement that can possibly be perceived but not seen, the sensation and feelings could be perceived of as strange but also intimate. Additionally, dealing with the change of diet, hormonal changes, sensory feelings of the baby's movement preferences inside the mother's abdomen, perhaps indicates a need to be flexible and continuous in surrendering to adopt a novel lifestyle as a pregnant woman. Before and during the labor and delivery, the mother can possibly deal with a variety of overwhelming feelings such as excitement, anxiety, worry, fear, uncertainty, and last but not least, the tremendous physical pain of giving birth to the baby. The holistic well-being of a mother is sacrificed and surrendered to meet with their baby's need in a passive manner. In the postpartum period, the mother continues to contribute their time and energy and surrenders their original lifestyle as an autonomous human being to adjust to the transition of motherhood and the newborn baby. It is possible that a mother might forgo her own needs and balance to prioritize and fulfil the emotional, social, and holistic needs of their child and the family.

Movement Improvisation #3: To Hope with a Greater Force

During the process of reviewing my movement improvisation, I have recorded my thoughts and impression about my movement into words. And I later transformed these messages into a poem.

Containment

Stillness and calmness

Groundedness

The flow of the powerful water like tsunami waves
allowing it comes into the surrounding.

Let me rise and let me splash!

Into a form of constant balance-imbalance

Gathering, pulling, and pushing out what is deep inside

All of them put together into a little dance and celebration.

A theme of “finding hope with a greater force” arose when reviewing my recorded movement video. I noticed that my standing and body attitude was more grounded and balanced—there is a harmony between stillness and subtle swaying movement within my body. This resembles the calmness and composure of breeze over grassland with “subtle motion and movement but in stillness.” Another highlight of my movement observation occurred as I rotated both of my arms in a forward-directionality and emphasized the dropping motion with a greater energy and weight. The movement reminded me of splashing and hitting the ocean waves with energy and delight. In contrast to my second movement improvisation theme of “surrendering to the ever-changing force” in a passive and redirecting manner, my interpretation is that I have found my ground and foundation. I am dancing with the ocean waves and with the forces that are colliding with me.

I interpreted my stillness and calmness as an internal process of gathering resources and finding my roots for myself, representing a mother gathering sufficient external and internal resources for herself as a way of coping with the new changes. From the feeling of being “out of control” and entrapped by the struggles of having a newborn baby and transitioning into

motherhood, with support and connection, comes a transformative meaning and a greater force. My association to this observation is that perhaps the body-mind approach including both mindfulness and DMT can foster a connection and awareness with the self and others, and can possibly help in rejuvenating mothers to find their safe space and grounding to cope with challenges and further explore their relationship with their child. The life-changing event of having a baby and transitioning into motherhood can be experienced as dancing and celebrating through splashes of joy and excitement to experience the awakening of new meaning and novel change.

Discussion

In this literature review, I examined the struggles and needs of a clinical population of women with postpartum depression, and the implementation of mindfulness-based intervention and dance/movement therapy approach with the population mentioned.

Qualitative studies showed that mothers with PPD associated their perinatal period with feelings of isolation (Stewart et al., 2003) and entrapment (Chan et al., 2002) as they are unable to obtain adequate and sufficient internal and external support to cope with the emotional distress and challenges relating to childbirth and being a mother. Mothers with PPD constantly struggle with their emotional distress, the transition into motherhood, and adjusting their autonomous self to this shared journey with the newborn child. They are challenged to cope with emotional disturbance of their mental well-being, as well as the stress, anxiety, and uncertainty related to the critical life-changing event of having a baby. Research suggests that the overall well-being of the mother is highly associated with the holistic well-being and development of their child (Stewart et al., 2003). A mother with PPD can have difficulty being continuously available for their child and fulfilling their unlimited needs. They may also have difficulty providing a safe

environment with emotional stability and acceptance for the child. Acceptance and a stable environment essential for the child to build trust and relationship for exploration and learning which can lead to growth and holistic development. Mothers with PPD can possibly present themselves as disconnected or disharmonized with their child. Neglecting or overlooking a child's needs, behavioral and movement patterns can negatively impact the mother-child relationship, attachment patterns, and the child's well-being.

The concept of mindfulness and mindful practice is suggested to be effective to help enhance awareness of self and others, improving cognitive flexibility and selected attention (Brown et al., 2015). Extensive research studies have showed significant results in the use of MBIs with mother with PPD to improve their mindfulness skills and psychological well-being, especially concerning depression (Shi & MacBeth, 2017; Taylor et al., 2016). One of the main significant impacts of improving mindfulness ability is to help the mother with PPD to decenter from negative ruminating thoughts into noticing the presence with non-judgmental thoughts, self-compassion, and self-empowerment. With the use of mindfulness-based intervention focusing on the idea of just “noticing”, “observing”, and “being aware” (Brown et al., 2015), the underlying mechanism of mindfulness is the enhancement of the cognitive flexibility to promote better body-mind connection and take “control” of our body and mind instead of letting a specific unwanted emotion or body sensation to hijack our brain and decision-making. While the standard form of MBI is a more passive form of intervention compared to DMT, it has shown to be a powerful source of complimentary treatment.

On the other hand, the DMT approach serves as an active form and bodily-oriented intervention that encourages using movement, music, rhythms, and play to enhance the awareness of self and the mutual shared space, and the relationship between the mother and their

child (Doonan & Bräuninger, 2015). Researchers have incorporated the Kestenberg Movement Profile into DMT work with mothers and their children; mothers were trained and taught about the importance of attunement and attachment since the pregnancy period (Loman, 2016). A DMT approach combined with KMP provides the mothers with opportunities to perceive their baby's movement when inside the mother's belly and after childbirth. Mothers are taught to synchronize their movement patterns and tension changes with the baby to enhance the mother-child relationship, intimacy, and the sense of trust and security. Van Puyvelde et al. (2014) used an embodied and movement intervention with mothers diagnosed with PPD, the research interest and treatment goals focused on fostering social interaction, communication ability, and mutual response between the mother and their child.

An Integrated Embodied Approach with Mothers and their Children

In the concept of mindfulness, self-awareness can be practiced and enhanced by noticing and observing body sensation, thoughts, and feelings with a non-judgmental attitude. In a DMT approach, the concept of 'mindfulness' is a crucial component that is constantly incorporated aiming to foster awareness in the internal self, body movement, physical space, relationship of self with space and others, etc. A body-mind/embodied approach is an umbrella term where the use of mindfulness, body, and movement as tools cannot be separated.

I believe the combined use of mindfulness and a DMT approach can optimize its impact to enhance the psychological well-being, mindfulness ability, and cognitive flexibility in mothers themselves with PPD as the primary goal. The secondary goal of this combined use focuses on enhancing attunement and attachment by using the non-verbal forms of communication, interaction, and connection, which in turn can also lead to the enhancement of the well-being and development of the child.

The concept of mindfulness offers tremendous wisdom in simply noticing and being present without judgmental thoughts. The practice of mindfulness can foster the ability of perceiving and decentering from negative ruminations and unwanted distractions. The golden standard of MBSR and MBCT are well-constructed and strategy-based to foster understanding of the basics of mindfulness and build up skills to practice mindfulness ability and apply the way of “being” mindful in daily living. Mothers with PPD can benefit through practicing mindfulness to alleviate emotional distress and explore new ways of relating self to others and the world. To develop a mindful attitude and build up a customized mindfulness practice habit, it is crucial to practice mindfulness to enhance the awareness of self, body sensation, and the use of movement; DMT is a complementary match to optimize the body-mind experience.

In a DMT approach, it is believed movement is a primitive form of communication, expression, and connection with self and others. The use of a DMT approach is effective for women diagnosed with PPD as DMT encourages participation in expressing their feelings, attuning to themselves, and with others. According to Van Puyvelde et al. (2014), mothers with severe postnatal depression tend to present with uncoordinated and flattened affect, sometimes, they tend to not speak or verbally express themselves. The absence of musical voice quality, daily interactive dialogues, and shared dynamic of intimacy can negatively impact their early infant’s development of social communication later in their lives (Van Puyvelde et al., 2014). The disconnection of eye contact, the absence of physical touch and the synchrony of rhythmic movement and tension changes can impact the development of the child’s trust, sense of security, and attachment patterns. With the knowledge and foundation in mindfulness practice, mothers can understand the underlying mechanism of their emotional distress and negative ruminating thoughts. To be aware and regulate these negative ruminations and emotional distress, a mother

can then use knowledge learned and trained in the MBIs and DMT sessions to realize their internal feelings, initiate help-seeking behaviors when needed, and better communicate and connect with their child through movement and attunement.

The combination of mindfulness practice and DMT is an emerging method in the research field that is suggested to be a complementary and harmonized intervention. There is a lack of evidence-based research demonstrating the method and investigation of the impact of this combined method. There are very few studies that highlight the harmonized use of mindfulness and DMT as an embodied approach for the mother with PPD.

Among the existing findings of using a DMT approach, with pregnant women and healthy mothers, there is clearly wisdom in providing adequate knowledge and support for mothers to adapt to the change of having a baby and the transition into motherhood. As it is possible for the clinical standard of PPD diagnosis to rule out “healthy mothers” with mild to moderate emotional distress, there is a potential risk that this unattended and untreated mild emotional distresses can develop into PPD because of neglect, increased stress, anxiety, and uncertainty, that operate overtime during the perinatal period. I believe that an integrated embodied mindfulness-DMT approach can be beneficial and useful for healthy mothers or mothers who present with emotional distress.

Proactive and Preventive Mindfulness-DMT Approach

In existing findings, Fonseca et al. (2020) suggested that PPD is a psychopathological condition that can be prevented by selective interventions targeting women who present early signs and symptoms of PPD or are showing increased risk and predictive factors for this clinical

condition. It is also showed that preventive interventions implemented for women diagnosed with PPD have been found to be effective with moderate effects (Fonseca et al., 2020).

It is my opinion that a combined approach of mindfulness and DMT should be provided to mothers before they are overwhelmed with stress and anxiety about the newborn baby and the struggles related to motherhood. Depression, anxiety, and stress are known to have their comorbidity, it is possible for the mother to experience stress and emotional distress during their pregnancy period and expectant phase of childbearing. When these emotional distresses, the feeling of uncertainty, and excessive worry are accumulated, prolonged, and left unattended; these unresolved emotional burdens can progressively transform into depression and the feeling of helplessness. It is more optimal and essential for the expectant mother to receive early and proactive support and knowledge about the expectation of childbearing; the new role of being a mother; as well as possible ways of perceiving the baby inside the belly, and alternative methods about communicating with and taking care of the newborn baby. Furthermore, a body-mind oriented intervention combining mindfulness and DMT is important to be implemented throughout the perinatal period, a proactive intervention is essential to get them prepared and ready to deal with these critical changes and challenges and to prevent the clinical condition of PPD.

The combined approach of mindfulness and DMT should be implemented with women during pregnancy. During pregnancy, the mother undergoes tremendous physiological and hormonal changes which are intertwined with psychological changes. The concept of mindfulness could be introduced at the beginning of the intervention in order to foster understanding in the mother about the importance of raising awareness of self, including the body sensation, emotions, and thoughts. After providing a brief foundation and basic practices of mindfulness, the facilitator should go through the application of formal and informal mindfulness

practice in daily living, especially concerning a home-based practice and mindfulness practice with the baby's presence. Then, a DMT approach can be implemented to help mother to explore the change of role from an autonomous self to being a mother. Mothers can learn to use themselves as a self-assessment tool to be aware of their body sensation, their baby's fetal movement, and the dynamic changes of their body. Within the DMT-oriented session, a mother should be provided with space to explore related issues such as the changing of body appearance and size because of the growing baby, the change of social roles, and the change of family dynamic, etc. The KMP approach could be implemented to assist the mother to match and harmonize with their baby's tension changes, rhythms, and movement changes. With the KMP-oriented DMT approach, modified movement practice can also help mothers to adjust their body to the growing baby, changes of posture, and to practice the contractions to prepare for childbearing. In the postnatal period, the transition to motherhood lasts even after delivery of the infant, therefore this intervention should be implemented at least 3-6 months later to help mothers to solidify the knowledge and application of mindfulness and DMT. This integrated embodied intervention can be crucial to remind the mother to "breathe" and "notice" their needs rather than just recognizing the baby's need. During the postnatal period, dance, movement, music, rhythm, and play can be used to enhance the connection and non-verbal communication between the mother, the caregiver, and the baby in order to facilitate emotional stability in the mother, the wellness of the family, to enhance secure attachment patterns and better parenting styles, and to foster the well-being and development of the child.

Research Gap

To the best of my knowledge, a majority of research studies investigated the impact of mindfulness on PND mothers' and their psychological well-being. There are relatively fewer

portions of studies contributing towards the investigation of the effectiveness of MBIs on an expectant mother's perspective of their new personal and social role as a mother, and its effect on the mother-child relationship. On the other hand, there are research studies that focus on implementing a DMT approach that emphasizes the promotion of well-being during the pregnancy period and its effect on the mother-infant relationship during the postpartum period. The existing research provides a precise foundation for applying a DMT approach to the mother, child, and caregivers.

Taking into consideration the existing findings, mothers with PPD associated their experience of the postpartum period with the feelings of entrapment and isolation. Although I am not a mother with any children of my own, my embodied-movement process is a reflective experience that is parallel to the research finding of this clinical population of women with PPD. The theme of "finding a balance", "surrendering", and "a greater force and a new meaning" are possible themes for mothers with PPD to explore and express within a DMT session. The missing piece is to emphasize the mother's relationship to the internal self, as well as the transition and transformation into motherhood. During the journey from pregnancy to childbirth, the baby takes up a shared space with the mother, who sacrifices their physical and emotional self-autonomy to provide their infant with the space they need. I believe that there is room and a need for an intervention to provide the mother a personal space without the baby to make use of the components of mindfulness and movement to explore this life-changing experience. It is my opinion that this type of intervention could be included before bringing the child in for sessions that explore the shared space and the enhancement of the mother-child relationship.

Future Directions in Research

This literature review highlighted the apparent lack of evidence-based research measuring the impact of DMT on mothers with PPD symptoms through exploring their transition from an autonomous self into motherhood, the changes of role, and the shift in family dynamics. It is commonly suggested that emotional distress in women who are going through pregnancy and the postnatal period are sometimes left unattended and untreated. It is necessary to conduct various forms of studies including quantitative, qualitative, and embodied-artistic research to investigate the role of DMT when implemented with women diagnosed with PPD. Additionally, there are very few studies that investigate the harmonized use of mindfulness and DMT as an embodied approach for healthy mothers, and mothers with PPD. A longitudinal study implementing this combined embodied approach with mothers who are presenting emotional distress, from pregnancy and following the postnatal period, can provide a crucial foundation and evaluation of this emerging method to promote the recognition of integrating mindfulness and DMT as healing modalities for the mother and their child.

Conclusion

The aim of this literature review has been to highlight a crucial emerging method for the clinical population of mothers with postpartum depression: that is, the implementation of mindfulness-based interventions and dance/movement therapy. Because the practice of mindfulness can improve a mother's mindfulness ability and cognitive flexibility, and DMT can help a mother to connect with the self and the infant through non-verbal communication using body movement and dance. It promotes psychological well-beings and reduce depressive symptoms in a mother diagnosed with PPD through improving cognitive flexibility and emotional regulation skills, as well as increasing coping skills and internal resources. Additionally, it also enhances the mother-infant relationship which in turn also fosters better

development, attachment patterns and well-being of their child. Importantly for pregnant women and breastfeeding women, both mindfulness practices and DMT is a holistic approach that does not rely on pharmacology. Given that a mother who struggles with PPD may have experienced emotional distress, as well as the feelings of uncertainty, and negative rumination long before the postnatal period. Treatment for PPD is a late treatment that could be preventive if attended and treated earlier. It is suggested that a preventive, proactive intervention combining mindfulness and DMT should be implemented with healthy mothers, mothers who present with depressive symptoms, and mothers who are subjected to a high mental health risk. With a proactive intervention, women can have sufficient professional support to deal with challenges regarding pregnancy, the uncertainty and anxiety about having a baby, and the adaptation and transition into motherhood. The emphasis of an integrated body-mind approach including mindfulness and DMT also fosters awareness of self and others, the development of mindfulness abilities. An attuned mother with a better sense of well-being can potentially foster positive outcomes in the mother-child relationship which lead to the fostering of a child's development and secure attachment.

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THESIS APPROVAL FORM

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Student's Name: Angel Nga Ying Chan

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In the judgment of the following signatory this thesis meets the academic standards that have been established for the above degree.

Thesis Advisor: Vivien Marcow Speiser, PhD