Spring 5-21-2022

Body Mapping and Body Scan: Meditation and Art Therapy: A Literature Review

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Capstone Thesis

Lesley University

May 21, 2022

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Abstract

The methods of body mapping, including if the research used both body scans and body maps, and who the populations served were the aims of the research. Two published body mapping manuals were found by Gastaldo et al., (2012) and Solomon (2002). Informed consent and ethical considerations were of high priority. The findings consisted of no concrete method for conducting and creating body maps. Art therapists were not a part of the research teams. Body maps were used mostly with female identifying participants, most of which were adults. The major gap in the research consisted of external validity (Gastaldo et al., 2012; Solomon, 2002).

Keywords: body scan, body map, mindfulness, art therapy

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Introduction

The motivation behind this thesis is multifold. The hypothesis is to assess the various methods of body mapping, to determine which research applies to both body scans and body maps, and to establish whom body mapping is mostly practiced with. Body scans consist of a meditative state in which one brings their attention to the various portions of their body to bring awareness to the parts, and then the whole (Mahlo & Windsor, 2021). Body mapping is an artistic process within art therapy where the participant expresses meaningful symbols and experiences using a body outline to define the locale of the focus (Jager et al., 2016). Body mapping and body scans are therapeutic approaches based in mindfulness (Kabat-Zinn, 2014). There is no instruction manual in relation to the body mapping experiential so how the body map is conducted is noted (Jager et al., 2016; Kogan & Bussolari, 2021; Lys, 2018; McCorquodale & DeLuca, 2020).

Literature Review

Historical Context and Current Theoretical Orientations

In order to understand body mapping and body scans, the factors that contribute to its success must be comprehended. Body mapping and body scans are based on the theoretical framework of mindfulness. Mindfulness is comprised of the recognition of the present where one withholds judgment. It is often correlated and recognized as starting from the Buddhist practices of meditation; however, the recognition of the present moment is not a new concept and can be found in Taoism, yoga, Buddhism, and Native American wisdom (Kabat-Zinn, 2014). Mindfulness is an active change in perception and mindset focused on potential happenings that may be negative as well as positive in nature or perspective. Being open to, fully present, and

cognizant of happenings that occur with kindness has been shown to effectively improve resilience, self-regulation, affective well-being, and subjective well-being (Kabat-Zinn, 2014; Mahlo & Windsor, 2021).

There are a variety of practices that fall under mindfulness meditation, one of which is the body scan. The body scan connects the mind and the body more deeply by actively drawing focus to how the various parts of one's body are feeling. Once the various body parts are noticed, the individual turns their attention to how their whole body is feeling. As previously stated about mindfulness, the individual should observe what happens without discrimination or reaction (Dambrun et al., 2019; Kabat-Zinn, 2014; Mahlo & Windsor, 2021; Schultchen et al., 2019). The action of checking in with segments, and then reflecting on the whole, can allow one to reflect on their knowledge of the average versus the current or immediate moment (Mahlo & Windsor, 2021).

The practice of body scans can lead to insights into a person’s patterns in behavior, as well as aid in emotional regulation and reactiveness to perceived negative situations. Body scans can also assist in reactivity and emotional regulation for future contingencies. The delineation and reflection of a person's state of being, versus their more generalized trait of being, can lead to different reactions to situations thus allowing one to avoid limiting assumptions in inferences. This can allow the person to experience life more subjectively whole and with greater enjoyment due to more clarity and introspection (Dambrun et al., 2019; Kabat-Zinn, 2014; Mahlo & Windsor, 2021; Schultchen et al., 2019). An individual's reactions and thoughts about occurrences may not reflect reality, so introspection allows one to acknowledge their feelings and cross-examine them against the event. This allows a clearer grip on reality and a foundation

of clarifying motivations or reactions thus allowing one a deeper understanding of the self (Kabat-Zinn, 2014; Mahlo & Windsor, 2021; Schultchen et al., 2019).

The expressive arts therapies including art therapy are heavily based in Western theoretical psychology but use creative means to assist clientele in a less verbally focused manner (Machiodi & Perry, 2015). Art therapy interventions that are mindfulness-based have been previously utilized with a variety of diverse populations and substantiated by not only qualitative research but also quantitative research. Art therapy has often correlated and integrated mindfulness practices (Futterman-Collier & Wayment, 2021; Lubbers, 2019; Malchiodi & Perry, 2015; Rappaport, 2010; Solomon, 2002; Wayment et al., 2015). Body mapping is where art therapy and mindfulness can combine to engage in the process of understanding and connecting embodied experiences (Gastaldo et al., 2012; Jager et al., 2016; Solomon, 2002). There is no concrete template or single methodology for body mapping (Jager et al., 2016; Skop, 2016). However, there are two published manuals found within the research for body mapping (Gastaldo et al., 2012; Solomon, 2002). Gastaldo et al. (2012) utilized body mapping for research purposes whereas Solomon (2002) used it as an extension of art therapy (Boydell et al., 2020; Gastaldo et al., 2018; Gastaldo et al., 2012; Solomon, 2002; Skop, 2016). Both Gastaldo et al., (2012) and Solomon (2002) explained that body mapping should include a life-sized tracing of the participant, symbols and imagery to portray meaning, verbal interviews, and a key to understand the symbols (Gastaldo et al., 2012; Gastaldo, Rivas-Quarneti, and Magalhães, 2018; Jager et al., 2016; Solomon, 2002). Three articles were based on health researchers that implemented body mapping with patients: Cornwall (1992), Orchard (2014), and Orchard et al., (2017). The three latter were found to be a basis for body mapping in addition with healthcare education and needs (Cornwall, 1992; Orchard 2014; Orchard et al., 2017).

In conjunction with Solomon, (2002) there are two additional theoretically based art therapy practices that utilize the body scan meditation preceded by means of artistic intervention. Mindfulness-Based Art Therapy (MBAT) and Focusing-Oriented Art Therapy (FOAT) both use body scans, body maps, and other arts-based interventions. Although there is ample research about MBAT, FOAT is less known, and less researched (Futterman-Collier, & Wayment, 2021; Lubbers, 2019; Rappaport, 2010; Solomon, 2002; Wayment et al., 2015). FOAT stems from a theory based on Gendlin (1981), humanistic psychology, holistic approaches, and mindfulness while incorporating a focus on safety and art therapy (Gendlin, 1981; Lubbers, 2019; Rappaport, 2010).

Method

The terms searched were as follows: body mapping, body map, body scan, focusing oriented art therapy, FOAT, focusing-oriented, creative arts therapies, art therapy, expressive therapies, and mindfulness.

When searching through the digital library of Lesley University, "only available on Lesley" was deselected and more research was found. If an article was of particular interest and could not be located through Lesley's library, Google Scholar was searched. Art reflections were created after researching correlated factors and articles. Non-peer-reviewed articles were excluded. If there were any ethical concerns, the article was excluded including resurging trauma by using traumatic videos or similar instances. Two literature reviews focused on body mapping were included in the current research to compare findings (Gastaldo et al., 2018; Jager et al., 2016). Three articles that focused on youth were included (Boydell, 2018; Davy, 2014; Lys, 2018). Most of the research included was centered on adults consisting of nine articles (Dennis, 2020; Dew, 2018; Harries et al., 2019; Jalambadani & Borji, 2019; Lubbers, 2019; Macken et al.,

2021; McCorquodale & DeLuca, 2020; de Souza et al., 2021; Ryan, 2022). Only one article was included on elders (Skop, 2016). Two additional articles were added on virtual, digital body scan maps (Schino, 2021; Volynets, 2020).

Analysis-Based Articles

In order to gain a better understanding of the historical theories of body mapping as well as clarity on previous gaps of literature, two critical analysis-based articles were included. Jager et al., (2016) conducted a meta-analysis to identify the available literature on body mapping and to provide points for future research. The researchers based the conditions of body mapping on Solomon's (2002) art therapy-based methodology (Solomon, 2002). The studies included in the research came from Canada, South Africa, Australia, and the final study included Mexico, Spain, and the United States. Jager et al., (2016) composition of results found that body mapping was mainly used as a means for visual storytelling, political advocacy, and another form of communication. Some of the benefits noted from their research are as follows; self-awareness, support from peers, enjoyment of the process, improvement in self-esteem, and a chance to explore one's own societal or cultural experiences and views (Jager et al., 2016; Solomon, 2002).

Gastaldo et al., (2018) researched and conducted a critical narrative synthesis of the available body mapping literature that met their criteria. Most of the research did not describe how the body mapping was conducted. Gastaldo et al., (2018) used an ATLAS.ti software to assess each paper's hypotheses, methodology, and findings. Most of the studies were based in Canada 26% and 30% of studies were conducted in South Africa. The majority of studies were centered on health topics, and 54% of articles had adult participants. There was limited data on people living with disabilities and no data about seniors were found. Storytelling, raising awareness, and as a secondary analysis were all reasons why body mapping was chosen. The

results found that facilitators play a large role in the success and supportive nature of the body mapping process. Artistic ability and logistics were listed as challenges as well as data analysis due to the qualitative nature of the experiential (Gastaldo et al., 2018).

Youth Focused Research

There were a limited number of youth-based literature available that met the criteria. The first research article consisting of youth participants. Davy et al., (2014) invited three participants aged 13, 15, and 17 to partake in a body mapping workshop in the context of expressing their personal transition stories in transitioning to Ontario, Canada. All three participants were refugee youth and received informed consent. Davy et al., (2014) based the body mapping on prior research established (Davy et al., 2014; Gastaldo et al., 2012; Solomon, 2002)**.** The participants reported being self-conscious about their artistic and creative abilities which may have affected the research. Researchers took field notes, partook in reflexive journaling, and each transcript was reviewed for biases, first impressions, as well as issues. The production, audience associated with experiencing the transition stories, and body mapping, as well as the image created, were assessed. All the findings were qualitative and described within three phases. The three phases were pre-arrival, arrival, and settlement. The settlement portion was considered to be ongoing as the youths began to adjust to Canadian life. The findings supported the appreciation for the education the youth was received as well as their feelings of safety. Some barriers noted were language discrepancies and anxiety. All youth were fortunate in that they learned English before transitioning to Canada. Notes of resilience were centered on family, friends, and plans for a better future. Each participant was given the option to give a message to other youths experiencing being a refugee, which all partook in (Davy et al., 2014).

The second article critically assessed was designed to investigate youth's experiences in relation to their psychosis through body mapping. All participants were clients of a mental health facility in Australia called the Bondi Centre. Boydell et al., (2018) specifically sought to understand the treatment approaches in addition to the incorporation of an added physical health intervention. There was a second area of interest for the research which was to assess the effects of body mapping on this population in residential care. Boydell et al., (2018) obtained ethical approval from the Local Health District Human Research Ethics Committee to conduct the research. Five participants fully engaged in the sessions and thus were included in the research. All participants were required to be over 18 years of age. Written consent was obtained from all participants (Boydell et al., 2018).

The workshops were based on the research-based approach by Gastaldo et al., (2012) Gastaldo et al., 2012). A total of four two-hour sessions took place. The communal group environment was also noted as enjoyable and thought-provoking. Before each body mapping session, a mindfulness body scan meditation was applied and experienced. Although there were only two sessions, the five members of the body mapping experiential found the experience therapeutic. The themes found amongst the participants body maps were storytelling and deep introspection on their experiences with their mental illnesses. The final major theme discovered was the ability for hope and a positive future (Boydell et al., 2018).

The third research was conducted along with Fostering Open eXpression among Youth (FOXY) which was created with and for youth as an arts-based form of intervention. FOXY is trans-inclusive and developed to be female identifying based. Adult facilitators hold trauma-informed workshops within various schools. The workshops use a peer education model with peer leaders and a core value of strengths-based mental health interventions. Lys, (2018)

conducted a social-ecological theoretical study alongside FOXY that applied body mapping to assess interpersonal relationships, six schools participated in the FOXY intervention in northwest Territories of Canada (Lys, 2018).

The body mapping workshops lasted one day and used purposive sampling. The participants included N=41 youth that identify as women aged 13 to 18 with a mean age of 14.34. Of the participants, 90% identified as Indigenous or Aboriginal consisting of Métis, First Nations, or Inuit. A total of 18 (44%) resided in a two-parent household and 11 (26%) in a single-parent household. Five participants (12%) reported living with foster parents or within a group home and seven (17%) lived with extended family. Guardian consent was required to participate in the research, and the young women were given written informed consent (Lys, 2018).

Trained facilitators held the body mapping workshops that lasted over one and a half hours with eight guided visualizations. The visualizations were simplified from Gastaldo et al., (2012) and Solomon's (2002) body mapping protocol (Gastaldo et al., 2012; Solomon, 2002). A pilot study was conducted and adjustments were made on the clarity of instruction before the official workshop was conducted. The adjustments allowed an increase in the transparency of the researchers' findings. Once the body mapping portion of the workshops was completed, in-depth interviews took place in a private room, audio recorded, and transcribed verbatim. Each participant was coded with an identification number and their artwork was photographed. The body scans were offered to be taken home by the participant, and a list of territorial, local, and national sexual and mental health resources were given due to all except one participant lacking any mental health resources. Lys (2018) also ensured that each participant was aware and able to work with a community counselor if wanted or needed (Lys, 2018).

A 32-item consolidated checklist was used to report the qualitative information collected and interviews were cross-checked to ensure reliability. Themes were identified as the interviews were entered into ATLAS.ti Mac software (version 8.1.3), not before. The themes were analyzed through interview explanations of intrapersonal, environmental, societal, and interpersonal, all under the umbrella that is the social-ecological influences. A wide variety of mental health concerns were self-identified by the women that participated in the study. Anxiety, drug abuse, suicidal ideation, bipolar disorder, depression, self-harm, and post-traumatic stress disorder were the most reported. Sexual assault, bullying, family violence, child abuse, and intergenerational trauma were all reported. Coping strategies were recorded and included finding strength among their Indigenous cultures, grounding through nature, social support, religion, and expression through the arts (Lys, 2018).

Cultural symbols were depicted within the body maps including the Aurora Borealis, music, moccasins, feathers, crosses, and dream catchers. Familial relationships were both noted as imperative supports but also hindrances if strained. One common note of strain was noted in correlation with excessive familial consumption of alcohol. Godparents, cousins, grandparents, and aunts/uncles were prevalent family support systems who were mentioned frequently. Body mapping created in a trauma-informed environment that was supportive during the exploration of interpersonal and intrapersonal experiences. Strengths-based strategies were acknowledged, and nature was used for resiliency and grounding. The highest-ranked mental health support was found in interpersonal relationships, mainly with other women and peers. A resounding lack of mental health support and access was noted (Lys, 2018).

Adult Centered Research Articles

Most of the research available on body mapping consisted of adult participants, the first of which was conducted from Dew (2018). The first session was a group session format whereas the second study was individually based: each study was completed using purposive sampling. Participants in the first study were required to be over 18 and have a cognitive disability. Participants in the second study had to be between 16 and 26 years of age and have complex needs related to supporting daily functioning, no male or female participant data was released. Participants chose a pseudonym and received a $50 voucher per day. For the purposes of the research, paid workers had to be instructed to assist rather than control the participant's engagement in the art session. Dew (2018) based their intervention on Solomon (2002) and Gastaldo et al., (2012) (Gastaldo et al., 2012; Solomon, 2002). The sessions consisted of two days each with three-hour-long sessions (Dew, 2018).

The body mapping was framed in a storytelling context. Data was analyzed using a data software called NVivo (version 11) and used an axial embodiment approach. The research found body mapping to be useful in future planning for those with a disability by allowing motivations and important goals to be labeled. Body mapping allowed for a deeper engagement in drawing and personal reflection. The results also showed that body mapping could be empowering for participants, giving them a sense of power over their experiences and perspectives. Facilitators were specifically instructed to inform the participants that they could tell as little or as much as they were comfortable with in order to combat upset or trauma resurgence. An interesting thing to note was that the feelings the participants were experiencing were always placed within the head or stomach. Researchers however did not use dual coding in the second study and all the data was self-reported (Dew et al., 2018).

The first study based only on women was McCorquodale and DeLuca's (2020) study which applied body mapping as storytelling. They conducted a phenomenological-based study consisting specifically of mothers with young children. The mothers (N=7) were required to work at least part-time, most participants working full-time. The supplies offered were as follows: wooden figures, magazines, mirrors, glue, scissors, pencils, markers, beads, charcoal, washable paint, and scissors. McCorquodale and DeLuca (2020) asked for written responses that elaborated on the participants' body maps. There were two phases of assessment. In the first phase, the participants tried to understand their intentions for the body mapping session. The second phase involved the researchers' discussing themes based on what was previously discussed using critical questions with participants. The composition of the body map as well as the symbols were included in the second phase (McCorquodale & DeLuca, 2020).

Researchers noted that participants in the group setting were less concerned with their artistic abilities compared to the participants that decided to create individually. The results found a great level of socio-political commentary and were found to be very thorough in the discussion. Confidentiality is difficult in a group setting but the researchers sought ongoing consent throughout the whole process. McCorquodale and DeLuca (2020) also offered cutouts of women to use instead of tracing their bodies in case of discomfort or anxiety. McCorquodale and DeLuca (2020) did use the participants' responses about the body maps to guide their analysis, using key words and phrases as well as explanation about aesthetic choices. McCorquodale and DeLuca (2020) noted that some participants minimally participated in the artmaking, leaving most of their body maps blank (McCorquodale & DeLuca, 2020).

The second woman focused research study was conducted in the Western Cape South Africa that included reproductive-aged women. The study did consist of some men, but that data

will be featured in another area of research. There were 85 total participants consisting of 57 women. The participation was based on convenience sampling. The involvement was voluntarily centered and included unmarried and married women between the ages of 18 and 45, the mean being 27.2 years. A community outreach employee aided in recruitment. All those that joined in on the research workshops were allocated ZAR150 per day. Informed consent was dispersed to all members of the workshops as well as approval for the recordings and photographs taken. Some women asked to be photographed with their body maps and a choice was given to opt-out of photographs (Harries et al., 2019).

Harries et al., (2019) held six body mapping workshops lasting between one and two days. A woman that was a trained facilitator held each workshop which consisted of between 7 to 12 participants. The workshops used both life-sized body maps as well as small, self-drawn, body maps. Four methods were used to collect data including body maps, workshops, and individual interviews, as well as group discussions at the end of the session. For the purpose of the research, only information on the verbal consultations with the women and their body maps was included. The dialogue of the consultations was centered on the methods to prevent unintended conceptions, the female reproductive system, contraception choices including usage, as well as the female sexual health system (Harries et al., 2019).

The data analysis was comprised of discussions that were recorded digitally and then transcribed. All of the transcripts were reviewed by two research team members to ensure exactness. Researchers inspected the body maps as well as the images of contraceptive timelines as well as the written text on the body maps. The written text was manually recorded for every group member. Once the body map was completed, an individual discussion was facilitated. After all the body maps were completed, individual body maps were presented as well as

discussed with group members and facilitators. The data was then coded manually to include the annotated difficulties, questions, or concerns that arose. Researchers considered the potential to incorrectly interpret the body maps so they employed a triangular system consisting of the discussions, workshop observations, and visual data. The established themes found were a need for more education on various contraception, the female anatomy, and how contraceptives work. The women reported gaps within their knowledge of these areas and which in turn affected their ability to make use of contraceptives. Many of the gaps found were in relation to unsupportive health care workers (Harries et al., 2019).

The third article that consisted of only women (N=14) was centered on a Brazilian neighborhood experiencing impoverishment. The purpose of the research was to explore self-perceptions about stressors and to gauge body mappings' effectiveness with storytelling. The women included experienced psychosocial despair and/or had mental health disorders. Most participants considered themselves to be Caucasian and their ages ranged from 21 to 61 years with a mean of 44.07. The majority reported having little to no education, low income, and being married. The researcher de Souza et al., (2021) applied a theoretical framework that highlighted the connection of life experiences with psychosomatic experiences as well as self-perception and expression. All participation was voluntary and due to Brazilian laws, no monetary compensation was given (de Souza et al., 2021). Focus groups were organized, body mapping implemented, and individual interviews were conducted. The women's narratives were expressed via figures, symbols, and body representation within the map. Some anxiety was reported from participants in relation to artistic abilities and the map's overall appearance. Researchers pressed the process over the product to the women. Most participants had less than a high school education so

verbalization, to express their emotions or body maps, was limited. Researchers used symbols, slogans, and colors to assist with the linguistic barriers (de Souza et al., 2021).

Field notes were taken throughout the various stages of the sessions and transcribed. The findings were analyzed by two nursing researchers. There was no formal analysis conducted of the research. Three main stressors were divulged to greatly affect the well-being of the women including violence, interpersonal conflicts, and symptoms in relation to mental health disorders. The stressors were recorded to impact self-esteem, illicit demoralization, and create negative feelings. Although a tough subject was discussed, the women expressed resilient traits. The women conveyed their desires, new plans, and purposes, and recognized their potential. The process of body mapping allowed the women to take part in self-analysis and express their experiences in psychosomatic terms. The results were qualitative and researchers believed that the body mapping experiential was a great tool to express subjective aspects related to the experience, facilitates verbalization, and promotes introspection. The researchers felt that body mapping and the group setting can bring attention to the importance of symbols, fosters a sense of community, and can give a mindful perspective to current, past, and future events (de Souza et al., 2021).

A fourth article only featured woman and was organized and administered as an open-ended online survey that 460 women completed. All that took part in the online survey self-identified as experiencing damaging emotions in correlation with the premenstrual phase of their menstrual cycle. The mean age of participants was 24.1 and the ages ranged from 18 to 45. A total of 63.3% of the women were partnered, 76.5% identified heterosexually, 2.6% identified as lesbian, 17.6% listed themselves as bisexual, as well as 3.2% labeled themself as “other.” Many

of the women regarded themselves as “Anglo-Australian” consisting of 70.7% of the online survey sample (Ryan, 2022).

Online survey contributors disclosed their premenstrual suffering to be moderate to severe with the mean score identified as 22.06 from the Premenstrual Symptom Screening Tool created by Steiner et al., (2003) (Ryan, 2022; Steiner et al., 2003). The mean score that meets the diagnostic criteria to be considered PMS is 26.60 as defined by Ussher and Perz (2017) (Ryan, 2022; Ussher & Perz, 2017). Ryan, (2022) also included an Eating Attitudes Test 8 from Richter et al., (2016) within the survey which found a mean of 3.62 which determined disordered eating tendencies (Richter et al., 2016; Ryan, 2022). Once the surveys were complete, the women that were considered in the higher range of body dissatisfaction were requested to partake in a body mapping session as well as a follow-up telephone consultation. All participants were given written consent and Ryan (2022) obtained ethical approval from the Western Sydney University Ethics Committee, H12976. All participation was informed as well as voluntary (Ryan, 2022).

Of the 16 women that were then included in the telephone interview and cooperated in the body mapping session, 56.3% identified as Anglo-Australian, which is considered white. The ages ranged from 19 to 39 with a mean consisting of 25.5 years. Of the participants, 68.8% listed themselves as heterosexual and partnered. A total of 31.2% labeled themself as bisexual.
The 16 women experienced body mapping one-on-one in person. Ryan (2022) prepped participants by asking them to consider textures, words, symbols, as well as colors that correlated with their non-premenstrual and premenstrual bodies (Ryan, 2022).

To frame the experiences of the non-premenstrual and premenstrual body, Ryan (2022) included prompts during the introductory process. Ryan (2022) asked participants to consider the premenstrual changes they experienced, emotions in relation to the localization within the body

and those changes, sensations within their bodies, and how it was to experience being within their body. Pre-drawn body outlines were offered as well as the option to be traced. The supplies Ryan (2022) provided were as follows, glitter, pencils, magazines, paint, and markers. Once completed, the body maps were reviewed with a verbal explanation of the choices that were made as well as why. The total time spent on creating was between 60 to 90 minutes followed by a quick explanation that was audio-recorded and lasted between 4 to 11 minutes (Ryan, 2022).

The phone-based interviews that followed were semi-structured, audio-recorded, and completed within a total of five days of the session. Once completed the audio recordings were professionally transcribed and checked for accuracy. Each participant received a pseudonym, and their identifying information was excluded. Ryan (2022) then analyzed the qualitative information through a theoretical thematic analysis formulation. Patterns were noted from the open-ended surveys, body mapping data, and interviews. Psychological, somatic, as well as social experiences were recognized and considered through a historical and cultural lens. Ryan, (2022) created a coding frame to incorporate codes within the transcripts. The coding frame was created, tested, edited, and then entered using NVivo software. Body map images were coded along with the transcripts to the correlating participant for cross-examination. Ryan (2022) noted three findings of significant resistance towards harmful premenstrual feelings and embodiment, an overall negative view of the premenstrual body, and self-policing tendencies. The changes that were found to be associated with the negative perspective were acne, sweating, bloating, feeling fat, the menstrual odor, the experience of leaking, and considering themselves to be "gross" and "unattractive." A fear of gaining weight when experiencing premenstrual bloat was noted as well as an increase in premenstrual cravings (Ryan, 2022).

In terms of self-policing behaviors, the women reported hiding their bloat through loose clothing and staying at home more. Sexism and cultural standards played a large role in how women viewed their premenstrual bodies. Factors of resilience were also noted such as wearing loose clothing not for appearances but for comfort. The noted feelings of disappointment or disgust were connected to the women's discipline and lack of control of their bodies to circumvent not only self-abjection but feelings of being fat, or unclean. Participants were observed over-scrutinizing and fragmenting portions of their body including their thighs, arms, chins, and stomachs, thus affecting their feelings of wholeness. It was observed that Western culture greatly impacted the women's perspectives of their bodies in negative, harmful, and nearly impossible ideals for the average woman. Ethical considerations should be taken in accordance with disordered eating behaviors and self-esteem issues. Advertisements were listed for "women" which could have impacted the lack of inclusion of trans individuals as well as non-binary participants. The findings approach understanding the convoluted and layered factors that affect the premenstrual body and the emotions surrounding it (Ryan, 2022).

Another health related, woman-only article assessed quality of life with a group of women with breast cancer through body mapping. There were 114 participants aged 40 to 60, split between the intervention group and a control group. The method was semi-experimental. The research time frame involved one session per week, for 12 weeks. Jalambadani and Borji (2019) found that the mindfulness group had a decrease in symptoms related to distress that was found to be significant. Findings support that the mindfulness group felt they improved behaviors in relation to quality of life. Multiple mindfulness art therapy directives were implemented and the research did not separate the directives findings. The population was specifically chosen so the findings cannot be broadened to other populations (Jalambadani & Borji, 2019).

Cancer is a traumatic experience leading into the next article that is assessed. The next article is a doctoral research article that included adults with trauma. The research design was a phenomenological approach and used purposive sampling focused in Los Angeles. The research was qualitative and only featured one session and semi-structured interviews. Lubbers (2019) defined the key terms of the factors in relation to body mapping. Any potential participants that experienced severe or extreme trauma were excluded to avoid undue harm. A total of N=9 participants were recorded, 6 women, and 3 men. The ages ranged from 20 to 70 years and Lubbers (2019) utilized the IES-R to measure the arousal and dysregulation of contributors. The IES-R is a 22 item self-report assessment. Lubbers (2019) started the session with a meditation called clearing a space and healing an issue (Gendlin, 1981). Once the meditation was complete, the body mapping portion began by following FOAT protocol with an emphasis on safety measures. The participants were directed through becoming oriented to the space, grounding, and warming up artistically (Lubbers, 2019; Rappaport, 2010). Lubbers (2019) provided paper, colored pencils, and chalk pastels. Oil pastels, poster paints, collage materials, acrylic paints, as well as magic markers were also available. The results found that there was an increase in self-regulation and embodiment (Lubbers, 2019).

Another article with health-related body mapping focus featured participants in an alcohol and other substance residential treatment facility. Three male-identifying and three female-identifying personnel completed the sessions fully including the informed consent paperwork. Three counseling staff were invited to participate in their own body mapping experiential centered on the strengths they use as staff members alongside the clients. The researchers gained approval from the Aboriginal Health and Medical Research Council of NSW, Australia (1062/14). Each participant was given a pseudonym and received written consent for

participation, audio recordings, and photograph copies of the body map for research publications (Macken et al., 2021).

Macken et al., (2021) included both researchers and participants in the warm-up exercises with the intent of creating a sense of community and trust. Participants worked in pairs to prompt and foster collaboration. Macken et al., (2021) chose various paints, drawing materials, and collage materials for the group to use. The variety of art supplies was selected to be applicable to a variety of skill sets and levels. Two separate workshops were created in August and September 2018. Each of the workshops was allocated to be 2.5 hours long. The researchers decided to separate the workshops, one for male-identifying and one for female-identifying. Life-sized body maps were created and upon completion, semi-structured interviews took place. The recordings were transcribed verbatim via a professional transcriber and were reviewed for accuracy. Each participant was awarded an $A50 gift card upon completion (Macken et al., 2021).

Five data sources were procured and used to evaluate the effectiveness of the body mapping experiential. The five data sources included: thorough interviews with the clients, the body mapping visual, group discussions, staff information exchanges, and the notes from the researchers including team debriefs after each session. NVivo qualitative data software was used to assess the collected data. The research obtained found that the group was able to reveal their strengths, engage through the art-making process, gained a sense of accomplishment and achievement, and started to show their true emotions and feelings. Group members communicated experiencing feelings of ownership towards the control of how their story was expressed. They were found to enjoy telling their story in their own words as well as the ability to take back their power over their experiences. The directive provided perspective,

accomplishment, and pride towards their growth as they participated in the rehabilitation program (Macken et al., 2021).

One unexpected conclusion of the sessions was that the three-counseling staff that participated not only enjoyed the process but found it extremely valuable to the therapeutic process. The three-counseling staff even went so far as to promote body mapping in their counseling tools and directives. Creative interventions could be more engaging as well as minimally confrontational thus creating easier access to understanding and helping clientele. All of the data collected to support the goals of the research were qualitative. The sample size was extremely small and limited as well as the duration of the research (Macken et al., 2021).

The final adult-based article was based on Haraway's (2016) position on body mapping in that it impacts more than one kind of body. The three types of bodies Dennis (2020) and Haraway (2016) pose are temporal bodies, sensing bodies, and environmental bodies. Dennis (2020) elicited to employ the use of body mapping to study participants' drugged bodies as stories involving their personal experiences of drug use. Dennis (2020) focused on the bodily experience of drug use instead of researching the effects it has had on one's personal life (Dennis, 2020; Haraway, 2016). Thirty people participated in the research, all of which inject various drugs including crack cocaine and heroin. The body mapping sessions were conducted during the thorough interviews held by Dennis (2020). An A1 piece of paper, as well as various drawing tools, were supplied. Participants were asked to discern their feelings before drug use, during, and after the drug use ended. They were also asked to express what goes on while they are using the drugs around them. Dennis (2020) noted affective responses during the body mapping process including sighing, participants talking to themselves, whistling, singing, and some unintelligible mumbling noises (Dennis, 2020).

Bodies are constantly changing due to environmental and somatic experiences; thus, they are temporal. The effects of drug use are considered contingent by Dennis (2020). Things that are often taken for granted or unnoticed are brought to the attention of the drug dependent. The changes noted in focus and reality thus affect the drug experience, causing it to be more of an interactive variable instead of a static experience. The researcher found that the body mapping process allowed the interviewees to orient themselves inwards, noticing their bodies and reflecting on their experiences. Dennis (2020) considered this experience to be their sensing body. The reflections included sensory aspects in relation to taste, vision, touch, and smell. Taste surprisingly played a large role in the considered quality of the drugs used, mostly in the flavor of crack cocaine and heroin. The third defined form of the body was the environmental body. Environments and bodies are indivisible in the sense that there will always be an environment around the body. Body mapping allows for the environment to be an integral part of the body that can be noticed without judgment. This can allow for a clearer understanding and insight into external and internal factors that affect a person's perspective including their frame of mind and reference (Dennis, 2020; Haraway, 2016).

Dennis (2020) theorizes that body mapping is substantially more than just representation storytelling in that they do not encapsulate what they try to reproduce. Body mapping envelopes a wide range of “collective bodies” including but not limited to political influences, relationships, environments, objects, substances, past, present, and future experiences as well as the mind and body in all its confounding layers. Dennis (2020) concludes that drug use affects the sensory body greatly and that some of the interventions employed create an extreme sensory overload which affects those interventions' effectiveness. Reflecting and assessing how the

drugged body and its network through empathy and tolerance is the ethical way to conduct treatment (Dennis, 2020; Haraway, 2016).

Elderly Based Research

The only included elderly-based research featured a total of thirty-five participants with Fibromyalgia. The focus of the research was to assess the various barriers within the medical community. Informed consent was given, and participants received two installments of $50 for participating and an additional $20 for being interviewed (Skop, 2016). Skop (2016) utilized Gastaldo et al., (2012) for the core basis of the body mapping sessions (Gastaldo et al., 2012; Skop, 2016). A pilot focus group was included and conducted, afterward, a second focus group was directed. The materials that were offered consisted of: paper, paints, glue, pencils, erasers, paintbrushes, sponges, pencils, felt, construction paper, gloves, feathers, and tissue paper. Skop (2016) chose those supplies to avoid scents because Fibromyalgia can cause chemical sensitivities. Participants were given a written list of questions, prior to creating the body map, to help them reflect on and develop their creative works. The research found that participants found unsupportive healthcare providers and a variety of structural barriers to affect their well-being. Gender, age, race, and class affected the participant's healthcare experiences. Collaboration between researchers and participating contributors while body mapping allowed for a deeper insight into the factors of the healthcare process and created hope to elicit social change. Skop (2016) received approval from the Wilfrid Laurier University Research Ethics Board. Skop (2016) tried to reduce bias by using inquiry, validation, and reflection upon their own views. The external validity was minimal due to the small and specific population (Skop, 2016).

Digital Body Mapping/Scans

Two research articles that used a digital software to complete body maps with participants were included. Volynets et al., (2020) conducted research to assess the commonalities between cultures on the locale of emotions and their sensations within the body. Volynets et al., (2020) measured 1513 emotions in an international sample consisting of 3,954 individuals that were from 101 countries. The ages ranged from 18 to 90 years and 694 males and 3,260 females with a mean age of 34.9 years partook in the research. Volynets et al., (2020) used activations (warming or more intense sensations) and deactivations in accordance with two digital body maps to locate where participants felt various emotions. Emotional words were presented and reactions recorded. Informed consent was given prior to the body maps appearing. A painting tool was then used to show the locale of the emotion within the body (Volynets et al., 2020).

The data was collected through a program that was created by Volynets et al., (2020) for the purpose of the research and is called emBODY. To ensure a culturally diverse study, Volynets et al., (2020), selected 15 countries with a minimum of 45 individuals currently in each. IP addresses were tracked to ensure the individual's location. The body maps were considered subjective feeling maps due to interoceptive accuracy being hard to prove. Of the participants, the sample was biased towards educated people and women, due to the internet-based data obtained and targeted. Bodily sensations in accordance with different emotions were found to be significant across a wide variety of cultures. The research did uncover that age resulted in a decrease in bodily felt emotions. There were no significant sex differences found. All the information was collected via self-reports (Volynets et al., 2020).

The second digital body mapping article tracked bodily sensations with the use of 36 artistic stimuli. A total of 90 psychology students participated and received course credits to

participate in the research. One criterion was that only “normal vision” participants were utilized. Of the students, 61 were female and 29 were males with an average age of 20. Schino et al., (2021) received approval from the university's ethics committee. The research utilized an online Qualtrics software that allowed participants to use their own computers. The research used activations and deactivations such as warming or tingling. The students viewed artwork and correlated emotions as well as the emotions locale within the body within the software. A slider was used to identify feelings similar to a Likert-like scale. Nonparametric statistics were used to assess the data and there was no consistent normal data distribution. Chi-square values were also utilized to assess the data and the first and second null hypotheses were rejected. The students reported if they felt their emotions getting weaker or stronger, up to two emotions that were considered primary feelings, and the subjective level of the feeling on a scale (Schino et al., 2021).

The research by Schino et al., (2021) supported bodily sensation in relation to activation for viewed art-elicited emotions. Similar bodily sensations were observed across all of the art-elicited emotions, always located within the head area. A stimulation validation step should be added for future research in order to add to the validity and clarity of the research. Receiving college credits for participation could have induced a form of bias within the student participants and should be taken into consideration. The viewing of art is subjective and thus makes the determination of external validity extremely difficult. Cultural, developmental, educational, and art-based experience considerations should be discussed at length (Schino et al., 2021).

Discussion

Participating in body mapping within a group setting can allow one to gain a sense of community in a safe and creatively promoted environment. The act of creating visuals and

experiencing the various supplies and their properties allows one to enter a reflective-based mindset which can lead to insights into gender, motivations, health, culture, oneself, and one's interactions within a group (Boydell et al., 2020). The act of body mapping also allows clinicians and researchers to build rapport with participants and has been observed as making the relationship between participants and counselors experience less of a power struggle. The benefits of the body map may depend on the directive put in place before participating. The directives can range from wellness, personal identity, body perception and so much more. The overall arching consensus for body mapping is to connect mind, body, ego, feelings, and art (Boydell et al., 2020; Solomon, 2002; Skop, 2016).

The continuous change in bodily sensations allows for an actively occurring phenomenon to hold one's attention. Checking in with one's body intentionally allows one to recognize their body's average continuous state. This can allow for one's ability to notice stress, strain, discomfort, or pain within the body to heighten (Dambrun et al., 2019). Bodily sensations being observed with non-judgmental reflection have been shown to affect levels of discomfort. There are varying forms of research that have shown focusing can increase as well as decrease discomfort when focusing is applied to healthy individuals. There are many factors that could influence one's reaction to focusing when in pain such as the locale of pain, level of pain or discomfort, health or pain-related anxiety, post-traumatic stress disorder, gender, and sex. Although the effects of experiencing pain are unclear, one's distress related to pain has been shown to lessen with the use of body scan interventions (Bach & Erdmann, 2007; Kogan & Bussolari, 2021; Schultchen et al., 2019; Ussher et al., 2014).

Cultural and Ethical Considerations

Creatively expressing a story can be less intimidating and thus help alleviate the imbalance of power between facilitator and participant. However, some participants may find it intrusive. In some cultures, it would be inappropriate to trace a physical body and/or display the body map (Jager et al., 2016). Participants may not want to be touched or be traced so professionals should have a premade outline available. Creating a body map and participating in any type of therapy can be personal so participants may not want their art shown, to speak out loud about their experience, or want to keep it. Some directives that use the body scan may create unwanted discomfort in relation to trauma and lived experiences. A safe and open environment should be created and maintained (McCorquodale & DeLuca, 2020). Tracing a person's physical body could also be harmful to those with body image issues unless used in a positive direct way to help assist those with body-related problems (Jager et al., 2016).

Body mapping is reflective and deeply personal, so there is a possibility of creating undue harm and trauma resurgence among participants. Informed consent must be one of the top priorities of the body mapping experiential. Trauma- informed care and training should be implemented for researchers. One way to assist to combat potential upset or trauma resurgence can take place of informed consent and allowing participants to tell or express as little or as much as the participants want (Dew et al., 2018; McCorquodale & DeLuca, 2020; Lys, 2018).

The open-endedness of the body mapping directive may also be a point of consideration. Some clients may not react well or openly to the directive being so introspective and open-ended, especially if it is a client’s first time participating in art therapy and they have little creative knowledge or experience (McCorquodale & DeLuca, 2020). Group settings may make some participants self-conscious. Confidentiality must also be considered, especially in a group setting. Participants should be informed of the expected confidentiality between participants as well as

practitioners. There is the potential to use names, locations, and other personal information within a body map so where the body map is kept or viewed should be considered thoroughly (McCorquodale & DeLuca, 2020).

Participants' artistic ability is often a concern so special care should be taken to express the importance of process over product. Perhaps supplies that do not require artistic ability should be considered such as newspapers, photo printouts, and magazines for collage purposes (Boydell et al., 2018; Davy et al., 2014; Lys, 2018; McCorquodale & DeLuca, 2020; de Souza et al., 2021). Altering one's state of self-consciousness may be found to be unpleasant by some participants (Dambrun et al., 2019). Emotions can be influenced by cultural factors and experience-based plasticity. How facial expressions, body language, and how one processes and expresses emotions can be based on one’s development, culture, sex, gender, locale, age, and other factors (Volynets et al., 2020).

Points for Future Research and Reference

There is no concrete definitive way to conduct a body mapping experiential (Jager et al., 2016; Kogan & Bussolari, 2021; Lys, 2018; McCorquodale & DeLuca, 2020). The research has shown a variety of materials have been chosen to utilize with body mapping, from collage, to paint, to crayons. It is imperative to consider which materials are used based on population, client needs, and purpose of the body mapping session. If an art therapist is not facilitating the body map workshops, one should be consulted to understand the variety of purposes select art materials serve (Jager et al., 2016; Kogan & Bussolari, 2021; Lys, 2018; McCorquodale & DeLuca, 2020).

How the body map is created is also something to note. Due to the size, most participants were noted drawing on the floor. This could affect the body mapping experiential if a participant

has bodily injuries and it could cause discomfort to the knees or back if participants create on the floor for long periods (Hartman et al., 2011; Jager et al., 2016; Skop, 2016). A body-sized map takes an extensive amount of time to complete as well as creates difficulty moving and storing. It could be overwhelming to fill in such a large space as well (Hartman et al., 2011; Jager et al., 2016; Ryan, 2022; Skop, 2016). Creating art on such a large scale can be time-consuming and potentially overwhelming. Participating in body mapping sessions can take anywhere from two to four hours, often requiring multiple sessions. It may be beneficial to break sessions up and provide snacks and water to participants (McCorquodale & DeLuca, 2020; Ryan, 2022).

There is also mention of digital body mapping, which may be an option and provide more access to participants as well as the potential to use digital images in a collage manner (Jager et al., 2016; Kogan & Bussolari, 2021). Body scan meditations show potential by virtually allowing lower cost, ease of access, and with more flexibility in scheduling (Kogan & Bussolari, 2021; Lys, 2018). There are various research articles that show brief body scan meditations can have quick and varied positive effects. Some of those effects are noted as increasing attention, psychological wellbeing, and a decrease in withdrawal cravings and mood-associated withdrawal symptoms (Kogan & Bussolari, 2021).

There are some considerations that should be taken in the dynamic of the body mapping session. One can work in groups or alone, which may affect the counselor/participant dyad as well as a group dynamic (McCorquodale & DeLuca, 2020). Researchers may want to be trained in group facilitation when body mapping is conducted in a group setting (Hartman et al., 2011; Skop, 2016). Youth may especially benefit from the non-verbal potential of body mapping due to the engaging nature of collaboration as well as creation. The ability to express oneself and their experiences entirely without limitations can give youth feelings of the power and control they

lack. It can be especially beneficial for at-risk youth to partake in body mapping due to a lack of judgment as well as the ability it creates in noticing strengths and notes of resiliencies (Boydell, 2018; Davy et al., 2014; Lys, 2018). Body scans and mindfulness may impact clinicians as well as participants. There are few studies on practices of mindfulness and its impact on clinicians. There is promising data that mindfulness practices can positively affect the therapeutic relationship as well as increase the clinician's empathy. There is also the potential to assist with limiting or reducing the symptoms of burnout clinicians may experience. These studies are in the beginning stages and should be explored further (Kogan & Bussolari, 2021; Macken et al., 2021).

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