

# Virtual Intercorporeality: Using the Body Scan Meditation to Enhance Interoceptive Awareness, Therapeutic Alliance and Presence in TeleMental Health

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**Abstract**—Having to transition to TeleMental health during the COVID-19 pandemic, psychotherapists were challenged to continue establishing therapeutic connections in their sessions within this new human computer interaction. In the in-person psychotherapy exchange, the clinician and client form a mutual connection that helps them to feel a sense of therapeutic presence and alliance together. This is known in somatic psychology as intercorporeality, a critical component of the therapeutic relationship that is suspected to be less accessible through digital environments. Motivated by the scarcity of existing literature correlating the relationships between TeleMental health, human-to-human interaction with technology, intercorporeality, therapeutic presence, working alliance, and interoceptive awareness, this paper examines relevant empirical studies and presents a design for a mixed-methods study to assist in advancing understanding of these constructs. The explicit aim is to explore how a body scan meditation effects interoceptive awareness, working alliance and sense of therapeutic presence for both therapist and client within the context of the human-to-human interaction with technology within a TeleMental health session.

**Keywords**—human-to-human interaction with technology; somatic psychology; telemental health; body scan meditation.

## I. INTRODUCTION

The (COVID-19) Corona Virus Disease 2019 pandemic necessitated a rapid transition from in-person psychotherapy to digital formats, reshaping therapeutic practices and interactions within virtual environments. Psychotherapists accustomed to physical presence and embodied connections with their clients faced challenges as they adapted to TeleMental Health (TMH), which employs video and other digital tools to deliver therapy remotely [1][2].

Despite TMH's benefits in accessibility and safety, its virtual nature often reduces the depth of interpersonal connections, impacting a core component of somatic therapy called intercorporeality or the mutual, embodied awareness between therapists and their client [3][4]. One promising approach to enhancing intercorporeality in TMH is the integration of Body Scan Meditation (BSM). Rooted in ancient mindfulness practices, BSM encourages individuals to progressively focus on different areas of the body, fostering awareness of physical sensations without judgment [5]. Preliminary research suggests that BSM can improve Interoceptive Awareness (IA), reduce anxiety, and enhance overall presence by grounding participants in their sense of

body and body type [6][7]. This practice may thus offer a way to recreate elements of embodied connection even within the constraints of a virtual setting. The proposed study in this paper was inspired and influenced by a previous phenomenological pilot study in which we investigated the experience of the intercorporeality within the TMH session on a clinician's sense of their own embodiment as well as that of their clients [8]. The following study aims to investigate whether implementing BSM within TMH sessions can bolster interoceptive awareness and foster a stronger sense of Therapeutic Presence (TP) and Working Alliance (WA) between therapists and clients. By focusing on these aspects, this research seeks to contribute to the evolving landscape of somatic virtual therapy, highlighting innovative methods for cultivating meaningful therapeutic connections within the digital context of TMH.

The rest of the paper is structured as follows. Section II discusses the relevant literature of the variables and constructs involved in this study. Section III provides an overview of the methodology of the research. Section IV reports on the current status of the investigation. Section V discusses the limitations imposed by self-report measures, small study sample, technological disruptions, and short duration. Section V presents the conclusion and considers future investigations and implications of the study.

## II. LITERATURE REVIEW

### A. TMH and the Challenges of Embodied Connection

There was a marked increase in the use of TMH leading into the pandemic, with a 22.3% rise in utilization reported from 2019 to 2022 [9]. The Utilization Index presented in Figure 1 sets 2019 as the baseline year (indexed at 100). TMH usage increased markedly in 2020, reaching an index value of 115, which reflects a 15% rise compared to 2019. Utilization peaked in 2021 at approximately 125, indicating a 25% increase over baseline. Although there was a slight decline in 2022, the index remained above 2019 levels, highlighting sustained use of TMH services beyond the pandemic surge. Since TMH continues to be utilized within the mental health field and will evolve with the technology it is part of, the embodied connection between therapist and client will remain an integral part of the therapeutic connection. BSM is explored in order to assist facilitation of the components of intercorporeality.

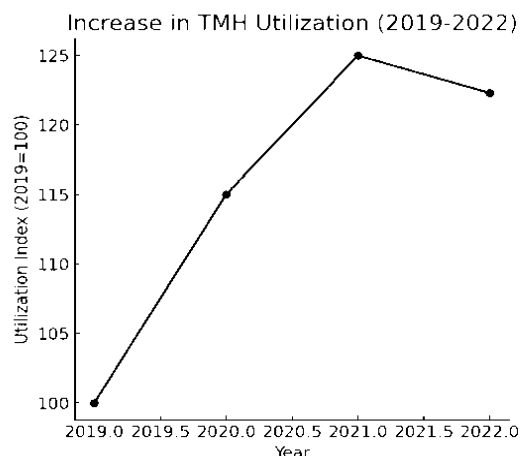


Figure 1. TMH Utilization 2019-2022 [9].

### B. BSM to Facilitate Therapeutic IA

IA, or the conscious perception of internal bodily sensations, is closely linked to emotional regulation and TP. Techniques such as BSM that enhance IA have shown promise in fostering mindfulness and reducing anxiety [6][10]. BSM can help individuals connect to Increase in their bodily sensations, increase their sense of TP, and support emotional regulation [11][12][13].

IA has been investigated with in-person body- oriented therapies, focusing on its role in emotion regulation and self-awareness [14]. This research has suggested that IA therapies that incorporated BSM improved clients' ability to recognize and interpret physical sensations, resulting in better emotional processing

This paper refers to Human-to-Human Interaction with Technology (HHIT) as the digitally mediated communication between therapists and clients using platforms such as video conferencing [15]. However, there is limited research on somatic and mindfulness practices such as BSM application in HHIT environments like TMH, but preliminary findings from one investigation indicate that virtual BSM may enhance client and therapist attunement by fostering an embodied sense of TP, even in the absence of physical co-presence [3]. Additionally, virtual BSM has shown potential for reducing stress and anxiety, creating a more relaxed and connected therapeutic environment that facilitates the reinforcement of the WA between therapist and client [16].

### C. Role of TP within the HHIT of TMH

In TMH, the concept of TP—the therapist's and client's awareness and engagement in the shared therapeutic space—is crucial for building trust and facilitating effective communication. Intercorporeality plays a crucial role in therapeutic effectiveness, facilitating deeper relational engagement and a sense of shared TP. In face-to-face therapy, this embodied connection is supported by nonverbal cues, such as body language and synchronized breathing,

which foster client and therapist attunement. However, virtual platforms such as the HHIT of TMH limit these interactions, often resulting in a perceived detachment that can impact therapeutic outcomes [17][18]. Figure 2 depicts these deficits. Some research elucidated strengthening presence and IA may enhance the TMH experience [19][20].

Studies on presence in HHIT settings also highlight the importance of audio-visual cues, with larger screens and clearer visual input enhancing perceived presence and connection [21]. However, therapists often need to modify their behavior, such as using more demonstrative body language and ensuring a distraction-free environment, to foster presence in TMH [22].

Embodied practices, such as BSM, may enhance TP and intercorporeality in TMH by encouraging both therapists and their clients to tune into their bodily sensations, creating a more grounded and connected therapeutic interaction [23]. By integrating IA and mindfulness practices, TMH can potentially create conditions that approximate the embodied presence typically achieved in in-person settings.

### D. Role of Therapeutic Bond and WA in TMH

Whether in-person or in TMH, the therapeutic bond is a foundational element of the WA, which also includes agreement on goals and tasks between client and therapist. The bond refers to the emotional connection and trust that develops, facilitating open communication and collaboration [24]. This bond is crucial for creating a safe, empathetic environment where clients feel understood and supported, which enhances the overall therapeutic WA. The advantages of a well-established psychotherapeutic relationship create a robust WA, characterized by trust, collaboration, and mutual understanding, establishing a secure foundation for the introduction of innovative therapeutic strategies such as BSM [25][26].

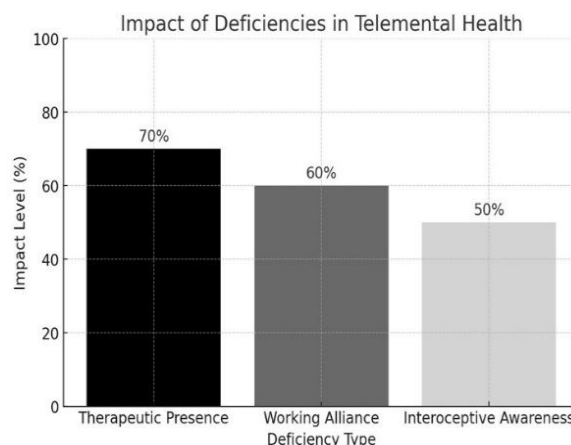


Figure 2. Estimated Impact of Deficiencies in TeleMental Health [17][18].

## III. PROPOSED METHODOLOGY

This study aims to examine the potential benefits of integrating a virtual BSM into TMH sessions, with a focus

on enhancing IA, WA, TP, and thus, intercorporeality between therapists and clients during their HCI interaction. Specifically, the study investigates whether practicing BSM at the beginning of TMH sessions can foster a deeper therapeutic connection and improve clients' and therapists' experience across all the discussed constructs within the HHIT environment.

#### A. Study Design

This study will employ mixed-methods research design, combining self-reports of all participants via three quantitative assessments and one qualitative questionnaire. A mixed-methods approach is well-suited for evaluating measurable changes in IA, WA and TP and gaining deeper insights into participants' personal experiences with BSM in a virtual setting [11]. Quantitative data will provide statistical measures of IA, WA and TP, while qualitative data will capture the nuanced experiences and reflections of all participants, offering a comprehensive understanding of BSM's effects on virtual therapy.

#### B. Participants

A total of twenty-five participants will be recruited for this study: 20 clients and 5 therapists. Each therapist-participant will conduct a 5-minute BSM over TMH each week for six weeks. Eligible client-participants must be 18+, speak English fluently and engaged in therapy with their therapist-participant for at least 4 previous sessions. Participants will be excluded if they have prior experience with mindfulness practices or symptoms or conditions affecting their IA. These include autistic spectrum disorder, eating disorders or chronic pain diagnoses. These conditions have demonstrated difficulty in IA perception. This exclusion criteria are to ensure consistent IA baselines across participants [27][28].

#### C. Procedures

- Therapist-participants will participate in a three-hour online workshop led by the researcher. The training will cover somatic psychology, applications in TMH and BSM principles, and a standardized BSM script for use in TMH sessions.
- Client-participants will be recommended by therapist-participants and will be screened and receive informed consent.
- At the beginning of each weekly TMH session, therapist-participants will lead a 5-minute BSM following the provided script. After the 1st, 3rd, and 6th sessions, all participants will complete the following measures:

#### D. Measures

##### Quantitative:

- Scale of Body Connection (SBC): This instrument will measure changes in all participants' interoceptive awareness and overall body connection over the study period [29].
- The Working Alliance Inventory (WAI): Client-participants and therapist-participants will use their

relevant version (WAI-C and WAI-T) to examine collaborative relationships from each other's perspectives [30].

- Therapeutic Presence Inventory (TPI): Client-participants will use the TPI-C to rate their perception of their therapist's presence, while therapist-participants will use the TPI-T to assess their own sense of presence and attunement during sessions [31].

##### Qualitative:

- Following the final session, a qualitative questionnaire with 4 open-ended questions will be conducted with both client-participants and therapist-participants. These interviews will explore both participants' experiences of IA, TP and perceived connection during TMH sessions with BSM, using as a guide Haley's open-ended questions [32].

#### E. Data Analysis

**Quantitative Analysis:** Quantitative data will be analyzed using paired t-tests to compare mean pre- and post-intervention scores on the SBC, TPI, and WAI, and repeated measures Multivariate Analysis of Covariance (MANCOVA) to assess any interaction effects over time. This analysis will determine whether BSM produces significant improvements in IA, TP, and WA across the study period.

**Qualitative Analysis:** Questionnaire transcripts will be analyzed thematically following Braun and Clarke's methodology to identify common themes and insights [8]. This analysis will allow for a detailed exploration of participants' experiences with BSM in TMH, particularly in terms of intercorporeal connection and TP.

#### F. Treatment of Data

Quantitative data will be handled in such a way that the criteria of academic ethics will be followed: precision, confidentiality, and the opportunity to reproduce the findings [3]. Initial cleaning procedures will include removing missing or inconsistent responses. Imputation will be performed only in very specific cases which would not compromise data integrity.

An explanatory sequential design will be employed to embed both quantitative and qualitative data together, thus enabling comprehensive analysis required regarding the effects of BSM within TMH. Baseline trends and quantified measures from quantitative research will help to put a real face into place with qualitative narratives of people involved. Triangulation will allow validation of results with enriching interpretation through cross-referencing numerical patterns and trends from quantitative data with those patterns identified within the lived experience reported from the qualitative data collection process.

#### IV. CURRENT STATUS

Currently, this study is in the second month of recruitment. During the first month, multiple postings were made to over 30 social media groups for therapists across the

California Inst. of Integral Studies community, on Facebook, LinkedIn, listservs for therapists as well as the American Psychological and Counseling Associations. Thus far, 55 respondents have contacted this researcher. Unfortunately, most of the respondents (50) did not meet the criteria or were AI bots. Of the 5 who met the criteria, 2 have had to remove themselves from the study due to other time commitments and clients unable to participate. Currently we have 4 new therapists who have completed their paperwork and are encouraging their clients to return the paperwork so they can be screened. 2 of these therapists have completed the online preparatory training and will soon be implementing BSM in their sessions. Another round of online recruitment is being planned to recruit more participants in the event of attrition.

## V. LIMITATIONS

While this study aims to provide valuable insights into the effects of BSM on IA, TP, WA and intercorporeality in TMH, several limitations should be acknowledged:

- **Sample Size and Diversity:** The study's relatively small sample size (25 participants) may limit the generalizability of its findings. Additionally, the inclusion criteria, which exclude individuals with certain conditions (e.g., autism spectrum and eating disorders and chronic pain), could limit the applicability of the results to broader populations. Future research should aim to include a larger, more diverse sample to strengthen external validity.
- **Self-Report Bias:** The study relies on self-reported data through surveys and interviews, which may introduce biases such as social desirability or recall bias. Participants might report positive outcomes due to perceived expectations rather than actual changes in IA, WA or TP.
- **Employing more objective measures,** such as physiological indicators of IA (e.g., heart rate variability) in future studies, could provide additional validation.
- **Duration and Consistency of Practice:** This study is conducted over a six-week period, with a brief (5-minute) BSM exercise at the beginning of each session. While this design is practical, a longer duration or more frequent BSM practice could yield stronger effects and more sustained improvements in IA, WA, and TP. Further studies might investigate different durations or intensities of BSM to explore whether more frequent or prolonged practices offer greater benefits.
- **Technology and Environment Variability:** TMH sessions vary widely in participants' technology (e.g., screen size, internet stability) and environments (e.g., privacy, ambient noise), influencing the study's results. For instance, a larger screen may enhance a sense of TP, yet, interruptions in connectivity may disrupt engagement. The choice of platform for therapist-client interaction is not within our control, as participants are conducting sessions using their existing teletherapy tools. In

order to broaden the potential candidate pool for recruitment, we have adopted a platform-agnostic approach. The focus of this study is on the use of BSM as a mechanism to enhance IA and TP within the WA of the TMH session—regardless of platform differences such as screen size or interface. In future iterations of the study, with a larger sample size and increased research funding, standardizing the platform across participants may be explored to control for this variable more tightly.

## VI. CONCLUSION

The shift to TMH has presented unique challenges and opportunities in maintaining presence and connection, particularly with the diminished intercorporeal exchange that in-person settings provide. In TMH, where physical presence is limited, alternative strategies are needed to foster the embodied awareness and attunement that support a meaningful therapeutic bond. This study proposes that BSM by enhancing IA, WA and TP, may prove to be a valuable tool for addressing these gaps and deepening the therapeutic intercorporeality in virtual environments. Practices that cultivate IA—such as BSM—are associated with greater self-awareness, emotional regulation, and a sense of grounded presence [6][7].

This study aims to contribute to the growing field of the integration of somatic practices within the HHIT of therapeutic practices such as TMH. Through a mixed-methods approach, it will offer both quantitative insights into the measurable benefits of BSM and qualitative perspectives on participants' lived experiences. If effective, BSM could serve as a foundational practice for improving the HHIT of virtual therapeutic relationships, informing future research and guiding practitioners in adapting somatic techniques to digital formats.

Likewise, by fostering a shared, embodied experience, BSM could help therapists overcome some of the interpersonal challenges presented by HHIT formats, providing a practical tool for strengthening connection and empathy with clients in remote sessions.

Additionally, these findings may encourage the development of training programs that introduce TMH practitioners to somatic techniques like BSM, equipping them to better support their clients' mental health in virtual environments. Future studies might expand on this research by examining the effects of BSM in diverse client populations or exploring other somatic practices that enhance WA, TP and IA in TMH.

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