The Effects and Client Experiences of Online and Face-to-Face Dialectical Behaviour Therapy for Emotion Dysregulation: A Mixed Methods Study

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Research Article

Keywords: dialectical behavioral therapy, emotion regulation, online therapy, client experience, treatment effectiveness

Posted Date: July 6th, 2022

DOI: https://doi.org/10.21203/rs.3.rs-1708568/v1

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Abstract

**Background:** This research examines whether the effectiveness of Dialectical Behavioural Therapy (DBT) differs between online and face-to-face therapeutic modalities, and explores the experience of participation in these modalities.

**Methods:** In Study 1, we compared DBT's effectiveness between modalities by analysing pre-collected client self-report measures from a London-based charity (N = 59) across two non-randomised groups; online clients and face-to-face clients seen between 2018 and 2021. In Study 2, we conducted semi-structured interviews with a subsample of Study 1 participants (N = 10) with the primary aim of capturing the client experience of each modality, and the secondary aim of capturing the general client experience of DBT.

**Results:** It was hypothesised that emotion dysregulation would reduce following DBT regardless of modality, which results supported. It was also hypothesised that DBT would be less effective online, but no difference was identified. A model of the general client experience was proposed, consisting of five themes: ‘the process of learning’, ‘from feeling alone to a sense of community’, ‘physical factors’, ‘improvements in my life’, and ‘DBT beyond the course’. Differences in experience between modalities were identified, and each contributed to the effectiveness of the therapy in distinct ways.

**Conclusions:** Emotion dysregulation reduces following face-to-face and online DBT. The implications are that practitioners may wish to continue to deliver online DBT beyond the Covid-19 pandemic, thereby reducing costs and increasing accessibility.

**Trial Registry:** The trial has been retrospectively registered with the Open Science Framework (www.osf.io).

Introduction

Dialectical Behavioural Therapy (DBT\(^{1,2}\)) is an adapted form of cognitive behavioural therapy that aims to reduce high emotion dysregulation, which is defined as an inability to change or regulate emotional experiences, cues, actions and responses, despite efforts to do so.\(^3\) The therapy is delivered in groups and focuses on behavioural skills training across four modules: distress tolerance, mindfulness, interpersonal effectiveness, and core emotion regulation. The evidence base for DBT is strong, with dozens of randomised controlled trials (RCTs) demonstrating its efficacy in reducing emotion dysregulation\(^4\) and meta-analyses concluding it is an effective therapy.\(^5-7\)

The Theoretical Foundations of DBT and Emotion Dysregulation

DBT and its focus on emotion dysregulation grew from Linehan's\(^1\) biosocial theory of borderline personality disorder (BPD). BPD is characterised by a persistent pattern of instability in mood, relationships, and self-image that interferes with occupational and social functioning.\(^8\) Its manifestations
include suicidality, self-damaging behaviour, uncontrollable outbursts in mood, intense relationships, and chronic feelings of emptiness. Linehan's biosocial theory proposed that BPD can be conceptualised as a disorder of emotion dysregulation which results from biological vulnerabilities, such as high sensitivity to emotions, and an invalidating environment, such as inappropriate responses of peers to emotional displays.

Linehan developed DBT to reduce emotion dysregulation. The therapy's approach is built upon a model of emotion regulation that explains the sequence of events involved in experiencing an emotion, and the points at which an individual can regulate that emotion. It consists of six stages: (1) emotional vulnerability to cues, (2) emotion cues in the form of internal or external events, (3) interpretation of cues, (4) emotional response tendencies (including physiological, cognitive processing, experiential responses, and action urges), (5) nonverbal and verbal responses and action urges, and (6) aftereffects of initial emotion, including secondary emotions. A 'regulation point' exists at each stage, whereby Linehan considers emotion regulation to be possible and thus provides a corresponding skill(s) for this purpose – these are the skills taught in DBT. Problematic emotional regulation is evidenced in high levels of emotional sensitivity and reactivity, along with a slower return to standard emotional baseline.

Linehan's approach to DBT was formulated with the BPD population in mind. However, more recent theories suggest that emotion dysregulation may also be central to further forms of psychopathology. Notably, Gross' process model of emotion states that adequate emotion regulation is a fundamental prerequisite of good mental health. In support of this proposition, evidence shows that individuals with bipolar disorder, attention deficit hyperactivity disorder, depression, and eating disorders all seem to experience emotion dysregulation. Additionally, the majority of disorders in the Diagnostic and Statistical Manual of Mental Disorders encompass some emotional disturbance. In this way, emotion dysregulation manifests in myriad symptoms, including rapid mood changes, reduced functionality, and suicidality; and DBT has been used to treat many forms of psychopathology beyond BPD, including bipolar disorder, generalised anxiety disorder, and bulimia nervosa.

The Effectiveness of DBT in Reducing Emotional Dysregulation

An established evidence base demonstrates that DBT is effective in reducing emotion dysregulation. A Cochrane review found it is more effective than treatment as usual for reducing BPD symptom severity. Similarly, findings from the original RCT that reported DBT's efficacy for treating BPD have been replicated in further RCTs, both in research settings and the community. RCTs have also demonstrated DBT's effectiveness for treating forms of psychopathology beyond BPD, including anxiety and depression, eating disorders, and a range of diagnoses in young people from social anxiety to antisocial personality disorder.

Linehan's biosocial theory and Gross' process model of emotion would predict that DBT also reduces psychopathological behaviour such as suicidality and self-harm alongside emotion dysregulation. This is
because they propose that emotion dysregulation underlines many forms of psychopathology, and so behavioural improvements reflect a reduction in emotion dysregulation. Indeed, improvements in psychopathological behaviour following DBT are evidenced, including for suicidality, self-harm, and impulsivity.\textsuperscript{5,30,31}

Functional magnetic resonance imaging studies indicate that DBT also reduces abnormal activity in the amygdala and limbic system\textsuperscript{32,33} – brain regions which are closely linked to emotion regulation.\textsuperscript{34} Furthermore, one study has measured a reduction in emotion dysregulation at the same time as the normalisation of amygdala hyperactivity following DBT.\textsuperscript{35} As such, the improvement of emotion dysregulation after DBT is evidenced in neurobiological findings.

Condensed forms of DBT also seem effective. DBT-Skills Training (DBT-ST), whereby clients receive two-thirds of the standard DBT sessions from a non-trained therapist, reduces emotion dysregulation in individuals with anxiety and depression.\textsuperscript{9} Similarly, a three-arm RCT demonstrated that both DBT-ST accompanied by case management and one-on-one DBT with an activity group are effective when compared to standard DBT.\textsuperscript{36} As such, an array of findings highlights the effectiveness of DBT in reducing emotion dysregulation.

**Client Experiences of DBT**

While strong evidence exists for its effectiveness, there is less literature regarding the client experience of DBT. A systematic review found seven exploratory papers identifying four main themes: life before DBT felt hopeless, therapeutic relationships were vital, clients developed self-efficacy, and clients shifted perspective toward the future.\textsuperscript{37} Few papers have been published since this review\textsuperscript{38} and the majority focus on small samples of specific populations.\textsuperscript{39,40}

However, although quantitative findings are crucial for evaluating a therapy's efficacy, the qualitative investigation of client experience can provide invaluable insight for refining a therapy's model and delivery.\textsuperscript{41} Qualitative research permits an in-depth understanding of processes and phenomena\textsuperscript{42} and can thus detail helpful or unhelpful aspects of a therapy in a way that quantitative measures may not be able to. In this case, identifying aspects of client experiences of DBT that may differ between face-to-face and online settings could enable practitioners to adapt their therapeutic delivery for each modality, thus ensuring the effectiveness of the therapy does not change regardless of its location.

Due to the value of qualitative investigation, there is a well-endorsed recent trend in therapeutic research toward the integration of quantitative and qualitative methodologies.\textsuperscript{43} However, given the paucity of qualitative data on the topic at hand, there is a current call in the literature to increase the available data for the client experience of DBT\textsuperscript{39} and therefore facilitate any effective adaptations in the delivery of the therapy that may be required.

**A Change in Therapeutic Modality: The rise of online DBT**
In the last 18 months, mental health practitioners and researchers have been forced to adapt to Covid-19. DBT has been predominantly delivered online for over a year, with a recent survey conducted by the American Psychological Association revealing that 76% of clinicians provided only remote therapy in 2020. There is scant evidence addressing the effectiveness of online DBT, with only one commentary published at the time of writing. However, this change in therapeutic modality raises both potential challenges and opportunities.

Research suggests that clients who access cognitive behavioural therapy (CBT) online find it harder to build a rapport with therapists. A recent review has suggested this may be due to physical distance, limited visible body language, and screen fatigue, while there is a large body of evidence demonstrating that a good therapeutic alliance is crucial for a positive therapeutic outcome. Therapeutic alliance is particularly critical to the success of DBT, with the therapist both teaching skills and validating clients in a way that extends beyond normal therapeutic boundaries. As such, a weak alliance may detrimentally impact DBT’s effectiveness. Moreover, when viewed through the model of emotion regulation, a problematic alliance could create an additional emotion cue which could result in iatrogenic effects.

Group rapport may also be harder to build when DBT is facilitated online. Findings from educational psychology point to weakened group cohesion when studying online: students are likely to feel frustrated, collaboration is difficult, and face-to-face classes develop an overall stronger cohesion. Previous research has advised that group cohesion is crucial for DBT’s efficacy. Reflecting again on the model of emotion regulation, a difficult group rapport may provide an additional emotion cue and iatrogenic effects, thus impairing DBT’s effectiveness when online.

However, there are potential benefits to the implementation of DBT that may arise when it is delivered online. One advantage identified is the lack of travel, which saves time for clients. Further findings suggest therapy can be delivered in a tighter structure online, while also being more cost-effective. However, due to the recency of Covid-19 and the infrequency of online therapy prior to 2020, there is a paucity of data exploring these benefits and none in relation to DBT.

**Rationale for Research**

In light of the numerous changes that may occur when DBT is delivered online, research is needed to examine if the therapy’s effectiveness in reducing emotion dysregulation differs between therapeutic modalities. To fill this need, the present research examines if, and why, the effectiveness of DBT in reducing emotion dysregulation may differ between online and face-to-face therapy modalities. By doing so, it also seeks to capture the general client experience of DBT and implementation benefits of online therapy.

A mixed-method design was employed across two studies. The study includes both quantitative and qualitative elements. The quantitative element compared emotion dysregulation outcomes following DBT between online and face-to-face therapy groups. This allows an analysis of whether the therapy is less
effective online, as prior research indicates. While the quantitative measures evaluate efficacy, they do not capture in detail the factors experienced as contributing to a therapeutic outcome, as previously discussed. The qualitative element captures the client experience of each modality and enables a deeper exploration of why DBT’s effect on emotion dysregulation may or may not differ between modalities. At the same time, the qualitative investigation considers the potential implementation benefits of online DBT, such as reduced travel, which will be particularly beneficial if DBT is equally effective online.

Study 1

Aim and Hypotheses

The aim of Study 1 was to analyse data regarding emotion dysregulation that have been collected from clients who had received DBT online or face-to-face, to examine whether DBT’s effect on emotion dysregulation differs between modalities. The hypotheses were:

1. Emotion dysregulation will reduce following DBT, regardless of therapy modality
2. Emotion dysregulation will reduce more following face-to-face DBT than online DBT

Method

Design

A 2 (therapy modality: online, face-to-face) x 2 (time: pre-therapy, post-therapy) between-groups quasi-experimental design examined if DBT’s effect on emotion dysregulation differed between therapy modalities. The two conditions (online and face-to-face) were non-randomised groups, comprising all online clients and face-to-face clients seen by a DBT therapist between 2018 and 2021 who completed the 20-week DBT course along with pre-therapy and post-therapy measures.

The continuous dependent variable was emotion dysregulation, measured using the Difficulties in Emotion Regulation Scale (DERS). The first independent variable, therapy modality, was a categorical between-participants variable with two levels (online / face-to-face). The second independent variable, time, was a categorical within-participants variable with two levels (pre / post therapy).

Participants

59 participants were included in this study. All were residents of the UK. Participants mainly identified as female (n = 49), and a small number of participants identified as male (n = 8), while the gender identification was unknown for 2 participants. 29 participants had taken the DBT course online (24 identified as female, 4 as male, 1 unknown; mean age = 23.62, SD = 3.37) and 30 had taken DBT face-to-face (25 identified as female, 4 as male, 1 unknown; mean age = 22.40, SD = 3.07). The overall mean age of participants was 23.0 (SD = 3.25).
All participants had completed a 20-week standardised course of DBT since 2017, were over 18 years of age and had completed the DERS before and after therapy. The main inclusion criterion for participants was the display of high emotion dysregulation prior to therapy (above 85 on the DERS). Some participants had a diagnosis of BPD, but this was not required.

**Intervention**

Participants received a standardised 20-week course of DBT. This consisted of a weekly 2-hour session in a group of 10-20 clients. The therapy was delivered by a qualified DBT therapist in line with Linehan's model. Sessions were structured in the following format: an opening mindfulness exercise, discussion of the previous week’s homework task, the therapist teaching a new DBT skill, and then setting the homework for the following week.

**Measures**

The Difficulties in Emotion Regulation Scale (DERS) was used to measure emotion dysregulation pre- and post-therapy. This self-report, 36-item measure is rated on a 5-point Likert scale from 1 (almost never) to 5 (almost always). Higher scores indicate greater emotion dysregulation. The scale has been used in multiple studies exploring DBT’s effectiveness and displays strong test-retest reliability ($r = .88$). In the present study, total scores displayed high internal consistency as assessed by Cronbach’s alpha ($\alpha = .92$).

The scale is split into six subscales: nonacceptance of emotional responses (6 items, e.g., *When I'm upset, I feel like I am weak*), impulse control difficulties (6 items, e.g., *When I'm upset, I feel out of control*), lack of emotional awareness (6 items, e.g., *I care about what I am feeling (R)*), limited access to emotion regulation strategies (8 items, e.g., *When I'm upset, I believe that wallowing in it is all I can do*), difficulty engaging in goal-directed behaviours (5 items, e.g., *When I'm upset, I have difficulty getting work done*), lack of emotional clarity (5 items, e.g., *I have no idea how I am feeling*). Subscale scores displayed high levels of internal consistency, with Cronbach’s alpha ranging from .77 to .89.

**Procedure and Ethics**

This study used secondary data. A London-based charity had delivered the DBT course and collected participants’ emotion dysregulation data before and after therapy. As such, no direct interaction between researchers and participants took place. The procedure thus comprised the charity providing all available data within the required criteria (see Participants) to researchers. The study received ethical approval from the local ethics panel.

**Analytical Plan**

A 2 x 2 mixed ANCOVA was conducted to test whether an interaction took place between the effects of therapy modality (online / face-to-face) and time (pre / post) on emotion dysregulation. DERS total
scores were entered as the within-subject factor with two levels (pre and post) into a repeated measures model. Therapy modality was entered as the between-subjects factor. Gender and age were entered as covariates. The ANCOVA was also used to test whether there was a main effect of time (i.e., DBT) on emotion dysregulation.

**Results**

3 cases with missing items were identified due to participant omissions in questionnaires. Mean substitution was used. Outliers on pre and post therapy DERS total scores were assessed by boxplots, four potential outliers were found and standardised residuals were then computed. No cases were found with a standardised residual > ± 3. Therefore, all outliers were retained for the main analysis. Correlations between DERS subscales were weak to moderate, ranging from .12 to .64 (see Table 1).

Descriptive statistics for pre and post DERS total scores at group level are provided in Figure 1. Total scores were higher pre DBT, and displayed a larger decrease following DBT, for the online group. Descriptive statistics for the pre and post DERS subscale scores at group level can be viewed in Figure 2. All subscale scores for the online group were slightly higher pre DBT and decreased more following DBT. The largest differences in subscale score decreases between groups were found in the ‘Impulse’, ‘Goals’ and ‘Strategies’ subscales.

**Table 1** Correlation Matrix for DERS Subscales (60) in the Present Study

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Nonaccept</th>
<th>Goals</th>
<th>Impulse</th>
<th>Awareness</th>
<th>Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonaccept</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Goals</td>
<td>.15</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Impulse</td>
<td>.18</td>
<td>.64</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Awareness</td>
<td>.26</td>
<td>.23</td>
<td>.12</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Strategies</td>
<td>.58</td>
<td>.52</td>
<td>.51</td>
<td>.22</td>
<td>-</td>
</tr>
<tr>
<td>Clarity</td>
<td>.25</td>
<td>.51</td>
<td>.47</td>
<td>.51</td>
<td>.30</td>
</tr>
</tbody>
</table>

*Note: Nonaccept = nonacceptance of emotional responses, Goals = difficulty engaging in goal-directed behaviours, Impulse = impulse control difficulties, Awareness = lack of emotional awareness, Strategies = limited access to emotion regulation strategies, Clarity = lack of emotional clarity.*

A two-way mixed ANCOVA was conducted to examine the effects of DBT (operationalised by time: pre / post) and therapy modality (online / face-to-face) on emotion dysregulation. Age and gender were covariates and both had a non-significant effect. A significant main effect of time on emotion dysregulation was observed \(F(1,55) = 4.88, p = .031, \text{ partial } \eta^2 = .081\), with participants displaying lower emotion dysregulation scores after DBT (see Figure 1). A post hoc power analysis was conducted using...
G*Power3.1 (Faul et al., 2009), based on the sample size \((N = 59)\), effect size of \(d = 0.25\), and alpha of \(0.05\), indicating this test achieved a moderate power of .61. Post hoc pairwise comparisons revealed that emotion dysregulation did statistically significantly decrease following DBT \((M = 54.46, 95\% \text{ CI} [46.64, 62.29], p < .001)\).

However, the ANCOVA revealed no statistically significant interaction between time and therapy modality on emotion dysregulation \((F(1,55) = 2.63, p = .111, \text{ partial } \eta^2 = .046)\). A post hoc power analysis was conducted using G*Power3.1 based on the sample size \((N = 59)\), effect size of \(d = .22\), and alpha of .05, which indicated this test achieved a low to moderate power of .38. Inferential statistics were not carried out on DERS subscales due to the small sample size.

**Discussion**

The statistically significant decrease in emotion dysregulation supports the first hypothesis that emotion dysregulation will reduce following DBT, regardless of therapy modality. This supports the model of emotion regulation. It also aligns with the existing evidence base for DBT's effectiveness in reducing emotion dysregulation.25,26

The lack of interaction between time and therapy modality indicates that there is no significant difference in emotion dysregulation outcomes between online and face-to-face DBT. This did not support our second hypothesis, which predicted that emotion dysregulation will reduce more following face-to-face DBT than online DBT. These results thus suggest that online DBT is as effective as face-to-face DBT.

**Study 2**

**Aim and research questions**

The primary aim of Study 2 was to explore the differing client experience of DBT between online and face-to-face modalities. The study looked to enrich the findings of Study 1 by further exploring why there did not seem to be a significant difference between modalities in the therapy’s effect on emotion dysregulation, as well as considering the potential implementation benefits of online therapy.

The study's secondary aim was to develop a general understanding of the client experience of DBT, for which calls in the literature have been made.39 This also enabled a hybrid inductive-deductive analytical approach which did not presuppose where differences between groups lay, permitting an analysis with minimal bias.

**Methods**

**Design**

A post-intervention retrospective qualitative study was conducted using semi-structured interviews and thematic analysis. Semi-structured interviews were selected for data collection given their established
capacity to convey the lived experience of individuals studied during an intervention.\textsuperscript{61} They permit a detailed collection of data on an individual level that can be collated into a group for analysis purposes.\textsuperscript{62} Thematic analysis was utilised due to its emphasis on the rigorous analysis of data and its inductive-deductive flexibility while doing so.\textsuperscript{63}

**Participants**

Participants were a subsection of 10 participants from Study 1. The contact details of Study 1 participants who had consented to be contacted by researchers were provided by the charity, and researchers then contacted all of these participants via email. Those who responded were interviewed (until data saturation was reached; see below), and so participants were in part self-selecting. As such, they had experienced high emotion dysregulation and had taken a standardised DBT course either online or face-to-face since 2017. Participants were aged 18-30 and were residents of the UK. Exclusion criteria included any person for whom the interview was likely to cause emotional distress, as decided at the discretion of the charity.

Eight participants in the final sample identified as female, and two as male. Age ranged from 18 to 31 years old, with a mean age of 24.90 (\textit{SD} = 3.38). 6 participants had DBT online (4 female, 2 male; mean age 25.50, \textit{SD} = 4.23). 4 participants had DBT face-to-face (4 female; mean age 24.0, \textit{SD} = 1.63).

The number of participants in the sample was decided in an emergent way based on saturation sampling.\textsuperscript{64} Participant recruitment ended when no new codes arose from the data and thus saturation was reached.

**Data collection procedure and ethics**

The semi-structured interview lasted approximately 45 minutes. Interview questions were focused on a series of 5 topics (see Table 2) and followed Leech's \textsuperscript{62} guidelines for semi-structured interviews. For example, ‘grand tour’ questions encouraged participants to talk on a focused topic at length; prompts were deployed to develop responses; and the interview structure was malleable to enable collection of rich data.

\textbf{Table 2} An Overview of Topics Covered in Semi-Structured Interviews with Example Questions
<table>
<thead>
<tr>
<th><strong>Interview topic</strong></th>
<th><strong>Example question</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact of DBT on Emotion Dysregulation</td>
<td>“Can you talk me through how you find regulating your emotions on a typical day now, compared to before DBT?”</td>
</tr>
<tr>
<td>Therapy Environment</td>
<td>“How did you find the environment you logged on in?” (Online)</td>
</tr>
<tr>
<td></td>
<td>“How did you find the room where you had DBT?” (Face-to-face)</td>
</tr>
<tr>
<td>Therapeutic Alliance</td>
<td>“Can you tell me a bit about your relationship with your DBT therapist?”</td>
</tr>
<tr>
<td>Group Alliance</td>
<td>“How was your relationship with other group members in the sessions?”</td>
</tr>
<tr>
<td>Impact of Therapy Modules and Session Subsections</td>
<td>“Which parts of the therapy sessions did you find most useful?”</td>
</tr>
</tbody>
</table>

All interviews were conducted online in July 2021 and were recorded on Microsoft Teams. Transcribing took place with Microsoft Word transcription software and all transcripts were checked for accuracy. Informed consent was acquired and a full debrief provided for each interview. Further ethical considerations included the possibility of distress caused by discussing sensitive topics in the interviews, both for the participant and researcher. To address this, participants were able to skip any questions and terminate the interview at any stage.

The loss of data anonymity was an additional ethical concern, and so all data were stored in accordance with anonymous personal codes created by each participant. This study received ethical approval from the local University Ethics Panel.

**Data Analysis**

Data were analysed using thematic analysis. The primary research aim was to capture the differing client experiences of DBT dependent on modality, thus exploring in further detail why there was no significant difference in DBT’s effect on emotion dysregulation across modalities in Study 1. The secondary aim was to develop a general understanding of the client experience of DBT.

The method used was based on Braun & Clarke’s step-by-step approach to thematic analysis. The analysis was conducted by the first author and cross-checked with the second and third author as secondary analysts. Braun and Clarke’s approach to thematic analysis allows for inductive, deductive, and hybrid inductive-deductive approaches to analysis. The analytical approach taken was a hybrid. It was partly deductive as analysis was conducted based on Study 1’s findings. At the same time, however, a partly inductive approach was required to enable an exploration of the general client experience regardless of modality, and to minimise any preconceptions placed on the data. All transcripts were read thoroughly before coding to enable the researchers to immerse themselves in the data. Data were then coded in a thorough and comprehensive manner on a sentence-by-sentence basis, with equal attention given to each item. Coding was conducted by hand, with annotations made on printed transcripts. Each
code was then transferred onto a small card with reference to the data extract. Once all transcripts were coded, code cards were reread, and all codes and data extracts were collated into candidate. Themes were checked back against the dataset to ensure an accurate analysis, and against each other to ensure internal consistency and external distinctiveness. At this stage, an inductive approach had been taken with the aim of capturing the client experience of DBT.

An additional, deductive thematic analysis technique was required to permit between-group analysis and explore differences in client experience across modalities. The method taken can best be understood as comparative thematic analysis and was inspired by a recent analytical process used by Christensen et al.\textsuperscript{6} to assess group cohesion across CBT groups. An additional stage to analysis was thus added: the dataset was divided between modality groups prior to naming and defining themes. This enabled the primary research aim of identifying differences between groups, but also allowed themes to emerge from the data before considering which theme and subthemes were relevant for each group. As such, this analytical approach provided the flexibility required for the secondary research aim of understanding the general client experience of DBT at the same time as reducing the likelihood of a prejudiced analysis.

Themes were then refined, defined, and named as per Braun and Clarke's\textsuperscript{65} guidelines. Codes were re-collected for each theme and each theme was focused upon in turn to define its narrative and identify its name.

**Results**

A model consisting of five themes was proposed to provide an understanding of the client experiences of DBT across and between therapy modalities (see Figure 3; asterisks mark the subthemes which differ between modalities). The five themes were: ‘the process of learning’, ‘from feeling alone to a sense of community’, ‘physical factors’, ‘improvements in my life’, and ‘DBT beyond the course’.

Themes and subthemes are explained below. If a difference between modality is not noted, it was not present. Quotes are accompanied by a code which represent therapy modality (O = online, F2F = face-to-face), age, and gender identification of client (F = female, M = male). Subthemes are accompanied by numbers in brackets in the description, which represent how many participants experienced this subtheme.

**Theme 1: The Process of Learning**

Participants experienced an extensive process of learning in DBT, which began with ‘Learning what was wrong with me’ (Subtheme 1a). Across both modalities, more than half (6) reported that they did not understand their symptoms before DBT but learned that emotion dysregulation lay at the root of their problems. This was followed by ‘Learning the skills’ (Subtheme 1b) to regulate emotions, which every client mentioned (10).
“It was just… everything was such a blur. Like I was on an endless journey of trying to understand what was wrong with me. And trying to like, like googling different things and trying to understand why am I having panic attacks? Why am I doing this? Why do I harm myself?” (F2F-24-F)

“Before, I couldn’t really identify emotions. I was not able to like regulate, regulate them. With [charity], it was so, I just learned how to recognise my emotions, and then obviously, all the skills they teach you to be able to deal with them” (O-18-M)

Some clients (3) found learning certain skills confusing, with younger clients likely to find the number of acronyms a problem (1), while others struggled with the emotion regulation module (2).

While learning the skills, all clients (10) began ‘Practising the skills’ (Subtheme 1c) both within and outside the group session. However, ‘Practising the skills’ (Subtheme 1c) was experienced differently between modalities in both settings. Within the therapy session, face-to-face clients (2) found interaction with other clients was a catalyst for practising interpersonal skills:

“I guess it’s also a learning process in and of itself, of learning that other people’s reactions to you are about themselves. Even that nature of the group helps you to learn that for your interpersonal relationships… I even had an experience of time one [client] becoming aggressive towards me and like leaving the room” (F2F-26-F)

Online clients also found that interaction with others required skills practice in sessions (3). However, they used skills that would be impossible face-to-face, such as taking a cold shower (1). Practicing skills online also provided more privacy for clients (3) and efficiency for the group (1).

“I can just switch my camera off, if I need to do a skill halfway through a session... there were times when a lot of difficult conversations were being had. And maybe those five people switching off their cameras to do a skill. But you can’t have five people leaving the room and still listen to what they’re saying” (O-25-F)

Outside the sessions, all clients (10) practised the skills with a weekly homework. However, a clear difference between the groups emerged as Covid-19 enabled online clients to spend more time practising between sessions (3), due to a reduction in social activities.

“I had so much time alone, and so much time for analysis and reflection, and journaling, and things like that, I became a lot more mindful... A lot of time and mental space that I could commit to doing things like my homework, and actually DBT was a very big important thing for me. Whereas maybe if I’d been living day to day life, my focus would be things like the way I look, or going out, or going to work, or budgeting. Whereas DBT, my wellbeing, and this sort of journey became my main focus” (O-26-F)

While practising, clients from both groups (8) benefited from ‘Learning from others’ (Subtheme 1d). Some found hearing others’ homework the most useful part of sessions:
“I went back, and I tried to use a skill. That was my practice. Whereas when everyone else explained it, it was like the same thing. I did the same practice. So I’m getting the same practice times like 12” (F2F-24-F)

Throughout this process of learning, two continuous factors were present across both modalities. Firstly, there was a belief that ‘You get out what you put in’ (Subtheme 1e), with clients feeling they had to put in effort for DBT to ‘work’ (6). This stemmed from ‘The therapist’s role’ (Subtheme 1f) in clients’ learning process: the therapist lay the foundations for improvement, but clients had to ultimately help themselves (6). This was often experienced as a “tough love” approach (4).

“He was like ‘this is you, like I’m teaching you the skill. You, it’s your job to like learn it properly and to take action” (F2F-24-F)

Some clients mentioned initially struggling (2) with the therapist’s approach because “he doesn't seem compassionate in a sense” (F2F-26-F). All face-to-face clients appreciated this approach by the end of DBT, but some online clients struggled more (2), explaining “when he was angry, it was actually really scary” and they were “sort of on edge the whole time” (O-31-F). One client explained “I was fine with it online, because I felt safe” (O-26-M).

**Theme 2: From Feeling Alone to a Sense of Community**

A sense of community emanated from client experiences. Initially, clients (5) expressed ‘Feeling alone before’ (Subtheme 2a):

“It can sometimes be really lonely. So like, you feel like you’re the only person feeling this” (O-25-F)

For some, this loneliness extended to childhood: “I felt maybe quite, very, isolated growing up, and very alone” (F2F-26-F). One felt abandoned on an institutional level, especially by the healthcare system. However, when DBT began, clients from both modalities (8) felt surrounded by ‘People like me’ (Subtheme 2b) and this began to generate a sense of community.

“Going from just feeling completely alone and feeling like I’m the only person who feels that way. And then being and then going every week to a room full of people who are experiencing the same things as me or similar things as me. It was, it was really empowering” (F2F-24-F)

Strong ‘Group bonds’ (Subtheme 2c) formed and became a source of strength, responsibility, and care, further developing the community feel for clients across both modalities (8).

“Literally the pride that I felt, whenever people were saying how far they’d come, or presenting homework, or a task they’d overcome, like I genuinely felt so proud. And it’s just so nice, knowing that you’ve got this connection with people, even though it’s through a computer screen... They have all genuinely gained a place in my heart and I want nothing but the best for them. Because you do work so hard, and you do, like, you really bond with them” (O-26-F)
Despite rules banning personal relationships until after DBT, ‘Group bonds’ developed into ‘Friendships’ (Subtheme 2d) for face-to-face clients (3). They had opportunities for communication which online clients did not: talking in breaks, sitting in a park after a session, and collecting each other’s contact details at the end of the course. Some remained friends beyond the end of the course, although were unlikely to meet in person (2).

“Being in those spaces, building those relationships with people and then once it finished still having those friendships that you’ve built” (F2F-24-F)

“Like, I’ll see someone post something on Instagram, and I’ll be like “oh well done, it looks like you’re doing really well now, so proud of you”… like, just spontaneous catch ups here and there” (F2F-24-F)

Developing friendships during DBT was virtually impossible for online clients (5), with opportunities for contact minimised. This left online clients wishing they could have met in-person (2).

“Meeting everyone in person would have been really nice. And maybe it would have been easier to build a community” (O-27-F)

A ‘Charity community’ (Subtheme 2e) was also experienced more strongly by face-to-face clients (3). This was due to meeting staff in-person, whom clients found to be friendly and accessible, and being invited to additional activities, such as dinner or yoga. This enabled the further formation of ‘Friendships’ (Subtheme 2d).

“You know’, the people I’ve made friends with, and the people I’m in contact with, I didn’t necessarily do DBT with. They did DBT at other time at [charity] and we met through other activities” (F2F-26-F)

All face-to-face clients (4) also felt a ‘Closeness to their therapist’ (Subtheme 2f) which contributed to an overall sense of community.

“I really did get on with him… I really looked up to him. I saw him as like my guider. And like, the guy who has all the wisdom… I almost feel like even though I did all the work, he set down the foundation for me to do that. Without him I wouldn’t know how to do any of those things. So yeah, I really, really love him. And I really respect him.” (F2F-24-F)

This was not felt by online clients, with one even feeling there was a “digital wall” between them and the therapist.

**Theme 3: Physical Factors**

Four physical factors were prominent. The first was ‘Accessing therapy’ (Subtheme 3a), which was experienced differently across modalities. Accessibility was improved online: two online clients were unlikely to have accessed face-to-face DBT due to health reasons and geographical location.
“I was severely agoraphobic, before starting. Like I found it really, really difficult to leave the house” (O-25-F)

However, face-to-face clients (3) found that travelling to access therapy was an integral part of their overall experience. It required effort and time that made DBT “more than just the class”. Travelling to therapy also developed the sense of being accepted into a community (Theme 2):

“I’ll be like, will they be there when I get there? Will they be in the building when I ring the doorbell? Is this even real? Because I remember going to the building for my first time and I was like, yeah, I, if I ring this doorbell, nothing’s gonna happen. It’s just… nothing magic’s gonna happen. But doors open. And when you open doors, they lead to new opportunities, and new people” (F2F-22-F)

The second physical factor was having ‘A safe environment’ (Subtheme 3b), and this too was experienced differently between groups. Face-to-face clients (4) found the charity building calming and relaxing:

“I saw more and more of the building and the more I saw of it the more attractive it became. Like, it’s just beautiful. And there’s like, so many, I love how sensory it is, like everything about is such a safe environment... As soon as I used to come in for my sessions every week I did feel like I was in a really safe environment” (F2F-24-F)

One face-to-face client visited the charity building for extra activities solely because they enjoyed being in this space; and so ‘A safe environment’ (Subtheme 3b) contributed to feeling part of a community (Theme 2). Some online clients (2) felt they were more comfortable in their home, but this subtheme did not feature as prominently for this group.

‘Privacy’ (Subtheme 3c) was an issue for online clients (4). Although they all had a private space to log on to therapy, some felt they did not have a sound-proof space (3). At times, this impacted interactions with other group members and the ability to practice skills in sessions (2). Face-to-face clients did not mention any issues around privacy and were grateful for the confidentiality the charity building provided.

“I was very aware of what I was saying, and I was sometimes embellishing some of my feedback... not for the sake of the group, just for the sake of like the outside and for me” (O-25-F)

“The few times where it affected me the most was when I was like very dysregulated at the start, and like... [Therapist] would like call me... And she’d be like, talking me through things. And she’d be like okay, leave your room. And I’d be like, okay, I can’t really leave because there’s people outside” (O-31-F)

The final physical factor was ‘Concentration and distractions’ (Subtheme 3d). Clients from both groups usually struggled with concentration (3) but did not so much in DBT sessions (3), which was helped by therapists calling out disengaged clients. A difference between groups was noted in how face-to-face clients felt the physical space of the charity building encouraged focus (2), while online clients felt there were fewer distractions online (3).
“I know for a fact that if I was in a room, and everyone was in the room with me, I’d probably be like looking at like if someone shakes their leg or bites their nail... my attention would not be 100%” (O-26-F)

**Theme 4: Improvements in my Life**

All clients felt their lives had improved from DBT (10). This theme was experienced uniformly by face-to-face and online clients.

“I mean for me, DBT was, I mean it sounds quite dramatic, but it was life-changing” (F2F-26-F)

Most clients had tried multiple therapies before but had not found them useful (7). They were often a low point before DBT, which they felt was their “last chance” (4). In this way, ‘Desired changes felt unlikely’ (Subtheme 4a).

“I honestly didn’t think that anything would help me. I tried CBT and BBT... so many different things. And nothing was helping, like everything was making me feel worse. So before DBT I was like “I don’t think this is gonna help me, but like I was also kind of desperate to change” (F2F-24-F)

Clients then experienced a range of positive changes following DBT. Notably, this included ‘Reduced suicidality’ (Subtheme 4b), which incorporated suicidal ideation and parasuicidal behaviour (6).

“If things are really, really bad, like I don’t have to just kill myself. I can just think about DBT instead. Whereas before that... I had nothing” (F2F-24-F)

“I haven’t self-harmed in a year, which is, I mean, I used to do that, pretty much yeah, since I was 13” (O-31-F)

One client still felt suicidal at points but was able to handle this better:

“Sometimes I still go to bed and I’m like ‘Oh god. I wish, I hope I don’t wake up tomorrow morning’. I still do that, and I can’t lie about that. But... I deal with it in a way that is so completely different from the way I would have dealt with it before DBT” (F2F-22-F)

Clients also experienced ‘emotional improvements’ (Subtheme 4c). They explained how they struggled emotionally prior to DBT, but soon developed an ability to identify, understand, and regulate emotions (10).

“I found that like it’s easier to feel things or feel emotions, you know. Like, I would feel everything to like a 70% to a 90% no matter what was happening. I’d get an email, and I’d feel fear at 90%... Now I get an email, like “Oh, this is just an email, this email can’t hurt me.” (O-25-F)

A range of ‘Functional improvements’ (Subtheme 4d) followed, mainly in professional and academic settings (5). Clients reported requiring fewer extensions and achieving better grades at university, becoming house captains in sixth form, and finding enjoyment in new jobs at work.
“I didn’t feel confident enough to apply for jobs that I really wanted… and like now I’m making artwork for a hospital” (O-25-F)

Clients also experienced improvements in their ‘Relationships with self and others’ (Subtheme 4e) (10), finding it easier to set boundaries with others while treating themselves better too.

“A lot of the skills has helped me like set boundaries, and then also cope with interpersonal relationships in a much more positive way… you know, I know what it’s like to have a healthy relationship. And I have that. So yeah, that’s really transformed for me” (O-27-F)

“I’ve like come home to parts of me that I love and wanted to find. And my relationship with myself is so much better” (O-26-F)

This set of improvements across multiple aspects of life led to an overall sense ‘Empowerment’ (7) (Subtheme 4f).

“When I used to wake up, and I used to think ‘oh god, another day’. But now I’m just like, no, you are so in control. Like you can decide everything you do each hour” (O-31-F)

**Theme 5: DBT Beyond the Course**

The client experience of DBT often extended beyond the course. This theme was experienced uniformly across modalities.

“Like, wow I’ve changed my life. And, but then, it’s kind of like, that isn’t the end of it” (F2F-26-F)

Some continued with ‘Further therapy’ (Subtheme 5a), consisting of DBT booster courses, and in some cases psychoanalysis with DBT skills as a foundation (4). Some felt that they ‘Wanted to engage more’ (Subtheme 5b) with DBT (5) without a specific course, but perhaps attending refresher sessions around topics like mindfulness, emotion regulation and interpersonal effectiveness.

Finally, due to the improvements they saw in their lives, clients were often in the process after the course of ‘Sharing DBT’ (Subtheme 5c) with others (6).

“Now I want to share this with other people. And I want my life to be about service, and showing people these skills, because it’s made such a significant impact on me and like, completely turned my life around. And I just, I want that for other people as well” (F2F-24-F)

**Discussion**

This analysis met the primary research aim of exploring differences in client experiences between modalities. In a process of learning, online clients struggled more with the therapist’s tough love approach but had more flexibility to practice skills within and outside sessions. Face-to-face clients experienced a stronger sense of community through friendships, interactions with the charity, and closeness with
therapists. Considering physical factors, privacy was more difficult for online clients to obtain. Face-to-face clients found travelling to therapy and a safe environment were important aspects of their experience, both of which contributed to a growing sense of community (Theme 2). Both groups found it easier to concentrate in DBT sessions than expected, but attributed this to different reasons dependent on modality. A clear implementation benefit of online DBT emerged in the increased accessibility it offered. These findings enrich the results of Study 1 and previous literature regarding possible challenges and opportunities of online therapy.47

This analysis also met the secondary research aim of capturing the common client experience across modalities: clients experienced a process of learning, community, and physical factors which contributed to improvements they saw in their lives. Their experience also extended beyond the course itself. These findings develop the understanding of factors contributing to DBT’s efficacy, for which the literature has called.39

General Discussion

The present research examined if, and why, the effectiveness of DBT in reducing emotion dysregulation differs between online and face-to-face modalities. Study 1 examined if DBT’s effect on emotion dysregulation differed between modalities. Study 2 captured the client experience of each modality, enriching quantitative findings. It also captured the general client experience of DBT and practical benefits of online therapy.

General Client Experience of DBT

Study 2 captured the general client experience of DBT as its secondary research aim. Findings revealed that a learning process is central to client experiences; from learning what is ‘wrong’, learning and practising skills, to learning from others. This was all underpinned by the belief that ‘you get out what you put in’ which was promoted by therapists. Given the psychoeducational aspect of DBT1, the prominence of learning in client experiences is perhaps unsurprising. However, the most recent review did not report this extensive learning process, identifying only an emphasis on learning skills.37 These findings thus confirm that the evidence base concerning client experiences of DBT may be lacking39 and also have a clinical implication: they indicate that clients must be adequately enabled to learn for the therapy to be effective. Complex acronyms and categorisation of emotions were identified as barriers to learning; these, for instance, would benefit from greater attention from therapists to ensure the learning process and therapeutic outcome is as effective as possible.

A sense of community was another major factor in client experiences, derived from feeling surrounded by ‘people like me’, developing group bonds and/or friendships, the charity providing DBT, and relationships with therapists. This community appeared to be as helpful for clients as the learning process, which aligns and expands upon prior quantitative and qualitative research demonstrating the importance of group cohesion for positive therapeutic outcomes.37,53 Providers of DBT therefore may wish to ensure a
holistic sense of community is well-maintained, particularly considering the rise in reported loneliness during Covid-19.67

A series of physical factors were also prominent, with a safe environment, privacy, and distractions being key concerns. These do not seem to have been identified in previous DBT research. However, research into trauma-informed design suggests that a physical space which promotes privacy and relaxation also encourages emotional security.68 In this way, it is important for DBT practitioners to consider the physical environment that clients experience for a positive outcome.

Overall, the learning process, sense of community, and adequate physical factors contributed to improvements seen in clients’ lives. Furthermore, client experiences extended beyond the DBT course. Clients sought further DBT courses, accessed other therapy with DBT skills as a foundation, and indicated their interest in refresher sessions, while many also aimed to share DBT with others. This extended experience has not been identified in prior research and suggests that positive outcomes may be pLTRy due to a continued engagement with DBT. Practitioners therefore may wish to ensure they provide opportunities for engagement after the course, such as booster sessions, where resources allow.

DBT’s Overall Effect on Emotion Dysregulation

The results of Study 1 suggest that DBT is effective in reducing emotion dysregulation. This supports the first hypothesis that emotion dysregulation will reduce following DBT regardless of modality, and supports the model of emotion regulation.1,9 DBT teaches emotion regulation skills that correspond with the model’s regulation points; and as these findings indicate that emotion dysregulation reduces after DBT, they also indicate the model accurately depicts the emotion regulation process. These results thus also strengthen the existing evidence base for DBT’s.25,26

The effectiveness of DBT was reinforced in Study 2: the ‘Improvements in my life’ theme demonstrated how clients were better able to regulate their emotions after DBT. They also experienced improvements in relationships, functionality, and general behaviour. Viewing this through the biosocial theory1 and the process model of emotion11, behavioural improvements are reflective of emotion regulation improvements. These findings therefore reinforce the results of Study 1 and support the rationale for the clinical usage of DBT for reducing emotion dysregulation.

DBT’s Effect on Emotion Dysregulation Between Modalities

Study 1 indicated that DBT does not have a different effect on emotion dysregulation dependent on modality. This is contrary to the study’s second hypothesis that emotion dysregulation will reduce more following face-to-face than online DBT. This finding is supported by the uniform representation of Study 2’s ‘Improvements in my life’ theme across modalities, as well as the uniform reduction in DERS subscales58 irrespective of modality. This has important and novel implications for therapeutic practice: facilitating DBT online may be as effective as face-to-face delivery, and so practitioners may wish to
continue delivering online DBT beyond Covid-19. This may enable the delivery of DBT to be more time- and cost-effective for both practitioners and clients.

This finding contrasts with previous literature proposing that factors such as therapeutic alliance and group cohesion can be weakened online\textsuperscript{47,50} and this can detrimentally impact therapeutic outcomes.\textsuperscript{49} In this way, it was important for Study 2 to further examine the factors that contribute to DBT’s effectiveness in each modality, alongside the non-outcome related benefits of online therapy, and thus provide a deeper understanding for refining the therapy’s model, delivery, and further research.

**Differences in Client Experiences**

As its primary research aim, Study 2 captured the differing client experience of each modality. Clients had broadly similar experiences across modalities with all themes applicable to both groups, which may explain why there was no significant difference in outcome. However, there were some differences which may have contributed to each group’s outcome in separate ways.

Differences primarily centred around a sense of community. Those online had fewer opportunities to transform group bonds into friendships, to develop a close relationship with therapists, and to engage in the community of the charity. Moreover, for face-to-face clients, physical factors such as travelling to – and the safety of – the charity building contributed to feeling accepted within a community. Prior research highlights the importance of group cohesion for positive therapeutic outcomes.\textsuperscript{50} In this way, a weaker sense of community may have inhibited the impact of DBT for online clients.

Second, clients of each modality experienced the process of learning differently. Online clients were more likely to struggle with the ‘tough love’ role of the therapist in their learning journey. Given the importance of a strong therapeutic alliance for positive outcomes\textsuperscript{49}, this may have diminished the effectiveness of DBT for those online. It is possible that therapists behaved differently when facilitating therapy online; future studies may wish to explore differences in therapists’ approach between modalities.

However, online clients also found it easier to practice skills during their process of learning. During the sessions, they could more flexibly practice a wider range of skills, turning their cameras off while still engaging with the group. As per the model of emotion regulation\textsuperscript{1,9}, the more frequent and less restrained usage of a range of skills that meet multiple regulation points may have enabled more effective emotion regulation in therapy for these clients.

Third, clients experienced different physical factors dependent on modality. Online clients had issues with privacy which they felt impacted their ability to engage in therapy. Face-to-face clients, on the other hand, were more likely to enjoy a safe therapeutic environment which they felt was an important part of their therapeutic experience. Additionally, clients from each modality felt different aspects of their surroundings helped them to engage.
These findings have broad and novel implications for therapeutic practice as it adapts to Covid-19 and potential future lockdowns. It is important for practitioners to consider that the mechanisms of change that contribute to a positive therapeutic outcome in DBT may differ depending on therapy modality, and therefore require different foci in future. Namely, practitioners may wish to ensure that a strong sense of community is maintained for face-to-face clients, the ability to flexibly practice a wider range of skills is capitalised upon online, and a private, distraction-free, and relaxing face-to-face therapy space is provided. Moreover, if a sense of community could be increased, issues around privacy addressed and the therapeutic relationship strengthened for those online, and if more flexibility to practice skills could be provided for face-to-face clients, further positive improvements may be possible in each modality.

This study also identified practical benefits of online therapy. Notably, the increase in accessibility was clear: DBT was facilitated for clients who would not otherwise have accessed the therapy due to health and geographical reasons. This supports the findings of prior research. As such, it is important to remember that although society may return to face-to-face activities, there are people who would benefit more from the opportunity to access therapy online. Given the similarity of DBT’s effectiveness across modalities, this additional benefit to online delivery suggests that it is, in some form, a modality that should persevere.

Limitations, Implications and Future Directions

This research has far-reaching implications. Its findings provide support for the effectiveness of DBT’s delivery in a novel yet extensively used modality, informing clinical practice that has had to adapt to a new modality without existing evidence of effectiveness. Moreover, through an integration of quantitative and qualitative enquiry, this research has identified specific factors which contribute to DBT’s efficacy both within and regardless of modality. This highlights the factors which practitioners and researchers may wish to further examine to ensure effective therapy. Crucially, Covid-19 provides a rare, natural experiment: an opportunity which has been termed the ‘serendipitous impact’ of the pandemic for the research community and upon which it is important to seize. However, a number of limitations of the present research should be noted.

The sample size collected for quantitative analysis in this research was relatively small, and so a low power was calculated for the interaction effect of DBT and modality, and moderate power for the effect of DBT on emotion dysregulation. Therefore, the sample size could have limited the study's ability to detect a difference between groups and an overall difference in emotion dysregulation following DBT. In addition, this study only included participants who completed the course of therapy; using an intention-to-treat (ITT) design in future RCTs may lead to different results. The study also lacked a control group; regression to the mean may have occurred in both groups. Therefore, future research should look to replicate these findings with a larger sample that includes a control group and an ITT design.

Moreover, while emotional difficulties have typically increased in the general public during the pandemic, the results of Study 2 indicate that individuals who experience emotion dysregulation may
have benefitted from the increased time to practice emotion regulation skills during Covid-19. It is possible that these clients also benefitted from the reduction in social contact with others, given their difficulties with interpersonal interactions that Study 2 revealed. As such, Covid-19 as a variable may have masked poorer outcomes for online clients. This could be addressed by conducting an RCT that compares face-to-face and online modalities without the presence of lockdown measures and with a control group. If the face-to-face group demonstrates improvements beyond the online group, it is likely that the benefits of lockdown for these individuals may have compensated for less effective online DBT in this study.

In addition, previous studies have identified problems with the ‘Awareness’ subscale of the DERS, including low internal consistency and low inter-correlations with the other five subscales. Although the current study identified no issues with low internal consistency or inter-correlations, some research has chosen to use alternative 5-factor structures which exclude the ‘Awareness’ subscale. Therefore, it may be beneficial for future research to replicate this study with an alternative measure or factor structure.

Finally, although the similarity in outcomes between the two modalities appears to be discrepant with prior research indicating that therapeutic alliance and group cohesion can be weaker online and research suggesting these factors are important for positive therapeutic outcomes, we cannot conclude that alliance and cohesion were unaffected by modality of delivery, as these were not measured.

It would be beneficial for future research to replicate Study 1 with a larger sample size to increase statistical power. Second, an additional qualitative study could explore if DBT therapists adapt their approach when online. Findings might inform whether online clients struggled more with the therapist's role because of the modality itself or the therapist's approach, and thus inform future adaptation of DBT. Finally, future research could assess differences in outcomes between modalities using a formal efficacy trial. E.g. a three-arm intention-to-treat RCT could be conducted, consisting of an online intervention group, a face-to-face group, and placebo waitlist or treatment-as-usual group. Such a trial might formally assess potential mediators of treatment effect (e.g. alliance, group cohesion) and the extent to which these differ between modalities. Results may provide stronger evidence for the efficacy of online DBT which can then be applied to clinical practice.

Conclusions

This research indicates that DBT is effective in reducing emotion dysregulation, and that this effect does not differ between online and face-to-face therapy modalities. A general model of client experience was proposed that deepens existing knowledge of the factors which contribute to the therapy's effectiveness. Differences in client experiences between modalities were identified, namely in the flexibility to practice skills, the therapist's role in clients' learning process, a growing sense of community, and the benefits of physical surroundings. This research thus indicates that different factors may contribute to the therapy's
effectiveness depending on modality, and these should be focused upon in delivery of DBT. Limitations of this research include the possibility of lockdown confounding results and the small sample size. Given the possible efficacy of online DBT and the benefit of increased accessibility, future research should aim to formally test the efficacy of DBT online.

Declarations

Ethical Approval and Consent to participate

The research received ethical approval from the University of Greenwich, School of Human Sciences ethics panel.

Consent for publication

All participants gave their consent for their data to be used for purposes of publication.

Availability of data and materials

Data and analysis documents will be made available on Mendeley Data following notification of acceptance for publication.

Competing interests

There were no conflicts of interest.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Authors’ contributions

Design of the study was led by Author 1 (MW) and Author 2 (SH). Data collection was conducted by Author 1 (MW). Analysis was conducted by Author 1 (MW), with input from Author 2 (SH) and Author 3 (OCR). The report was co-drafted by all authors (OCR, SH, MW).

Acknowledgements

We would like to thank Darryl Christie and Marie Wassberg for their invaluable guidance throughout this research project. We would also like to thank Jed Marsh, Kelsey Hylland, and their team of volunteers for their help in enabling data collection. Finally, we would like to extend our greatest thanks to the 10 clients who gave up their time to share their experiences of DBT. It was a privilege to hear your stories. Finally, thanks to Ana Avram for her help in preparing the manuscript for submission.
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Figures
Figure 1

**DERS (Gratz & Roemer, 2004) Total Score Means and Standard Deviations Measured Pre and Post DBT, Split by Therapy Modality (N = 59)**

![Graph showing DERS Total Score Means and Standard Deviations](image)

Figure 2

**DERS (Gratz & Roemer, 2004) Subscale Score Means and Standard Deviations Measured Pre and Post DBT, Split by Therapy Modality (N = 59)**

Figure 3

**A Model of Themes and Subthemes from Semi-Structured Interviews (Asterisks Mark Differences in Subthemes Between Modalities)**