

Therapy Tech: A Thematic Analysis of the
Confluence of Technology and Psychotherapy in a Reddit.com

Psychotherapist Community

By Daniel L. George, M.A.

A Dissertation

Presented to

The Graduate Faculty of Radford University

Presented in Partial Fulfillment of the Requirements for the

Degree of

Doctor in Psychology

In Counseling Psychology

In The College of Humanities and Behavioral Sciences

Radford University

Radford, VA

2021



7/27/21

Committee Chair

Date



7/27/21

Committee Member

Date



7/27/21

Committee Member

Date

Copyright by:

Daniel L. George, M.A.

2021

ABSTRACT

With high rates of mental disorders globally, access to effective treatments is paramount. Digital mental health technologies (DMHTs) may provide a means of increasing both access to and quality of treatment, yet they are underutilized by clinicians. While little research has qualitatively examined how psychotherapists relate to, experience, and utilize DMHTs, such research has the potential to illuminate unseen barriers. To that end, this study utilized a phenomenological approach to examine discussions among therapists on Reddit.com, employing thematic analysis to explore their experiences with DMHTs across a number of comments ($N = 1,260$). The thematic analysis uncovered seven major themes, ranging from therapists' frustrations with technological hassles to the effects of the COVID-19 pandemic on teletherapy. Ultimately, we identified 46 potential barriers to therapist use of DMHTs in practice and 29 potential use facilitators. Additionally, barriers, facilitators, and the context provided by the thematic analysis were used to provide seven recommendations for increasing DMHT use.

Keywords: digital mental health, mobile health (mHealth), telemental health, psychotherapy, social media

Acknowledgements

I would like to acknowledge my gratitude to the following individuals who have supported and guided me through the dissertation process:

To: Dr. Nick Lee for showing me the beauty of qualitative research, for helping me navigate the trials and tribulations of academia, and for being both a wonderful mentor and a real friend. His guidance during the dissertation process was invaluable.

To: Dr. Ruth Riding-Malon for her support, guidance, and mentorship throughout my time at Radford and her thoughtful feedback as a member of my dissertation committee.

To: Dr. Ben Biermeier-Hanson for the unique perspective and valuable feedback he brought to this dissertation from its earliest stages.

To: Mandie Chung, M.S.Ed., and Aaron Cain, M.A., for the roles they played as members of the coding team, their key insights, and their dedication to the process.

Finally, I would like to express my deepest love and gratitude for my family who have guided, supported, and always stuck by me. They have given me the freedom and courage to find my path.

Table of Contents

Chapter 1 9

 The Digital Mental Health Technology Landscape..... 10

 DMHT Advantages and Disadvantages 10

 Purpose of the Present Study 11

 Method..... 12

 Philosophical Framework 12

 Sample 13

 Data Collection and Analysis 14

Results..... 15

 Major Theme 1: Altered Perceptions 16

 Major Theme 2: Broken Systems 17

 Major Theme 3: F*ck Technology 18

 Major Theme 4: Pandemic 19

 Major Theme 5: Boundaries 20

 Major Theme 6: Support & Solidarity..... 20

 Major Theme 7: Tech’s Promise 21

Discussion..... 22

 DMHTs in Context 23

 DMHT Views 23

 DMHT Utilization and Experience 25

 DMHT Use Barriers and Facilitators..... 26

 Suggestions..... 28

 Limitations and Future Directions..... 30

Chapter 2: Literature Review..... 33

 Global Mental Health 36

 The Technopsychological Landscape..... 38

 A Digital Revolution 38

 Sociocultural Effects of the Digital Revolution 39

 The Darker Side of the Digital Revolution 41

 Benefits and Promise of the Digital Revolution 43

 The Digital Mental Health Technology Landscape..... 44

 Digital Mental Health Technologies 44

 An Argument for Harnessing DMHTs..... 49

 General Advantages and Promise of DMHTs..... 50

 General Disadvantages and Concerns with DMHTs 53

 Barriers and Facilitators to DMHT Adoption 62

 DMHT Domains 75

 Administrative Technologies 75

 Artificial Intelligence 78

 Blended and Adjunctive Treatments 83

 Computerized and Internet Interventions..... 85

 Games and Gamification..... 89

 Mobile Apps..... 93

 Smartphones and Mobile Technologies 103

Teletherapies	107
A Global Pandemic.....	114
Summary and Purpose of Study	118
Chapter 3: Method	120
Research Questions	120
Research Design	120
Thematic Analysis.....	121
Linguistic Inquiry and Word Count (LIWC)	122
Participants	122
Reddit and Redditors.....	122
r/Psychotherapy	124
Procedures	126
Epistemological and Methodological Approach	126
Sample and Sampling Frame	127
Research Team	129
The Researchers: Identities, Interests, and Potential Conflicts	129
Data Analysis.....	132
Trustworthiness	133
Ethical Concerns.....	135
Summary.....	136
Chapter 4: Results	138
Major Theme 1: Altered Perceptions	138
1.1 Online Credentials.....	138
1.2 Impostors & Influencers.....	143
1.3 Online Reputations.....	146
Major Theme 2: Broken Systems	150
2.1 Middlemen	150
2.2 Money Talks.....	157
2.3 Perverse Incentives.....	160
2.4 Ticking Time Bombs.....	163
Major Theme 3: F*ck Technology	169
3.1 Kafkaesque	169
3.2 New Barriers	172
3.3 Something’s Missing.....	176
Major Theme 4: Pandemic	179
4.1 Effect on Clients.....	179
4.2 Choice & Uncertainty	181
Major Theme 5: Boundaries	184
5.1 A Right to Safety.....	184
5.2 Boundary Setting.....	186
5.3 Boundary Violations	190
Major Theme 6: Support & Solidarity.....	193
6.1 How Can I Help?.....	194
6.2 I Feel.....	198
6.3 I Need/I Offer	200
Major Theme 7: Tech’s Promise	201

7.1 Access 202

7.2 Therapist Benefits 204

7.3 New Paths..... 211

7.4 For Whose Benefit?..... 216

Summary 218

Chapter 5..... 220

Research Questions 220

Domains, Barriers, and Facilitators 221

 Identifying and Integrating DMHT Domains 221

 Identifying and Synthesizing DMHT Use Barriers..... 224

 Identifying and Synthesizing DMHT Use Facilitators..... 237

Therapist Views of, Experiences with, and Utilization of DMHTs 244

 Theme 1: Altered Perceptions 244

 Theme 2: Broken Systems 247

 Theme 3: F*ck Technology 253

 Theme 4: Pandemic..... 255

 Theme 5: Boundaries 257

 Theme 6: Support & Solidarity 260

 Theme 7: Tech’s Promise..... 263

 Summary 266

 Suggestions for Addressing DMHT Underutilization..... 269

 Limitations 276

 Future Directions..... 279

References..... 282

Figure 1: Thematic Analysis Structure 324

Table 1 326

Table 2 327

Table 3 339

Table 4 348

Table 5 351

Table 6 353

Table 7 354

Table 8 355

Appendices..... 357

 Appendix A. Reddit Search Terms..... 357

 Appendix B. Final Codebook 358

 Appendix C. IRB Approval..... 367

 Appendix D. Original Posts..... 369

 Post 1: Red Tape 369

 Post 2: Email Boundaries 370

 Post 3: YouTube..... 371

 Post 4: Online Dating 372

 Post 5: Online Harassment..... 373

 Post 6: Online Identity 374

 Post 7: OLPs 1..... 375

 Post 8: OLPs..... 376

Post 9: OLPs 3.....	377
Post 10: Online Reviews	378
Post 12: Remote Work	379
Post 13: Smartphone Effects	380
Post 14: Social Media.....	381
Post 15: Technology Concerns.....	382
Post 16: Teletherapy Future	383
Post 17: Teletherapy Interesting 1.....	384
Post 18: Teletherapy Interesting 2.....	385
Post 19: Teletherapy Plans	386
Post 20: Teletherapy Shift.....	387
Post 21: Video Games 1	388
Post 22: Video Games 2.....	389

Chapter 1

Therapy Tech: A Thematic Analysis of the Confluence of Technology and Psychotherapy in a Reddit.com Psychotherapist Community

The digital age has led to a fundamental transformation of society, with a rapid succession of increasingly disruptive innovations that have impacted every sector of modern life (Brailas, 2019), including the field of psychotherapy (Aboujaoude & Starcevic, 2015). Although digital technologies—from smartphone apps to telehealth services—have demonstrated both efficacy and acceptability in treating disorders and reducing distress, there has been little examination of psychotherapists' experiences with these tools in clinical practice. Knowledge gained from such research has the potential to provide insight into psychotherapists' subjective views of and experiences with these technologies, and—ultimately—to illuminate unseen barriers to their adoption and utilization.

Current barriers to the integration of technology into therapy are wide ranging, from concerns regarding their effects on the therapeutic alliance (Weitz, 2018) to basic anxieties around personal technological competence (Wood et al., 2005). In many cases, a simple lack of awareness of the existence of therapeutic technologies—or an absence of guidance for selecting and integrating them into practice—may significantly hinder uptake (Anthes, 2016). Despite these barriers, the potential for digital technologies to both increase access and enhance current treatments are clear. For instance, internet-delivered cognitive behavioral therapy (iCBT) has been shown to be as effective as face-to-face treatment (FTFT; Carlbring et al., 2018) while smartphone apps are able to provide rich assessment and in-vivo guidance that allows treatment to transcend the boundaries of the weekly session (Bauer & Moessner, 2012; Firth et al., 2017a). Additionally, telehealth services made possible by the ubiquity of high-speed internet have the

potential to remove location barriers altogether (Hilty et al., 2013; Pew Research Center, 2019) while emerging technologies like virtual reality (VR) and artificial intelligence (AI) are opening up completely new therapy frontiers (Freeman et al., 2017; Ly et al., 2017). With the emergence of the global COVID-19 pandemic, the need to understand and leverage these therapeutic technologies and the increased access they can provide has only become more salient.

The Digital Mental Health Technology Landscape

While research into the use of digital technologies for mental health care has flourished, it has been conducted using an array of different terminology. Hereafter, to simplify references to such technologies, I will use the term “digital mental health technology” (DMHT) to refer to specific technologies, and “DMHI” to refer to digital interventions. The specific DMHT domains identified in the review of literature included: 1) Administrative technologies (e.g., practice management software); 2) Computerized and internet interventions (CIIs; e.g., iCBT); 3) Mobile technologies (e.g., smartphones and wearables); 4) Mobile apps (e.g., meditation apps); 5) Games and “gamified” treatments; 6) Video and audio-based telehealth; 7) Text-based telehealth (e.g., asynchronous text therapy); 8) Online supervision and training (e.g., webinars, telesupervision); and 9) Various emerging technologies (e.g., VR, AI).

DMHT Advantages and Disadvantages

In general, DMHTs show great promise across domains of assessment (Novotney, 2017), intervention (Hedman et al., 2012), communication, treatment adherence (Clough & Casey, 2011), reduction of cost, and increasing access (Price et al., 2013). They can improve assessment through collecting real-time information about clients’ experiences from a range of sources (e.g., e-journals; Bruehlman-Senecal et al., 2017) or through gathering more objective, sensor-based, location and activity data (Saeb et al., 2015). DMHTs have the potential to increase access for

underserved or location-bound populations through teletherapy (Bee et al., 2008; Handley et al., 2014) while also removing stigma-based access barriers associated with FTFT (Smalley et al., 2010). Further, online programs and clinics have demonstrated the potential to increase access on a much larger scale, with client outcomes comparable to those who received FTFTs (Titov et al., 2016).

While such advantages are significant, DMHTs can also pose new risks and uncertainties, including concerns around ethical practice (Torous et al., 2019), informed consent and inequality (Harris & Birnbaum, 2015), and confidentiality (Van Allen & Roberts, 2011). Lovejoy et al. (2009), in an examination of the existing DMHT literature, explored the most common arguments against their use and uncovered themes that included fears of dehumanization, concerns around cost and reimbursement, legal and jurisdictional problems, and a general absence of clear ethical guidelines for DMHT use. Such concerns may overlap with clinicians' biases against these technologies. For instance, Folker and colleagues (2018) reported that the clinicians who administered iCBT interventions "had to deal with prejudices and negative attitudes regarding iCBT [from both] health professionals and fellow CBT therapists" (p. 64). When Donovan et al. (2015) analyzed mental health workers' views regarding similar interventions, they found that a large majority of clinicians saw FTFTs as superior, despite research demonstrating comparable effectiveness (Carlbring et al., 2018). In addition to such biases, some therapists may find DMHTs like iCBT frustratingly inflexible, experiencing difficulty in tailoring interventions to particular clients or (Ly et al., 2017).

Purpose of the Present Study

While the previously reviewed research helps to elucidate both perceived advantages and disadvantages of DMHTs, the central aim of this study was to increase this understanding in-situ,

illuminating how psychotherapists related to, experienced, and utilized DMHTs in practice while uncovering any barriers to their adoption and utilization. Further, as this study was conducted in the midst of the COVID-19 pandemic, it was hoped that the collected data would be enriched by a global shift towards the utilization of the DMHT of teletherapy. Additionally, it was hoped that this context could allow for the capturing of the unique perspectives of those who had previously avoided or refused using teletherapy due to skepticism, discomfort with technology, or other barriers.

Overall, this study sought to use a thematic analytic (Braun & Clarke, 2006) approach to understand the personal, subjective experiences of psychotherapists as they intersected with DMHTs, with the following four research questions:

RQ1: How do psychotherapists subjectively view or think about DMHTs?

RQ2: What kinds of experiences have psychotherapists had with DMHTs?

RQ3: In what ways do psychotherapists utilize DMHTs in their practice?

RQ4: What are psychotherapists' DMHT-related concerns and/or what barriers (e.g., emotional, ethical, regulatory, or access-related) do they perceive to their use?

Method

This study used a qualitative research approach called thematic analysis (TA; Braun & Clarke, 2006) to examine online discussions from the social media site Reddit.com. This research method fit the study's overarching purpose of exploring psychotherapists' relationships to, experiences with, and utilization of DMHTs. In this section, the philosophical framework is defined, and the sampling method, the data collection and analysis procedures, and measures of the study's integrity are provided.

Philosophical Framework

TA is a qualitative research method for “identifying, analyzing, and reporting patterns (themes) within data” (Braun & Clarke, 2006, p. 6). As the core research questions in this study centered around therapists’ DMHT experiences, we employed a phenomenological approach to examining the data, an approach that seeks to uncover basic information about common features of lived experiences (Starks & Trinidad, 2007). Methodologically, our approach was an inductive and deductive TA that utilized semantic and latent coding of themes, a process described by Braun and Clarke (2006). Throughout the study, we adhered to Braun and Clarke’s six-step process for conducting TAs, a process that included a continual searching, defining, and revising of codes that were ultimately brought together into themes.

Sample

All of the data examined in the TA came from the website Reddit.com, a discussion, news, and “content aggregation” web platform with more than 430 million unique users (called “Redditors”), from 200 different countries. On the site, Redditors post links to news stories, share media, and engage in in-depth conversations in extensive comment “threads” (Caplan & Purser, 2017; Sharma et al., 2017; Shen & Rudzicz, 2017). The site is divided into more than 130,000 forums called “subreddits” (Reddit, 2020), with each subreddit devoted to a different overarching topic or theme. This study focused on a subreddit called r/psychotherapy, which was described by its moderators as “a place where mental health professionals and students can share and discuss topics related to psychotherapy” (Reddit, 2020). While the anonymity of Reddit ultimately meant that an analysis of demographic factors could not be achieved (Caplan & Purser, 2019), general demographic factors of Reddit may be estimated. For instance, an analysis by Barthel and colleagues (2016) found that the site’s overall demographics skewed male (71%

of users), White (70% of users), and young, with 64% under 29 years of age and only 1% of users above age 65.

Data Collection and Analysis

As this study utilized only publicly available archival data, a waiver was sought from the Institutional Review Board at Radford University. Once this waiver was granted (see *Appendix C*), we enacted procedures adapted from Reddit TA forerunners Caplan and Purser (2019) for selecting, downloading, and coding of data, with a slight modification. Where Caplan and Purser discussed focusing on a single Reddit post, this study's sample ultimately contained 22 posts due to the significantly lower subscribership of the r/psychotherapy subreddit than the one used by Caplan and Purser. To begin this process, I searched Reddit for DMHT-related terms derived from my literature review (see *Appendix A*), experimenting with different time frames (e.g., one month, one year) in order to capture an array of DMHT-related topics. Ultimately, inclusion criteria of posts from the last year (the 365 days prior to February 23, 2021), with ≥ 90 and ≥ 30 comments yielded a sample of 1,525 comments across 22 posts, a number comparable to the pioneering study by Caplan et al. (2017) that utilized 1,495 comments. Comments were de-identified before being imported into Excel for coding. During the process of coding, one post was eliminated for non-relevance as were multiple comments, leaving a final comment number of 1,260. A summary of the 21 posts is provided in Appendix D.

After data collection and de-identification, myself and the other members of the research team began the inductive coding process. Continuing to follow Braun and Clarke's (2006) TA guidelines, we began with each coder separately reading all posts multiple times to build familiarization. Next, all coders began producing inductive codes on a weekly basis, with each week devoted to the coding of two to four posts. Regular Zoom meetings were designated for

bringing these individually generated codes together and unifying them into codes that represented group consensus. At the majority of these meetings, my dissertation advisor was present, with the role of serving as an overseer and arbiter who—at times—helped the individual coders find consensus. This initial inductive coding led to the creation of a codebook (see *Appendix B*), which was then used for deductive coding by myself and my advisor, allowing for the further capture of relevant data while also providing a validity “check” on the codebook itself. Finally, in order to further enrich the findings of the TA and to provide a deeper understanding of therapists’ subjective views of and sentiments towards DMHTs, I utilized the text analysis program *Linguistic Inquiry and Word Count* (LIWC; Pennebaker et al., 2001). As described by Tausczik and Pennebaker (2010), LIWC allows for the counting of words in “psychologically meaningful categories” (p. 24) including emotionality, attentional focus, and social status, among others. In this study, LIWC text analysis was primarily utilized to explore the emotional tone of comment threads and posts. This exploration allowed for an analysis of commentors’ sentiment towards DMHTs—both in general and in specific—helping to answer RQ1, which inquired about therapists’ subjective views of DMHTs. In addition, LIWC was used to identify patterns in the data set (Leech & Onwuegbuzie, 2011) through the counting of DMHT-related terms. By showing the relative discussion frequency of DMHT terms, this analysis provided further context for RQ2 and RQ3, which inquired about therapists’ experiences with and utilization of DMHTs, respectively.

Results

Our thematic analysis of 21 Reddit posts ultimately yielded seven major themes related to the intersections between psychotherapy and digital technology. As illustrated in *Figure 1*, these seven themes contained 22 corresponding subthemes.

Major Theme 1: Altered Perceptions

The first major theme described concerns around the ways in which credentials, reputations, and information related to therapy and mental health were represented and regulated in online spaces. For instance, commentors discussed *Psychology Today's* therapist-finder web portal, expressing concerns that the clinicians listed there were endorsing expertise in “whatever they’ve had a little exposure to” rather than what they were competent in. In other posts, perceptual concerns were expressed around the ways in which mental health information was shared and services were provided online, often by non-therapist “life coaches” or alternative healers. For instance, one commentor lamented their discovery that a former colleague now practiced “5-D Energy Healing” on Instagram, with “no data about what it is, or even her credentialing or training.” In addition to frustration and concern, commentors expressed a sense of demoralization around the ways in which coaches and healers threatened to exacerbate “stereotypes that therapy is easy to do, or that therapy is simply saying supportive things, ‘giving advice,’ or ‘telling people what to do.’”

In other threads, commentors expressed worries about online reputations, both at individual and field levels. In a post in which the specter of negative online reviews was raised, commentors variously expressed qualms about the “unfairness” of such reviews, suggested methods of “scrubbing” them from the internet, or—conversely—offered reassurance that any reputational damages would be minimal. In other threads, reputational fears were raised regarding the field more generally, with some commentors expressing concerns that content on the subreddit itself could make the “field look bad,” or that certain comments could be unpleasant “for a client to read.” However, other commentors took exception to any intimations

for self-censorship, with one commentor contending that the idea that clients were too fragile to witness such material was “especially disingenuous.”

Major Theme 2: Broken Systems

The second major theme described the malfunctioning, corrupt, and demoralizing technological systems that modern therapists contended with. For instance, commentors expressed fears that online therapy platforms (OLPs; e.g., BetterHelp, Talkspace, etc.) might succeed in automating the field of therapy, with one OP sharing their concerns that the field could be “at the beginning stages of what Uber looked like 10 years ago.” Commentors also expressed more immediate concerns around OLPs, including their potential to financially devalue therapy, their unethical practices, and their poor treatment of therapists and clients. In other posts, commentors discussed how incentives unrelated to the provision of quality mental health care seemed to drive therapists’ online behaviors. Such “perverse incentives” varied, from the desire for YouTube views driving minor “celebrity therapists” to make overly pathologizing claims on their videos to the ways that “arms races” between therapists to attract clients could lead them to misrepresent their credentials online.

Most concerningly, commentors expressed fears that some of the broken systems described across the theme represented “ticking time bombs,” with the potential to cause legitimate harm. For instance, commentors contended that certain OLPs put clients’ lives at risk while abdicating any responsibility to protect them, while other commentors expressed concerns about the difficulty of assessing risk through teletherapy. Regarding the latter, one commentor shared how they “didn’t get an accurate read on one of my teens because it’d only been Telehealth and he ended up attempting suicide,” adding that “I’m still working on not blaming myself.” In other posts, commentors expressed worries about the harm posed by non-

credentialed providers (e.g., life coaches) in online spaces, with one commentor writing that they were aware of a life coach who was working with traumatized clients in ways that were “actively dangerous.” The commentor went on to express a sense of incredulity that this coach could “do that kind of work with absolutely no oversight and minimal coach ‘training’ and get away with it,” adding that “it makes me feel sick to my stomach to think of all the damage she’s probably wreaking to vulnerable people.”

Major Theme 3: F*ck Technology

The third major theme described therapists’ frustrations and fears in the face of technology-related barriers, from digital red tape to difficulties with telehealth. For instance, commentors described the ways in which Kafkaesque bureaucracies loomed over online therapy, with therapists forced to navigate the mazelike hassles of HIPAA regulations, two-factor authentication, and business associate agreements. The OP of Post 1 (see Appendix D) described their deep-seated frustrations with such constraints, writing:

I’ve had it. I’m done with every damn EHR, password, two-step authentication, can’t-move-without-doing-this-thing bullshit technology... These things are not human. They are robots, and I am totally fed up with the damn robots that can’t figure out that I’m human.

Other commentors described the tech-based obstacles that could arise in teletherapeutic work, including problems with the remote environment (e.g., the lack of a private space) as well as the glitches, stutters, and drop-outs that sometimes plagued the medium.

At a more interpersonal level, commentors expressed grief around the loss of human connection in teletherapy. Such commentors felt that there was “something missing” in teletherapeutic contexts, and that the relational distance provided by the medium could allow for

client and therapist alike to avoid difficult emotions. Particular concern was expressed around the effect of this distance on clients with preexisting interpersonal problems. As one commentor contended, such barriers made telehealth "...arguably less emotionally intense and more detached than meeting in the office...For our clients that are struggling with being close to people, creating an emotionally distant relationship with a therapist isn't going to help address that."

Major Theme 4: Pandemic

The fourth major theme described the ways that the COVID-19 pandemic had altered the digital-psychological landscape and impacted clients, therapists, and the field of therapy. Commentors described some of the ways that clients' lives had been impacted, including through disrupted socialization and increased isolation, as well as the ways that they had tried to address their relational needs through digital means (e.g., online dating, social media). For instance, in Post 13 (see Appendix D), commentors described having to change their approach to working with parents of adolescent clients who used the restriction of smartphone access as a routine punishment. One commentor wrote, "Normally I don't think taking a phone away from a teen is an inappropriate punishment, but most of the teens I work with right now are seriously struggling with the isolation and with online learning."

In other posts, commentors discussed how the pandemic had affected their roles as therapists, especially regarding workplace requirements and expectations. Commentors discussed a range of such responses, contending that certain requirements had put therapists at unnecessary risk (e.g., mandating in-person work, but not masks), as well bemoaning some of the illogical-seeming decisions employers had made concerning telehealth (e.g., requiring teletherapy to be provided from the office). While several commentors expressed similar frustrations, others

described workplaces that had granted significantly more freedom, including one that “just gives people the option. You want to keep working from home for [teletherapy] sessions, 100% your choice.” Ultimately, commentors reflected on the greater implication of these workplace requirements and affordances, writing that “some places have really stepped up, while others have shown how much they don’t value or trust their employees.”

Major Theme 5: Boundaries

The fifth major theme illustrated the ways that therapists set and maintained boundaries in digital spaces as well as how clients reacted to such boundaries. Across different threads, commentors offered specific suggestions, including utilizing automated email responses outside of business hours. Relatedly, several commentors discussed how—out of care for their clients—therapists could feel compelled to compromise their own boundaries (e.g., by checking emails on weekends). For instance, in response to an OP who described experiencing burnout from responding to client emails in off hours, one commentor contended “if you want that boundary, it sounds like you need to take away that temptation to know what’s happening and wanting to intervene.”

In Post 5 (see Appendix D), a discussion around therapist safety was prompted by an OP who shared their experience of being harassed and stalked by a client. In response, after sharing their own harrowing experience of harassment as an early career clinician, a commentor described their realization that safety risks to therapists were often downplayed, a result that “makes it even more important to advocate for ourselves.” Directly responding to the OP, the commentor added, “You said that you felt harassed and hunted. Know that you have a right to keep yourself physically and psychologically safe.”

Major Theme 6: Support & Solidarity

The sixth major theme described the ways that therapists utilized the r/psychotherapy subreddit in search of consultation, support, and solidarity as well as the supportive and validating ways that the forum responded. Overall, the majority of the 21 posts analyzed were ones in which the OPs sought answers or support in some form, ranging from asking for advice around how to address a specific problem to consulting about ethical concerns. In addition to advice-seeking and consultation, therapists used the forum to express affect, with these expressions often occurring through “venting” or sharing of stories about difficult experiences. Across different threads, commentors and posters alike expressed anger, frustration, shame, sadness, anxiety, and worry, with these expressions often met with a supportive, validating, and normalizing response.

Major Theme 7: Tech’s Promise

The seventh and final theme described the ways in which Redditors viewed DMHTs in a more positive light, including their highlighting of specific teletherapy benefits, discussions around the creative use of videogames, and the sharing of tech-based solutions for navigating bureaucracies. Increased client access represented one such area of DMHT benefit, including both access to services (e.g., through teletherapy), and content (e.g., psychoeducational videos on YouTube). Therapist-level benefits were also discussed, including ways in which DMHTs like teletherapy or practice management software could reduce burnout and increase quality of life as well as the ways that therapists could proactively use online spaces for consultation and community building. Additionally, the theme explored the ways that therapists utilized emerging and novel technologies (e.g., video games, virtual reality) to provide therapeutic benefit.

Finally, the theme highlighted how therapists on Reddit contended with the ways that technological costs and benefits were distributed between client and therapist and how—at

times—one’s benefit came at another’s cost. For instance, in discussions around the relative advantages of teletherapy over in-person work, many commentors spoke to a significant increase in quality of life (QOL) they had experienced as a result of the transition to teletherapy. These commentors wrote of increased freedom, cost and time savings, and relational benefits (e.g., spending more time with family), as well as less risk of becoming depleted or “burning out.” However, the question of whether teletherapy itself was *clinically* beneficial was posed by some of these commentors. For instance, one commentor outlined the dilemma, writing:

Personally, I much prefer being able to work from home. Therapeutically, I mostly prefer meeting in person. Deciding what’s best for me personally and professionally, as well as what’s best for clients, is something I’ve been thinking a lot about too.

Another commentor described clearly recognizing the “value that in person brings, and honestly even the energy and attention on my end is better,” yet feeling that “the convenience factor [of teletherapy] is just too hard to ignore.” However, for another commentor, an expected negative impact on clients outweighed the purported advantages of being able to work from home. They argued:

...as much as it might be easier to work from home, it’s not as good for my clients. Some clients don’t have a safe space to share feelings, struggles, etc. my physical office is that space for them, and as long as they desire for in person is there, which it very much is, I’ll prefer in person over Telehealth.

Discussion

While DMHTs offer significant potential for increasing access to quality mental health care, this potential may remain unfulfilled if these technologies continue to be underutilized by those in the field. To address this challenge, this study sought to explore DMHT underutilization

via two avenues of inquiry: first, through developing a contextual understanding of the ways that therapists felt towards, experienced, and utilized DMHTs in practice; second, through directly exploring therapists' DMHT-related concerns as well as the barriers they perceived to their use. In the following sections, both avenues are explored by examining how the results of the TA connected with existing literature. Subsequently, several suggestions for increasing DMHT use are offered, the study's limitations are addressed, and a number of questions are posed for further research.

DMHTs in Context

While the central goal of this study was to illuminate DMHT use barriers, understanding the context in which these barriers arise is essential. Such an understanding can help provide perspective and nuance to identified barriers while also helping to identify any unmet clinician or client needs in relation to DMHTs. To that end, the following sections explore the major themes and subthemes of the TA in light of the existing literature in order to understand therapists' views of, experiences with, and utilization of DMHTs.

DMHT Views

While text analysis using LIWC showed that the emotional tone of the complete data set leaned more neutral (tone = 51.39; Cohn et al., 2004; see *Table 8*), discussions of DMHTs, digital technologies, and related content tended to skew significantly more negative in tone. For instance, commentors expressed concerns, frustrations, and skepticism in the first theme while conveying fear and annoyance in the second. Further, they expressed anger and a sense of depletion in Theme 3, uncertainty and disappointment in Theme 4 and—in Theme 5—they voiced safety fears and a sense of wariness. At times, these negative sentiments were expressed directly towards a particular technology (e.g., when discussing OLPs in Posts 7 and 8). At other

times (e.g., Post 15), larger technological systems were blamed. However, most commonly, the negative sentiments conveyed were not directed towards the technologies themselves but instead towards people, circumstances, dilemmas, hassles, or other concerns in which technology played a role. For example, commentors expressed frustration with clients who crossed boundaries by emailing in off hours but not annoyance at the email system. Similarly, commentors expressed anger at “life coaches” on Instagram rather than social media, mistrust of content creators on YouTube rather than the platform, and sadness at negative reviews rather than indignation at the review website.

This phenomenon echoes a claim made by some technology theorists (e.g., Carnevali, 1985) that technology is an amoral or “neutral object.” According to Barnard (1997), these theorists have cast technology as a “nothing more than a resource” (p. 127) while others—such as Ellul (1968) and Cotgrove (1982)—have argued that the dominant belief in the neutrality of technology represents a failure to identify or confront the ways in which our technological environment affect us. In the TA, commentors showed a tendency towards focusing their negative sentiment on those who utilized technologies in specific ways or who had capitalized on the opportunities that technology had provided. However, with a few exceptions, such negative sentiments were not expressed at the ways that these same technologies had created new incentives or altered human behaviors. Ultimately, as Barnard (1997) argued, technology may not be “a neutral servant of [our] will, but a pervasive reality...which modifies practice, politics, values, and environments” (p. 130). Regardless of whether they utilized DMHTs in practice, it is clear from both the results of the TA and from the review of existing literature that technology is a pervasive reality in the lives of therapists. Further, while the results of the TA might generally

frame the technologies themselves as morally “neutral,” the negative sentiments surrounding them could still pose significant psychological barriers to their use.

DMHT Utilization and Experience

In addition to illuminating therapists’ views of and sentiments towards DMHTs, the results of the TA helped to reveal therapists’ experiences with and utilization of them. As shown in *Table 6*, commentators discussed using DMHTs, including administrative technologies (e.g., EHRs, email), OLPs, online content (e.g., YouTube videos), phones, apps, teletherapy, and videogames. However, despite the wide range of technologies they discussed, two DMHT domains identified in the literature review were notably absent in the TA: *computerized and internet interventions* (CIIs), and *mobile apps*. These absences were particularly notable because both technologies have historically represented cornerstones of DMHT research. Along with teletherapy, CIIs were some of the first DMHTs to be widely researched (Andersson et al., 2016; Andersson, 2018), while over the past decade, mobile apps have been the focus of countless studies (Neary & Schueller, 2018). In addition to these absences, four novel DMHT domains were identified only in the TA: *online consultation and support* (e.g., the r/psychotherapy forum), *online content* (e.g., psychoeducational material on YouTube), *online presence* (e.g., the ways therapists represented themselves and were represented by others online), and *online therapy platforms and collectives* (e.g., BetterHelp, Talkspace).

The four novel domains that emerged from the TA highlight both the creativity of therapists as well as the possibility of a growing distance between DMHT research and practice. That is, while researchers have focused on—for instance—creating and piloting app-based treatments, these results suggest that an individual therapist may be more likely to recommend a psychoeducational YouTube video than a mobile app. In other words, *relevance* is a key

consideration in the DMHT research and design process. As Wilhelm et al. (2020) contended, mental health apps are often “created unilaterally by industry developers, without involvement from clinical experts” (p. 6), an assertion buoyed by Sucala et al. (2017) who found that the majority (67.3%) of apps on the marketplace were developed without any input from clinicians. The discrepancy in domains found between the literature review and the TA speaks to the key importance of collaboration between researchers, clinicians, designers, and clients.

DMHT Use Barriers and Facilitators

Ultimately, an examination of the results of the TA and the literature review helped to answer the fourth research question, illuminating 46 potential barriers to therapist use of DMHTs in practice (see *Table 2*) and 29 potential use facilitators (see *Table 3*). Several barriers were related to clinicians’ concerns regarding their clients, including clients’ access to services, their level of treatment engagement, their overall wellbeing, and their technological competence. For instance, commentators worried that clients might not have “the safe space, technology, or internet access” needed to take advantage of teletherapy, concerns that were echoed in research by Hollis et al. (2018) in which clinicians feared that DMHTs could increase the “digital divide” between those with and without access. The TA also illuminated several treatment-related barriers including concerns around assessment, risk management, and the therapeutic relationship. For instance, commentators spoke of “something missing” in the teletherapeutic relationship, a claim echoed by research by Harris and Birnbaum (2015) who found that the absence of cues in teletherapy could lead to communication challenges for therapists that reduced “the emotional proximity of the client” (p. 4).

Concerns around the management of risk and crises also arose as potential barriers to DMHT use. Commentators shared firsthand experiences of difficulty in assessing and managing

risk through teletherapy, reflecting concerns shared by Titov et al. (2016) who wrote that DMHT mediums could complicate the process of responding to or detecting risk. Potential financial barriers also arose in the TA, including concerns around low compensation from OLPs (e.g., “\$22-30...for a doctoral level psychologist”) and worries around insurance reimbursement for teletherapy. Such reimbursement concerns were reflected in research by Lovejoy et al. (2009) nearly a decade prior to this study, demonstrating their longstanding salience.

Professional-level barriers were posed by commentors in a number of forms, including worries around professional autonomy, the potential for the devaluation of therapists and their roles, apprehensions around liability, and concerns around reputation. A number of technological barriers, including issues with design, apprehensions about the evolution of technology and its social effects, and concerns around glitches and hassles related to the use of technology, were also found. Regarding the latter, several commentors bemoaned teletherapy glitches that had led to “losing therapeutic moments,” conversational disruptions caused by lag, or the risk of servers going down mid-session while working for an OLP. Such concerns were echoed in a separate study on therapists’ experiences of providing teletherapy during the COVID-19 pandemic, where clinicians voiced frustration with poor internet connections or situations where “there is no stable connection, or...the system is overloaded, and then the tools do not work properly” (Fejit et al., 2020, p. 862). Finally, several therapist-level barriers emerged from the analysis, ranging from the inhumanity of technology, the mistrust of online spaces, and threats to therapist wellbeing, to concerns about therapy boundaries. For instance, regarding the latter, commentors expressed worries that clients would push against digital boundaries (e.g., emailing in off hours) or simply not respect them. Similar concerns were echoed in a study by Doherty et al. (2010) where

therapists expressed apprehensions that DMHT use could lead to “greater responsibility and more opportunities for client therapist contact” (p. 247).

The barriers described ranged regarding their intensity (i.e., from annoyance to infuriation or from mild apprehension to intense fear) and crossed domains from the physical (e.g., a lack of technology access), to the psychological (e.g., biases) and ethical (e.g., data confidentiality and security). While further research is crucial in understanding these barriers and how to ameliorate them, increasing the adoption and utilization of DMHTs by clinicians is not limited to the reduction of barriers and may also include the leveraging of facilitators. Such facilitators, which include benefits for clinicians across domains of administration, client access, and treatment improvement, among others, are collected in *Table 3*. For instance, the ability of DMHTs to increase client access to treatment (e.g., by increasing scheduling flexibility) was highlighted by a number of commentors, echoing research by Fairburn and Patel (2017) who wrote of multiple ways in which DMHTs like teletherapy could increase access. Other key facilitators included the ability of DMHTs to improve treatment (e.g., through enriching assessment, improving rapport), decrease costs, and expand opportunities for consultation (e.g., through the r/psychotherapy forum).

Suggestions

Both through the process of integrating the study’s findings with prior literature and through considering DMHT use barriers and facilitators, a number of suggestions can be provided. These suggestions may be relevant to researchers, clinicians, DMHT developers, and others interested in harnessing technology for therapeutic benefit.

1 & 2. Reduce Barriers and Leverage Facilitators. Each of the barriers and facilitators identified in the study represent potential targets for intervention or future research. For instance,

identified client access barriers could be addressed through advocacy aimed at improving infrastructure in treatment deserts. Alternatively, practitioners concerned with the limitations of assessment through mediums like teletherapy could endeavor to develop novel assessment methods that complement the teletherapy medium.

3. Address Clinician Biases and Alter Attitudes. While the results of the study demonstrated that clinicians have legitimate reasons to be doubtful, skeptical, or apprehensive about DMHTs, it is also possible that certain biases against DMHTs are less rational. For instance, multiple commentors described a shift in their view of teletherapy from “dread” or disinterest to enthusiasm and excitement after the COVID-19 pandemic required them to use the technology. The presence of similarly unquestioned biases may underlie some cases of DMHT use hesitancy, making such biases important targets for research and intervention.

4. Advocate for Reform. Throughout the 21 posts that comprised the data set, commentors offered a litany of disturbing claims about unethical practices and iatrogenic effects. Such concerns may not only pose barriers to clinicians’ use of DMHTs but they serve as targets for reform in their own right. Addressing them through advocacy, regulation, and policy changes is crucial.

5. Create Evolving and Relevant Ethical Guidelines. The results of the analysis showed that the subreddit was frequently used for consultation around ethical concerns. However, both the number of ethical questions posed and the lack of clarity in response highlighted the absence of coherent ethical guidance. Without such guidance, clinicians may be justifiably hesitant to use DMHTs and there may be an increased risk of harm.

6. Improve Design. To increase the adoption and use of DMHTs both by clinicians and clients, it is necessary to increase collaboration between those clinicians and clients with

researchers and developers in order to create DMHTs that are relevant, engaging, user-friendly, and designed with the unique needs of end user at the forefront.

7. Increase Exposure to and Opportunities for Use. This study revealed that prior exposure to DMHTs could facilitate clinician interest and adoption. Increasing therapist exposure to DMHTs as well as opportunities to directly experience their benefits may help increase DMHT use. As shown by Kerst et al. (2019), even simple demonstrations of DMH interventions can positively influence clinicians' attitudes towards them, meaning that the dissemination of demonstrations, trainings, and information can be used to increase therapist uptake.

Limitations and Future Directions

While this study helped to elucidate a number of novel barriers and facilitators to DMHT use, it had several potential limitations. First, the sample was restricted in its ability to show how demographic characteristics or personality factors affected DMHT views because such information was unavailable. A separate limitation was methodological and related to the way that negative or sensational information may possess increased salience or engender increased interest (Kveraga et al., 2015; Trilling et al., 2017). Due to such factors, it is possible that the study's inclusion criteria—criteria which ultimately represented popularity (upvotes) and interest (number of comments)—led to the emergence of an overly negative picture of therapists' DMHT views. In other words, a Redditor therapist might be slightly more compelled to upvote or comment on a post about a client cyberstalking their therapist than one about a therapist sharing their love of therapy apps. Finally, the study may be limited in its generalizability due to the historical context from which the data was mined. While the decision to focus on posts that occurred within the COVID-19 pandemic ultimately yielded important information about therapists' experiences with technology (e.g., the global shift towards teletherapy), it is also

possible that this made the data less generalizable. In other words, the specific concerns, sentiments, and dilemmas faced by commentators might be more relevant to the effects of the pandemic itself than the more general effects of technological evolution or the state of the online world.

While each of the seven suggestions represents a potential future path of research or practice, the study's results also highlighted further avenues of exploration. First, continued research is needed to increase the specificity of the study's findings. For instance, a further investigation of clinicians' pre- and post-COVID views of teletherapy on the r/psychotherapy subreddit could be undertaken with the goal of elucidating the role of unquestioned biases or other factors in therapist teletherapy hesitancy. Increasing the generalizability of the study's findings is also crucial. Because the study was limited by a lack of demographic data, future research that examines DMHT use facilitators and barriers from a cross-cultural perspective is needed. Alternative research methods might also help to address any biases that drive more negative or controversial online content to the top of results (Van der Meer et al., 2020). For instance, researchers could experiment with changing inclusion criteria to be based on a certain time frame (e.g., all DMHT-related posts within a one-week span) rather than upvote or comment numbers, thereby reducing such biases in inclusion.

Finally, while this study primarily focused on harnessing and leveraging digital technologies for mental health, the negative psychological impacts of existing digital technologies cannot be overlooked. Ultimately, it will not be sufficient for psychologists to collaborate with researchers, developers, and clients in creating and improving DMHTs while ignoring existing problems. Instead, those who are concerned about mental health in the 21st century must attend to the ways that the digital revolution has exacerbated inequalities (Van

Deursen et al., 2017), threatened the basic epistemological foundations of society (Lewandowsky et al., 2017), fostered dependencies and compulsive behaviors (de Alarcon et al., 2019), and created a more depressed and anxious adolescent population (Keles et al., 2020). In summary, harnessing and leveraging digital technology for the greater psychological good must occur on two fronts: designing and producing technologies that provide benefit while also addressing, ameliorating, and preventing their greatest harms.

Chapter 2: Literature Review

The digital age has led to a fundamental transformation of society, with a rapid succession of increasingly disruptive innovations that have impacted every sector of modern life (Brailas, 2019), including the field of psychotherapy (Aboujaoude & Starcevic, 2015). Although digital technologies—from smartphone apps to telehealth services—have demonstrated both efficacy and acceptability in previous studies, there has been little examination of psychotherapists’ experiences with these technologies in clinical practice. Knowledge gained from such research has the potential to provide insights into psychotherapists’ subjective views and concerns surrounding these technologies. In turn, such insights may help to illuminate unseen barriers to the adoption and utilization of digital technologies, ultimately allowing for increased treatment access, the enhancement of current treatments, and other benefits for both client and psychotherapist alike. Such goals may be particularly salient in addressing the effects of the COVID-19 pandemic and the further reductions to mental health care access it has produced.

Like all fields, the field of psychotherapy is embedded within the larger context of the society and culture in which it is practiced. In the present day, this context is one where technological change is occurring so rapidly that some researchers have proposed that generations that used to span decades are “now being truncated into mini-generations as [immersion in] media and technologies have shaped individuals’ lives” in wholly different ways (Rosen et al., 2015, p. 22). Today, 90% of the population of the United States use the internet (Anderson et al., 2019), with a quarter of U.S. adults reporting that they are “almost constantly” online (Perrin & Kumar, 2019). Globally, nearly five billion individuals have mobile phones (Silver, 2019) while Facebook alone has two-and-a-half billion active users (Clement, 2020).

Yet, while life in the 21st century has been transformed by technology, the field of psychotherapy seems to stand apart. Imel et al. (2017) wrote that “just as it was a century ago, psychotherapy largely remains a conversation between two individuals in the same room, unaided by external tools” (p. 385). Although certain technologies such as electronic health records (EHRs; Luepker, 2012), practice management software (Clay, 2019), fax machines, and basic communication technologies such as email and text are used by many in the field (McMahon et al., 2013), the basic technologies of therapy—a room and a pad of paper—have remained unchanged since the time of Freud (Norcross et al., 2013).

Why has the field of psychotherapy remained seemingly hermetically sealed against the digital wave that has swept over society and culture, transforming it at its most fundamental levels? Perhaps the field is reacting in line with the historical trend for technological progress to stimulate technological fears. In the 1600s, such fears had emerged around the proliferation of bound books following the arrival of the printing press, leading the renowned philosopher Gottfried Leibniz to lament that a “horrible mass of books which keeps on growing” could lead to a “fall back into barbarism” (Stephens, 1998, p. 31). In the 21st century, the pool of concerns is considerably larger, and includes legitimate questions around how digital technologies affect individuals, societies, and basic human relationships, including between psychotherapist and client (Weitz, 2018). In a profession that so deeply values human connection, modifying or even replacing the therapeutic relationship with digital technologies may seem objectionably superficial (Folker et al., 2018).

Other concerns around digital mental health technologies may be more pragmatic, including uncertainties around how such technologies may affect boundaries outside of session (e.g., clients emailing or texting after hours or following their psychotherapists on social media)

or how they might lead to disruptions in-session (e.g., clients checking their phones during appointments; Weitz, 2018). Further, there may be an understandably increased sense of anxiety when psychotherapists are confronted with areas where they feel less competent, either due to a simple lack of experience or due to more general technological literacy problems (Wood et al., 2005). Such digital anxiety may be particularly acute when it intersects with the complex regulations, ethical unknowns, and privacy concerns that surround modern technologies. Apart from these anxieties and uncertainties, many psychotherapists may simply share a general lack of knowledge about the array of technologies that are available and how such technologies might be integrated into their practice. Additionally, an absence of guidelines for separating the good from the bad in the vast array of apps, devices, and services may make selecting technologies challenging, even for technologically savvy therapists (Anthes, 2016). In other words, even those clinicians who are open to and interested in these technologies may have little idea about how to get started.

Despite these concerns, the potential for digital technologies to increase access and enhance current treatments are clear. For instance, computerized and internet-based interventions (CIIs) such as internet-delivered cognitive behavioral therapy (iCBT), have been found to produce equivalent overall effects as face-to-face treatments (FTFTs; Carlbring et al., 2018), while smartphones have the ability to collect rich, real-time data making them a valuable tool for assessment (Bauer & Moessner, 2012). Further, mobile apps have been leveraged to provide effective interventions for depression and anxiety (Firth et al., 2017a; Firth et al., 2017b), while online communities and services can help connect individuals with peer and professional support (Santesteban-Echarri et al., 2017). Additionally, video-, audio-, and text-based telehealth services made possible by high-speed internet have the potential to remove location barriers altogether

(Hilty et al., 2013; Pew Research Center, 2019), while emerging technologies like virtual reality, augmented reality, and artificial intelligence are opening up completely new frontiers (Freeman et al., 2017; Ly et al., 2017).

Despite such widespread and intriguing opportunities for harnessing digital technologies for psychotherapeutic practice, there is little information about how psychotherapists perceive these technologies, their concerns and biases, the creative and unique ways they utilize technology in practice, or even how technopsychological research has been translated—or failed to translate—into clinical practice. Understanding the disconnect between the promise of psychological technologies and their potential underutilization in therapy (Apolinário-Hagen et al., 2018; Shalom et al., 2015) may represent a valuable avenue of research.

Global Mental Health

The World Health Organization (WHO) estimates that 18%-36% of the global population will suffer from a mental health problem during their lifetime (Kessler et al., 2005). Although rates of mental disorder can vary significantly by country and region, international surveys have shown that, globally, mood or anxiety disorders affect around 10% of the population in a 12-month period (Titov et al., 2016). Mental disorders can lead to distress and impairment across a number of domains including social impairment (Feldman & Crandall, 2007), increased physical illness (Dickey et al., 2002), decreased performance in the workplace (Dewa et al., 2004), substance use and addiction (RachBeisel et al., 1999), stress on caretakers and families (Maurin & Boyd, 1990), and increased rates of suicide (Windfuhr & Kapur, 2011). The burden of mental illness not only leads to immense personal suffering and distress, but it also represents the “largest source of health-related economic burden worldwide” (Hollis et al., 2018, p. 1).

Despite significant improvements in the quality of life over the last century, including decreasing rates of war, disease, starvation, illiteracy, and extreme poverty (Pinker, 2012), mental health problems continue to rise and compound (Torrey & Miller, 2001) for reasons that are not wholly understood. In recent years, the problem has been even more acute in children and adolescents, where incidence of mental health problems is higher than that of the general population and seems to be on an upward trend (Scholten & Granic, 2019). Alarming, researchers have estimated that 64%-84% of mental health concerns in younger people are “undetected and untreated” (Scholten & Granic, 2019).

Despite the overwhelming number of individuals affected, the majority of those that need treatment are not receiving it, a treatment deficit that is particularly acute in developing countries where 76% to 85% of cases are untreated (Anthes, 2016). Reasons for this treatment deficit are complex but can be broadly characterized as stemming from both patient- and systems-level barriers (Wilhelm et al., 2020). In regard to systems-level barriers, Maron et al. (2019) argued that the “number of specialized and general health workers dealing with mental health is grossly insufficient” (p. 17), with an average of nine per 100,000 persons. Further, mental health care—as it is generally practiced—is a fundamentally consumable resource. That is, the time that clinicians put into providing services and managing cases has a hard ceiling (Muñoz, 2010). In practice, this means that the average mental health worker would need to treat 1,000 individuals per month to fully to address the problem (Titov et al., 2016). The fundamental lack of a sufficient number of providers is further compounded by a lack in the quality of treatments and interventions that are supplied. That is, even if a single clinician were able to treat such a vast number of clients, there would be no guarantee that the treatment delivered would be effective, evidence-based, or even “minimally adequate” (Doherty et al., 2010; Wilhelm et al., 2020).

Ultimately, the current systems for mental health treatment may be incapable of ever being scaled in a way that could meet current needs (Wilhelm et al., 2020).

Patient-level factors also create significant barriers to treatment, from basic logistical impediments such as transportation, child-care, and work-schedule conflicts (Wilhelm et al., 2020) to issues related to stigma, a problem that may be particularly acute in rural regions where the need for treatment is already high (Larson & Corrigan, 2010). Such logistical barriers may be compounded by major economic barriers. For instance, in countries without universal health care, the cost of treatment can make it unaffordable to a large part of the population (Wilhelm et al., 2020), whereas in countries with universal health care, a shortage of services can mean significant wait periods (Marks, 2004). Other patient-level barriers to treatment include communication or language difficulties (Wong et al., 2006), physical disabilities (Hines-Martin et al., 2003), severe social anxiety (Olfson et al., 2000), and individuals who are homebound due to old age or other impairments (Wuthrich & Frei, 2015).

The Technopsychological Landscape

Despite a globally high prevalence of mental disorders and the significant barriers to treatment for sufferers, rapidly evolving digital technologies have the potential to provide both increased access and more effective treatments. At the same time, these technologies may pose significant risks to human wellbeing and psychological health. In this section, the digital revolution that has spanned previous decades will be examined in light of the positive and negative impacts that it has had at both individual and societal levels.

A Digital Revolution

The inventors of the first transistors in the 1940s likely could not have predicted quite how transformative the digital revolution they helped bring about would be (Gertner, 2012), how

reliant individuals would become on these new tools, and how completely these tools would alter human lives, jobs, and relationships (Burnham, 2009; Kapp, 2018). Although the revolution may have begun with the invention of this tiny electrical component, the wider societal and cultural transformation would begin in earnest decades later with the arrival of the personal computer in the home (Attril & Fullwood, 2016). Although such machines were initially large, clunky, and non-intuitive, they were quickly miniaturized and made more user friendly, especially with the advent of the “graphical user interface” (GUI) and mouse-based interactions (Attril & Fullwood, 2016). The potential of the home computer was further fulfilled with the rise of the internet in the 1990s, a technology that connected each individual computer user to a vast complex of media, information, and social networks (Attril & Fullwood, 2016).

In the last two decades, an equally significant transformation has occurred as a result of the further miniaturization and mobilization of computing power and internet connectivity in the form of the modern smartphone (Sidhu, 2016). Now, in the third decade of the 21st century, the world is in the midst of what some have termed a “fourth industrial revolution” (Brailas, 2019, p. 72), a moment “characterized by the fusion of the digital, biological, and physical worlds, as well as the growing utilization of new technologies such as artificial intelligence, cloud computing, robotics, 3D printing, the Internet of Things, and advanced wireless technologies” (Ndung & Signé, 2020, p. 61).

Sociocultural Effects of the Digital Revolution

As technologies have transformed, so too have the societies and cultures they are embedded in, often in complex and reciprocal ways that have been debated by theorists. For instance, Williams and Edge’s (1996) *social shaping of technology* hypothesis asserted that technology evolves in concordance with human needs and expectations, along a “garden of

forking paths” of possible routes and outcomes. Conversely, Latour’s (1996) actor-network theory posited a more reciprocal interaction, with humans creating and shaping technologies that then shape human action and belief or vice versa. In other words, Latour contended that social forces were not the primary driver of technological evolution, rather the bidirectional relationships between humans and technology shaped both human and technological change.

At the sociocultural level, the effects of this digital revolution are complex and—at times—opaque. Yet, it may be possible to cast light on such effects through a consideration of generational differences. That is, by comparing the psychosocial attributes of generations who experienced different levels of immersion in digital technologies, it may be possible to understand the societal and cultural impact such technologies have ultimately had. The Baby Boom generation, those born between 1946-1964 (Pew Research Center, 2018), came of age in a pre-digital world and—for many of them—it was not until reaching middle age that basic digital technologies now taken for granted such as the home computer or the World Wide Web came into prominence (Twenge, 2017). Generation X, those born between 1965-1979, spent their childhoods and adolescences in a world technologically similar to that of the Boomers, although the landscape began to change in their late teen years and early adulthoods with home computers and internet connection (Twenge, 2017). Millennials, those born between 1980 and 1994, were the first generation to be labeled by some researchers as “digital natives” (Prensky, 2001) with the majority of their cohort growing up with computers in the home and with internet access by early adolescence (Twenge, 2017). While digital native moniker was originally coined to refer to millennials, the term has also been used to aptly describe more recent cohorts, such as Generation Z (nicknamed “zoomers”)—those born between 1997 and 2012 (Pew Research Center, 2019). Zoomers grew up in a world where internet connectivity, social media,

smartphones and tablets, and ubiquitous digital technologies were woven into the fabric of daily life (Ball et al., 2019; Twenge, 2017). In other words, zoomers “grew up with cell phones, had an Instagram page before they started high school, and do not remember a time before the Internet” (Twenge, 2017, p. 8).

Jean Twenge, a psychologist who researches generational differences, refers to zoomers as “iGen,” a name that alludes both to the importance of the internet in their lives and to Apple’s iPhone, a device owned by two thirds of American adolescents in 2015 (Twenge, 2017).

Twenge’s research on iGen/zoomers uncovered a number of trends that provide evidence for the transformative power of ubiquitous digital technology on individual and group psychology.

Twenge’s research shows zoomers experience significantly slower rate of maturity and the extension of childhood into adolescence, a steep decline in FTF interaction, a substantial increase in mental illness, and increased political independence. The psychological attributes of those born after generation Z—who some have begun to refer to as generation alpha—are only beginning to be researched (Lavelle, 2019). Members of generation alpha have grown up with not only high-speed internet access and home computers, but with smartphones and social media such as Snapchat, Facebook, and Instagram from their earliest years (Perano, 2019). For digital natives, the use of digital technologies and—by extension—DMHTs might feel second nature and, therefore, teletherapy or app-based interventions could be both familiar and desirable treatment options.

The Darker Side of the Digital Revolution

While the digital technologies and DMHTs offer substantial benefits, there are also significant costs arising from our society-wide technological immersion. For instance, social media use takes up a significant amount of adolescent and young adult screen time (Obar &

Wildman, 2015), with much of this activity concentrated onto major social media platforms such as Facebook, with two-and-a-half billion users, YouTube, with two billion users, and sites like Instagram, WhatsApp, and WeChat, each with more than one billion users (Ortiz-Opsina, 2019). A central criticism around social media surrounds the ways in which modern platforms like Facebook and Instagram have intentionally “exploited human vulnerabilities,” creating addictive technologies that people feel compelled to stay connected to (Allen, 2017). While the problem of dependency was observed with digital services that predated widespread social media, including video games and internet pornography (Aboujaoude, 2010), social media may represent a particularly pathogenic incarnation of online technology. For instance, its effects on self-concept seem to be particularly devastating, with individuals engaging in negative interpersonal comparison across multiple domains, including success, looks, number of friends, and other attributes, all of which can result in negative self-appraisals and increased depressivity (Rosen et al., 2015).

In addition to the pathogenic effects of social media, these digital platforms have created a new venue for negative social experiences in the form of cyberbullying and online harassment (Foody et al., 2015). Whereas bullying historically occurred in FTF interactions, the internet and social media has led to the rise of a disturbing form of abuse and harassment that crosses boundaries of time and space, allowing victims to be bullied in their own homes and in front of audiences that can span the globe (Foody et al., 2015). The negative behavioral effects of cyberbullying on younger victims can be profound, including increased school absences, lower academic achievement, increased aggression, increased delinquent behavior (Rosen et al., 2015), and a three-fold increase in risk of a suicide attempt (Solecki & Fay-Hillier, 2015). Psychologically and emotionally, cyberbullying can lead to reduced self-esteem, increased

anxiety (Rosen et al., 2015), reduced feelings of a meaningful existence (Smith & Williams, 2004), and increased loneliness and depressive symptomology. Physiologically, such relentless and boundaryless bullying can lead to weight loss or gain, insomnia, chronic headaches, and abdominal pain (Foody et al., 2015).

Benefits and Promise of the Digital Revolution

While the negative psychological, physical, and social costs of the digital revolution, both at individual and societal levels, are clear, it is important to outline the substantial advantages and benefits that have resulted as well. For instance, the internet has allowed for near universal access to information for the first time in human history, enabling individuals from nearly all strata of society to access the same information and learning resources, from Wikipedia to online “open courses” from the top universities in the world (Henderson et al., 2017; Sanger, 2012). Such “democratization” of knowledge and information has widespread benefits, including the ability to “accelerate research, enrich education, share the learning of the rich with the poor and the poor with the rich, make this literature as useful as it can be, and lay the foundation for uniting humanity in a common intellectual conversation and quest for knowledge” (Chan et al., 2002, p. 1). The digital revolution has likewise transformed the workplace, allowing for telecommuting that not only permits location-independent collaboration and “global” offices, but carries the potential to increase productivity and work satisfaction (Bloom, 2014). While forces such as automation have led to job loss in some sectors, new types of work have also been created, with increased value being placed on creativity, innovation, and entrepreneurship (Brynjolfsson & McAfee, 2014). Such shifting paradigms have the potential to lead to an “inclusive technological revolution” that results in economic improvements and progress in developing countries (Ma, 2019).

One area that has seen substantial and ongoing benefits from the digital revolution is the health care sector (Buntin et al., 2011). In a survey in 2019, 79% of U.S. consumers reported that technology was an important factor in managing their health (Morrissey, 2018). Digital medical technologies have significantly improved the lives of individuals living with chronic diseases such as diabetes, have helped those with serious mental disorders adhere to medication regimens, and have revolutionized customized medical devices through the use of 3D printing (Morrissey, 2019a). Further, innovations in AI have led to significant progress in diagnostic and imaging fields, resulting in improvements in treatment for diseases like cancer (Morrissey, 2019b). For instance, a study by Kim et al. (2020) found that AI image technology significantly outperformed radiologists in detecting breast cancer and was able to detect it in much earlier stages where treatment was more effective.

While digital technologies such as social media have been maligned for their effects on psychosocial wellbeing and connection, prosocial effects have also been observed, with the potential for increased social connection and support. For instance, apps like NextDoor allow members of neighborhoods to offer care, collaboration, and services (Patton, 2019). Further, the psychological impacts of social media may be largely contingent on the way it is used, with users who are more active, for example through commenting and chatting, showing higher levels of happiness than more passive users who simply absorb media (Roose, 2019). Additionally, many alternative social platforms are available for interaction and connection outside of the ones provided by large social media companies, including videoconferencing, group texting, forums, and other technologies that enable online communication (Roose, 2019).

The Digital Mental Health Technology Landscape

Digital Mental Health Technologies

I began my review of the DMHT literature with an extensive search on Google Scholar, using search terms such as “cybertherapy,” “e-mental health,” “mental health apps,” and “digital psychotherapy,” among others (see *Appendix A*), utilizing a snowball approach to gather related terms and increase the breadth of the search. Across hundreds of studies and systematic reviews, a number of DMHT domains emerged. These domains included: 1) Administrative technologies (i.e., technologies that enable convenience, save time, and generally help the practitioner handle the business side of psychotherapy; e.g., practice management software and electronic health records); 2) Computerized interventions and internet interventions (i.e., programs, used as standalone or adjunctive treatments, that dispense manualized interventions to clients; e.g., computerized CBT); 3) Mobile technologies (e.g., cell phones, PDAs, and modern smartphones and wearable devices); 4) Mobile apps (i.e., software programs that typically run on smartphones and other smart devices; e.g., meditation apps, apps to treat social anxiety); 5) Games and “gamified” treatments; 6) Video and audio-based telehealth (e.g., synchronous videoconferencing and telephonic therapy); 7) Text-based telehealth (e.g., email therapy, chat therapy, and asynchronous text therapy); 8) Online supervision and training (e.g., webinars, resources, telesupervision); and 9) Various emerging technologies (e.g., virtual reality, augmented reality, artificial intelligence).

Notably, when constructing these domains, significant overlap was the rule rather than the exception. In effect, the nine DMH domains identified here represent artificially divided constructs. Barnett (2011) made the important point that technologies can be defined by function rather than phenotype; that is, a smartphone could serve the role of a psychological assessment device for a client using an app for self-monitoring, an internet intervention device for a client accessing an online CBT program, or an administrative device for a therapist who uses a

calendar app to schedule clients. Doherty et al. (2010) wrote that DMHTs can be broadly broken down into three systems: systems to prevent mental illness, self-help systems, and adjunctive systems. Within these systems, different functionalities are possible, including monitoring of symptoms, communication, content-delivery (e.g., psychoeducation), and content interaction. Fairburn and Patel (2017) outlined a number of innovative ways that DMHTs are used, including for the purpose of social network-based supervision, peer support platforms, practice and case management systems, telehealth platforms, “screening and decision-support tools for front-line workers; video game interfaces to address psychopathology targets; and text messaging to motivate patients” (p. 23). Further, digital interventions can be classified along a spectrum of guidance from “low: people are told about websites and/or apps, or find them on their own” to “medium: people are given self-directed tools by their clinicians” to “high: Internet-delivered therapy or apps are incorporated into the traditional care, with follow-up and discussions” (Gratzer & Goldbloom, 2020, p. 2).

Although DMHTs have evolved significantly in the 21st century, technologies have been utilized for psychotherapeutic purposes for nearly a century, although often remaining at the fringes of practice. For instance, Alvandi et al. (2017) described the use of “voice radio therapy” in remote areas of Australia in the 1930s to provide help to isolated individuals. In the United Kingdom, a suicide prevention telephone counseling service was introduced in 1953, with a similar service utilized in the United States in 1957 (Alvandi et al., 2017). In the 1960s, when exposure therapy was still in its infancy, clinicians used recorded instructions for patients undergoing exposure while, in the 1980s and 1990s, a growing number of personal computer-based interventions were created and piloted (Cuijpers & Quero, 2019). Before the use of the

internet was common, online support groups had emerged, while the first “fee-based internet mental health service” was launched in the mid-1990s (Reamer, 2013).

Despite the extensive history of DMHTs and the pioneering work of some in the field, a number of authors have argued that, overall, the field of psychotherapy has evolved slowly in regard to technology (Burger et al., 2020; Imel et al., 2017; Norcross et al., 2013). Norcross et al. (2013) wrote that “for almost its entire history, psychotherapy has relied on two primitive technologies: talking in the office and reading printed text for homework” (p. 369), a lack of progress that stands in contrast to other helping professions, such as medicine, that have seen the widespread growth of digital technology. Further, Burger et al. (2020), when looking specifically at DMHTs for depression, argued that—even as systems have proliferated in number—the systems themselves have “seemed to neither get larger nor more sophisticated with time” (p. 14). That is, as new versions of systems are created, their functionalities have not been markedly different or more advanced than previous editions (Burger et al., 2020). Further, Apolinário-Hagen et al. (2018) wrote that, despite their promise, there has been an “overall poor uptake of e-mental health services in health care systems worldwide” (p. 2).

Imel et al. (2017) made a comparison between the field of psychotherapy and that of aviation. Both fields launched at around the same time and, at first, were similar in their technological primitiveness. They traced the evolution of aviation, from early, dangerous planes where piloting was “done by feel” to the modern cockpit where extensive instrument panels are used to navigate while heads up displays provide real-time information, and multiple integrated technological systems work together to serve both pilot and passenger (Imel et al., 2017). While the field of medicine saw a similar trajectory to that of aviation, with more and more sophisticated technologies improving care, psychotherapy generally stayed as technologically

unsophisticated as was in its earliest years. According to the authors, the central reason for this discrepancy is that “we do not yet fully understand how psychotherapy works, and thus, instrumentation and technology do not provide counselors with direct feedback on how to improve sessions or avoid negative outcomes” (pp. 385-386). While their point is well taken, it is also true that there is a significant body of research that demonstrates specific interventions are effective in treating specific disorders (e.g., behavioral activation for depression), a finding that has led to the use of behavioral activation in both traditional therapy and in DMHT interventions (Trombello et al., 2017). In other words, regardless of whether or not we understand how all of the complex processes that occur in the therapy room lead to beneficial change in the same mechanistic way that the inclination of airplane wings creates lift, we still understand that a certain intervention will likely lead to a certain outcome a certain percentage of the time. Further, emerging DMHTs may be able to create direct, real-time feedback even more directly through technologies such as deep learning that could, for example, communicate to the therapist the precise emotional impact their technique is eliciting from the client and/or recommend a response based on observed patterns that are too subtle and complex to be apprehended by human conscious thought (Ewbank et al., 2020).

Further, as technology continues to evolve and younger “digital native” therapists begin to practice, it is possible that the field will begin to embrace and utilize digital technologies in new ways (Balick, 2014). As Eonta et al. (2011) wrote, technology can influence current psychotherapy practice through two main mechanisms, in great leaps forward or through gradually increasing ubiquity. In other words, a new technology can provide such a significant increase in capability that it revolutionizes current practice (e.g., fMRIs in neuroscience), or it can become so woven into the fabric of life that it integrates itself within current practice from

the ground up (Eonta et al., 2011). As digital technologies continue to increase in ubiquity and transform in greater society, DMHTs may become increasingly prominent in the practice of psychotherapy.

An Argument for Harnessing DMHTs

Barring an unforeseen development, the digital encroachment will continue mostly unabated, with digital technologies becoming increasingly ubiquitous and humans and societies becoming progressively reliant on them. Both the negative and positive consequences of this evolution will multiply and compound, with new benefits and innovations balanced against new harms and unforeseen consequences. For mental health providers, the known negative consequences of digital technology use alone may be a factor in resisting the utilization of DMHTs. In other words, providers may be hesitant to utilize systems that, in other contexts, have led to the very harm they are called to treat. However, regardless of how little therapists or agencies utilize technology in their practices—or the degree to which they bemoan their use—both therapists and their clients will continue to be technologically immersed in their day-to-day lives. Further, global events like the COVID-19 pandemic may necessitate an even deeper immersion with and reliance on these technologies. Ultimately, those in the mental health field have an opportunity to both harness and help steer these already predominating technologies towards more positive outcomes. Therapy clients and others with mental health concerns may benefit from the use of DMHTs as both adjunctive and standalone treatments and evidence suggests that clients are interested in utilizing such technology in their treatment. For instance, a study by Gratzer and Goldbloom (2020) found that 80% of young clients attending an outpatient clinic had installed at least one mental health app on their smartphone.

In 2015, the American Academy of Social Work and Social Welfare recognized “harnessing technology for the social good as one of the most important challenges facing the fields of social work and social welfare for the 21st century” (Caplan & Purser, 2019). While Balick (2014) asserted that therapists may have reasonable anxieties about technology and how it affects clients and therapy itself, he further argued that psychologists have “historically specialized in meeting anxiety within a theoretical frame so we can tolerate it, get inside it, and come to understand it better” (para. 5). He suggested using such an approach to “better understand our relationship with the developing world of ubiquitous technology” (para. 5).

General Advantages and Promise of DMHTs

In general, DMHTs show great promise across domains of assessment (Novotney, 2017), intervention (Hedman et al., 2012), communication, treatment adherence (Clough & Casey, 2011), reduction of cost, and increasing access (Price et al., 2013).

Assessment. DMHTs can improve the administration and interpretation of psychological evaluations (Fairburn & Patel, 2017) and collect real-time information about clients’ experiences from a range of sources, including electronic self-report journals (Bruehlman-Senecal et al., 2017) or more objective, sensor-based location and activity data (Saeb et al., 2015). DMHTs can also open up entirely new modes of assessment. For instance, virtual reality environments can be utilized to assess clients’ responses to precise gradations of feared stimuli (Freeman et al., 2017), while smartwatches can be utilized to monitor physical activity levels in those with bipolar disorder, allowing for the detection and monitoring of manic and depressive episodes (Abdullah & Choudhury, 2018).

Increasing Access. DMHTs have the potential to increase access for underserved populations in several ways. First, in areas where there are shortages of mental health

practitioners, clients could be connected with providers remotely, through videoconferencing or text-based therapy (Handley et al., 2014). These same remote-therapy technologies can also be used to increase access to those who are location-bound, either due to severe psychopathology, or physical disability (Bee et al., 2008). Further, DMHTs may help remove stigma-based access barriers, barriers that may be especially severe in rural areas where treatment shortages already exist (Smalley et al., 2010). Evidence that DMHTs may be able to address psychological barriers to FTFT includes a recent study that showed that groups who may be less likely to access FTFTs show willingness to engage in web-based, remote interventions (Price et al., 2013). Overall, online programs and clinics have the potential to increase access on a large scale. For instance, in 2015 alone, an online clinic in Australia called MindSpot was able to treat 2,000 adults with mental health concerns, with client outcomes similar to those who received FTFTs (Titov et al., 2016). DMHTs can also help increase access to traditional FTFT by helping facilitate connections between consumers and providers, with specific systems developed that help clients identify potential providers who match with both presenting concern and insurance plan (Price et al., 2014). While the COVID-19 pandemic may have exacerbated existing access shortages, DMHTs such as apps, teletherapy, and online programs are readily available to meet both existing and new demands. Many require little to no therapist contact and the majority do not compromise clinician or client needs for social distancing.

Providing Interventions. The ability for DMHTs to provide interventions, whether standalone or as an adjunct to therapy, is supported by several studies and clinical trials. For instance, online programs have been used to treat anxiety and depressive disorders (Adelman et al., 2014; Andrews et al., 2010), while mobile apps have been utilized to treat areas ranging from health and behavior change (Lindhiem et al., 2015) and social anxiety (George et al., 2021) to

schizophrenia (Schlosser et al., 2018). Further, DMHTs can enable such interventions to be provided live, during the actual moment that the client is facing their problem (e.g., a panic attack), thereby improving not only the effectiveness of treatment but allowing for the direct application of skills and techniques learned in therapy (Newman et al., 2011). The facilitation of such experiences outside of session may also prove beneficial in facilitating the completion of therapeutic “homework,” which, although it is assigned by the majority of therapists, is only actually completed by small number of clients (Kazantzis et al., 2005).

It is possible that certain presenting concerns may be more amenable to self-directed digital interventions. For instance, Fairburn and Patel (2017) posited that bulimia might be a condition that would benefit as the disorder “responds well to self-help interventions...yet many sufferers do not seek treatment because of the associated shame and secrecy” (p. 21). In a randomized controlled trial that compared therapist guided versus standalone smartphone and internet-based treatment for social anxiety and/or panic disorder, researchers found that both were equally effective in reducing general anxiety ($d = 0.39$) and social anxiety ($d = 0.70$), but not panic symptoms ($d = 0.05$; Ivanova et al., 2016).

A systematic review by Newman et al. (2011) found significant variance in self-help versus guidance based on severity of presenting concerns, with self-help interventions more efficacious for “subthreshold” mood disorders and therapist-guided interventions more helpful for clinical depression. Ivanova et al. (2016) argued that some therapist contact seems necessary for maximum treatment benefits. However, the amount of therapist contact needed was minimal, with an added increase in support not further improving outcome. Fairburn and Patel (2017) similarly concluded that guided DMHTs are as effective as face-to-face treatments and further argued that contact specifically with therapists might not be necessary as laypersons could be

quickly trained in providing basic adherence increasing support, “a role that does not require extensive training or supervision” (p. 22)

General Disadvantages and Concerns with DMHTs

Although DMHTs can bring significant advantages, these emergent technologies also pose new risks and concerns, including concerns around ethical practice (Torous et al., 2019), informed consent and inequality (Harris & Birnbaum, 2015), and confidentiality (Van Allen and Roberts, 2011). Lovejoy and colleagues (2009) examined the existing literature on DMHTs to explore the most common arguments against their use and development, uncovering themes that included dehumanization, issues with cost and reimbursement, legal and jurisdictional problems, a general lack of clear ethical guidelines for DMHT use, issues of confidentiality, and the potential for a lack of “suitability” for both patients and clinicians. Torous et al. (2019) overviewed ethical concerns that had emerged in the domain of online mental health more recently, including “the Cambridge Analytica privacy scandal ... the increases in live streaming of suicide via various social media platforms, and rising concerns about invasive monitoring from smartphones, sensors, and social media data” (p. 3). Implied by such concerns, they argued, was that the field lacked a set of coherent ethical guidelines for the digital spaces that it must now navigate. Further, in the absence of these guidelines, the field would continually risk compromising its core ethical principles of “respect for persons, beneficence, and justice” (p. 3).

Informed Consent and Risk Management. Informed consent is necessary for DMHT-based treatments for many of the same reasons that it is necessary for traditional therapy, including so clients understand the limits of confidentiality, the possibility of increased distress, and the need for client awareness of overall risks and benefits (Martinez-Martin & Kreitmair, 2018). Yet, as Harris and Birnbaum (2015) argued, it may be difficult for clinicians to determine

the capacity for consent through online mediums as “clinical judgment without verbal and non-verbal cues is limited in the ability to adequately assess a client’s capacity to consent” (p. 6). Further, Martinez-Martin and Kreitmair (2018) argued that DMHTs—especially many of the unregulated commercially available ones—may pose significant challenges regarding informed consent. In such cases, the only information an individual might receive is a series of disclaimers and terms of service agreements that are dense and inscrutable, leading few to spend the time or effort to understand them before signing off.

Another concern with the use of DMHTs is in the management of client risk, including risk of harm to self or others. For systems where there is no human “in the loop,” such as standalone apps, there may be no clear way for individuals in need of crisis support to receive help (Aguilera, 2015; Baumel & Schueller, 2016). Even in situations where clinicians are involved, various DMHT mediums may complicate the process of detecting and responding to risk (Titov et al., 2016). To address such concerns, Harris and Birnbaum (2015) reviewed the importance of verifying client identity in cases where there is no in-person meeting. They argued that up-front verification is important, particularly in cases where risk or mandatory reporting may be involved, while also noting that online therapy may have an inherently diminished ability to address crises in the same way that in-person therapy could. Such immediacy concerns are even more salient when considering asynchronous communications (e.g., text-based therapy) where a significantly delayed response is possible.

Inequality and Economic Concerns. Another concern around DMHTs is in their potential to increase inequalities. Although DMHTs offer the promise of increasing access for many, those who either do not possess the necessary technologies or lack the ability to use them may be left out (Harris & Birnbaum, 2015). Hollis et al. (2018) posited that one unintended

consequence of the proliferation of DMHTs could be an expansion of the “digital divide” between those who were engaged with technology and those who were not for “reasons of choice...cost, age group, geography...lack of confidence, or digital literacy” (p. 1). Such potential inequalities underline the importance for clinicians to “engage with their clients on their individual level of technological literacy and ensure that the counselor’s use of technological resources (such as video communication or chat services) does not surpass that of the client’s” (Harris & Birnbaum, 2015, p. 4). Conversely, another concern related to inequality is that those with less means might be funneled towards standalone DMHTs, with only higher SES individuals able to access traditional therapy. Rice (2018) expressed concerns that, as standalone DMHTs improve to the point where they are seen as good enough, persisting “class dynamics that pervade the mental health field as a whole might lead to only the rich having access to the connective labor qualities of in-person therapy while the poor are left with the one-sided accommodations of automated therapy” (p. 5). This is a concern echoed by Fiske et al. (2019) regarding AI therapy, where “good enough” AI therapists could be used to replace existing services with fewer and fewer people able to have access to human therapists.

Privacy and Confidentiality. Several researchers have noted clinicians’ understandable concerns around the ways in which DMHTs might endanger client confidentiality (Chester & Glass, 2006; Martinez-Martin & Kreitmair, 2018; Renn et al., 2019). Although all technologies—including paper records—are subject to theft and surveillance, high profile cases of hacking have shown just how vulnerable electronic data can be. For instance, the Equifax hack in 2017 exposed the personal financial information of 148 million U.S. adults (Wang & Johnson, 2018), while another case at a Maine behavioral health clinic saw hackers steal years’ worth of records that included detailed therapy notes, notes which were then offered for sale on

the dark web (Farwell, 2017). DMHTs may also lead to more insidious leaks of confidential information, including through app notifications that may be seen by others (Naeem et al., 2016). For instance, an individual using an app to track symptoms of depression may receive a pop-up notification on their phone to make an entry, thereby compromising their privacy to anyone that may be able to see their screen. Further, emails may be accessed or read by third parties (Chester & Glass, 2006), while users of apps or other software may be vulnerable to the intentional selling, surveillance, or aggregation of data by advertisers and other corporate or governmental bodies (Hogan & Shepherd, 2015). As the COVID-19 pandemic has shown, unforeseen vulnerabilities can begin to emerge as specific technologies are more widely used, as in the case of Zoom video meeting “hacking” (Singer et al., 2020).

Concerns around privacy and confidentiality are shared by clinicians and clients alike. Renn et al. (2019) wrote that clients are concerned about the security of their information and are worried about “data breaches or unwanted recording or sharing of their sensitive information” (p. 6). Such concerns are reasonable at a time when high profile data breaches continue to occur, and their prevention requires continual vigilance (Harris & Birnbaum, 2015). Further, clinicians may worry about the unforeseen ways confidentiality might be compromised when using digital technologies. For instance, in a study by Van Allen and Roberts (2011), a clinician reported that private mental health information he sent to a custodial caseworker was shared and forwarded to numerous others who then tried communicating with him. Another clinician reported that, after a completed suicide at a hospital, news of it spread “like wildfire and before IT services could lock down her chart, several people had entered into her chart, ‘to see what happened’” (p. 436). Incidents such as these speak to a lack of clear data security standards in modern practice. In

fact, although laws like HIPAA apply to certain areas, Renn et al. (2019) wrote that “there are no uniform standards for protection of information collected from digital therapeutics” (p. 6).

As companies continue to profit from the mining and selling of personal data online, clients and clinicians face considerable risks when utilizing digital technologies for mental health purposes. Third-party information sharing is common in mental health apps, with a review of app data sharing practices finding that “of 36 apps for smoking and depression, 29 sold data to third parties” (Gratzer & Goldbloom, 2020). Despite the ubiquity of these practices, clients may be generally unaware of the ways that their personal information may be leaked or intentionally sold to third parties. Martinez-Martin and Kreitmair (2018) wrote that therapy apps may collect massive amounts of data, from chat logs to location data to voice recordings, and then use such information to predict mental states, all of which can then be used to provide targeted advertising or create a consumer profile. The ethics of such information collecting becomes even more murky when considering the ways in which systems that learn information about users may fail to act. For instance, “if an algorithm determines that a user presents a threat of imminent harm to themselves or another, should there be an accompanying duty to report that information to someone?” (Martinez-Martin & Kreitmair, 2018, p. 2).

Risks to patient privacy through the use of DMHTs and other digital technologies may create barriers to their utilization and adoption by health care organizations. Such organizations, despite potential benefits to both clinicians and clients, may prudently avoid using DMHTs to avoid the risk of fines and lawsuits (Aguilera, 2015). Despite the validity of these concerns and countermeasures, several risks can be lessened through basic best practices. For instance, Ragusea and VandeCreek (2003) wrote that firewalls, intruder detection systems, and antivirus software can be utilized at organizational levels, while simple practices such as “deleting old

emails” can reduce risk. Organizations can use specialized software to decrease risks as well, including reactive approaches such as software that allows administrators to track all instances of access to patient files or proactive approaches such as providing differential levels of access based on credentials (e.g., only allowing psychologists to access therapy records; Van Allen & Roberts, 2011).

Implementation and Design Concerns. Implementation of DMHTs, especially at organizational levels, may prove challenging. Titov et al. (2016) argued that mental health service systems may target different groups and presenting concerns, may be accountable to different regulatory bodies, may be funded from different sources, and may be regulated by different levels of governance, all of which leads to mental health services being fragmented, poorly connected, and difficult for consumers to navigate (Titov et al., 2016). Folker et al. (2018) outlined some of the central challenges in implementing internet-based interventions in routine care settings, including skepticism from clinicians and referrers (e.g., general practitioners), difficulty in recruiting and referring patients to digital services, the need for therapists to be trained and competent with the systems, and the need to consider the long-term sustainability of the program. Further, they described a wide array of implementation and operation concerns, including:

Legislative, regulatory, safety and political restrictions, incompatible reimbursement systems, negative attitudes towards internet-based treatment among providers and patients, lack of awareness of internet-based treatment options among patients and providers, high drop-out numbers from treatment, limited availability of adequately trained professionals and limited evidence for cost-effectiveness. (p. 61)

Despite the cumbersomeness of such regulations, Fiske et al. (2019) expressed the sobering understanding that regulations for technologies often came “after the fact,” once harm had already occurred.

Relational and Interpersonal Concerns. Concerns around how DMHTs might affect the therapeutic relationship are wide ranging, varying from fears that relationships will be shallow and impersonal, to worries that certain technological mediums might create overdependent clients. For instance, in their study of using the goACT platform—a web-based platform that allowed clinicians and clients to interact between sessions—Richards et al. (2018) found that many therapists expressed apprehensions around how the technology might affect therapeutic boundaries. Therapists worried that clients might contact them too frequently and that they would appear “too available” to their clients. They expressed concerns that such contact could cause work-life boundaries to be blurred, with three therapists expressing the concerns that these technologies would impact their ability to “switch off.” Manfrida et al. (2017), examining relational concerns around DMHTs from a psychodynamic perspective, offered unique insights into some of the interpersonal concerns that could arise. They argued that DMHTs carried the risk of being employed as distancing method, as both clinicians and clients alike feared relationships, writing, “if being with patients were easy, looking them in the eyes, observing the slightest movement or feeling, attending to their emotions... if all that were easy there would be no need to work so much on transference, countertransference, and healing relationships” (Manfrida et al., 2017, p. 122).

Some researchers have discussed concerns around a lack of physical presence that is inherent in many DMHTs, with worries that their ability to accurately assess clients may be compromised. For instance, idiosyncrasies in dress, level of grooming, speech patterns and tone,

smell (e.g., of alcohol), and mental status factors may be completely absent or harder to assess depending on the DMHT medium (Manfrida et al., 2017). Further, a lack of local presence may also hamper therapists' ability to assess both verbal and nonverbal cues such as tone of voice, eye contact, body posture, and other factors that allow for the communication, understanding, and rapport needed for therapy (Harris & Birnbaum, 2015). Research from Bambling et al. (2008) has demonstrated how the absence of such cues can lead to communication challenges for online therapists, reducing "the emotional proximity of the client" and—in contexts where cross-cultural factors are present—may "leave the counselor vulnerable to cultural insensitivity and unintentional discrimination" (Harris & Birnbaum, 2015, p. 4).

Disengagement, Nonadherence, and Attrition. Several researchers have reported significant deficits in client engagement with DMHTs, especially standalone treatments where no therapist guidance is provided (Garrido et al., 2019; Linardon & Fuller-Tyszkiewicz, 2020; Scholten & Granic, 2019; Wilhelm et al., 2020). In their systematic and meta-analytic review of smartphone-delivered DMHT research, Linardon and Fuller-Tyszkiewicz (2020) showed that attrition rates were high (24.1% short-term and 35.5% at follow-up), while a substantial number of participants failed to even download or open the application (between 8% to 41%, depending on presenting concern). They argued that this problem did not only raise concerns for the use of such interventions but compromises the validity of the research more generally. Further, they contended, the usage of smartphone interventions consistently falls over time.

Several other authors have offered insights about why engagement may be lower with DMHTs as well as how this engagement might be increased. For instance, Cuijpers and Quero (2019) posited that there was an inherent lack of accountability for clients without therapist contact. Further, they contended that, without "human involvement, dropping out does not

require such interpersonal stress” (p. 6) as it would in traditional therapy, leading to a higher likelihood of attrition and dropout when treatment becomes more challenging. One way to address these concerns is to utilize DMHTs with, at least, minimal therapist contact. To that end, Wilhelm et al. (2020) argued that brief, regular interactions with therapists or even “trained bachelor’s level coaches” (p. 5) could increase engagement. Further, it is possible that certain emerging technologies could be leveraged in place of therapists or trained coaches, such as chatbots or peer-support systems.

Other researchers argued that DMHTs suffered from engagement and adherence problems due to flaws in their basic design, flaws that could be addressed through considering end-users’ desires. For instance, Garrido et al. (2019) found that younger users were more interested in “interventions with a game-like feel and relatable, interactive content” (p. 1) while much less interested in basic psychoeducational materials that resembled reading from a self-help manual. Linardon and Fuller-Tyszkiewicz (2020) argued that a better understanding of what did and did not appeal to users could be discovered through a design and testing processes that involved those who would be utilizing the intervention from the first stages. In other words, engaging and appealing designs can be achieved through collaboration, extensive “usability testing” and adjustment based on feedback.

While much of the research on engagement has focused on client engagement, some researchers have looked at therapist-level factors and therapists’ own disengagement with DMHTs (Folker et al., 2018). In their study of the implementation of a cCBT platform in a health care setting, Folker et al. (2018) found that, over time, cCBT could be experienced as arduous by clinicians, due to both a lack of direct human contact and a lack of variation in content. Harris and Birnbaum (2015) contended that therapists may also become less engaged when using

systems that allowed for working with multiple clients at once. For instance, a clinician conducting therapy with multiple clients simultaneously through asynchronous chats might be less engaged and present, providing less personalized care as a result.

In summary, despite their advantages, DMHT utilization may lead to several new risks and concerns, including issues with informed consent in online mediums and concerns over risk management with remote technologies. Further, they have the potential to exacerbate and increase inequalities, with the dual risk of both those without technological access to be left out and for those with lower SES to be channeled towards “good enough” automated interventions. Additionally, DMHTs may bring with them a host of new ways for privacy and confidentiality to be compromised along with legitimate concerns around how their use might affect the therapeutic relationship and lead to the blurring of therapeutic boundaries. Finally, even as such concerns may be ameliorated through implementing best practices and further technological innovation, there may continue to be significant regulatory and institutional barriers to their use.

Barriers and Facilitators to DMHT Adoption

Clinician Factors. Shalom et al. (2015) stated “despite positive attitudes found in several surveys, most therapists do not use technology in psychotherapy on a regular basis” (p. 73). Apolinário-Hagen et al. (2018) wrote the dissemination and adoption of DMHTs has progressed slowly and that the “discrepancy between potential and actual impact in public health makes it essential to explore public acceptability of e-mental health treatment services across health care systems” (p. 1). If therapists are underutilizing DMHTs, despite their potential to provide substantial benefits for both clients and therapists, it is important to understand and illuminate the barriers that impede such use. The further barriers to access created by the COVID-19 pandemic argue that the need for such research is increasingly pressing.

It is possible that many of the DMHT-related concerns previously discussed (e.g., risk management, relational deficits, etc.) represent psychological barriers to clinicians' DMHT adoption. In a survey of organizational stakeholders examining attitudes towards DMHIs for depression, Toppocco et al. (2017) found that a central barrier to adoption included concerns over a lack of internet access or technological literacy for clients, a lack of efficacy of treatments, and generally negative attitudes from both clinicians and clients towards DMHIs. Overall, they found there was a "perception that their current care system was not ready for service delivery of ICBT" (p. 5). Additionally, several studies have shown that many therapists endorse the belief that DMHTs result in poorer outcomes than traditional therapy. For instance, Donovan et al. (2015) found that a significant majority of mental health workers believed that traditional therapy was superior to iCBT, with only 17-33% endorsing the view that iCBT would be able to achieve similar outcomes. Clinicians also expressed skepticism that computerized therapy could be used to address more severe or complex problems (Donovan et al., 2015).

In addition to these psychological barriers and biases, some clinicians may have concerns around their own technological competence and training for the use of DMHTs. For instance, Whitfield and Williams (2004) examined clinicians' attitudes towards iCBT and found that clinicians endorsed the need for training with iCBT before they used it as well as the ability to examine research that showed that the program was effective. Doherty et al. (2010) argued that therapists may be uncomfortable navigating the possibilities of DMHTs because their lack of perceived competence causes them to experience discomfort "in the role of computer novice" (p. 247). Interestingly, Becker and Jensen-Doss (2013) wrote that research suggested that the majority of clinicians had both access to the equipment needed and enough computer literacy to receive computer-based trainings.

In contrast to preemptive psychological barriers to DMHT use, it is also possible that barriers can arise from previous negative DMHT experiences. For instance, a study that described the use of an iCBT intervention at a clinic found that clinicians who administered iCBT services “had to deal with prejudices and negative attitudes regarding iCBT from both health professionals and fellow CBT therapists” (Folker et al., 2018, p. 64). When Donovan et al. (2015) analyzed mental health workers’ views of a computerized CBT intervention across a number of studies, they found that a large majority of them saw FTFT as superior, despite the fact that research has shown that computerized interventions are comparable to FTF interventions in terms of effectiveness (Carlbring et al., 2018).

Some therapists may find DMHTs like iCBT frustratingly inflexible, with significant difficulty in tailoring interventions to particular clients. However, Folker et al. (2017) pointed out that such inflexibility may be more related to the highly structured format of CBT than the electronic medium in which it is dispensed. In some research, therapists have endorsed concerns that more self-directed interventions with little to no human contact may lack important therapeutic ingredients like accountability (Ly et al., 2017) that help to motivate clients to engage in the hard work of change. Therapists also endorsed concerns about managing risk in an iCBT intervention and expressed worries that the programs would not be able to adequately detect and respond to risk (Stallard et al., 2010). Clinicians may also be concerned about therapeutic boundaries when using DMHTs. Doherty et al. (2010) wrote that DMHTs carry with them the concern for therapists of “greater responsibility and more opportunities for client-therapist contact,” especially in regard to the introduction of “a constant line of communication between them and client which they would feel obliged to monitor” (p. 247). However, they argued that

the solution to such problems was less related the technology itself and more a result of the rules, protocols, and boundaries therapists set for themselves and their clients.

Aguilera (2015) posited that clinicians may worry that technological innovations will replace the need for their services. However, they argued that this concern fails to understand the ways in which technology will enhance rather than replace care and that “even with technology, personal contact and real-time intervention and feedback will still be required to treat most individuals seeking in-person services” (p. 9). Harris and Birnbaum (2015) argued that online counseling does not pose a serious threat to in-person therapy as “online counseling targets a different demographic, one that largely would never seek face-to-face counseling services” (p. 3).

In a study of clinicians’ attitudes towards iCBT use for children and adolescents, Stallard et al. (2010) reported a number of concerns including a lack of contextual understanding, a lack of support, and the potential for increased social isolation among clients. In regard to contextual understanding, therapists endorsed concerns that iCBT would not consider the family, school, and societal contexts that young clients were embedded in, leading to limited potential for a beneficial outcome. Therapists also expressed concerns that clients would not understand the program or what was expected of them but would have no one to talk to in order to address their concerns. Further, the lack of human contact inherent in fully self-directed interventions was seen as problematic as younger clients were already significantly socially isolated and already spent too much time communicating through electronic devices. In a study by Vigerland et al. (2014), more than half of clinicians expressed the concern that an unhelpful experience with iCBT would “ruin the possibility of other successful treatments” (p. 113).

While negative attitudes, biases, and concerns around DMHTs are common in the field, research has also shown significant variation in attitudes, from more mixed or ambivalent views of DMHTs to much more positive views. In a study by Shalom et al. (2015), the majority of therapists expressed openness to using DMHTs as an adjunct or in combination with FTFTs, endorsing the belief that doing so would help maintain continuity of care and could allow for monitoring and feedback. Further, a substantial minority endorsed the view that using adjunctive DMHTs would “elicit equal (49.5%) or better (37.0%) client satisfaction” (p. 72). The view of the effect of such a combined intervention on therapeutic alliances ranged by therapists’ orientations, with 19% of cognitive behavioral therapists believing it would diminish the alliance and 46% of those from other orientations thinking it would do so (Shalom et al., 2015). Research also suggests that clinician attitudes may vary in regard to the treatment being proposed, with different therapist reactions to the idea of purely self-directed interventions than to the adjunctive use of DMHTs. For instance, in a study of iCBT by Vigerland et al. (2014), while a majority of clinicians reported that iCBT could be helpful, 67% believed that iCBT should not be available without any therapist support. Therapists who believed iCBT should not be used without therapist support endorsed specific concerns that clients would need someone to “motivate, give feedback and answer questions” and that there were important parts of treatment that “occur specifically through the encounter of another person” (p. 4).

Richards et al. (2018) contended that “therapist reactions to technology in therapy have been polarized, with dismissive skepticism at one end, to overt enthusiasm at the other” (p. 172). Multiple researchers have examined predictors of therapist attitudes toward DMHTs, finding several influential factors. For instance, Shalom et al. (2015) found that having previous experience with computerized therapies lead to more positive attitudes towards them. Kerst et al.

(2019) found that increased familiarity with technology increased the likelihood that a therapist would consider using an app in their clinical practice and predicted they would have higher expectations for their therapeutic benefits. However, it should be noted that, even for those clinicians who had no experience with mental health apps, most endorsed interest and willingness to at least consider their use, while only 3.5% reported that they would refuse to utilize apps altogether (Kerst et al., 2019).

Shalom et al. (2015) wrote that, overall, therapists *were* interested and willing to utilize combined interventions, although they were more supportive of using computerized tools for psychoeducation and feedback than in the active treatment of clients and for certain presenting conditions over others. This latter sentiment was echoed in research by Kerst et al. (2019), who found that 68% of clinicians considered apps most helpful for those with subclinical levels of depression, 52% for mild-to-moderate depression, and only 10% for severe depression. Therapeutic orientation was also a predictor of DMHT acceptance and utilization, with dynamic orientations evincing more negative attitudes, and CBT therapists showing higher positive attitudes (Wangberg et al., 2007). Donovan et al. (2015) posited that one reason for these differences may lie in the fact that the majority of computerized interventions are CBT-based.

Regardless of existing biases or skepticism around DMHTs, research has shown that clinicians' attitudes towards DMHTs may be alterable. For instance, clinicians who were shown a 5-minute presentation about iCBT were significantly more knowledgeable about the program and endorsed "more advantages of iCBT and fewer disadvantages of iCBT" (Donovan et al., 2015, p. 379). As previously discussed, clinicians' reticence toward DMHT use may be partly explained by their belief that such technologies are outside of their domains of competence, arguing for the importance of education and training in technology (Kerst et al., 2019). In a study

by Perle et al. (2013), the majority of interviewed clinicians said that additional training with digital interventions and technologies would increase their willingness to utilize them.

Demonstrations of DMHIs to clinicians can positively influence their attitudes towards them, meaning that the dissemination of presentations, trainings, and information “could be used to positively influence attitudes and uptake of web-and mobile-based interventions” (Kerst et al., 2019). Apolinário-Hagen et al. (2018) argued for a significant effort in promoting “e-awareness” in both public and professional realms as an important step in increasing utilization and decreasing barriers.

Client Factors. While clinician attitudes and experience with DMHTs are important predictors of their adoption and utilization, client factors also affect their use. Negative perceptions of and attitudes towards DMHTs by clients can be based on a number of factors. Similar to clinicians, some of these factors are derived from direct experience with DMHTs while others are based on more general biases. For instance, in a survey of adults in the United States with depression by Renn et al. (2019), clients expressed concerns about DMHTs being less effective than in-person treatment, skepticism about the ability to engage in self-guided therapy, and worries about privacy and confidentiality. A number of participants also raised concerns about a “lack of accountability” to a human therapist and endorsed the view that “personal contact was important to address motivational issues” (p. 6). An individual who had attended in-person therapy in the past endorsed feeling that the human interaction aspects of the treatment were a central feature of why it was beneficial, writing “my depression was bad enough that I isolated myself. The very act of getting ready to leave the house, dressing, showering, putting on makeup, getting in the car and going somewhere - were extremely helpful” (Renn et al., 2019, p. 5). Such experiences underline the importance of considering the ways in

which specific presenting concerns may shape client attitudes, with the possibility that “certain mental health conditions, such as depression, paranoia, or psychosis, might make it more difficult for a person to engage with or trust digital technology” (Hollis et al., 2018, p. 1).

When clients are asked for their perceptions of DMHIs compared to traditional, FTF interventions, a number of studies have shown that clients perceive the former as less helpful and strongly prefer FTFT (Apolinário-Hagen et al., 2018; Clough & Casey, 2011). Renn et al. (2019) found that this strong preference for in-person versus digital treatment “did not vary by rural/urban status, racial/ethnic minority status, or by age” (p. 2). Further, therapist-assisted DMHTs were perceived more positively than standalone treatments (Apolinário-Hagen et al., 2018) and there is evidence clients are still willing to utilize online mental health services despite their strong preference for FTFTs (Sweeney et al., 2015). Folker et al. (2018) discussed how treatment beliefs and expectations could have a significant impact on clients’ willingness to use DMHTs, with low treatment expectancy potentially reducing this willingness. Further, clients’ beliefs about the relative advantage and usefulness of an innovation may represent a strong predictor of their willingness to use DMHTs (Apolinário-Hagen et al., 2018). Evidence that symptom severity may be a predictor of willingness to utilize DMHTs has been contradictory. Arjada et al. (2018) described two surveys, one that showed highest acceptance of DMHTs among those with milder depression symptoms and another that showed that “higher depression level predicted higher willingness to use the internet-based intervention” (p. 12). Personality factors may also play a role, with Sweeney et al. (2015) describing “lower trait loading on extraversion, neuroticism, agreeableness, and openness to experience” (p. 438) as predictive of attitudes towards DMHTs.

Another important predictor of client attitudes towards DMHTs can be found in their level of previous experience with face-to-face therapy. One study found that those with previous in-person therapy experience showed less willingness than those without such experience (Renn et al., 2019). While research on the effects of the COVID-19 pandemic on client DMHT use willingness has yet to be conducted, it will be valuable to learn both the ways that views changed in regard to overall willingness as well as how their experiences with DMHTs matched or failed to match their previous views. As previously discussed in regard to therapists, client attitudes and perceptions of DMHTs may also be changeable. For instance, Apolinário-Hagen et al. (2018) discussed how client education about DMHTs could lead to both improved attitude and increased utilization. They described a research controlled pilot study where text-based psychoeducational materials were provided about DMH services and found that those who were exposed to the material had more positive attitudes towards DMHTs and endorsed higher intentions to utilize such services in the future. Their study built on previous evidence that suggested that public acceptability of DMHT services was dependent on the level of general awareness of the service's existences in the public and that positive attitudes towards DMHTs could be strengthened through the provision of text or video education sources (Casey et al., 2013; Ebert et al., 2015).

Although biased attitudes against DMHTs are common in clients, experience with DMHTs may result in higher levels of acceptance. In a systematic review by Rost et al. (2017) of computerized CBT interventions, the "majority of the 29 reviewed studies reveal high or very high levels of user acceptance" (p. 7). Further, Parish et al. (2017) described the finding that approximately two thirds of patients endorsed positive attitudes towards DMHTs for at least some applications such as symptom monitoring and tracking. Further, Maron et al. (2019) wrote that change may be occurring in overall attitudes towards DMHTs due to the increasing ubiquity

of and reliance on technology in daily life. Garrido et al. (2019) argued that younger populations are increasingly connected to technologies, with research demonstrating “that young people report feeling more comfortable discussing sensitive and personal issues in the relative anonymity of an online context and use the internet as a major source of mental health information” (p. 2). As individuals immersed in digital technologies from infancy come of age, the field may see significant changes in regard to overall client comfort with and utilization of DMHTs.

Research and Design Factors. One important aspect of DMHTs that may act as a barrier or a facilitator to client or clinician use is their design, including such factors as overall usability and ease of use, aesthetic choices, and level of engagement and enjoyment. For instance, Garrido et al. (2019) highlighted the importance of attending to design factors when targeting younger populations who had been immersed in digital technologies from their earliest years. They argued that even aesthetic choices such as color scheme and icon design could be important for younger populations. They also outlined the importance of designers “knowing their audience” when designing DMHTs. For instance, DMHTs that targeted younger populations should not be designed primarily to target the youngest potential clients, as older children and adolescents may find them “too juvenile or patronizing” and may desire the design to be “more grown up” (Garrido et al., 2019, p. 15). Research suggests that particular attention should be paid to educational content, particularly when targeting younger populations, as multiple studies have shown that such content can be tedious, tiring, and demotivating (Garrido et al., 2019).

As disengagement and attrition have been continual problems with DMHTs, it is crucial to find ways of designing engaging systems that both require active participation and align with clients’ particular “interests, strengths, and ideas” (Doherty et al., 2010, p. 246). Importantly,

DMHTs should be designed with emphasis on “engagement with the treatment, rather than on engagement with the technology,” with the most successful implementations able to leverage engaging technologies in a way that enhances “engagement with the overall therapeutic process” (Doherty et al., 2010, p. 246). Wilhelm et al. (2020) argued that the usability of apps—i.e., their “ease of use, the extent to which it meets users’ needs, how enjoyable it is to interact with, and the attractiveness of its interface” (p. 5)—is another key factor in engagement. Researchers have shown that users often find apps clunky, difficult to use, lacking desired features, and inflexible (Wilhelm et al., 2020). Nicholas et al. (2017), in a qualitative analysis of user reviews of apps for bipolar disorder, found that approximately 25% of reviews contained negative that were often due to issues with usability.

One way in which design issues may be addressed is through increasing collaboration between researchers, clinicians, clients, and developers. Wilhelm et al. (2020) pointed out that mental health apps are often “created unilaterally by industry developers, without involvement from clinical experts” (p. 6). In 2017, Sucala et al. found that 67.3% of DMH apps on the marketplace were developed without any input from clinicians. While this lack of external input represented a significant design deficit, Wilhelm et al. (2020) also argued that the solution was not to simply shift app development into the hands of clinicians or researchers. Instead, researchers of clinicians who worked to develop apps without industry developers were “bound to fail in creating fun or attractive apps” (p. 6) as they lacked training in user interface design and other elements of development and engineering. However, by bringing developers, researchers, and clinicians together, all may stand to benefit.

Collaboration with clients and other service users is also a crucial part of the design process, with research showing that DMH app makers who involved client stakeholders from the

beginning of the design process were able to create high levels of engagement (Wilhelm et al., 2020). Likewise, Scholten and Granic (2019) argued for the importance of “empathic design” that “keeps the whole end-to-end user experience in mind” (p. 4). They emphasized the importance of understanding how individuals discover DMHTs, how DMHTs interact with and provide feedback to them, how it feels to use them, how they communicate or share their experiences with others, and how their interest and engagement with the service changes over time. Such “empathic design” relies by involving clients and end-users in the design process. While industry developers may lack access to both individuals experiencing mental health concerns and intervention settings in which to pilot DMHTs, Doherty et al. (2010) contended that developers are free to contact and collaborate with mental health clinicians and other health care professionals. Further, they emphasized the importance of an extensive collaboration between numerous stakeholders, including engineers, designers, clinicians, health care representatives and administrators, and others involved in the provision of services.

Wilhelm et al. (2020) further discussed the importance of designing for the “real world” and the systems in which DMHTs would ultimately be utilized. When such organizational and implementation concerns are not carefully considered, effective treatments may fail to be utilized. For instance, Wilhelm et al. (2020) described a smartphone app for the treatment of alcohol use disorder that—after showing strong efficacy in the lab—was deployed at 14 different clinics, yet “only 3 of 14 clinics continued using the app after 2 years, due to challenges of integrating it into their unique systems” (Wilhelm et al., 2020).

In addition to considering the needs of clients and organizations, Doherty et al. (2010) outlined the importance of considering the needs of clinicians when designing DMHTs, including an awareness of the true objective of interventions and techniques, the ability for

clinicians to customize interventions, and the importance of not creating extra demands on clinicians' times. The authors also outlined the importance of creating DMHTs that were easily and readily incorporated into clinicians' already complex practices, including streamlining them with existing practice management or EHR software. Finally, they emphasized the necessity of attending to relationship and alliance factors in the design of DMHTs, creating systems that helped "establish, maintain or enhance client-therapist relationship[s]" (p. 248).

Wilhelm et al. (2020) wrote that issues with usability can be a central concern in the transition of DMHTs from the lab to the real-world and that "even when digital interventions show strong engagement in efficacy trials, engagement almost invariably plummets upon real-world implementation" (p. 6). Ultimately, they attributed this problem to a failure to involve key stakeholders in the design process. Similarly, Martinez-Martin and Kreitmair (2018) discussed the concept of a "commercialization gap" in DMHTs where DMHTs developed by researchers and clinicians had to undergo "rigorous testing for safety and effectiveness, while private sector products are more likely to be designed to maximize user engagement" (p. 3). A central downside of this gap is that less effective and possibly dangerous DMHTs are more readily accessible and, potentially, more engaging and enjoyable to use. Further, the lengthy process of traditional research with randomized controlled trials is likely to be a barrier that many developers will simply circumvent, although a more efficient process could lead to more developers willing to engage in it (Murphy et al., 2020).

Research into DMHTs has made significant progress in the last decade, yet many fundamental questions still remain. For instance, how much actual therapist contact is needed for maximum benefit from a DMHT? Further, do therapists need to be the ones to provide that contact or can their role be met through trained peers? Hollis et al. (2018) argued that it remains

unknown if the common factors of therapy and the subtle cues inherent in FTFT can be replicated or maintained digitally, or even if it was necessary to do so. Further, it is unknown how the unique benefits and disadvantages of DMHTs for clinicians and clients alike may manifest and change as technologies continue to progress.

DMHT Domains

Administrative Technologies

The area of administrative technologies is one that does not substantially differ from technologies that could be found in most businesses, from fax machines to telephones to personal computers. Instead of focusing on all administrative type technologies, two technologies that are more specific to psychotherapy—electronic health records (EHRs) and practice management software—will represent the bulk of this section.

Electronic Health Records. EHRs represent computer-based platforms for the systematic aggregation and storage of patient health information (Gunter & Terry, 2005). Their use is widespread in medical settings, but they are less frequently used in mental health care settings (Maron et al., 2019). A significant body of research suggests that EHRs can improve the quality of care and reduce risk, leading some mental health reformers to promote their widespread adoption and utilization (Mathews, 2019). However, significant skepticism remains among providers about EHRs, especially in regard to their use during treatment. For instance, therapists worry that in-session EHR use might be disruptive to provider-patient communication and lead to an increased cognitive burden (Mathews, 2019). In a study that interviewed both clinicians and clients about their perceptions of EHR use in-session, a quarter of providers endorsed the belief that such use would harm rapport, while the majority believed that it would, at minimum, distract clinicians and disrupt the flow of the session (Mathews, 2019).

Interestingly, clients' views of in-session computing were not correlated with the frequency of computer use, suggesting that disruptive effects of use were less about the amount of use and more about the quality of use (Mathews, 2019). Further, clients endorsed positive appraisals of one of the added benefits of certain EHRs that provide open-note systems where clients are able to electronically access their session notes. In such cases, clients indicated that their ability to read notes and discuss them with their clinicians led to more transparent and collaborative therapeutic work (Mathews, 2019). Despite potential benefits in regard to increased quality of care and client satisfaction, the majority of mental health providers still utilize "nonfunctional electronic record systems or even paper-based documentation" (Maron et al., 2019, p. 17).

However, despite their potential benefits, mental health clinicians may have valid reasons for avoiding EHRs. Although research into therapists' perceptions of EHRs remains nascent, significantly more research has been conducted into medical clinicians' experiences with and perceptions of EHRs, with research showing links between EHR use and higher levels of stress and burnout (Mathews, 2019). One significant cause of these difficulties for medical professionals has been the inefficiency, inflexibility, and overall poor design of the software, design problems that may be even more pronounced for those in the mental health field, as such systems may be built for medical professionals and then retrofitted for the needs of others (Mathews, 2019).

Practice Management Software. Practice management software typically has an EHR component, allowing therapists to keep session notes, but also allows for management of billing, outcome measures, scheduling, intake, telehealth, and messaging (Owings-Fonner, 2019). Practice management software has the potential to increase efficiency, streamline services, and provide benefits to clients in the form of different functionalities such as the ability to access

homework and send private messages to their therapists (Owings-Fonner, 2019). Practice management software platforms can also have disadvantages, including the fact that many are cloud-based and therefore are reliant on constant, dependable internet connections on the part of the user and reliable maintenance and security of the server by the practice management company (Owings-Fonner, 2019). Additionally, such software platforms can be expensive and—like all internet connected systems—may be vulnerable to hacking and attempts to steal information (Petrow, 2017).

Comprehensive Systems. Comprehensive systems aim to combine some of the benefits of EHR and practice management software with DMHIs so that clients can be diagnosed, treated, and have their cases managed through one central system (Maron et al., 2019). One such proposal is the Intelligence Platform for Research, Outcome, Assessment and Care in Mental Health (i-PROACH), a cloud-based platform that aims to increase access, reduce treatment cost, and increase quality of care and services (Maron et al., 2019). The system's authors argued that the scope of such comprehensive systems can be quite broad, with the ability to integrate other systems in the future, including artificial intelligence and genetic research to diagnose and treat more accurately (Maron et al., 2019).

Distance Communication Technologies. Distance communication technologies such as email, telephones, and fax machines represent the final category of administrative technologies I will discuss. The majority of psychotherapists have utilized email to communicate with clients, with one survey finding that 86% of providers reported email contact to concern practical matters such as scheduling, and around half endorsed email contact that addressed clinical issues (Wangberg et al., 2007). Although a large number of therapists endorsed addressing clinical concerns through email, only half reported that it was a completely positive experience, with the

remainder reporting that it was a mixed or negative experience (Wangberg et al., 2007). Text messaging has also been used to address both administrative concerns like scheduling and appointment reminders as well as clarification for things that happened in session and providing homework assignments (Barnett, 2011). In regard to texting about clinical concerns, Wangberg et al. (2007) found that around 40% of clinicians found it to be a positive experience with the remaining 60% finding it to be a negative or mixed experience. Research on the effectiveness of text messaging appointment reminders is mixed. While a few researchers have found beneficial effects (Branson et al., 2013; Sims et al., 2012), others have shown that SMS text reminders may increase dropout and “encourage patients to take a more passive approach to appointment scheduling” (Clough & Casey, 2015, p. 148).

Artificial Intelligence

Artificial intelligence (AI) is a term coined by computer scientist John McCarthy in 1955 to describe the ability of a machine to perform functions that emulate or replicate human intelligence (e.g., planning, learning, reasoning, perceiving; de Mello & de Souza, 2019). A more recent definition is provided by Russel and Norvig (2009), who stated that artificially intelligent agents are those that “receive percepts from the environment and take actions that affect that environment” (de Mello & de Souza, 2019, p. 2).

History and Evolution. The application of AI to psychotherapy can be traced back to the 1960s with a computer program named ELIZA. Constructed by MIT researcher Joseph Weizenbaum as a simple conversational agent, users typed statements to the program and it responded with simple text transformations. Although ELIZA was strictly rule-based and in no way understood or comprehended what individuals wrote to it, it seemed to have a beneficial effect on those who used it through its basic ability to emulate reflective listening. As

Weizenbaum (1966) wrote, ELIZA had “a crucial psychological utility in that it serves the speaker to maintain his sense of being heard and understood” (p. 7).

As AI has evolved over the intervening decades, it has shifted from logic and rule-based programs to deep learning programs (de Mello & de Souza, 2019), methods seek to replicate the naturalistic ways that humans learn and understand information. Deep learning programs utilize flexible artificial neural networks, synthetic representations of the pathways and synaptic connections that compose the human brain and allow for learning (Bengio et al., 2013). While older systems like ELIZA were built on an “axiomatic” system that functioned on a series of if-then statements, newer deep learning programs are simply fed massive quantities of data (e.g., therapy transcripts and chat logs), which they are able to develop models about. When these programs then confront similar but novel data, they are able to make predictions and inferences about it (de Mello & de Souza, 2019).

Utilizing both axiomatic and deep learning approaches, researchers have used AI to deliver manualized treatments (Rice, 2018), to engage in conversations with clients (Inkster et al., 2018), and to assess and monitor symptoms (Passos et al., 2019). One key benefit of AI-based treatments is that already existing treatments can be adapted to their use (Rice, 2018). This may be particularly true in the case of more manualized treatments such as CBT, where exercises like cognitive restructuring and goal tracking may be easily amenable to an AI approach (Rice, 2018). AI also shows significant potential in its ability collaborate with human therapists. Miner et al. (2019) outlined two different ways that AI and humans could effectively collaborate. In “AI delivered, human supervised” treatment, an AI program would deliver the bulk of the treatment, but a human would act as a supervisor behind the scenes, helping to plan treatments and adjusting the AI’s approach if needed (Miner et al., 2019). Conversely, a “human-delivered,

AI informed” treatment might use a recording device in session to allow an AI system to “listen in.” The AI agent could then engage in quantitative analysis and utilize machine learning capabilities to inform the therapist in real time about clinically relevant information, such as the symptoms it detects or potential interventions (Miner et al., 2019).

Conversational Agents. AI-based treatments may also be utilized as standalone treatments, taking on the role of the therapist themselves in the form of “conversational agents” (CAs; Fitzpatrick et al., 2017). For many, interacting with CAs is already a common occurrence as they are frequently utilized in the form of digital assistants such as Apple’s Siri and Microsoft’s Cortana (Fitzpatrick et al., 2017). In essence, these agents are software programs that can mimic naturalistic conversations by both understanding and responding in ways that seem human (Fitzpatrick et al., 2017). While these interactions have often been text-based and more obviously artificial, more recent deep learning approaches are being used to create CAs that can provide psychological support audibly, with natural speech synthesis and more sophisticated levels of understanding and responding (Ly et al., 2017). For instance, Ellie is a “virtual psychologist” that both speaks aloud to and observes clients through optical sensors (Balick, 2014). Through machine learning, Ellie can monitor distress in real-time and track multiple metrics to determine a client’s engagement in session (Tieu, 2015). Ellie has been utilized to help veterans talk about their trauma, a population that the program may be particularly helpful for. Balick (2014) contended that Ellie may provide services to clients that would otherwise avoid talking about their problems, thereby increasing access to a population that experiences a high level of distress.

While technologies like Ellie require an array of equipment that make them non-portable and generally inaccessible, another CA called “Shim” was built as a smartphone application. Ly

et al. (2017) described how Shim emulates a text messaging app within the user's phone and utilizes interventions from several treatment paradigms including positive psychology, behavioral activation, present moment awareness, and values and committed action. Shim's words are determined by an algorithm that takes previous information it has learned about the user into account in addition to contextual cues such as the time of day. In one study of Shim, those in the active condition showed increased wellbeing and reductions in stress compared to the waitlist control and further showed high engagement, opening the app an average of 17 times during the 2-week intervention period.

Despite these benefits, qualitative interview data suggested several problems with Shim, including feelings of invalidation and the experience of "texting with a machine" (p. 44), as Shim showed a tendency to repeat questions and provide inflexible responses. Ultimately, some users were disappointed at the shallowness of the relationship, while others expressed frustration about the superficiality and mechanical nature of the overall intervention (Ly et al., 2017).

Despite their current limitations, a purported benefit of CAs may be found in their ability to address engagement and adherence deficits that are common with self-directed or minimal therapist contact digital interventions. By replicating human interaction, they may be able to stimulate a sense of accountability or engagement that is more common in the context of in-person therapy (Ly et al., 2017).

AI-Based Interventions. Studies that have examined standalone AI-based interventions (ABIs) have shown promising results. For instance, in one study, a text-based AI helped to significantly reduce symptoms of depression and anxiety in a group of college students, in comparison to a psychoeducation-only control group (Fitzpatrick et al., 2017). In addition to depression and anxiety, ABIs have also begun to be utilized for more severe mental illness, with

one study using a unique combination of virtual reality and artificial intelligence to help individuals with auditory hallucinations engage with the voices they heard, an intervention that led to reductions in hallucinations, reduced symptoms of depression, and improvements in overall quality of life (Fiske et al., 2019).

Although ABIs show promise, there are also important concerns and caveats surrounding their utilization. For instance, ABIs may have inherent limitations in their abilities to provide some of the more “human” elements of therapy (Rice, 2018). Although many researchers agree that AI could reliably provide skills-based interventions, the extent of their ability to generate or emulate key “common factors” such as empathy, a sense of positive regard, or congruence is less certain (Rice, 2018). Psychodynamic therapists, who have shown less utilization of and lower acceptance of DMHTs across several studies (e.g., Manfrida et al., 2017; Scharff, 2013) may be particularly averse to ABIs. For instance, Rice (2018) questioned—from a psychodynamic perspective—whether the “therapeutic capacity of being known by another knower (intersubjectivity) is something that can be automated, or is it the sacrosanct realm of in-person psychotherapist’s connective labor?” (p. 2). Further, Rice contended that the seeming advantage of increased willingness to disclose to nonhuman therapists might represent a downside to AI as:

...what was possibly the benefit of patient’s greater willingness to disclose personal secrets to machines in the absence of risking shame, may also be the very thing that stifles the distinguishing therapeutic feature of connective labor: growth and acceptance in the appraising eyes of the other. (Rice, 2018, p. 4)

General Advantages and Benefits. Despite some of the disadvantages and risks of both ABIs and CAs, there are also several potential advantages and benefits to their use, including their ability to enhance and augment traditional therapy. For instance, Miner et al. (2019) posited

that AI might prove invaluable in handling some of the more repetitive and time-consuming tasks that can contribute to clinician burnout, such as basic assessment, history taking, and symptom review. CAs have shown acceptability and effectiveness in the role of interviewing patients about PTSD symptoms, depression, and stress (Miner et al., 2019). Another benefit of AI, a benefit shared by some other DMHTs, is their non-consumability. Unlike human clinicians, who have a limited number of hours in which to see clients, a CA is always available, day or night, and “has endless amounts of time and patience, never forgets what a patient has said, and does not judge, thus potentially offering a service that is highly reliable and particularly well-suited to certain patient populations” (Fiske et al., 2019, p. 4).

Further, despite concerns around the artificiality and the lack of human connection with ABIs, such interventions may offer unique relational benefits. For instance, in one study, participants were more open in reporting mental health symptoms than they were with a human (Miner et al., 2019). In another study, patients had a highly positive reaction to a CA, overwhelmingly preferring to talk to the CA over a human during discharge from a hospital setting (Fiske et al., 2019). When interviewed about their experiences, several of these patients indicated that their ability to “self-direct the pace of the information” was particularly appealing, leading Fiske et al. (2019) to suggest that AI might help to address “embarrassment when asking for specific information or services or feelings of shame when admitting noncompliance with a treatment plan” (p. 4).

Blended and Adjunctive Treatments

While some DMHTs represent standalone or client-directed treatments, a separate DMHT domain represents a hybrid system: the concurrent use of DMHTs with traditional treatment in a “blended” or “adjunctive” role. In the former, treatment may be bifurcated with—

for instance—skill-building and psychoeducation dispensed through an app, while in-person treatment focuses on addressing barriers, answering questions, and providing connection and support through the therapeutic alliance. In contrast, an adjunctive treatment might utilize a DMHT to provide some ancillary aspect of treatment, such as a therapist asking a client to keep a mood log through a smartphone app. Evidence suggests that such blended interventions can drastically reduce the amount of clinician time required without reducing their overall effectiveness (Fairburn & Patel, 2017). Studies that have examined blended treatments that utilize a mix of DMHTs, workbooks, and minimal interaction with mental health professionals have also shown promising results (Garrido et al., 2019).

DMHTs can serve a valuable adjunctive role in the domain of homework, helping to facilitate the completion of homework by increasing its convenience and accessibility. For instance, instead of carrying around cumbersome and conspicuous paper-based thought and mood logs, individuals can complete such between-session tasks on a smartphone (Clough & Casey, 2011). Such tasks can themselves be made more enjoyable using gamification (Clough & Casey, 2011). Additionally, psychoeducational and experiential homework tasks could be delivered in real-world contexts through an individual's smartphone, helping to translate therapeutic principles into real life and “presenting therapeutic information on devices that are personally and socially relevant” (Clough and Casey, 2011, p. 14).

The ability of blended and adjunctive technologies (BATs) to enhance current treatment rather than replace it may be particularly appealing to clinicians. In a qualitative study that examined therapists' attitudes towards BATs, more than half of respondents endorsed the view that such treatments were more effective than traditional therapy, particularly in their ability to “provide feedback and maintain continuity of care” (Shalom et al., 2015). Interestingly, in

Shalom et al.'s study findings, therapists' theoretical orientation was not a significant predictor of attitudes, and more than half of participants endorsed willingness to be trained in a blended model (Shalom et al., 2015). There are multiple areas of treatment where BATs could help lead to improvements in outcomes, including through decreasing patient dropout, increasing engagement and homework compliance (Clough & Casey, 2011), and by expanding the provision of evidence-based practice in the field (Cuijpers & Quero, 2019).

Computerized and Internet Interventions

Computerized and internet interventions (CIIs) represent DMHTs that are typically accessed on a home computer or laptop. Although sharing some conceptual and functional overlap with mobile apps, the CIIs I will discuss in this section haven't been separated from apps as there are several differences regarding their history, research-base, feature set, and development. Commonly, CIIs are CBT-based, partly because CBT can be highly manualized and—therefore—more easily adapted to automated interventions (Hedman et al., 2012). Overall, CIIs can be divided into four major types, differentiated by the level of support the client receives: (a) standalone; (b) minimal therapist contact (MTC); (c) blended treatments; and (d) treatment platforms (Becker & Jensen-Doss, 2013; Newman et al., 2011). In (a) standalone CIIs, clients work their way through a treatment program with no external input or support. While (b) MTC CIIs are also primarily self-guided, clients receive some limited support, often through email (Newman, 2004). Some (c) blended CIIs devote equal time to in-person and internet-delivered therapy, allowing the client to learn and engage in specific tasks outside of the session (Wentzel et al., 2016). Finally, (d) treatment platforms provide more comprehensive programs, offering a mix of self-directed activities, peer support, and interaction with mental health professional (Newman et al., 2011).

A recent review found that nearly half of CII were entirely autonomous while, in the remaining half, guidance was provided by a mixture of “therapists in 24.3% of cases and practitioners of related professions, such as coaches, nurses, social workers, or clinical psychology students in 12.4% of cases” (Burger et al., 2020, p. 8). CII platforms can show significant variance in their structure and the services they provide. For instance, “Big White Wall” is a research-supported platform where individuals can receive help from trained counselors and licensed mental health professionals (Weitz, 2018), whereas the Moderate Online Social Therapy (MOST) system is a platform for the support of individuals in recovery from both depression and psychosis, with sections of the site devoted to support forums, group problem-solving, and behavioral tasks (Rucker, 2018). Although many CII have remained in the lab, unavailable to the wider public, there have been efforts to create commercially available platforms. For instance, Ginger.io is a platform that provides interventions, monitoring and feedback tools, and “care teams” that include mental health clinicians and psychiatrists (Anthes, 2016).

CII Advantages and Benefits. Across different platforms, CII have been used effectively to treat a wide variety of disorders. For instance, several RCTs have demonstrated their effectiveness in treating depression (Titov et al., 2016), with more than 100 different CII for depression alone published since 2000 utilizing a wide variety of approaches and methods for content delivery (Burger et al., 2020). A meta-analysis of depression CII found overall high satisfaction among participants and a moderate effect size, although the researchers were explicit in noting that the therapist-guided treatment implementations were more effective and showed higher retention than their more autonomous counterparts (Friesen et al., 2014). Computerized CBT has shown comparable efficacy to FTFT for depression (Carroll et al., 2009; Clough &

Casey, 2011; Spek, 2007; Watts et al., 2013), and research has also demonstrated that CIIIs can be effective for a range of anxiety disorders, including generalized anxiety disorder, social anxiety disorder, PTSD, and panic disorder (Arnberg et al., 2014; Hedman et al., 2012; Klein et al., 2009; Olthuis et al., 2016). Additionally, CIIIs have been effective in the treatment of disordered eating and body dissatisfaction (Heinicke et al., 2007; Robinson & Serfaty, 2008), as well as complicated grief (Wagner et al., 2007)

In addition to their ability to effectively treat anxiety and mood disorders, benefits of CIIIs include expanded access, reductions in cost, and the lessening of stigma barriers. Evidence suggests that CIIIs may also be used as steppingstones to further treatment. For instance, Novotney (2017) discussed how college students with eating disorders were more likely to seek out face-to-face treatment after participating in a CII body image program. CII's ability to increase treatment access is a key benefit, with individuals in need of treatment able to be connected with internet-based therapies quickly and easily, without the need for direct, in-person contact. Gainsbury and Blaszczynski (2011) discussed how this fact may be particularly beneficial for those with shame or stigma-based barriers, such as those with substance use disorders. CIIIs may also offer several unique advantages over traditional therapy. For instance, Riva et al. (2015) outlined how CIIIs are both "infinitely patient" and could diminish variability in treatment by delivering the best interventions consistently. Another unique advantage of CIIIs, according to Gainsbury and Blaszczynski (2011), lies in their correspondence with the influential stages of change model (Prochaska & DiClemente, 1983). That is, because internet therapy is always accessible and protects clients from the "shame of failing to complete face-to-face therapy sessions," (p. 496) clients may be able to proceed at their own pace and "act out" their ambivalence in ways that are more difficult in FTFT.

In addition to client-level benefits, clinicians stand to benefit from increased use of CIIIs as they may be able to service more clients. In a review of online therapies in Sweden, the authors found that CIIIs “saved as much as 50-80% of therapist time” without reducing the amount of the time clients were being actively treated (Gainsbury & Blaszczynski, 2011). Their findings showed how clients were able to continuously work on assignments and report progress while therapists acted as guides, providing feedback and support when needed (Gainsbury & Blaszczynski, 2011). CIIIs also represent a potential boon for researchers as, unlike with FTFTs, “all records are already electronically transcribed and data is available for each client” (Gainsbury & Blaszczynski, 2011, p. 6). Further, such data can be easily tied to granular outcome data that is also collected through a CII platform, leading to high levels of specificity in research.

CII Disadvantages and Concerns. Despite a significant number of advantages and benefits of CIIIs, there are also several disadvantages that are important to consider. As with other DMHTs, engagement and motivation may represent a primary concern. For instance, in one study, clinicians found that many clients who were undergoing a guided iCBT intervention were disengaged and non-responsive (Friesen et al., 2014). This lack of engagement not only made it difficult to track progress and adjust treatment accordingly, but it interfered with the therapists’ ability to establish the therapeutic relationship and alliance (Friesen et al., 2014). In another study, interviewed clinicians felt that iCBT focused too much on individual factors (i.e., symptoms) and ignored contextual factors such as relationships, culture, and family. Clinicians found this deficit particularly acute as their ability to accurately assess and understand client concerns was already hampered by a lack of face-to-face contact (Vigerland et al., 2014).

In addition to concerns around engagement and assessment, researchers have discussed concerns around patient confidentiality and information security. Fundamentally, the larger the number of people who utilize a system grows, the more opportunities there may be for security to be compromised (Apolinário-Hagen et al., 2018). Such concerns are more acute in organizational settings where CIIs have been more commonly utilized. These concerns may be compounded by a lack of informed consent as, for example, in integrated care settings, clients may be unaware of the extent of access to personal information by staff (Apolinário-Hagen et al., 2018). Further, while increased access is one much-touted benefit of CIIs—and DMHTs more generally—several access barriers remain at both patient and system level including a lack of equipment (e.g., smartphone, computer, webcam) or internet connectivity as well as issues with technological competence (Apolinário-Hagen et al., 2018). The referral of clients can also represent a barrier for CIIs. For instance, in a review of iCBT services that had been implemented across treatment centers, clinicians discussed the need for a coherent dissemination strategy (e.g., social media, dedicated websites, leaflets) that could attract clients to the service (Folker et al., 2018). They reported equal importance of building awareness in potential referrers that services were available and effective. To this end, interviewed clinicians discussed the importance of targeting general practitioners for referral in ways that were both relevant to them and overcame potentially negative attitudes toward computerized interventions (Folker et al., 2018).

Games and Gamification

Games have been played by humans for thousands of years, from sport competitions to board games, and they have been utilized for the improvement of mental and physical health for decades (Avedon & Sutton-Smith, 1971; Kazdin, 1982; Suits, 1967). A game can be defined as

“a competitive activity involving skill, chance, or endurance on the part of two or more persons who play according to a set of rules, usually for their own amusement or for that of spectators” (“Game,” 2020). The term “serious games” has been used to describe games where the central goal of the game is something outside of the game—for example, education or health behavior change (Eichenberg & Schott, 2017; Fitzgerald & Ratcliffe, 2020). Gamification, a term that was first coined in 2010, is the “the use of game dynamics and mechanics in computer applications to change user’s behavior” (Dias et al., 2018, p. 2). Game mechanics are those elements that compose the core features of games, such as levels, scores, and rewards, while game dynamics represent the psychological effects of these mechanics, including feelings of reward and achievement (Dias et al., 2018). Fitzgerald and Ratcliffe (2020) discussed a third game element in the form of “instructional design” or pedagogy.

Gamification. Researchers have examined gamification for the treatment of psychological and physical health, exploring ways in which games can be used to motivate both psychological and behavioral changes (Hamari et al., 2014). One of the primary ways that games can motivate change is through the use of digital “rewards” in the form of points, badges, and leaderboards (Hamari et al., 2014) to incentivize players to complete certain actions or activities. In addition to providing sources of motivation, gamification can also create “practice environments” where users can practice “and learn new behaviors in response to real-life challenges” (Fitzgerald & Ratcliffe, 2020, p. 171), behaviors that can then be applied in their day-to-day lives.

Gamification may be an effective behavior change agent through multiple proposed mechanisms. For instance, Sundar (2015) discussed some of the ways that Bandura’s social cognitive theory could be used to understand key mechanisms in modern gamification

applications, including “observational learning, vicarious experience, and self-efficacy development” (p. 516). Using game mechanisms for the treatment of mental illness has a rich history in the field of psychology in the form of “token economies” (McMonagle & Sultana, 2000), economies with points systems tied to tangible rewards such as items at commissaries in mental institutions (Kazdin, 1972). Systematic reviews have supported their use as effective evidence-based treatments (McMonagle & Sultana, 2000), and they have proven particularly beneficial in inpatient settings and for those with serious mental illness, such as schizophrenia, where they can help to increase positive behaviors (Kazdin, 1982; LePage et al., 2003).

In the time since these early experiments with token economics, significant research has accumulated that supports the use of games and gamified treatments to treat a wide variety of presenting concerns, with a particularly substantial history in the medical for the treatment of diabetes, cardiovascular health, adherence to cancer treatment plans, age-related cognitive control deficits, and other health behaviors (Sundar, 2015). More recently, games have been increasingly leveraged to treat mental health problems, including substance use, anxiety, mood disorders, autism, and ADHD (Sundar, 2015). Another innovative way that gamification has been used to promote behavior change is by tying game mechanics to social support and encouragement systems (Sundar, 2015). Such social games have achieved particular prominence in health-based interventions where individuals are able to share progress and receive encouragement or more directly compete with others in a bid to motivate healthy behavior such as increased physical activity or healthier eating habits (Sundar, 2015). Social games might prove similarly beneficial for mental health treatment, although concerns around privacy and stigma might create barriers that are less common in physical health applications. Other innovative uses of gamification have been explored, including using it in combination with

biofeedback, “the monitoring and use of physiological information to teach patients to modify specific physiologic functions” (McKee, 2008, p. 31). Over time, such training may increase an individual’s ability to alter their physiological response to stress and other negative affective states, thereby increasing their emotion-regulation abilities.

Gamified treatments also show a number of benefits in regard to adherence and motivation, two factors that have tended to be lacking in other DMHTs (Eichenberg & Schott, 2017). Through adding gamified and social game elements to DMHTs, researchers and clinicians may be able to increase adherence and motivation, and even add enjoyment to interventions (Mandry & Birk, 2017). Overall, gamified treatment may be “equivalent to more traditional psychotherapy in terms of efficacy and even might be more enjoyable for some customers” with the possibility that such interventions could result in “cognitive, perceptual, behavioral, affective, and motivational” benefits for clients (Eichenberg & Schott, 2017, p. 128).

Although much of the evidence for the usefulness, acceptability, and efficacy of serious games and gamified treatments is promising, some researchers have expressed concern about the quality of some of the research. Many of the studies done thus far on gamification have shown mixed results, with the overall effect size dependent on a number of factors. For instance, Hamari et al. (2014) wrote that effects were highly dependent on both the specific context in which the intervention was used as well as the specific population. The unique mechanics of gamified treatments may also potentially lead to unexpected disadvantages. For instance, Hamari et al. (2014) found that the increased motivation and engagement provided by a gamified educational intervention came with increased competitiveness. Other researchers have expressed concerns that game-based treatments may leave out many of the key ingredients of therapy, including “nonverbal behaviors, interpersonal relationships, and a therapeutic alliance,” while

also discussing some of the risks involved with serious games, including a questionable ability to detect and address crises (Eichenberg & Scott, 2017, p. 133).

Mobile Apps

Modern smartphones act as the platform on which millions of apps—small programs that provide specific functions—have been launched (Clement, 2020b; Pogue, 2009). Apple’s “App Store” launched in 2008 with 500 available apps (Bonnington, 2013). By 2012, more than half a million apps were available, a number that more than doubled by 2016 (Kool & Agrawal, 2016). The Google Play store, where users can download apps for android phones, currently has more than two-and-half million available apps (Clement, 2020c). Apps are increasingly found outside of phones altogether, in appliances, cars, and other smart devices (Kool & Agrawal, 2016). Although games represent the most popular smartphone app by far, there are currently tens of thousands of apps marketed towards self-help and wellbeing and for the treatment of mental disorders (Howells, Iytzan, & Eiroa-Orosa, 2016).

Mental health apps approach the treatment of mental health and wellbeing from a number of different angles. While some are more limited, providing a single facet of treatment such as symptom monitoring or mindfulness skills, others attempt to provide full standalone CBT treatments (Wilhelm et al., 2020). Wiesel et al. (2019) examined 19 studies of mental health apps and found a significant variety of techniques and tools, including monitoring, participant engagement and input, tailoring interventions based on context or feedback, and gamification. They further found that around a quarter of applications utilized reminders and other methods to increase adherence while one-fifth utilized a social component. Apps can contain a considerable variety of functionalities and tools, including the ability to record and chart moods, keep journals, complete exposure hierarchies, record behavioral activation schedules, practice

cognitive restructuring exercises, and provide portals to receiving social support, to name just a few (Erhardt & Dorian, 2013; Jones et al., 2014; Leung et al., 2016). Further, apps have the ability to be personalized (Gustafson et al., 2014), can allow for sharing of content and collaboration with others through social media (Bricker et al., 2014; Luxton et al., 2011).

Like other DMHTs, apps have great potential to increase access to mental health care. In fact, apps may represent the most affordable of the DMHT options and they have the potential to provide access for individuals of low means (Leung et al., 2016). Ultimately, apps represent very affordable treatments for the average consumer, with the average price of an app in 2019 standing at less than one dollar (Clement, 2019). While other DMHTs may range significantly in price—and traditional therapy can be prohibitively expensive—apps may represent a very affordable option for addressing mental health concerns. In addition to their affordability and their potential for increasing access, the evidence-base for app-based interventions is promising, with meta-analyses showing that such treatments are superior to waitlist control for the treatment of depression and anxiety, with moderate effect sizes (Wilhelm et al., 2020). For depression specifically, app-based interventions showed significant reduction in symptoms across all of the studies contained in a systematic review by Kerst and colleagues (2019).

In addition to their direct benefits for clients in the form of affordability, functionality, and privacy, apps show significant benefits in their ability to enhance treatment. For instance, their portability means that they can be readily utilized for real-time self-monitoring and in-the-moment skills training and practice. Further, they can provide immediate feedback for practicing skills like self-monitoring, including through providing encouraging messages, tips, and even virtual “rewards” (Titov et al., 2016). The ability of apps to provide assessment and intervention outside of the therapy rooms means that they may have the ability to reduce time commitments

of both therapist and client. Price et al. (2014) discussed how mobile apps could allow much of therapy to take place outside of session, with semi-regular sessions used to review progress and solve specific problems. Further, apps may be utilized differently over the course of therapy, for instance, by providing differential levels of support based on the client's progress in therapy. One way such benefits could be realized is through using apps for both pre-treatment and post-treatment support. For instance, Price et al. (2014) discussed how apps could be utilized to provide ongoing access to skills and interventions that began in therapy or to maintain contact with care centers or clinicians. Further, Clough and Casey (2015) outlined novel ways that apps could be used prior to treatment, including tracking systems that collect data and then offer available treatments based off of that data.

App creators and researchers have leveraged the unique advantages of apps to provide treatment for a number of mental disorders, including anxiety disorders, depression, substance use, and serious mental illness. Apps for anxiety draw upon a variety of techniques and theoretical orientations. They utilize multimedia material such as video, animations, and games, and include techniques ranging from relaxation and meditation to problem solving and cognitive restructuring (Sucala et al., 2017). Apps have also been utilized in the treatment of depression, often combining interventions and methods in interesting ways. For instance, one study utilized CBT and motivational interviewing (MI) to treat depression (Ahmedani et al., 2015), while another utilized a mix of social support, psychoeducation, and skill building (Watts et al., 2013). Other apps have been utilized as adjunctive to traditional therapy, including one app that allowed for symptom monitoring and skill building, leading to significant reductions in depression symptoms (Burns et al., 2011). Another study used an adjunctive app for adults with severe depression, prompting users to complete assignments and coaching them through the process,

while simultaneously making this data available to treating clinicians for real-time monitoring and assessment (Price et al., 2014).

In addition to the treatment of anxiety and depression, apps have been utilized as standalone and adjunctive treatments for alcohol and substance use disorders. A standalone CBT app to treat alcohol use disorder showed that the app helped increase abstinence over a 6-week period (Gonzales & Dulin, 2015), while a standalone app based on self-determination theory similarly increased abstinence and reduced risky drinking (Gustafon et al., 2014). An app that utilized DBT for substance use helped users reduce urges, increased confidence in their abilities to use skills, and significantly decreased depressive symptoms (Rizvi et al., 2011). One app creatively used the GPS sensor functionality of smartphones to detect if users were in specific physical locations that increased their risk of relapse (e.g., near favorite bars) and provided alerts and support in real time, leading to increased abstinence when compared to treatment as usual (Clough & Casey, 2015). Further, multiple studies have utilized apps to reduce smoking, with one study employing an ACT-based intervention for smoking cessation, leading to increased abstinence, including at 2-month follow-up (Heffner et al., 2015).

Apps have also been used successfully as adjunctive treatments for serious mental illness including bipolar disorder (Price et al., 2014) and schizophrenia (Ben-Zeev et al., 2014). In the latter study, the application helped users learn and practice skills and increase social support, leading to a significant reduction in positive symptoms. In terms of health behavior change, apps have been used to increase physical activity, manage weight loss, and reduce stress (Donker et al., 2013).

Although apps show a number of benefits for both client and clinician, they also have a number of disadvantages, including the potential for harm. Considerable difficulty and

frustration may exist for both clients and providers in selecting and vetting applications (Gratzer & Goldbloom, 2020) because extant apps can range from beneficial, to neutral, to actively iatrogenic, and there is no clear way for concerned parties to see the difference (Gratzer & Goldbloom, 2020). Further, researchers have found that the majority of available mental health apps do not include any information about their effectiveness, with one systematic review of depression apps findings that none of 38 apps reviewed showed “any evidence on the effectiveness, and safety of any of the apps” (Weisel et al., 2019, p. 1). The lack of evidence and research has not stopped the production and dissemination of mental health apps, with Cristol (2018) writing that “despite the minimal research in this area, there are currently more than 10,000 mental health apps” (p. 1). In fact, researchers have found that many currently available apps do not pass basic tests of face validity. Anthes (2016) described searching Apple’s App Store for “depression” and finding hundreds of apps that claimed to help individual think more positively and “cure” their depression through hypnosis or gratitude journaling. If navigating available apps is difficult and confusing for clinicians, despite their training and education, it would likely prove even more difficult for clients. Some have argued that this means that clinicians may have a significant role in helping clients select apps. For instance, Gratzer and Goldbloom (2020) contended that mental health practitioners “will be increasingly part of the conversation that patients and their families have around app selection” (p. 2).

Such vetting, however, is made exceedingly difficult by a significant lack of research on commercially available apps. Torous et al. (2019) discussed four systematic reviews on available apps, all of which revealed similar findings that such apps rarely follow clinical standards. On the other hand, apps created by researchers that *are* evidence-based are rarely disseminated. A 2019 research report by Torous et al. showed that the majority of CBT app research studies they

reviewed had never made their app publicly available. However, even when apps are both created by researchers and available to consumers, the underlying research is often lacking. Lui et al. (2017) wrote that, although a number of app studies showed effectiveness, few app studies have been replicated and “virtually no studies examined the same mobile app for the same population” (p. 207). Of the app studies reviewed by Lui et al., nearly half did not include a control group and many involved the use of incentives for participation, significantly limiting their generalizability. In a similar review by Donker et al. (2013), only a small number of studies met their inclusion criteria of having a control group and pre-post design. Further, Anthes (2016) reported that much of the extant research may be biased as many have been undertaken by the apps’ developers and placebo-controlled trials are still rare. Evidence may be particularly lacking for apps as standalone interventions without therapist support. Weisel et al. (2019) in their meta-analysis and systematic review of apps as standalone treatments concluded that “although some trials showed potential of apps targeting mental health symptoms, using smartphone apps as standalone psychological interventions cannot be recommended based on the current level of evidence” (p. 1).

In addition to concerns around the selection of apps and problems with current research, issues around privacy, confidentiality, and data security are considerable. According to Sunyaev et al. (2015), the majority of health apps have no privacy policies, while apps specifically for mental health are even less likely to have such policies. The internet maxim that asserts “if something is free, you’re the product” likely applies just as much to mental health apps as other technologies, with many companies engaged in the active selling of private user data despite research showing that the vast majority of app users report unwillingness to share such data (Torous et al., 2019). Through their frequent connections to social media, apps may lead to

additional information disclosures, including the release of names and phone numbers (Lui et al., 2017). Further, apps can compromise confidentiality in unique ways, such as the ability of notification and alert popups to reveal, for instance, that an individual is using an app for mental health treatment (Naeem et al., 2016). Even the icon and title of an app can disclose such information to those who may view the phone (Naeem et al., 2016). Sandoval et al. (2017) described how basic data safeguards such as encryption were often lacking in apps, a problem exacerbated by the fact that “the majority of commercially available health apps fall outside the scope of privacy laws” (p. 727). Even in an analysis of apps given a “safe and trusted” approval ranking by the United Kingdom’s NHS, Anthes (2016) found that 35 of them transmitted personally identifying information about the users, with two-thirds of them doing so without encryption.

Another area of concern with mental health apps is that researchers have found that they have consistently struggled with user engagement (Torous et al., 2019). Multiple studies have shown overall low engagement and adherence to app-based interventions, with 70% of users stopping their use of mental health apps after the tenth use and longer-term usage even rarer (Torous et al., 2019). Over a 6-month period, an app study examining the use of an app for asthma treatment had retained only 2% of their initial 8,000 participants (Chan et al., 2016). Engagement may be further reduced based on presenting condition, with one study reporting that nearly 60% of participants with depression never downloaded the study app at all, while another study showed that higher levels of depression and anxiety at treatment start were associated with significantly lower rates of app adherence (Arean et al., 2016). The app engagement problem is widespread, with researchers reporting that app engagement declines exponentially (Sandoval et al., 2017) and use generally drops off by 2 weeks (Arean et al., 2016). For instance, while the

U.S. Veterans Administration free app PTSD Coach was downloaded more than 150,000 times, they found that only 14% of users had used the app after the day that they downloaded it (Gratzer & Goldbloom, 2020).

Researchers examining issues with engagement have both suggested reasons why app engagement is low and provided recommendations for increasing it. For instance, Wilhelm et al. (2020) suggested that low engagement implied the need for additional features that “bring individuals back to the interventions” (p. 4) and lead to increased feelings of accountability and the feeling that they are cared for. They suggested that trained clinicians or coaches could provide such accountability and care, with the potential for only minimal interaction needed. In addition to human interaction, they argued that a user-centered design approach may lead to programs that were more engaging. Wilhelm et al.’s (2019) focus on user-centered design was mirrored by other researchers who emphasized the importance of including stakeholders and consumers in the development of mental health apps. When such considerations guide the design of apps, engagement can increase dramatically. For instance, Torous et al. (2019) described 97% treatment adherence for an app where end users were involved in every step of the app creation process. Collaborative and user-centered app design also has the potential to ameliorate some of the aspects of apps that users may find particularly frustrating, including nonintuitive use, buggy interfaces, hidden fees, and difficult initial setup (Martinez de Alva et al., 2015; Torous et al., 2019). By collaborating and testing apps with users during the process of app creation, it may be possible to create a product that is more intuitive, more enjoyable to use, and provides the features and functionalities that real-world users desire.

While issues of poor design and lack of engagement are serious concerns, some researchers have expressed more dire concerns around apps, including their potential for

iatrogenic effects. There are currently no regulatory bodies that oversee the creation and distribution of apps, meaning that apps cannot only be poorly designed, hard to use, and ineffective, but they can be outright harmful. For instance, in studies that have examined commercially available apps, researchers have found cases of apps sharing critically wrong information, such as the recommendation that drinking alcohol can be used to treat manic episodes (Lui et al., 2017) or an app that encouraged individuals to engage in self-harm and attempt suicide (Torous et al., 2019). Further, apps can lead to iatrogenic outcomes in unexpected ways, such as in a study where an app designed to treat substance use increased urges to drink or a separate study where an app led to increased alcohol consumption (Lui et al., 2017). Price et al. (2014) asserted that harm may come to individuals with mental illness from apps in a number of ways, either through ineffective or iatrogenic treatments, or by the false sense of security created by thinking that “an ineffective app is sufficient treatment for their condition” (p. 433).

Issues of risk are also significant concerns with apps, as much of what occurs on them is outside of the therapy room. Ultimately, the majority of current mobile interventions may not be set up to respond to crises, including suicidality (Sandoval et al., 2017). It also may be the case that client use of apps is unknown to the therapist altogether. For instance, Torous et al. (2019) found that many therapy patients were already using apps, often without informing their therapists. Sandoval et al. (2017) recommended that therapists routinely ask their patients whether they are using apps in order to prevent the “fragmenting” of care. They also cautioned clinicians around the difficulty they might experience in integrating current apps into practice, with few apps showing the ability to share data with clinicians or transmit information into an EHR.

Both the promises and the perils of mental health apps argue for their continued evaluation, review, and regulation. To that end, researchers, clinicians, and other stakeholders have been interested in creating systematic ways of assessing apps, from dedicated review sites to flexible review paradigms. For consumers, the main source of information on the usability and effectiveness of apps comes from star ratings and reviews by app users on app stores. However, app store descriptions may contain false or misleading claims, with one study finding that, of the claims made by the 73 top-ranking apps for mental health, only about half described treatment approach methods that could be supported by evidence in current literature (Wilhelm et al., 2020).

There are several different review sites, expert reviewers, and regulatory associations that have attempted—to various degrees—to provide reviews on the clinical utility of apps. For instance, the Anxiety and Depression Association of America (ADAA) maintains a web page where they review apps that purport to treat the disorders, rating them on 1-5 scales across domains of ease of use, effectiveness, personalization, interactive/feedback, and research evidence (ADAA Reviewed Mental Health Apps, 2019). It is unclear from the site how often this list is updated or if it is current. The site notes that the apps are reviewed by ADAA members, which include “mental health professionals with degrees in psychology, medicine, social work, and counseling” and that the reviewers are “not involved in the development or marketing of mobile apps,” but it provides no further information about how these apps are reviewed. Like the ADAA, PsyberGuide provides a reviewed list of apps for mental health, reviewing 186 apps that cover mental disorders, assessment, and various interventions. Apps on PsyberGuide are rated on 1-5 scores for credibility, user experience, and transparency, with some app listings providing additional “expert reviews.” Like the ADAA’s site, reviews are not dated and there is no clear

way to see how often reviews are updated or added or even if new apps continue to be added to the site. Torous et al. (2019) wrote that one of the major weaknesses of such review sites is the rapidity with which apps are updated, replaced, or removed, with no clear way for such sites to keep up. Further, none of the expert review sites that they analyzed provided a transparent mechanism for how they selected the apps they decided to review and how and why other apps were excluded.

With so many different review paradigms, so little transparency, and a sea of apps that continues to expand, some may desire governmental agencies to take more active roles. The U.S. Food and Drug Administration (FDA), which regulates many medical devices, has done relatively little to regulate the vast world of health and mental health apps (Torous et al., 2019). While some more prominent applications have faced legal action from state and federal government in the United States for false clinical claims, it is not clear which governmental agencies have the responsibility or jurisdiction to address such concerns (Federal Trade Commission, 2016; Schneiderman, 2017). In the United Kingdom, the NHS provides some oversight, maintaining a “health apps library” composed of apps that are reviewed by clinical experts. Yet, as of June 2019, only 20 apps for mental health had been reviewed, a tiny portion of apps available. It is difficult to imagine how any agency, regardless of its resources, could hope to keep track of the ever-changing app landscape and provide timely and accurate reviews.

Smartphones and Mobile Technologies

Although a central use of smartphones and other mobile technologies for mental health comes in the form of apps, mobile technologies can also be used in unique ways for addressing mental health concerns. Therefore, this section will exclude apps and instead be limited to the more general use of smartphones and mobile technology for mental health reasons.

The first digital mobile phones were created in the 1990s, but it was not until the 2000s that smartphones—mobile phones with computer-like functionality and internet connectivity—gained prominence (Fiordelli et al., 2013). In 2014, the WHO reported that there were 6.9 billion cell phone subscribers across the globe (Leung et al., 2016). Such usage crosses both international and demographic boundaries. A 2010 study by Lenhart found that, while 80% of White individuals owned a mobile phone in the United States, 87% of Latinos did. Further, a 2011 study by Rice and colleagues found that even 60% of individuals who were homeless had a mobile phone. Smartphones also have a central advantage of being “on the person” nearly all of the time, meaning that they can be utilized in almost any situation and, due to their significant array of sensors and abilities, can provide sophisticated in-vivo assessment and intervention capabilities (Cuijpers & Quero, 2019).

Text Messaging. A key way that mobile phones, including smartphones, have been utilized for treating mental health disorders is through the use of text messages. For instance, Whittaker et al. (2012) found that daily therapeutic text messages could prevent those with depression symptoms from progressing to full depression diagnosis. In the study, the majority of participants reported that the messages were beneficial in reducing their depressive symptoms, increasing positive mental states, and helping them cope with issues. Hull and Mahan (2017) reviewed a number of studies that utilized text-messaging for the treatment of schizophrenia, including increasing adherence to antipsychotic medication in outpatient populations, improving both positive and negative symptoms, and increasing clients’ ability to engage socially.

Text-messaging systems can be used adjunctively to therapy to improve therapeutic outcomes. For instance, Aguilera and Munoz (2011) used daily CBT-based text messages during a course of CBT treatment for depression, with the intervention demonstrating high levels of

engagement and acceptability among clients. In a substance use treatment program, researchers found that text messages were well received by those in treatment and that the messages “prompted reflection and awareness among young people” in the program (Clough & Casey, 2015, p. 148). In addition to providing motivational and helpful messages, text messaging systems can be used to monitor symptoms and gather self-report data, data that can both help clients to build self-awareness and help therapists to monitor treatment progress (Hull & Mahan, 2017). Text messaging systems have also been used successfully to provide encouragement for the practicing of skills (Lindhiem et al., 2015).

Monitoring, Tracking, and Communication. Self-monitoring and tracking of symptoms, whether through text-messaging systems, app-based journals, or other methods on smartphones may have therapeutic benefits as well. Marzano et al. (2015) wrote that repeated self-monitoring can help to modify behaviors as individuals become aware of behaviors that lead to negative outcomes and are able to alter them, changes that can have benefits in addressing the symptoms of mood and anxiety disorders. The ability of smartphones to connect client and therapist outside of the therapy room may also prove beneficial in a number of ways. Parish et al. (2017) asserted that the use of email, texting, and other communication methods on smartphones between therapist and client could help to increase the quality of communication between client and clinician, leading to more collaborative care. Further, therapists’ ability to monitor clients more readily through smartphone sensors may likewise prove beneficial. For instance, therapists—with client permission—could use smartphone data from clients to monitor their physical activity, sleep quality, and other important factors, allowing them to adjust treatment plans and make recommendations based on changing factors in their patients’ lives (Aguilera, 2015). Further, smartphone sensors that monitor clients could be paired with encouragements

(e.g., through text messages) that reinforce them when they are engaging in treatment goals. Additionally, such data could be used retrospectively in session to review experiences with clients and tie subjective states to real-world experiences (Aguilera, 2015).

Smartphone location awareness capabilities represent a particularly useful feature that can be leveraged in therapy, while the wide array of sensors—cameras, accelerometers, ambient light sensors, device usage indicators, and so forth—offer an incredible ability to attend to context (Burns et al., 2011; Price et al., 2014). More recent smartphone technologies have begun to make fuller use of these sensory arrays to provide real-time support by pairing sensory input with machine learning technology. In essence, machine learning programs are able to “learn” about and predict the mental states of their users based on contextual predictions from sensor data. For instance, one study showed how, in a parent training intervention, a machine learning program could learn how to use changes in ambient noise and light to predict high-risk situations in the family context (Clough & Casey, 2015). Further, sensor data provides a revolutionary resource for both researchers and clinicians to collect “ecologically valid data,” incredibly rich data that can be used to predict future behavior, study mental health phenomena in the contexts it occurs, and to better understand the unique experiences of individual users (Bauer & Moessner, 2012).

Even some of the basic features of smartphones can be useful in treatment contexts. For instance, instead of carrying a suicide safety plan with them, a client can simply take a picture of the plan and thereby store it on their phone. Further, reminders can be set by therapist and client to encourage the client to engage in certain homework tasks or practice skills between sessions (Jones et al., 2014; Pramana et al., 2014). Eonta et al. (2011) described three cases where such basic smartphone capabilities were capitalized on in therapy, including using the phone camera

to track progress in reducing compulsive hoarding, a therapist using a phone to record a guided meditation in session, and having the client take a picture of a whiteboard where cognitive restructuring work had taken place. Overall, research suggests such uses of smartphone technology can improve and enhance current treatment. Lindhiem et al. (2015), in a meta-analysis of the utilization of mobile technology in psychotherapy, found that “mobile technology use was associated with superior treatment outcome across all study designs and control conditions” (p. 799) and that “specifically, patients who received mobile technology either to supplement treatment or substitute for direct contact with a clinician experienced better treatment outcome than patients who did not receive any form of mobile technology” (p. 795).

Although the benefits of smartphones are clear, as with all DMHTs, smartphones may lead to particular problems. For instance, smartphone and mobile technology users may come to expect the possibility of constant contact with others, including their therapists. Sundar (2015) wrote that “the ubiquity of mobile communication meant a constant negotiating of the social expectations of others...and such continual availability robs us of those open spaces in daily life where we are able to drop the difference facades and attend to our own needs” (p. 231). In addition to the new expectations that mobile technology creates, such technologies are also vulnerable to the breaches of confidentiality that other internet-connected devices are (Snider, 2019). Further, because of their portability, they are vulnerable to physical theft and loss at a rate higher than many other technologies (Borba, 2018).

Teletherapies

Teletherapy, the provision of psychotherapy across distances through technologies such as video conferencing programs and telephones, has a long history in the field of psychology (Weitz, 2015). For instance, in the United States, psychoanalysts in the 1950s conducted

“telephone analysis,” finding not only that it could be as helpful as traditional face-to-face therapy, but also that it offered unique benefits including an ability to...

overcome certain resistances or impasses in the analysis, to replace missed sessions, to save time and reduce travel expenses in the case of long distances or when a patient’s handicaps limit movement, and when either patient or analyst move to another city and the parties do not want to interrupt an ongoing analysis. (Migone, 2013, p. 282)

Since that time, many therapists have used telephones to keep in touch with clients, with email also being utilized (Weitz, 2015). As digital technologies such as home computers and smartphones have become ubiquitous, they have also been utilized for teletherapy, from asynchronous text-based therapy to live video-based telehealth (Weitz, 2018).

A key benefit of all types of teletherapies lies in their ability to increase access, especially to underserved populations (Weitz, 2018). Teletherapy has the potential to bring psychotherapy to those who are unable to attend traditional FTFT due to disability, lack of means, or are suffering from specific mental illnesses—like agoraphobia or social phobia—that make leaving the house or interacting with others in-person difficult (Weitz, 2018). Holland (2019) pointed out the benefits of teletherapeutic systems for geriatric populations, including “much less upheaval for both patient and caregiver” as well as the ability for the clinician to “gain valuable information by observing the patient’s surroundings at home” (p. 1).

Evidence suggests that overall effectiveness of teletherapies for a wide array of presenting concerns, including anxiety, substance use, depression, eating disorders and sexual concerns, is on par with FTFT (Finn & Barak, 2010). In a survey, 55% of respondents rated e-counseling as equally effective as FTFT, while 36% rated FTFT as more effective (Finn & Barak, 2010). While some clinicians have expressed concerns that the therapeutic alliance would

be negatively impacted by teletherapy, research has shown that it is possible to establish a strong alliance in the medium with no significant difference between the quality of alliance in teletherapy and face-to-face (Germain et al., 2010). Depending on the medium, teletherapy has the potential to provide anonymity benefits for clients as well. Research has shown that clients value aspects of anonymity afforded by remote therapies, with increased anonymity provided by audio-only or text-only therapies allowing for disinhibition, lower feelings of stigma, and a greater sense of privacy (Chester & Glass, 2006; Weitz, 2018; Kortz, 2017). Chester and Glass (2006) contended that non-visual forms of teletherapy also have the benefit of reducing any stereotypes that could arise due to visual differences, including “skin colour, physical attractiveness or other physical factors” (p. 148).

Clinician attitudes towards teletherapies are more mixed, with attitudes varying by presenting concerns. Finn and Barak (2010) found that the vast majority of clinicians endorsed the view that teletherapy was appropriate for more minor concerns such as interpersonal or developmental problems but were more reticent to endorse teletherapy for situations where risk or trauma were involved. Such concerns were echoed by the American Psychological Association in their 2013 guide to teletherapy, where they discussed the importance of analyzing and understanding the remote environment that the client is in, including availability for emergency supports and potential for breaches of privacy.

Asynchronous text-based teletherapies (ATBTs) carry a unique set of benefits over both FTFT and synchronous therapies, including the possibility for “deeper reflection” by both therapist and client (Harris & Birnbaum, 2015). In other words, the delay in messaging can allow time for processing of thoughts and emotions before they are communicated, increasing both self-awareness and self-expression abilities (Harris & Birnbaum, 2015). In a qualitative study of

therapists' experiences with ATBTs, clinicians appreciated having more time to carefully consider their responses to clients, with one clinician participant reporting "it can offer the freedom to think privately about what needs to be said and communicate back and forth at the speed of typing" (Kortz, 2017, p. 17). Others have referred to this phenomenon as a "zone of reflection" in asynchronous therapies, a zone where a different pace is set, offering unique benefits over traditional therapy (Wangberg et al., 2007).

ATBTs may also provide a distinctive opportunity for longer-term analysis and review as they are able to collect and store everything that was said in session, providing a detailed transcript of the processes and interactions that occurred (Chester & Glass, 2006). This record has the potential to be examined by both clients and therapists, allowing therapists to better understand mechanisms of change and clients to see how far they have come (Chester & Glass, 2006). This shared record is also one that clients can then take with them permanently, giving them the ability to hold on to and re-experience any insights. It may further provide therapists with opportunities to review transcripts and understand discrepancies, inconsistencies, and contradictions in client stories, using this information to better understand and guide treatment (Manfrida et al., 2017).

In addition to these advantages, Rosen et al. (2015) outlined a number of other unique "affordances" of ATBTs, including client empowerment. They wrote that clients may feel empowered by their ability to reflect and review transcripts, the ability to refine and construct messages, and an enhanced controllability of the messages they send to therapists (i.e., only sending information that they want therapists to see rather than unintentional self-disclosures due to nonverbals in FTFT). This sense of control may help to reduce the therapeutic power differential, with clients in online therapy reporting that they feel "greater equality and

autonomy, and more frequently feeling an internal locus of control than [FTFT] clients” (Weitz, 2018, p. 82). In examining some of the unique advantages of ATBTs, Weitz (2018) argued that similar analyses should be made of DMHTs more generally. In other words, the unique factors and special qualities that are a part of DMHTs should be explored and embraced rather than trying to make DMHTs more like FTFT interventions.

Although many therapeutic competencies are shared between FTFT and teletherapy, successful teletherapy requires an additional set of competencies to those found in FTFT (Ragusea & VandeCreek, 2003). First, a level of technological literacy is important, not only in the therapists’ ability to make sure that their own systems are operational, but in being able to troubleshoot client system issues as well (Ragusea & VandeCreek, 2003). Therapists should be literate both in the use of the particular teletherapy platform they are employing and in the use of computers and digital technologies more generally (Ragusea & VandeCreek, 2003). Therapists should expect technology to fail and have a plan for dealing with such failures (Chester & Glass, 2006). Despite the clear need for technological competence and literacy, research has shown that the overwhelming majority of therapists have not received any teletherapy training in their academic programs (Finn & Barak, 2010). Instead, many of those who practice teletherapy have learned through reading, informal consultation, and workshops (Finn & Barak, 2010). Further, the majority did not receive supervision during the early process of practicing teletherapy (Finn & Barak, 2010).

In addition to possessing adequate technological competency, therapists should attend to the environmental factors that might affect teletherapy. For instance, Weitz (2018) maintained that both therapists and clients should have a private space in which to have sessions, with boundaries that ensure sessions will not be interrupted. Further, when conducting video-based

teletherapy, clinicians should attend to the visual elements that are visible to clients, including what is in the background and foreground as well as the way in which the scene is lighted. Weitz (2018) further argued that therapists should attend to factors like how much of their body is visible, and how much of the client is visible so that both parties can adequately attend to nonverbal cues. Further, therapists' desks should be free of distractions such as mobile phones as well as distractions on the screen through which they're conducting telehealth. Weitz wrote that "clients are aware when their therapist is distracted" (p. 167) and there is a potential for such distractedness to be invalidating to the client.

Like all DMHTs, teletherapy raises concerns around confidentiality and data security. The APA's 2013 teletherapy guidelines summarized the responsibilities of therapists in regard to confidentiality, emphasizing the importance of taking "reasonable steps" to protect patient data, including through ensuring the security of stored information and providing informed consent for patients around information storage and protection. In the process of providing informed consent, the guidelines further emphasized the importance of informing clients of the risks and vulnerabilities associated with the specific technologies they would be utilizing. Further, this informed consent should also cover the disposal of electronic data, including how and when the data will ultimately be destroyed.

While data security, privacy, and confidentiality are crucial considerations for teletherapists, the informed consent process must also attend to the risks and benefits of telehealth more generally. Ragusea and VandeCreek (2003) provided a summary of the information that should be provided to clients before starting teletherapy, including a description of the offered services and an acknowledgement that online therapies are "experimental" in nature. Further, therapists should make clear their credentials and provide clients a way to

confirm those credentials while also requiring proof of a client's identifying information—including their location—for both legal purposes (e.g., practicing across state lines) and to prepare for emergency situations. Additionally, they outlined the importance of informing clients about the boundaries of teletherapy, including “how quickly the therapist may respond to e-mails as well as general boundaries for how much time the client may take to respond” (p. 100).

The APA's (2013) ethical guidelines for teletherapy echoed many of these suggestions and further addressed the importance of informing clients the risks and benefits of teletherapy in comparison to FTFT. Such a risk-benefit analysis raises important considerations around the choice between teletherapy and FTFT. Martin (2018) argued that therapists should be able to justify why the choice for teletherapy is being made over FTFT, as teletherapy is both more experimental than traditional therapy and carries the potential for added risks. Harris and Younggren (2011) outlined a number of situations in which teletherapy would be a more desirable or useful option, including when a patient is no longer in close proximity to their therapist due to a relocation, when restrictions (e.g., health, transportation, local availability) make in-person treatment inaccessible, or when teletherapy offers a specific advantage over traditional therapy (e.g., session frequency, client comfort). Martin (2018) summarized the central decision that therapists must make around teletherapy with the following question: “If there are plenty of mental health providers in the area where the patient resides and the therapist has no ongoing relationship with the patient, why would telemental psychotherapy be preferable to traditional psychotherapy?” (p. 77).

In addition to the aforementioned ethical concerns and complexities, researchers and clinicians have outlined a number of potential disadvantages in teletherapeutic systems, from difficulty with assessment (Martin, 2018; Ragusea & VandeCreek, 2003) to an increased risk for

misunderstanding and misinterpretation (Harris & Birnbaum, 2015). Ragusea and VandeCreek (2003) outlined some of the challenges for teletherapists in regard to assessment, reporting that some clinicians have argued that an accurate and thorough online assessment is impossible. For instance, non FTFT cannot “communicate the smell of alcohol on a man who denies having had anything to drink,” while text-based therapies cannot capture the “nervous body language of someone uncomfortable discussing a sensitive issue” (p. 96). Martin (2018) echoed these claims, arguing that therapists were trained to use nonverbals and other sensory cues as a crucial part of both initial impressions and continued assessment throughout treatment. Even in the case of video-based telehealth, Martin argued that many of the subtle but important visual cues can be lost due to issues of resolution.

In addition to assessment concerns, the constraints of teletherapeutic communication have the potential to lead to misunderstandings between clients and clinicians. Harris and Birnbaum (2015) wrote that, especially in the case of ATBTS, both parties’ understanding of the information is derived solely from their interpretation of the text on the screen. Differential use of punctuation, length of messages, word choice, and even emoji use all have the potential to convey different messages and tones that can be open to various readings. Further, Harris and Birnbaum (2015) argued that the time delays in asynchronous therapies can lead to the potential for increased anxiety for clients and clinicians alike and can also make it hard to effectively engage clients, intervene, and offer support.

A Global Pandemic

In December of 2019, the World Health Organization (WHO) reported the emergence of a pneumonia of unknown causes in the Chinese city of Wuhan (Poletti et al., 2020). Since that time, the 2019 novel coronavirus disease (COVID-19) has become a global pandemic, with

hundreds of millions infected, millions dead, and—as of this writing—no clear end in sight. The global spread of the virus represents a “black swan moment...an unforeseen event that changes everything” (Wind et al., 2020, p. 1), with containment efforts such as social distancing having profound effects on individuals and systems in ways that are yet to be fully understood.

COVID-19’s effects on mental health and access to mental health care may be significant (Holmes et al., 2020). A survey of psychotherapists by Probst and colleagues (2020) found that clinicians had seen impacts including a deterioration in clients’ social bonds, a worsening of their mental health, the reactivation of previous disorders, and a damaging loss of everyday structure. The effects of social distancing combined with bureaucratic red tape may be further decreasing access to needed treatments (Weissman et al., 2020). For instance, a study from Austria found that the overall number of clients being treated had declined as providers attempted to shift face-to-face services to teletherapy platforms (Probst et al., 2020). The authors described a number of reasons for these declines, including Austrian governmental guidelines that have historically rejected internet-based psychotherapy, issues with health insurance reimbursement, and therapists’ concerns about teletherapy technologies such as the belief that they are less personal and are prone to errors and added hassles.

As has been outlined previously in this paper, many of these concerns are not novel, and they include historical concerns around diminishment of the therapeutic alliance and the lack of physical presence (Thompson-de Benoit & Kramer, 2020; Weisman et al., 2020). At the same time, the massive influx of telehealth service delivery has led to some interesting new findings. For instance, therapists in New Zealand found emergent concerns with the use of the Zoom teleconferencing platform for clients of Maori heritage. These Maori clients endorsed experiencing therapists virtually “in” their home as an invasion of privacy (Crowe et al., 2020).

The study's authors outlined how such factors were not ultimately prohibitive, rather they had simply required explicit conversations and some creative problem-solving to overcome.

In contrast to the more circumspect and uncertain views of clinicians, evidence suggests that clients' views of DMHTs during the pandemic are generally favorable (Probst et al., 2020), and they are actively seeking out both online support (Zhou et al., 2020) and telehealth services (Weissman et al., 2020). Both interest and demand are expected to rise as the crisis continues and social, familial, economic, and societal stressors compound (Wind et al., 2020). While the pandemic has illuminated new concerns and brought light to historical ones, it is crucial to consider the ways that the renewed focus on and utilization of DMHTs can be leveraged. While issues with lack of access and an underutilization of DMHTs existed before the crisis, the pandemic could act as an ideal testing ground for understanding DMHT concerns, spurring new research, "stress-testing" current systems (Horesh & Brown, 2020), and studying how changes made during this time can be made durable enough to persist past the outbreak. Such durability is important not only because DMHTs have the ability to fill service gaps and increase access but also because the risk of a new crisis—pandemic or otherwise—is perennial.

Accordingly, one crucial area of focus is on the research domain, with the need for a collaborative, global investigation into the wide-ranging effects of the pandemic (Holmes et al., 2020). Domains of inquiry include COVID-19's overall effects on mental health, the more specific direct effects of lockdown and isolation, the effects of media consumption and its possible amplification of COVID-related distress, and the promotion of a form of wellbeing that also balances safety. DMHTs have a significant role to play in each of these domains. For instance, ecological momentary assessment (EMA) research methods dispensed on smartphones could allow for the collection of real-time, extremely granular information about client

experiences (Horesh & Brown, 2020). Further, advances in AI could be utilized to begin to make sense of this trove of EMA data and its correlates, with results then leveraged to help detect those at greatest risk as targets for intervention (Horesh & Brown, 2020). Interventions themselves could be dispensed in the form of apps on smartphones or internet-delivered on personal computers. Such interventions were found in the early stages of China's response to the pandemic (Zhou et al., 2020) and they have begun to emerge in the form of self-guided interventions like the mindfulness-based stress reduction COPE app (Bauerle et al., 2020).

Ultimately, the pandemic can be thought of as an ongoing “cardiac stress test” (Horesh & Brown, 2020) on global infrastructure and systems, a test that brings to light vulnerabilities, areas of deficit, and holes in our mental health care systems that have remained unaddressed for far too long. Wind et al. (2020) described research that showed it took an average of 16 years for a new health innovation to be implemented and, even when implemented, it may suffer from a lack of integration into routine practice. Such slow progress is both frustrating and potentially detrimental to patients' ability to receive the best possible care. Poletti and colleagues (2020) argued that clinicians and other providers have a mandate for ensuing continuity of care and—in a time when in-person care might be untenable—DMHTs and remote technologies must be leveraged to provide such continuity. Some governmental bodies have reacted in helpful ways with, for instance, the New Zealand government responding to a lack of televideo access in lower SES populations by providing over 25,000 devices with internet connectivity to those in need (Crowe et al., 2020).

It is also possible that the pandemic will lead to a larger change in attitude and expectations. With the majority of clinicians essentially forced to use DMHTs, it seems possible that technologies such as teletherapy will experience more widespread usage and acceptance

even after the crisis subsides (Wind et al., 2020). It is clear that the territory the field of psychotherapy and public health more generally finds itself in is both novel and uncertain.

Vostanis and Bell (2020), in an essay on counseling and psychotherapy post-COVID-19, wrote that “the world has entered uncharted waters that only time and history will make sense of” (p. 1). Regardless of how impossible it might be to predict the final outcome of the crisis, it is clear that the renewed focus on and utilization of DMHTs has the possibility of persisting long past the pandemic. In that regard, it is hoped that this study will provide a contribution to the overall understanding of why clinicians use or fail to use these resources.

Summary and Purpose of Study

Over the course of this literature review, I have outlined the global need for both increased access to mental health care and for enhancing quality of that care, a need that has become particularly acute and salient during the current pandemic. I have argued that DMHTs—including apps, CIIs, gamified treatments, AI, smartphones, and teletherapeutic technologies—all have the potential to address these concerns. Tracing the evolution of such technologies, I have explored their impact on humans and the ways in which technologies and societies have co-evolved in complex and reciprocal ways. I have further argued for the role of psychologists and therapists to help harness and steer technologies so that their effect on individuals and societies is ultimately positive. Throughout, I have outlined the benefits, advantages, and promises of DMHTs as well as their disadvantages and potential for harm.

The central aim of this study was to increase our understanding of how psychotherapists related to, experienced, and utilized DMHTs in their practice with the primary goal of illuminating barriers to their use. Through a qualitative analysis of the experiences of therapists with technology on the psychotherapy subreddit on the website Reddit

(www.reddit.com/r/psychotherapy), I sought to better understand how therapists experienced and used DMHTs, their hopes and concerns, and the real-world experiences of the confluence of digital technology and psychotherapeutic practice.

Chapter 3: Method

This study was a qualitative thematic analysis of online discussions from the r/psychotherapy subreddit on the social media site Reddit (www.reddit.com/r/psychotherapy). The study's purpose was to explore psychotherapists' relationships to, experiences with, and utilization of DMHTs. This chapter defines the central research questions and provides the philosophical framework and research methodology. Additionally, it defines the sampling frame, the data collection and analysis procedures, and measures of the study's integrity.

Research Questions

This study sought to understand the personal, subjective experiences of psychotherapists as they intersected with DMHTs in order to illuminate barriers to their utilization, with the following research questions:

RQ1: How do psychotherapists subjectively view or think about DMHTs?

RQ2: What kinds of experiences have psychotherapists had with DMHTs?

RQ3: In what ways do psychotherapists utilize DMHTs in their practice?

RQ4: What are psychotherapists' DMHT-related concerns and/or what barriers (e.g., emotional, ethical, regulatory, or access-related) do they perceive to their use?

Research Design

While quantitative research methods are appropriate for researchers attempting to understand relationships between and among variables (Creswell, 2003), qualitative research methods are appropriate for gathering non-numerical data through methods such as case studies, focus groups, interviews, "and cultural texts and productions, along with observational, historical, interactional, and visual texts" (Denzin & Lincoln, 2011, pp. 3-4). Such research is concerned with meaning making and the interpretation of why and how phenomena occur

(Krauss, 2005; Lune & Berg, 2017; Merriam & Tisdell, 2015). Because the purpose of this study was to understand psychotherapists' subjective experiences with, utilization of, and concerns around mental health technologies, a qualitative approach was the most appropriate choice.

Thematic Analysis

Thematic analysis (TA) is a qualitative research method for “identifying, analyzing, and reporting patterns (themes) within data” (Braun & Clarke, 2006, p. 6). Although some researchers (e.g., Boyatzis, 1998; Ryan & Bernard, 2003) have considered TA to be more of a qualitative research tool than a method, Braun and Clarke (2006) argued that “thematic analysis should be considered a method in its own right” (p. 4). Further, they contended that TA's flexibility distinguishes it from other qualitative methods such as grounded theory and discourse analysis, which have more limited variation in how they are applied.

In this study, I followed Braun and Clarke's (2006) six step process for conducting TA, a process that begins with the researcher(s) (a) *becoming familiar with the data* through transcribing, reading, annotating, and note taking. Next, I worked with two co-researchers to (b) *generate initial codes* (i.e., short descriptors or phrases that capture features of the data). Next, I (c) *searched for themes*, working to gather codes into overarching themes and then use these themes to collect further relevant data. Next, I (d) *reviewed themes*, working to create a coherent thematic map by ensuring that themes worked in relation to their collected codes and the overall dataset. Then, I (e) *defined and named themes*, refining themes so that they fit into the overall story revealed by the analysis, ultimately generating a codebook (see Table 2). Subsequently, based on methods recommended by Ryan and Bernard (2003), I used this codebook deductively to revisit the original comments, ensuring that these codes wholly captured the data. Finally, a

fourth party and doctoral advisor, Nicholas Lee, did the same, using the codebook to deductively audit the original comment bank.

Linguistic Inquiry and Word Count (LIWC)

In order to further enrich the findings of the TA and to provide a deeper understanding of therapists' subjective views of and sentiments towards DMHTs, I utilized the text analysis program *Linguistic Inquiry and Word Count* (LIWC; Pennebaker et al., 2001). This text analysis was used to examine the content of the original posts as well as the comments that comprised TA themes and subthemes. As described by Tausczik and Pennebaker (2010), LIWC allows for the counting of words in “psychologically meaningful categories” (p. 24) including emotionality, attentional focus, and social status, among others. In this study, LIWC text analysis was utilized primarily to explore the emotional tone of comment threads and posts. This exploration allowed for an analysis of commentors' sentiment towards DMHTs—both in general and in specific—helping to answer RQ1, which inquired about therapists' subjective views of DMHTs. In addition, LIWC was used to identify patterns in the data set (Leech & Onwuegbuzie, 2011) through the counting of DMHT-related terms. By showing the relative discussion frequency of DMHT terms, this analysis provided further context for RQ2 and RQ3, which inquired about therapists' experiences with and utilization of DMHTs, respectively.

Participants

Reddit and Redditors

Study participants included individuals who posted on the r/psychotherapy subreddit on Reddit.com. Reddit is a discussion, news, and “content aggregation” web platform with more than 430 million unique users (called “Redditors”), from 200 different countries (Reddit, 2020). Redditors post links to news stories, share media, and engage in in-depth conversations in

extensive comment “threads” that can span thousands of comments (Caplan & Purser, 2017; Reddit, 2020; Sharma et al., 2017; Shen & Rudzicz, 2017). The site is divided into more than 130,000 subforums called “subreddits” (Reddit, 2020), with each subreddit devoted to a different overarching topic or theme, from world news stories to pictures of cats wearing clothes. These subreddits are referred to by redditors with an “r/” followed by the subreddit name, for instance, “r/worldnews.” This nomenclature comes from the way that URLs are stored and accessed online, with particular subreddits found by adding “r/name” after www.reddit.com in the browser address bar, for instance: “www.reddit.com/r/worldnews.”

There are two main kinds of content on subreddits: links to other sites and on-site discussions in the form of “comment threads” (Reddit, 2020). There are typically multiple comment threads under a single post. Each top level “parent” comment is a response to the original post, and parent comments can have multiple child comments that respond to them, creating a system of nested comment and reply-based conversations. Such comment threads exist both to discuss the content of links and as standalone discussions (sometimes called “self-posts”) that take place only on Reddit, without external links. For instance, a self-post on r/AskReddit, which is billed as a “place to ask and answer through-provoking questions,” would come in the form of a question by a Redditor that is then answered by other Redditors in comment threads, with all activity taking place on Reddit itself (Reddit, 2020).

Redditors have three main abilities when using the site: posting (e.g., posting links or topics for discussion), commenting (e.g., responding to post content or to other redditors), and “voting.” Voting is completed with up and down arrows that exist on every post and every comment, with up arrows or “upvotes” showing appreciation and interest and down arrows or “downvotes” indicating disinterest or disapproval (De Choudhury & De, 2014). With this system

of voting, Reddit site managers assert that the “most interesting content rises to the top” (Reddit, 2020). However, researchers have found that the most upvoted comments tend to be posted within 90 minutes of the initial post and are of similar subject matter to the initial post, implying that other factors than interestingness and relevance may affect the ranking of comments (Weninger, 2014). Due to such factors, it is possible that data collected based on comment or upvote criteria may be biased by site and community characteristics.

Another key factor in the mechanics of Reddit comes in the form of “karma points,” points that are accrued from upvotes and lost from downvotes, with one vote equal to one point (De Choudhury & De, 2014). Redditors can receive or lose karma points for both comments and posts and their overall karma score is displayed on their user profile (Reddit, 2020). The karma mechanics of Reddit lead to noteworthy contingencies for users, with many Redditors trying to accrue as much positive karma as they can for interesting links, witty or informative comments, or other material that engages fellow Redditors (Massanari, 2013). While norms of discourse and interaction change depending on the subreddit, researchers who have examined mental health subreddits in particular have found that Redditors engage in high levels of self-disclosure, share positive emotions, and frequently display gratitude towards other posters for helpful comments (Park et al., 2018; Shen & Rudzicz, 2017).

r/Psychotherapy

This study focused on a single, specific subreddit called r/psychotherapy, which is described by the subreddit moderators as “a place where mental health professionals and students can share and discuss topics related to psychotherapy” (Reddit, 2020). This subreddit was chosen as it is the largest extant subreddit focusing solely on therapists’ perspectives. While other subreddits such as r/talktherapy allow clinicians, clients, and interested outsiders to contribute,

r/psychotherapy constrains conversations to between mental health professionals and students pursuing such degrees. While those outside of the field are welcome to ask questions and leave comments, the rules of the subreddit include the requirement that posters are truthful about their status as psychotherapists, psychotherapists in training (e.g., doctorate or master's students), or non-clinicians, stating: "Users that falsely post as if they were a therapist will be permanently banned. Users may be asked to submit proof of their status as a therapist" (Reddit, 2020). How this submission of proof is obtained is not clear, but verified psychotherapists and students have the ability to post "flair" that appears next to their username indicating their highest therapy degree earned, followed by their license or title and their country of practice, for instance "Username, MA, Doctoral Student, US." Not all users have flair, so the ability to use flair as a source of demographic factors may be limited. In regard to the content found on r/psychotherapy, the moderators of the subreddit "encourage discussion of therapeutic techniques, information related to practice and new research, information related to careers in therapy, and dissection of case studies that protect the identity of the client" (Reddit, 2020).

In regard to more general demographic information, it is important to note that it was not possible to determine the demographic characteristics of the generally anonymous Reddit userbase and, in the words of other Reddit researchers, "any analysis that considers race, gender, disability, sexual orientation, immigration status, national origin, or other identities/contexts and their intersectional ties cannot be achieved" (Caplan & Purser, 2019, p. 11). However, general demographic factors of Reddit may be estimated. For instance, the Pew Research Center, in a 2016 analysis by Barthel and colleagues, found that the site's overall demographics skewed male (71% of users), White (70% of users), and young, with 64% under 29 years of age and only 1% of users above age 65. Further, they found that 48% had a college degree and 43% had attended

“some college,” while 35% earned more than \$75,000 annually and 30% earned less than \$30,000. Finally, 43% identified as politically liberal, 38% as independent, and 19% as conservative. The extent to which these demographic factors applied to the r/psychotherapy subreddit are unknown and represent a limitation in the study.

Procedures

As this study utilized only publicly available archival data, a waiver was sought from the Institutional Review Board (IRB) at Radford University. Once this waiver was granted (see Appendix C), I enacted the following procedures for selecting, downloading, and coding of data. These procedures were adapted from those used by Caplan and Purser, pioneers of TA on Reddit, in particular, their 2017 study of Redditors’ experiences of poverty, as well as a 2019 guide to “Qualitative inquiry using social media,” which outlined their approach in detail. Due to the comprehensive nature of their guide—as well as my previous successful use of their method with the aforementioned Reddit study experiences (see George et al., 2019)—I based my procedures on a modified version of theirs.

Epistemological and Methodological Approach

In Caplan and Purser’s (2019) recommendations, initial steps include identifying the core research question, deciding on an epistemological approach, and choosing a methodological approach. The core research questions in this study, as outlined previously, centered around the ways in which psychotherapists related to, experienced, and utilized DMHTs in their practices as well as the perceived barriers (e.g., emotional, ethical, regulatory, or access-related) to their usage. In order to answer this question, I employed a phenomenological approach, an approach to qualitative research that seeks to uncover basic information about common features of lived experiences (Starks & Trinidad, 2007). Further, my methodological approach was an inductive

and deductive thematic analysis utilizing semantic and latent coding of themes (Braun & Clarke, 2006).

Sample and Sampling Frame

The next steps in Caplan and Purser's (2019) methodology were slightly modified for this study. While they suggested finding a single original post on Reddit that helped to answer the research question under study, such an approach for the r/psychotherapy subreddit would not have yielded enough data for a comprehensive analysis. This is due to the fact that different subreddits have different levels of subscribership, meaning that posts on certain subreddits (e.g., r/AskReddit) could contain thousands of comments while others may average in the single or double digits. The r/psychotherapy subreddit was in the latter camp, with few posts ever containing a large number of comments. Therefore, instead of finding one post to draw data from, I drew data from a number of posts over a certain time period.

To begin the process of creating a data set, I used Reddit's built-in search function, searching for DMHT-related terms derived from the literature review (see Appendix A). An initial difficulty I encountered was in finding the ideal inclusion criteria in order to end with approximately 1,500 comments. This goal number was chosen based on the precedent set by Caplan et al. (2017), where 1,495 comments comprised the data set, as well as my own experience completing a separate, smaller, Reddit study (George et al., 2019). Based on Caplan et al., and considerations of feasibility within a limited time frame, this number seemed ideal.

I had completed an initial test in 2019 and found a one-month period time frame that excluded any posts with fewer than 10 comments would yield around 1,500 separate comments. However, in February 2021, when I constrained search results by the most recent full month (January 2021), I found very few results for the search terms, with some search times finding no

results at all. Therefore, I worked to expand the time frame in way that captured a richer set of results, eventually finding that a one-year timeframe was ideal. Reddit has a “save” feature that allows a user to mark certain posts by adding them to one’s saved posts section. I utilized this feature in the initial process, simply saving all posts within a one-year period that met search term criteria. However, due to a large number of such posts, I decided to constrain this initial search further, including only those posts with at least 20 comments. I recognized that this would leave me with more than enough total comments and that I could then further pare posts down from there. This initial search yielded 73 individual posts.

The paring process began with the paring away of irrelevant posts. By examining the specific text of each post and its comments, it was clear that some posts fell outside of the scope of the project. Twelve such irrelevant posts were found, leaving 61 posts remaining. Next, I calculated the full number of comments across all 61 posts, finding 3,134 total. Recognizing that I had to eliminate more than half of these comments, I experimented with different inclusion criteria, looking at both total upvotes and total comments in order to find a cutoff that would yield something close to the desired 1,500 comments while also capturing both popularity through upvotes and interest/engagement through comments. Ultimately, I found that an upvote floor of 90 and a comment floor of 30 yielded 1,525 comments across 22 posts, posts which covered a wide variety of DMHT-related topics (see Appendix D). Later, in the process of coding, it was recognized that, despite this initial review, Post 11 contained no relevant data for this analysis, so it was excluded at that time, leaving a total of 21 posts.

After finding the sampling frame, I downloaded the text from all posts into separate Word documents and cleaned the data, including removing screen names to preserve anonymity. Next, I created an Excel file with a separate sheet for each post, four columns (comment,

individual code, group code, and notes). Within the comment column, comments were placed with their order of response preserved using numbers. For instance, those comments directly responding to the OP were given a “1” while those responding to the responses were given a “2” and so on. Within the coding column, in addition to typing out individual codes, coders used certain nomenclature that helped enhance communication and collaboration. For instance, tildes were used in the coding column to indicate an irrelevant comment (i.e., not related to DMHT use), while quote marks were used to indicate a repetition of the same code from the previous line.

Research Team

The Researchers: Identities, Interests, and Potential Conflicts

In qualitative research, the researchers themselves are considered instruments for data collection (Morrow, 2007). In this study, the author collaborated with three others to explore and code data, meaning that a primary research tool in this study was a research team. This team approach was helpful not only to bring diverse perspectives to the creation of codes, but also as a way to minimize individual bias. Each team member had different identities and life experiences, unique views of technology, distinct research interests, and differing clinical experiences—all of which they brought to the coding process. It is important to elucidate these individual dimensions in order to bring transparency to the process of data analysis and to proactively identify any areas of potential bias or emotional involvement with relation to the topic of research (Morrow, 2005; Patton, 2002). In order to achieve transparency and reduce bias, the following section will examine the identities, views, and potential biases of each member of the research team.

Identities. The four members of the research team included myself, two other doctoral students pursuing degrees in counseling psychology, as well as one faculty member. We were all

at Radford University, a public university in Southwest Virginia. I earned my master's in clinical psychology and—at the time of writing—am preparing to enter my doctoral internship. I am a 41-year-old, agnostic, Caucasian, American, from a middle-class background. I was born in the United States to U.S.-born parents, am a native English speaker, and I identify as a bisexual, cisgender male. In contrast to myself, the two other students on the research team were both in their first year of our doctoral program. One researcher is a 25-year-old, agnostic, Chinese, Asian American, from a lower middle-class background. She was born in the United States, is a native English speaker, and identifies as a heterosexual, cisgender female. The other researcher is a 26-year-old, U.S.-born, Caucasian male who identifies as heterosexual and cisgender. Finally, my advisor, who served in an arbiter role in coding, is an associate professor who also advises the other students in the research team. He is a 40-year-old, Christian, Caucasian, American from a lower SES background. He was born in the United States, is a native English speaker, and identifies as a heterosexual, cisgender male.

Technology and DMHTs. Each of us brings a different view of technology and DMHTs to this project. As the author of the study, I have pursued research into digital mental health interventions and technologies for nearly a decade. Throughout my master's and doctoral programs, I have sought to carve out a niche in regard to the confluence of technology and psychotherapy. For my master's thesis, I co-designed an app to treat social anxiety (see George et al., 2021), and I have served as a consultant and advisor to companies designing apps and interventions. I have also helped to facilitate discussions and roundtables related to leveraging apps for mental health in rural areas and to ameliorate the effects of screen time on child and adolescent mental health. With my advisor Nicholas Lee, I completed a previous Reddit-based thematic analysis related to the ways that clients used Reddit to discuss their therapy experiences

(see George et al., 2019) and—over the past 6 years, I have continually worked with therapy clients, both in group and individual contexts, to leverage therapeutic technologies. While I have been immersed in technology-related research and am devoted to harnessing technologies for therapeutic benefit, my overarching view of digital technology is not a purely positive one. In other words, I am not a tech-optimist or evangelist, but nor am I a naysayer or Luddite. Instead, I consider myself a pragmatist who sees the world we now inhabit as one already pervaded by digital technologies and heading towards ever-increasing immersion with an online world. I experience this moment and the oncoming future with both trepidation and excitement.

The other researchers expressed different views of and experiences with technology. One research team member believes that DMHTs have their “pros and cons,” and that their largest benefit might be in filling gaps in service and providing more innovative ways to perform traditional interventions, such as using virtual reality for exposure therapy. Regarding technology and its evolution more generally, this research endorsed experiencing both excitement and nervousness. This excitement exists around the ways that technology will change human lives and experiences, especially through the advancement of artificial intelligence, while nervousness arises from an understanding of technology’s potential for misuse and harm, such as through the recent phenomena of deepfakes. The other research team member is interested in the efficacy of psychotherapy and assessment through telehealth as well as how current psychological practices could be improved upon via the use of DMHTs. He also expressed interest in how such an integration could be made within existing psychological practices in an effective manner. Ultimately, he expressed an overall neutral view of technology and DMHTs. Finally, my advisor expressed the view that technology should complement and support human work and endeavors

but never replace humans themselves. Overall, he expressed the view that technology should work alongside humans while being both tempered and stewarded wisely.

Data Analysis

After data had been selected, downloaded, cleaned, and imported into Excel, I and two other research team members separately began the inductive coding process. This process was based on the steps outlined by Braun and Clarke (2006) for thematic analysis, beginning with each of the coders reading all posts multiple times to begin familiarization with the data. Next, all coders began creating inductive codes on a week-by-week basis, with each week devoted to coding two to four posts. Weekly Zoom meetings were designated for bringing these individual codes together, unifying each comment's code into one that represented group consensus. At the majority of the meetings, my dissertation advisor, Nicholas Lee, was present, with the role of serving as an overseer and arbiter, at times helping the individual coders find consensus. Additionally, as I had completed a previous subreddit TA (George et al., 2019), as well as another TA in 2014, one of my roles in the initial weeks of coding was didactic. In this role, I worked with Dr. Lee to train the other two students in the process of TA. This training included reading seminal TA articles (e.g., Braun & Clarke, 2006) and Reddit research articles (e.g., Caplan & Purser, 2019), as well as instruction during each week's meeting around the quality of each coder's codes.

Throughout the coding process, all coders followed Ryan and Bernard's (2003) recommendations for thematic analysis, including looking for repeating themes and searching for specific areas of divergence and convergence in the data. This initial inductive coding ultimately led to the creation of a codebook that was then be used for deductive coding by both myself and Dr. Lee, allowing the further capture of relevant data as well as providing a "check" on the

validity of the codebook. Throughout this process, codes and themes were compared and contrasted, refined, and combined or separated through consensus of both coders and Dr. Lee, a method outlined by Caplan and Purser (2019) among others.

Trustworthiness

Lincoln and Guba (1985), in their guidelines for qualitative research, outlined four key factors in establishing trustworthiness: *credibility*, *transferability*, *dependability*, and *confirmability*. Although some of their specific guidelines only applied towards qualitative studies with active participants (i.e., interviews, surveys, focus groups, etc.), a number remained applicable in this study of archival data.

Credibility refers to the truth or validity of the research findings. According to Lincoln and Guba (1985), a central method of establishing credibility is through prolonged engagement with the data and subject matter. As mentioned previously, I have personally been engaged with DMHT-based research since 2015 when I began working on my master's thesis on an app-based treatment, which recently published (see George et al., 2020). Additionally, I have extensively read DMHT-related material (e.g., research studies and books) over the past 5 years and, when possible, I have purposefully used course requirements to explore DMHT-related topics (e.g., researching and presenting on the ethics of online therapy for an ethics class). I have also utilized DMHTs in my clinical work, running both a website and a YouTube channel where I share resources with clients. Further, I have frequented the r/psychotherapy subreddit over the last 5 years, reading about others' experiences, contributing to discussions, and creating posts. Finally, additional engagement came through the creation of this study's literature review, which I worked on over the course of a year with the intention of achieving a comprehensive understanding of the current state of DMHTs. Overall, my extensive interest in and exploration

of DMHTs lends credibility to the findings through the mechanism of prolonged engagement. Another method of increasing credibility is through triangulation (Denzin, 1978; Patton, 1999), the utilization of multiple data sources, methods, or analysts. As this study triangulated analysts by utilizing three coders and a third-party overseer, the results have increased credibility.

Dependability refers to the ability to say that findings are consistent and could be repeated. A key way to establish dependability is through the use of external audits, having an external researcher that is not directly involved in the process of coding data and creating themes to examine the processes and products created by the primary researchers, a service provided by my advisor. Finally, *confirmability* represents the extent to which the study's findings are confirmable or repeatable by others, implying that they are as free as possible from researcher biases or agendas. External audits are useful in establishing confirmability for the same reasons they are useful in establishing dependability. Another method is the creation of an "audit trail," a description of all of the steps taken from the beginning to the end of the research project. Halpern's (1983) information reporting standards are helpful in creating this trail and they include recording and reporting the raw data used, process notes and memos, and the products of both the data reduction and analysis and the data reconstruction and synthesis. Malterud (2001) outlined the need for such detailed audit trails, noting that, due to the possible subjectivity of qualitative research, the researcher needs to not only explain how and why themes and patterns were formed but "the reader needs to know the principles and choices underlying pattern recognition and category foundation" (p. 486). To that end, I kept detailed journals of all decisions made, thoughts shared in meetings, and other processes, which were then integrated into this document. Additionally, the entire data set—in the form of Reddit posts—is available online at the links provided in Appendix D.

A further method for establishing confirmability is through the use of reflexivity, an attitude of continually attending to how one is constructing knowledge and understanding phenomena and the effects that one's self has on that process. Malterud (2001) wrote that the researcher's background "will affect what they choose to investigate, the angle of investigation, the methods judged most adequate for this purpose, the findings considered most appropriate, and the framing and communication of conclusions" (pp. 483-484). Lincoln and Guba (1985) outlined three main methods for fostering reflexivity, including using multiple investigators who can engage in reflexive dialogue throughout the process (Barry et al., 1999), the use of a reflexive journal where the researcher makes regular entries about decisions made and reflections about the process, and, in the end, the reporting of the researchers' perspectives and values, and preconceptions in the manuscript. While the former was integrated throughout this report, the latter can be found specifically in the Research Team section of the method.

Ethical Concerns

The ethics of social media and online platform analyses are complex and, according to Rosen et al. (2015), involve a consideration of a number of variables, including "the chosen privacy settings and expectation of website users (i.e., the researched), the website or chat room privacy policies, and legal considerations with regard to the access and publication of online data" (p. 110). Obtaining explicit consent may not be a viable option when using online forum members as research participants. For instance, a study by Hudson and Bruckman (2004) looked at how those in public forums responded to different research consent options, finding that less than 1% of those given the choice of opting in to the study did so, but conversely, less than 1% of those given the choice of opting out did so. The authors concluded that attempting to seek

consent in public online forms is not practical or viable and, further, that seeking such consent might change group dynamics.

Rodham and Gavin (2006) wrote that two key ethical considerations around data from online “message boards” (a concept similar to the way that Reddit functions) are consent and confidentiality/anonymity of participants. The confidentiality and anonymity of participants will be attended to in the data collection process, with all Redditors de-identified. With regard to consent, many researchers, including Kitchin (2002), contended that online material should be considered as a source of public data to researchers and consent to analyze the data does not need to be obtained. This concept is echoed by Fleitas (1998), who argued that an open message board should be considered to fall within the public domain and that those on the board are aware that their contributions are publicly available to anyone with an internet connection. Further, on Reddit specifically, comments and posts are easily deleted, so individuals are able to revoke this consent if desired.

Summary

In summary, this study was a qualitative, thematic analysis of DMHT-related content on the r/psychotherapy subreddit. This analysis sought to understand the personal, subjective experiences of psychotherapists as they intersected with DMHTs, including their feelings about, experiences with, use of, and barriers to utilization of DMHTs. Data was collected from a one-year period using DMHT-related search terms and inclusion criteria based on post popularity (i.e., upvotes), number of comments, and relevance to the research questions. Multiple coders were used in the process of inductive and deductive analysis, generating themes from the collected data. Trustworthiness factors of credibility, transferability, dependability, and

confirmability were attended to by researchers and study participant data was de-identified to protect their anonymity.

Chapter 4: Results

A thematic analysis (TA) of 21 Reddit posts ultimately yielded seven major themes related to the intersections between psychotherapy and digital technology: 1) Altered Perceptions; 2) Broken Systems; 3) F*ck Technology; 4) Pandemic; 5) Boundaries; 6) Support; and 7) Tech's Promise. As illustrated in *Figure 1*, these seven themes contained 22 corresponding subthemes.

Major Theme 1: Altered Perceptions

The first major theme, “Altered Perceptions” described the ways in which credentials, reputations, services, and information related to therapy and mental health were shared, represented, advertised, and regulated in online spaces, with a primary focus on concerns around misrepresentation, a lack of regulation and credentialing, and the spreading of misinformation.

1.1 Online Credentials

The first Subtheme, “Online Credentials,” described the ways in which individuals in online spaces self-represented (and misrepresented) their credentials, from therapists over-endorsing competencies on the Psychology Today “Find a Therapist” site to non-therapists misrepresenting their qualifications on social media. At a more latent level, this theme explored the meaning of credentials, questions around who is “allowed” to be a helper, and the possibility that semantic differences were driving some of the debate.

Laundry List. One online space that Redditors claimed was rife with misrepresentation was Psychology Today’s “Find a Therapist” web portal. Within the portal, therapists are able to endorse specific attributes, including specialties (e.g., trauma and PTSD, anxiety) and/or treatment approaches (e.g., CBT, person-centered), among others. The OP of post six contended that therapists seemed to be over-endorsing competencies, writing: “...as I look at folks, I really

start to question whether there are that many therapists trained in EMDR, prolonged exposure therapy AND somatic sensory [therapy] while also offering 10 more therapies such as CBT and solution focused, etc.” A number of other commentors agreed, with one endorsing similar skepticism and finding it “hard to believe that it would be common for a clinician to have extensive training in 12+ modalities that they use on a regular basis.”

In further discussion, many commentors expressed the view that mere exposure to different modalities and techniques was not equivalent to real competency. In other words, there was a tangible “difference between having an introductory level of knowledge and actually being certified or an expert level.” One commentor shared how their own experience of searching for a therapist had convinced them that “those lists of modalities are almost entirely nonsense. People seem to just list whatever they’ve had a little exposure to.” Ultimately, a number of commentors agreed that, when looking for a therapist, the “laundry lists” of credentials that could be found on Psychology Today’s site were “red flags.” However, such red flags may actually be invisible to the untrained eye, with one commentor finding it “unnerving to realize that probably the only reason I recognize this as a red flag is that I have several years of book-learning and practical experience under my belt.”

Costs. A number of commentors contended that these misrepresentations came with costs for both the field and for clients. For instance, they had the potential to devalue the training and work of other therapists who had dedicated significant time to specialization and certification. Further, clients with serious presenting concerns could select a therapist based on their listed competencies, only to find a lack of actual competency in that area. Such an experience could be particularly damaging for clients with severe trauma or for members of marginalized populations. As one commentor wrote:

The huge number of people claiming LGBTQ specialization are the ones that bother me the most...Most, at best, are gay-friendly. But being “open-minded” (or even having an LGBTQ identity themselves) does not magically grant them knowledge of queer history, systemic injustice, gender identity, and the huge library of other topics they’d need to nail down before claiming to “specialize” in these clients.

Different Paths. However, despite these criticisms, other commentors in post six argued that there were different paths towards learning, paths that could allow a therapist to legitimately and credibly possess a large number of credentials and competencies. For instance, some therapists could simply be well-trained and highly competent due to the significant amount of time they had practiced in the field. In other words, “it’s possible for seasoned clinicians to be trained in multiple modalities... It just takes time, experience, and planning.” Others argued that even those early in their training could possess a wide array of competencies. For instance, some described the generalist practice found in graduate programs as one way that early clinicians could gain wide-ranging competency. One commentor shared their own graduate experience in which they had...

...courses, individual supervision, and group supervision as well as didactic classes and seminars on many therapies and have been taught how to both treat and conceptualize from many different perspectives...I felt like my training (and really I’m still not even done with it) has made me proficient in a variety of things.

Another commentor agreed, writing, “I’m technically not even done with training and proficient in MANY different types. In graduate school you get trained in lots of therapies.” Further, whereas some commentors—including the OP of post six—seemed to be viewing the Psychology Today endorsements as akin to official credentials, others saw significant differences

between competency and certification. As one commentor wrote, one can be self-taught and “a lot of therapies (e.g., CBT and EFT as examples) can be learned from reading on it and practicing with some supervision. No cert needed.”

Finally, some commentors argued that the overall issue Redditors had posed with the Psychology Today page was ultimately semantic. For instance, one commentor wrote that they interpreted endorsements on the site as reflective of modalities that one is “informed by” rather than credentialed in. Relatedly, other commentors pointed out that some of the available endorsements on the website were less about specific credentials and more reflective of basic therapeutic skills such as being “trauma-informed” or “person-centered.”

No Regulations. In other threads, arguments around competencies were expanded past those of clinicians to include non-trained or non-credentialed helpers. In a discussion about individuals on social media who pose as mental health professionals in post 14, one commentor lamented the fact that “as long as you don’t use certain titles, which vary by state, and don’t claim to ‘treat’ mental disorders, you can kinda do what you want.” Other commentors expressed concern about a complete lack of regulation, contending that online spaces should be more regulated and “that it was illegal to promote yourself as any kind of therapist without the proper qualifications.” Some commentors discussed their frustrations with the significant regulatory differences across the United States and internationally. One commentor wrote that, while the term “therapist” is protected in their home state, the terms “therapy” and “counselor” were not, while “in other states, the term counselor is protected. It’s this odd patchwork of regulations and nobody’s really enforcing any of it.” Another commentor drew comparisons between the medical field and the mental health field in regard to regulation and enforcement, arguing that the latter should be more like the former:

I feel like it should be illegal to present yourself as providing some kind of wellness service, but then spread falsehoods, whether you believe them or not. We need some kind of snake oil police. We wouldn't allow fake doctors or pharmacists, but we're allowing people to practice things close to this that aren't evidence based. At best it's innocuous but exploitative, at worst it's quite harmful.

However, a significant number of commentators argued such points, contending that the attempt to police those who provided help outside of official pathways was problematic and—further—that helping was a basic human ability. One commentator sarcastically asked, “Gosh, how did anyone ever work through psychological and emotional concerns before there were licensed therapists with specialties and hourly rates?” Related arguments considered the ultimate meaning of credentials and who ultimately defined and regulated them, with one commentator writing:

This may be an unpopular opinion, but I look at it from a cultural perspective. In other cultures, therapists are not as common or strictly licensed/standardized as in a Western society. Many cultures utilize their community as therapists, whether that be elders, shamans, or even priests. In the Black community, many of us utilize older adults to seek out and sort out different issues. What may be considered as “quack” in one culture could be incredibly healing to another. Isn't the most powerful intervention the therapeutic relationship and space? I think many people are drawn to these coaches and wellness gurus for a very similar reason; relations and community. It's not necessarily the information they are spewing out but the community they have created...

Others contended that, instead of gatekeeping who participated in helping those with mental health concerns, therapists should be encouraging *more* people to take up helping

positions, credentialed or not, because the need was so high. One commentor described a change of heart in their own thinking after they truly realized the “scope of the problem with mental health [in the U.S.]” where non-credentialed helpers may actually be “necessary first responders.” Another commentor bolstered this argument with the contention that that the majority of those in helping positions had “reasonably good intentions, or at least aren’t actively taking part in the more toxic elements of our society.” Another commentor summed up many of these arguments by writing:

Eh, it doesn’t bother me as much. I see some coaches doing some really fantastic psychoed around self care that folks wouldn’t have been able to access as easily if it weren’t for their presence on social media. Don’t call yourself a therapist if you aren’t one, obviously, but i [sic] think there are different teachers/healers for different people and paths and that just because someone isn’t a therapist it doesn’t mean they’re doing harm if they’re working with folks emotionally.

1.2 Impostors & Influencers

The second Subtheme, “Impostors and Influencers,” expanded the conversation around credential misrepresentation to the ways in which individuals in online spaces (including both therapists and non-therapists) provided mental health information, gave advice, and diagnosed. Further, it described the ways in which non-therapists advertised and provided online services under the banner of “life coaching” or alternative healing, sometimes at great cost to the mental health of their clients.

Coaches and Healers. A number of commentors expressed frustration and concern regarding the seeming preponderance of non-therapists sharing mental health related information and “memes” in online spaces. One commentor succinctly described their frustration with

“randoms pretending they are enlightened champions of wellness posting stupid hallow idioms meanwhile you’re like, I know y’all know I’m a real therapist and never once has someone consulted me on this shit.” In addition to such informational posts, some commentors found it particularly troubling that these individuals were providing actual paid services:

Someone I used to work with does ‘5-D Energy Healing’ and charges \$297 for a 90 min session. Its [sic] all promoted via her instagram, theres [sic] no data or info about what it is, or even her credentialing or training to become this type of ‘spiritual healer.’

Others bemoaned the extent to which they believed such non-therapists devalued the work of licensed therapists and the field more generally. One commentor wrote that “they give the entire profession a bad name and make us all seem like quacks.” Another agreed, also adding that these incursions ultimately represented a historical misunderstanding of the field in a way that was both frustrating and demoralizing:

It really irks me because it plays into stereotypes that therapy is easy to do, or that therapy is simply saying supportive things, “giving advice,” or “telling people what to do.” There’s not nearly enough attention given to the fact that therapy is a super difficult skill, and it often takes a lot of years to be good at this.

YouTube Therapists. Redditors did not only express concern and frustration with the non-credentialed, they also “called out” clinicians who created content in online spaces such as YouTube. For instance, the OP of post three (see Appendix D, Post 3: YouTube) expressed concern surrounding the extent to which YouTube content creators—including some clinicians—were overtly focusing on narcissism and narcissistic personality disorder (NPD) with much of their content. In the thread, the OP queried Redditors on their “thoughts on the ethics of

therapists making content for YouTube regarding narcissism/ the NPD internet explosion?” In the body of their post, they wrote:

I feel like the topic of narcissism and NPD are super hot within communities like YouTube. There are tons and tons of creators who devote their platforms specifically to topics like NPD, narcissistic abuse, etc. Many of them are not therapists at all, a lot are “life coaches,” but there are a few notable professionals, like Dr Ramani—a clinical psychologist. I think that sharing this information can be really beneficial, but I also see a few red flags—especially since this content is viewed primarily by non-clinicians. It seems like it would make it easy for people to attribute any sort of negative relationship to the construct of narcissism, and allows people to feel confident in diagnosing their former friends or loved ones, with NPD.

Many commentors shared the OP’s concerns, agreeing that these content creators were offering “questionable content” around NPD, content that encouraged viewers to see others through a pathological lens. As one commentor shared, this distorted view was one that they had begun to see reflected even in their own clients: “I was driving in my car the other day completely frustrated by how many patients keep accusing their ex-partners of being narcissists.” Ultimately, commentors argued that such content was overly simplified and lacked the nuance needed to make the claims it did.

While many commentors agreed with OP’s concerns, others defended certain specific content makers, arguing that those creators produced quality content that served a valuable role. In so doing, they named specific YouTube clinicians and argued that their content may actually be helping those with mental health concerns, with particular benefit for those who had struggled with relational issues. For instance, one commentor shared their experience of hearing from a

friend that videos by an MFT on YouTube were “actually helpful for her to become more empathetic, self-aware and learn about communication.” In particular, commentors appreciated clinician creators who embodied qualities of carefulness and nuance, used disclaimers, and refused to diagnose in online spaces.

1.3 Online Reputations

The third and final Subtheme, “Online Reputations,” described the ways in which therapists’ reputations could be affected in online spaces, including through clients leaving unchallengeable bad reviews, as well as reputational concerns about the greater field, including apprehensions about the way the field was represented on the r/psychotherapy subreddit.

Bad Reviews. While therapists exerted some control over their online reputation and status through the aforementioned endorsed credentials and providing of content, there were other ways in which therapists were uniquely vulnerable to reputational damage. One such reputational threat came in the form of negative online reviews, with a conversation about such reviews prompted by the OP of post 10, who wrote:

How do you deal with negative reviews on health provider review sites? I just found out that I had a couple of negative reviews on a review site for health providers... I flagged the reviews because they were really vile and included name calling, which violates the terms of the website.

In the thread, commentors commonly reflected a sense of the unfairness of such reviews, reviews where no defense was possible due to client privacy laws. However, one commentor countered this view, writing that therapists may...

...have more leeway here than most think. I wish I could find it again, but when this happened to me I read an attorney’s opinion that you can easily make an argument for

diplomatically responding to reviews. Their argument was that clients need to act in a way that reasonably protects their privacy, and airing grievances via publicly viewable online reviews waives some privacy to a degree. This has never gone to court (at least it hadn't at the time they wrote that 3ish years ago), and if it did, they felt it was a very winnable argument. All of that said, personally, I'd be confident a diplomatic, general reply as a business owner is copacetic.

A number of commentors discussed potential ways to react to or manage negative online reviews. While some suggested burying the negative review with positive ones, others countered that therapists should not solicit positive reviews, even to balance out unfairly negative ones. Ultimately, some suggested that therapists could reframe their mindset around such reviews, wearing them instead as a "badge of honor." As one commentor who had been "the recipient of a negative online review that is probably still out there on the internet" shared:

...it's not been a business destroying event so far. I also chose not to have the site scrub it, even though I could have. I decided that it was on a less conspicuous site and that deletion could end up angering the reviewer, triggering them to leave another review somewhere more visible or less easy to expunge.

While negative online reviews clearly provoked concerns about damaged reputations, commentors in the thread also provided each other support by sharing reasons not to worry. For instance, they argued that clients were ultimately savvy and aware enough that negative reviews posted by disgruntled individuals in online spaces would be taken with a grain of salt. One commentor wrote:

I feel like most discerning clients can tell when a review is written in a meanspirited way or by someone who had unreasonable expectations. (Kind of like when you read a yelp review and you get a “Karen” vibe from the person.)

Additionally, some discussed the paradoxical effects of such reviews, including bad reviews actually increasing the sense of a therapist’s legitimacy, and therefore drawing in clients. One commenter shared that “I’ve had a few people work with me based on my negative review. They told me that they read my website, read my good reviews and the negative one sealed the deal.”

What if Clients See This? In other threads, commentors expressed concerns around the reputation of the field more generally, casting the way that therapists shared information and opinions on the subreddit itself as a reputational threat. These commentors contended that there could be consequences of therapists sharing negative client experiences, complaining, and venting on a public forum that could be easily viewed by clients. One commentor wrote:

You are a fellow professional with the ability to make my field look bad. People in therapy read these threads all the time, and frankly I don’t think what you wrote would be pleasant for a client to read. Your words are available to everyone, not just your intended audience.

Some bolstered these concerns in other threads, asserting that clients do, in fact, read the forum. For instance, in response to harassing private messages received by a therapist Redditor, one commentor wrote:

Remember that just because only therapist[s] can post on the sub it doesn’t mean that clients don’t peruse the sub and send private messages like the one he got. I would think it very unlikely that a councillor [sic] sent those messages.

However, despite the potential for clients to see “unpleasant” therapy-related material, other commentors pushed back against the argument for self-censorship, asserting that clients were not so fragile that they could not cope with reading about therapists’ struggles online:

I find the argument of ‘Oh noes, our precious clients might peek on here and might be exposed to the idea that we are human’ to be especially disingenuous. This sub can be helpful, but I can’t stand the idea that anything other than collusion in a patient’s fragility is wROnG. That’s, like, the complete opposite of what we are supposed to be doing.

Still, other commentors expressed somewhat different concerns regarding commentors sharing session information, especially when that information could be embarrassing or shaming. In post 17, where Redditors discussed unexpected things that had happened in teletherapy, a number of commentors shared toilet-related events, prompting the following comment exchange between three Redditors about the appropriateness and ethics of sharing such stories online:

C1: I’m reading some concerning things in here... Also, is this really an appropriate topic given the possibility for clients to recognize themselves in these stories?

C2: My thought too, anyone can come across this and read about an event they just were a part of and identify the therapist

C3: I know for mine I always change details so that it’s not recognizable. I assume others do the same

C2: Sure, but “my client was on the toilet having diarrhea” can't really be disguised unless the whole thing was made up in the first place, right?

Summary. From this major theme, an important window into therapists’ subjective experiences with online spaces was opened. Overall, commentors expressed apprehensions around the ways that perceptions could be formed and altered in online spaces. Rather than

writing about their use of DMHTs in practice, commentors shared how technologies had impacted and affected them, their clients, and members of the public. While commentors contended that therapists exerted some control over the technologies they discussed (e.g., their ability to endorse credentials), the overarching experience seemed to be one in which technologies *acted upon* them or others. Ultimately, the specific concerns expressed in this theme, including concerns around the misrepresentation of credentials or abilities, the spreading of misinformation, and the potential for negative reputational impacts could—in diverging ways—pose psychological barriers to therapist DMHT utilization.

Major Theme 2: Broken Systems

The second major theme, “Broken Systems,” described the malfunctioning, corrupt, and demoralizing technological systems and contexts that modern therapists contended with, systems generally driven by financial motives. The four subthemes described an online ecosystem rife with exploitative middlemen, perverse incentives, and poor regulation.

2.1 Middlemen

The first Subtheme, “Middlemen,” portrayed the ways that third parties (e.g., online therapy platforms, insurance companies, health care vendors, dating apps, etc.) stood between therapists and clients, mediated human relationships, and exploited those with less power in online spaces. It included fears around online platforms (OLPs) and their attempts to “Uberize” the field of therapy, concerns about the ways in which insurance companies decided how therapists practiced and how clients were cared for, and ways in which online dating apps arbitrated client romantic relationships.

Uberization. OLPs such as BetterHelp and Talkspace were a central topic of three posts (7, 8, and 9). In those posts, commentors expressed significant concerns regarding the ways in

which Silicon Valley had invaded the field of psychotherapy. While commentators recognized that the OLPs' central goal may be financial rather than a desire to change how therapy was done, commentators expressed concern that the field of therapy was "at the beginning stages of what Uber looked like 10 years ago," a process that the pandemic could significantly speed up. For instance, the OP of post seven worried that the pandemic and the worldwide shift towards teletherapy could accelerate "up a process that at one point I thought was impossible—therapists becoming automated." Other commentators expressed similar fears, positing the belief that the ultimate goal of the OLPs was to mine data that could be used to train chatbots, thereby fully removing the need to pay or employ humans:

It seems crystal clear to me that the eventual goal of these text-based teletherapy startups must be to develop AI chatbots that can deliver therapy without a human therapist. I imagine their "data mining" is oriented towards being able to design this AI, and their objective is to show some level of client satisfaction or clinical benefit with these chatbots that is comparable to interactions with a "real" therapist.

Another commentator agreed with this analysis, theorizing that it was "...the end goal of these companies [to] study the human interactions between client and therapist and create an AI therapist that clients can't distinguish between the real thing."

While concerns around the replacement of therapists by lifelike AI were shared by a number of commentators, the specter of Uberization brought other worries. Just as Uber had changed the field of taxiing, the middlemen represented by OLPs imperiled the field of psychotherapy at multiple levels. For instance, their vast financial resources, analytic capability, and advertising budgets could allow them to simply undercut traditional therapy. Commentors lamented that fact that, while psychotherapy had no advertising budget, OLP ads seemed

omnipresent, with one commentor positing that the pandemic had led to a “huge advertising push” on the part of the OLPs. The commentor further wrote that the “stress that people have been getting from the pandemic (financial, emotional, etc.) probably opened up the pool for targeted ads.” In addition to their formidable advertising capabilities, commentors expressed concerns that the cheaper price of OLPs could draw customers in while also setting a precedent for a “worth” of therapy that was far below current values. One commentor argued that “if people get used to paying \$80/session through BetterHelp, and then are asked to pay more than double for in-person therapy many will balk at that and will drive prices down for all of us.” One commentor drew further comparisons to the way that Uber affected the financial status of the taxi companies:

It’s not that I’m worried about virtual therapy, I’m worried about a service like Betterhelp. We can offer everything Betterhelp does; we already offer virtual sessions, online payment, etc. Same as taxis. Taxis can...have apps just like Uber and Lyft. The problem is, taxi services charge more due to their inherent business structure. Same as private practice people. Down the road, my fear is people who are used to online sessions... [will] see less and less of a difference between using a service like Betterhelp and seeing a private therapist, except they’ll be charged more than double for the latter.

Unsustainable. In addition to fears around Uberization, a number of commentors argued that OLPs were plainly terrible to work for and, ultimately, unsustainable from a workforce perspective. Numerous commentors described firsthand accounts of unethical practices, poor compensation, tight control, glitches, and a seeming lack of care for therapists or clients. One commentor wrote the “horrendous” pay at a popular OLP was far from the only problem as the “company has no idea what is involved in clinical care, and they are inexcusable in their

handling of ethical issues. Important issues like patient termination, transfers, continuity of care are all made extremely difficult within the platform itself.” Another commentor wrote, “I heard that they can view all transcripts, end relationships without giving time for closure, and the pay is eh,” while another described a firsthand experience of being charged \$950 with the accusation that they had been “trying to siphon off customers” to their new practice, an accusation that led them to “quit immediately.” Ultimately, they wrote, “I can’t tell you how good it is to be done with these liars and cons.”

Multiple commentors highlighted the need to act in response to OLPs, characterizing doing so as an ethical obligation. One commentor wrote, “I’ve followed this with interest for years, and just decided to do something about it. I sent an email with the NYT article and the one I just posted to the Attorney General for my state.” Another commentor, a non-therapist, encouraged such actions, writing:

I’m the guy in the [New York Times] article [about a major OLP] that came forward. I came across your group looking to see what people in the profession are saying and it’s a relief to see all of the reactions here... It’s been a very rough emotional journey with this company...I noticed a comment here about reporting them to the attorney general. Please do as they need to be investigated and answer for some of the things they’ve done and continue to do.

While representing a minority opinion overall, a number of commentors defended OLPs, recounting their own positive firsthand experiences. These commentors contended that the ability to work for an OLP represented a unique opportunity that fit well with certain therapists’ needs. For instance, OLPs could be an ideal work environment for therapists in more constrained situations (e.g., stay-at-home moms), for those just beginning in the field of tele-services who

wanted to “get their feet wet,” or for those simply seeking some extra income or hours. One commentor wrote that a specific popular OLP was a great place to work for her unique situation:

I’m a stay at home mom and we don’t rely on my income at all. I just want to provide therapy and not worry about billing, marketing, etc.... Teletherapy is the reason I can practice right now because my husband can take over childcare in the evenings when I work.

Not a Threat. Other commentors provided arguments against the concerns expressed by many around Uberization, contending that the OLPs were not ultimately a threat. For one commentor, the presence of a cheaper but inferior service did not ultimately compete with a higher quality one. In other words, because OLPs were fundamentally limited in what they could offer, they did not pose an existential threat to therapy. “McDonald’s hamburgers are extremely popular around the world,” they wrote, but “that doesn’t mean that steak houses have lowered their prices.” Drawing a further parallel, they wrote, “community health and university counseling centers all over offer free therapy and it has not taken down the price of private practice.” Relatedly, another commentor argued that, even if OLPs *were* able to automate text-based therapy, the medium of text-based therapy itself “hasn’t been proven effective and it will never be appealing enough to replace TT [traditional therapy].” Another commentor agreed, writing:

I worked for one of these companies for about 6 months. I quickly discovered that the texting did nothing to alleviate client difficulties...The research on text therapy is NOT conclusive. I’ve read no peer reviewed study that shows text therapy to be effective. Video counseling does show efficacy based on the studies I’ve read, but that’s not the angle these text-based services take.

The Insurers. Just as OLPs mediated relationships between therapists and clients, commentors in various threads discussed ways in which insurance companies also acted as middlemen. Many of these commentors bemoaned the fact that—because clients relied on insurance to help offset the costs of treatment—insurers had evolved a significant say in what both therapist and clients could do. Apprehensions around insurers also intersected with concerns around OLPs as a number of commentors expressed worry that insurance companies would ultimately default to paying the minimum required and, therefore, the cheaper cost set by OLPs would end up becoming the standard compensation.

Commentors also contended that insurers would ultimately determine the medium that services could be delivered in, with many expressing concern and uncertainty around the future of teletherapy when it came to the role insurers would play. One commentor wrote, “I have mixed feelings about tele vs in-person but I think the main thing coming up is whether insurance companies will continue to pay for teletherapy after the pandemic is over.” Others argued the opposite in regard to telehealth, with one commentor concerned that insurance companies, driven by cutting costs, would push telehealth (with lower reimbursement) because “their bottom line is profit, not good health outcomes.”

Mismatched. While the previously discussed middlemen of OLPs and insurers related to the provision of therapy more directly, post four (see Appendix D) discussed another kind of middleman, one that affected clients’ lives in detrimental ways: online dating (OD). In that post, commentors discussed client difficulties with OD, with the OP of the post inquiring about Redditors’ impressions of “today’s dating culture in their clients [sic] lives.” They shared that they had heard a “few” of their clients...

...discuss their dissatisfaction with swipe/hook up culture, undefined relationships that create insecure attachments, lack of meaningful communication, etc.... The biggest trend I see generally online are frustrated young males whose attitudes lean towards resentment towards women or vice versa... [as well as] Commitment concerns, unrelenting dating standards, fearing loss of freedom as well.

A number of commentors agreed, discussing ways in which dating apps like Tinder had negatively impacted their clients, both in terms of creating difficulty finding partners and through an exacerbation of existing mental health concerns, including attachment issues. Regarding the former, commentors shared that their clients had experienced difficulty finding matches due to the inherent structure of OD platforms. One such difficulty lied in a kind of “choice overload,” where endless options brought about a lack of engagement in the process. One commentor wrote:

This is such a common topic in my caseload. I see the “too many choices” issue play out as people keep expecting the perfect person to be the next one, but don’t have the patience to actually give each other a few days to let themselves shine through the first date anxiety.

A further concern related to a mismatch between the expectations of clients contrasted with those they encountered on the platform, some of whom used it for hookups, others for long-term relationships, and no easy way to differentiate. Several commentors further discussed the widely divergent experiences of OD for men and women, with a significant discrepancy existing between the sexes:

One major problem I see is a great discrepancy between the way men and women use online dating.... Women seem to use it as a way to infinitely browse or “shop” for potential partners, very rarely actually “swiping right”, barely talking to matches, and

also barely going on actual dates. It's incredibly difficult for a man to successfully get passed [sic] all those levels just to get on a darn in-person date. The statistics back this up, showing that men typically need to swipe right thousands of times per in-person date, unless they're exceptionally attractive.

Commentors expressed further concerns around the psychological impact that such experiences could have on clients' wellbeing and relational health. Many commentors shared the impacts they had witnessed on their own clients, including increased insecurity, resentment of the opposite sex, loneliness, and the exacerbation of already existing mental health concerns. One commentor lamented their discovery that "this hook-up culture has brought to the forefront everyone's MH issues, so that they believe their inability to find love in this environment is their own fault." Additionally, commentors shared that dating apps—like other forms of social media—could lead to a deep sense of "FOMO" (fear of missing out), where clients believed that their peers were having active sex lives while—in reality—fewer of their peers were than ever before. As one commentor wrote:

It's the "social media highlight reel" problem: people believe that everyone else is hooking up and having lots of casual flings because of the perception they get from social media, but the reality is that many young people are feeling just as frustrated and lonely.

2.2 Money Talks

The second Subtheme, "Money Talks," described the ways that money (or a lack of money) influenced therapy in online spaces, including through affecting therapists' work environments and training opportunities as well as the quality of client care. It included the ways in which providers were significantly underpaid on OLPs and the resulting costs to clients and the therapeutic relationship, as well as the ways in which therapist credentials and trainings could

reflect class divides, with those from higher SES backgrounds more able to accumulate certifications.

Underpaid. A common complaint about working for OLPs across a number of threads was their extremely poor compensation. One commentor, who had considered working for an OLP, investigated what their ultimate pay would be, and found that...

...\$22-30 was the rate for a doctoral level psychologist. That's pre-tax. My teenager makes more than that at a large parcel delivery company that hires literally anyone to move boxes. I don't think these services are sustainable because of the low wage they pay clinicians.

This comment reflected a shared sentiment around the fundamental unfeasibility of such low compensation, with a number of commentors agreeing that those therapists who ended up working for OLPs would likely be those most desperate for work, including clinicians early in their careers, those in unstable financial situations, or those with competing responsibilities (e.g., stay-at-home parenting). Ultimately, these commentors contended that said clinicians would leave the service when the opportunity presented, with clients left abandoned. As one commentor speculated, OLP counselors were in "a time of transition, so most likely will be changing jobs in the coming months and by nature of that, unable to offer longer term counseling which could affect client outcomes." Another commentor agreed, writing:

It makes sense that someone who is in a terrible spot or desperate for work would take a position like this and leave immediately when they get a higher paid job delivering pizza. That means that clients will be abandoned frequently or get consistently poor care from clinicians with poor skills or whose lives are extremely chaotic.

Some commentors saw such high turnover potential as a limiting factor in the growth of OLPs, with one commentor wondering if OLPs could “hang onto therapist[s] long enough to ever really grow,” with the issue ultimately posing a barrier that would be “too much for them to ever get much traction under their current model.”

A Class Issue. In addition to the way that money could influence the quality and sustainability of care on OLPs, commentors in post six (see Appendix D) discussed the ways that money—and class—could also play a determinative role in therapist credentialing. As previously discussed in Subtheme 1.1 “Online Credentials,” commentors were skeptical about the over-endorsement of credentials on Psychology Today’s therapist finding web portal. Within this debate, a number of commentors contended that—while some therapists *were* misleading about their credentials and certifications—some were actually able to accumulate such credentials due to their ability to afford them. Ultimately, commentors contended that certification was a class issue, with only wealthier clinicians able to amass a large number of official certifications. As one commentor shared:

Certification is nice, but I’ll just say it: it’s classist. And it speaks to a whole lot of holes in the structure of our entire field. Getting certificates for DBT, CBT, EMDR, and IFS, (especially IFS and EMDR) is like getting another degree. While I’ve been in the field close to a decade, and am in PP [private practice] at this time...I do not know how one affords this in a field where getting paid \$16.00/hour for highly acute crisis work...is possible. Add on having a family, documentation, crises that add on hours without pay because you care about people and don’t want to lose your license, license renewal, the basic CEUs needed to renew that license, and I can’t help but ask: how do you all here do

that? Because I don't think it's at all fair to have someone be certified to declare competency here.

Another commentor concurred, sharing their firsthand experience of “independently wealthy grads who” who were able to “pay for all of these legit certification like hakomi, emdr, pact, somatic, cbd, etc.” While agreeing that certifications were ultimately “classist,” they admitted they would “like to be able to afford those privileges.”

2.3 Perverse Incentives

The third subtheme, “Perverse Incentives,” described the ways that incentives unrelated to—or tangential to—the provision of quality mental healthcare drove much of what occurred in online spaces. It included the ways that desires for clicks and views drove the creation of inaccurate online mental health content, drawing in both non-professional and clinician alike. Further, it included the incentives that drove “arms races” between therapists in online spaces as they tried to represent themselves in ways that competed with other therapists, as well as the safety incentives that drove arms races between bots in the information security (infosec) sector. Finally, it included the ways that therapists were driven by incentives misaligned with the values and ethics of the field, including the meeting of word counts and speed quotas on OLPs.

Damned to Obscurity. While other subthemes variously described the ways in which commentors bemoaned the over-endorsement of certifications online (1.1), argued about the meaning of and validity of such credentials (1.2), and explored the ways that they represented class divides (2.2), some commentors offered a potential driver of such endorsements in the form of intragroup competition. That is, they contended that therapists were compelled by a kind of credentialing arms race to engage in over-endorsement. For instance, one commentor wrote:

I don't think anyone is truly claiming that they're proficient in all of these types of therapies. Rather, you're damning yourself to obscurity if you DON'T include all of these keywords. It's the PsychToday equivalent of keyword stuffing, SEO hacking, or tagging items "for exposure" on selling sites. I HATE it. But I have had a lot of people reach out to me asking if I did CBT, because it's not something I initially included on my profile because I hate doing CBT ;) Eventually got so sick of people asking and saying they wanted someone who could "do CBT" that I gave up and stuck it on my profile. Sigh. However, as one commentor wrote, "so many therapist[s] are so thirsty for work that they click everything and effectively make themselves look worse instead of better."

Enticed. In post three (see Appendix D), when discussing concerns around clinicians making questionable content for YouTube, some commentors argued that said clinicians were motivated by perverse incentives to make titillating, over-simplified, and over-pathologizing content because said content brought views and subscribers. One commentor contended that the "problem" they had with YouTube therapists was "that you can't be an expert on every mental illness." They expressed further concern that "celebrity therapists" could be "enticed to make more 'bold' claims as they would more likely than not generate more views/money," something that could "lead to unethical behavior." Similar sentiments were shared throughout the thread, with multiple commentors referring to specific "celebrity" clinicians. In a discussion of a "well-known" clinician who created highly questionable content on YouTube, one commentor contended that "I really feel like she's gotten too focused on being a YouTube celebrity rather than a therapist." Another commentor shared how they had lost "respect" and trust for another clinician YouTuber after he had "diagnosed" a public figure with narcissism.

Word Counts. In threads where OLPs were the topic of discussion (e.g., posts seven and eight), a number of commentors discussed the perverse incentives that existed on the platforms themselves. One such incentive came in the form of rumored word counts, with clinicians allegedly paid based on metrics that commentors felt were unethical. One commentor wrote:

Clinicians are paid \$10 every 1000 words, worksheets count for 500 words, & a session is supposedly 2000-3000 words. Who is counting the words in your texts & emails? Even if it's an algorithm, are those contacts saved? Who can see them? What if it isn't appropriate to give the pt a worksheet, but they just aren't talkative?

Another commentor described firsthand experience where “pay is literally by the word” and “everything is dumbed down to a word count.” Another OLP-based perverse incentive concerned clinicians' caseload and the length of time that their clients continued using the service. For instance, one commentor wrote that a specific OLP based “your pay on whether pts stay with you a long time, so that's pressure on the clinician to take as many pts on as you can rather than thinking ‘am I really the person this pt needs.’” The same commentor described feeling particularly concerned about this aspect of the service because it “felt far too familiar” in its reflection of a previous problematic workplace:

I worked at a clinic that required me to drive all around my state to see pts in person...They let us know there was a client & the county they were in in a group text, & whoever responded 1st got the case, & therefore the income. It was a massive feeding frenzy every time, & it meant pts were often poorly matched with clinicians who weren't trained with what they needed or had bad rapport. We were all in student debt...struggling to make ends meet to the point it was common practice to fake sessions & falsify notes. I left that place for a reason- I began to resent my clients.

Bots v. Bots. While a final perverse incentive, discussed in post one, did not include either clients or therapists, it did ultimately have effects on both. In that post, within a wider discussion around Redditors' frustrations with technology, one commentor weighed in, writing that a driving factor behind many of these frustrations could be traced to an arms race between "bots." On the security side, bots were engaged in a race to maintain data security in the face of nebulous threats, while, on the other side, bots were engaged in an endless effort to exploit overlooked vulnerabilities. This commentor, "a cybersecurity guy who is interested in therapy and lurks here" rather than a clinician, wrote that hassles such as password changes and complex authentication methods were the terminal result of...

...automated systems defending against other automated systems, and by nature this makes things very obtuse and tedious for a human. It's robots fighting robots. Humans are the unfortunate casualties of inconvenience here (in an effort to defend information which could cause even greater harm if compromised). What makes it even worse is that the medical tech sector often moves slowly and finds itself scrambling to keep up with the threat landscape and remain compliant, resulting in poorly designed systems on top of all the inherit inconveniences. I think the infosec industry has a lot of growing to do to figure out better methods that don't drive people insane.

Another commentor agreed, while further lamenting their repeated experience of a complete lack of human presence, writing:

If there was just ONE place where a human could interface with the system and make it work right, it would solve a lot of problems. But for some reason, nobody wants to pay for the human to be there. Bots work for free...when and if they work.

2.4 Ticking Time Bombs

The fourth and final Subtheme, “Ticking Time Bombs,” described the ways in which the broken, exploitative, and money-driven systems described across this major theme could lead to harm to therapists, clients, and/or the general public. Such harms included the jeopardizing of client safety, the spreading of misinformation and disinformation, and damage to the reputation of psychotherapy by those who practiced unethically.

The OLPs. Across multiple threads, commentors claimed that online platforms had the potential to harm clients. They argued that OLPs put clients at risk, while abdicating their responsibility to protect clients, placing the onus to do so fully on the therapist. One commentor, who did not have experience with an OLP, wondered how OLPs reacted “if the client is actively suicidal.” In considering the nuances of their own risk strategy, they disclosed that they had built relationships with local hospitals so that “when my clients are suicidal, I can send them to the ER and see them there.” In response, a commentor who was currently employed by an OLP clarified that, while the OLP they worked for did not require them to do so, they required all clients to “give their full name, address, phone number, and an emergency contact in the first session,” which they saved to their client notes. Another commentor lamented that clinicians on the platform were “held solely responsible for any pt’s deaths,” but could be limited in their ability to access clients who they could only contact “through the platform’s program.”

In addition to such risks, other commentors argued that OLPs could lead to client harm by acting as a barrier to better treatments. Commentors worried that the OLPs’ massive advertising campaigns would ensure that individuals saw them as equivalent to traditional therapy. While those in the field may be more likely to see ethical red flags or have concerns service quality, lay individuals might not know that “they’re not getting the real thing when they’re contacting a company that advertises and being just that.” Further, while the OLPs

purported to be cheaper, their unethical billing practices could end up being expensive for clients. For instance, after one commentor quit working for an OLP, they wrote that an automated “system continued to pay me for a client who never used the platform but never turned off her credit card...for over a year, equaling more than the \$950.”

Risk and Response. Commentors in other threads endorsed concerns around client safety when conducting remote therapy more generally. Across different threads about teletherapy, a number of commentors argued that telehealth could prevent accurate risk assessments, with life and death consequences. For instance, one commentor shared how they...

...didn't get an accurate read on one of my teens because it'd only been Telehealth and he ended up attempting suicide. I started working back in my clinic earlier than planned because of that and made in person mandatory for him. I'm still working on not blaming myself.

In addition to difficulty assessing risk through teletherapy, another commenter wrote that there were other problematic aspects of teletherapy such as difficulty de-escalating crisis situations or accurately alerting authorities. They contended that it was “objectively riskier to handle such situations virtually” and that “in many cases you might not even know where the person is since it's unlikely that you'll be able to force people to prove their exact location.” For similar reasons, other commentors contended that teletherapy was not appropriate for those with severe mental illness and that trying to fit those with such concerns into a teletherapy system was bound to backfire. One commentor shared a firsthand experience about their own organization's struggle to serve those with severe mental illness through a teletherapy program, writing that telehealth was simply less effective or viable with those with “severe, persistent mental health issues.”

They described their own workplace where, due to the COVID-19 pandemic, outpatient services had been switched to teletherapy only, writing that crisis services had...

...become an overwhelmed cesspool of clients who cannot function properly through telehealth services (but could otherwise stay off our radar with inperson [sic])... So, by everyone going telehealth, it eliminates potential means for clients with concerns that are not adequately served via computer screen or phone to get the help they need...My fear is that my area will become one where the few in-office providers just remain perpetually overwhelmed with higher level cases and the telehealth people see everything else.

Legitimate Harms. In addition to concerns around OLPs and teletherapy, another noted source of potential client harm was the threat posed by non-credentialed providers (NCPs; e.g., life coaches, alternative healers). For instance, as with OLPs, commentors expressed concerns that NCPs could create barriers to treatment, including through setting unhelpful expectations for therapy. One commentor wrote:

I've had multiple young adults who have complained that "this is not what I thought therapy was...I thought you were going to give me advice." Unfortunately they are disappointed by my explanation and seek "other options" probably from "alternative therapies."

Another commentor echoed this sentiment, writing that they had had "too many experiences of people coming into session with dysfunctional underlying beliefs, only to find out they learned them from some life coach online."

More concerningly, commentors shared firsthand accounts of serious psychological harm caused by NCPs, including re-traumatization:

I used to work in a PHP for women with complex PTSD and I once had a client who has some really severe symptoms and significant problems with trust after working with a life coach who was completely untrained and attempting to use IFS with her. It was awful. I spent half of my work with her trying to shape and teach what an appropriate therapeutic relationship looks like.

Another commentor shared a disturbing story of an individual they knew who worked as a life coach treating those with sexual abuse trauma history while clearly having unresolved mental health concerns of her own. Of the individual, the commentor wrote:

She's actively dangerous, but somehow can do that kind of work with absolutely no oversight and minimal coach "training" and get away with it, because there are no restrictions. It makes me feel sick to my stomach to think of all the damage she's probably wreaking to vulnerable people.

While ethical codes and boards maintained the integrity of fields like psychology or counseling, commentors discussed the harms posed by a lack of such ethical guidelines or constraints for NCP fields like life coaching. As one commentor shared:

I have a good friend who coaches and who is very ethical, but she was telling me that in the only two hour ethics class she had, in a year-long course...they were told it's okay to form relationships with/ have sex with clients as long as they really like them and that there were no boundaries to what they could/ should dive into in terms of depth of emotions/ trauma etc. Both she and I were horrified.

Online Content. A final concern arose in relation to the potential harm caused by misinformation and disinformation shared online (e.g., on YouTube, social media). Commentors claimed that, because mental health related content was so popular online, it could exert a

significant impact on viewers' mental health. For instance, one commentor expressed concern that those with mental illness were being exploited by "clickbait" content from social media influencers and the "cash cow that is this kind of self help." They went on to write:

I've seen so many "gurus" even many without training who claim to have the answers to this with expensive workshops, packets, books, and workshop packages...I do imagine that these videos can be comforting, validating, and helpful for many people grappling with narcissistic relationships. I support that within reason. However, as you point out it could really exacerbate symptoms, encourage misdiagnosis, and is not even close to being treatment. There's too much "click the subscribe button" money in this for the person to be unbiased.

Additional concerns around such content included commentors' worries that it could exacerbate preexisting mental health concerns, generate increased stigma, or create an altered view of others (e.g., decreased trust). One commentor shared that they had witnessed such effects in the way that some of their clients discussed their former relationships, with a tendency towards painting exes as having personality disorders. Other commentors opined that this phenomenon represented just one part of a greater online trend towards overpathologizing, as the "internet thinks everyone has NPD, BPD, or are projecting." Ultimately, commentors agreed that Reddit was not itself immune to such trends, and "if you look on the relationship subs for instance, the offending person is often quickly labelled as a narcissist by the commenters." Further, as with both OLPs and NCPs, commentors worried that online content could act as another barrier to treatment, where viewers might "feel like they're working through the issue but they likely are not."

Summary. Within this major theme, commentors described being caught in a tangle of broken, corrupted, and dysfunctional technological systems. In general, this corruption arose from economic origins such as those that drove the formation of whole industries to serve as middlemen between client and therapist (e.g., OLPs, insurers). As the theme further described, therapists were not immune to these incentives and their ethical standing could therefore be compromised, whether through the desire for YouTube views or in competition for clients. Ultimately, the potential for harm posed by these systems was substantial. Further, while therapists might exert control in certain areas (e.g., the content they provided, the credentials they endorsed, their navigation of ethical pitfalls, etc.), this theme also described an overall sense of being acted upon by technology rather than the reverse. These dysfunctional systems could ultimately create psychological, ethical, reputational, or professional barriers to DMHT use.

Major Theme 3: F*ck Technology

The third major theme, “F*ck Technology,” described therapists’ frustrations and fears in the face of technology-related barriers, from Kafkaesque bureaucracies, digital red tape, and difficulties with telehealth, to a missing sense of human connection with remote therapy.

3.1 Kafkaesque

The first Subtheme, “3.1 Kafkaesque,” described the ways in which digital bureaucracies loomed over therapy and therapy-related duties (e.g., note writing, billing) in online spaces, including the frustration and demoralization that therapists experienced in their attempts to navigate the hassles of regulations like HIPAA.

A Series of Hoops. The OP of post 15 (see Appendix D), a post titled “F*ck Technology,” described deep-seated frustrations with the hassles inherent in trying to provide mental health care online. In the body of their post, they wrote:

I've had it. I'm done with every damn EHR, password, two-step authentication, can't-move-without-doing-this-thing bullshit technology... These things are not human. They are robots, and I am totally fed up with the damn robots that can't figure out that I'm human. From my email, to Google calendar, to Simple Practice, Availity's website, CAQH's website, State licensing websites, CPH insurance, AMHCA memberships, my bank, my Wordpress site, Psychology Today, my home router and wifi system, Comcast's bullshit, and every other unholy evil piece of shit web portal that I have to jump through...Every error message leaves me feeling like I'm a fucking idiot...with a Master's degree. I am good at my job. We understand human beings in this field. We know how biological logic works. But this machine AI shit is not human. It does not think like humans. It is designed to become a brick wall in the face of one tiny human mis-step.

The OP went on to describe a series of recent tech-related frustrations, frustrations that resonated with other commentors, many of whom focused on the specific ways that HIPAA loomed over e-therapy. One such commentor concorded with the OP, writing that “making sure you're HIPAA compliant is a long, long, series of hoops that honesty [sic] is more stressful, and gives me more anxiety than any other part of my job.” The OP of post one (see Appendix D) shared similar concerns, writing that they had ultimately become “very disheartened” with the amount of red tape in the field, while further describing some of the specific frustrations they had experienced with online billing while navigating the confines of HIPAA. Other commentors worried that such e-bureaucracies also impacted their clients, with one commentor lamenting the fact that “this bullshit gets passed down to my clients, some of whom are tech illiterate.”

Despite these complaints, other commentators provided counterarguments, contending that such regulations were ultimately about protecting clients, while also suggesting that the burden being expressed by others was hyperbolic. For instance, in regard to HIPAA specifically, one commentator argued that the entire threat of fines was “vastly overblown” and that:

HIPAA is still quite unregulated in private practice. No one is looking over your shoulder to fine you \$20,000 every time you make a mistake. These rules are primarily enforced in healthcare systems and mental health clinics, I have literally never heard of a solo practitioner who got audited and fined over this (unless there was a significant breach).

Another commenter wrote that HIPAA fines were relative and that taking any steps at all towards compliance could significantly reduce—or eliminate—any potential HIPAA penalties. In other words, while doing nothing at all and flouting HIPAA completely could result in a severe penalty, a “modicum of compliance” could go a long way towards reducing such risks:

...Thos [sic] fines CERTAINLY do exist, they aren't a joke. But HIPAA fines are levied based on the 'level of perceived negligence.' And the dollar amount is based on the number of individuals affected. So that means that if you do nothing, literally absolutely nothing, you can be fined the maximum. But if you even have a modicum of a compliance program in place, you will be fine. And unless you have a data breach affecting thousands of patients, the fines are menial.

You're Not an eBay Store. Other commentators pushed back against the OP of post one by emphasizing that client protections outweighed any petty technology-related frustrations. For instance, one commenter wrote:

Gotta be honest here, this is some whiny bitching. Literally nothing you complained about is that hard or expensive. I think it's pretty ridiculous that you don't think your

patients [sic] privacy is paramount. You're in mental health, there's some seriously damaging potential with client information in the wrong hands, for the client, not just for you and your fear of fines.

Another commentor echoed this sentiment, focusing particularly on the financial aspect of OP's frustrations:

So you want your clients to send you sensitive information via Gmail and pay you with Venmo? You're a therapist not an eBay store. All this "red tape" is there to protect your clients. The people you are there to help.

While another commentor shared these basic sentiments, they delivered them in a more empathic way, writing that they understood "the frustration and appreciate that you are venting," while also reframing the situation by writing that...

...HIPAA is about protecting our client's confidentiality, which is one of our most important ethical responsibilities. The reason why you shouldn't use services like Venmo and Skype is because they aren't secure. This is no different then [sic] why you shouldn't carry client charts in the back seat of your car: if your security is breached and your client's sensitive information is leaked, they will be the ones who are harmed. It's our job to prevent that from happening.

3.2 New Barriers

The second Subtheme, "New Barriers," also described technology-based frustrations and costs, specifically in the form of the barriers that arose in remote (i.e., teletherapeutic) work. These barriers included the lack of a safe, distraction-free space in which to conduct sessions, the disruptive or inappropriate client behaviors unique to telehealth contexts, and the annoying and problematic glitches and drop-outs that plagued teletherapy platforms.

Disruptions. While commentors shared many humorous stories about “weird” or “funny” things that had happened during teletherapy sessions in posts 17 and 18 (see Appendix D), it was clear that certain client behaviors in the context of teletherapy could be disruptive to the therapy process. For instance, commentors described clients playing with pets, multitasking, using the toilet, taking baths, and engaging in other behaviors that could be both inappropriate and distracting. In one case, a commentor described realizing that their client was driving while calling into a teletherapy session and wrote, “I’m fine with my clients sitting in the car for privacy during telehealth sessions, but I shut down driving during session real quick. It just doesn’t feel safe for the client at all.” Another commentor described a client only disclosing halfway through a phone session that “he was ‘having a soak’ in the tub while we were talking.” Many commentors shared situations in which clients attended teletherapy sessions through smartphones while walking or moving in some way, often to the detriment of both the session and the therapist’s wellbeing. Multiple commentors agreed that dizziness and nausea could result from clients moving their phones in certain ways, with one commentor sharing a surprising experience:

...I had client using her phone outside while talking to me via zoom. There was some kind of flying insect that the client reacted to by flinging her phone at it which resulted in me seeing the sky fly by and ended with my view of her yard from the ground. Then she come running over to pick up the phone and starts apologizing for “throwing me”. We had a good laugh. It also ended up being a great example of the fight or flight response.

Access Barriers. While one purported benefit of telehealth was in its ability to decrease access barriers (e.g., Bee et al., 2008; Handley et al., 2014), a number of commentors described

ways in which telehealth had created new barriers to access for certain clients. One commentor wrote:

It's important to remember that many clients are unable to access therapy that way [i.e., through telehealth], such as people without adequate technological access. People with hearing loss also may not be able to access virtual counselling, or not prefer it. I specialize in this population and many refused the switch to virtual and have just gone without.

Other commentors agreed, describing ways in which clients who lived in rural areas or who had few financial resources were simply unable to utilize the technology, with one commentor writing that none of their clients had “the safe space, technology, or internet access to participate in this movement without additional assistance from the government or local agencies.” That said, one commentor added the caveat that “while some patients can't afford these things, there;s [sic] many others who are getting care with telehealth when they were previously unable, especially for specialty care (e.g., chronic pain).”

No Safe Space. Another common barrier encountered by commentors around telehealth related to a lack of an appropriate space in which to conduct therapy. One commentor wrote that some of their clients simply “don't have a safe space to share feelings, struggles etc. [and] my physical office is that safe space for them.” Another wrote that most of their clients were unable to access private spaces in the home and “...in a lot of cases, clients will have friends/family members in the room.” One commentor described a startling example of one such case, writing:

I completed a couples assessment recently, the whole nitty-gritty with details about their sex life and everything, only for it to be revealed at the VERY end that her mother with late-stage Alzheimer's was sitting at the table across from them, right next to me on the

computer screen, just munching away on a bowl of macaroni with her eyes locked on her daughter for the ENTIRE session.

Another commentor explained their discontent with telehealth in relation to clients who did not have homes, writing:

Some of my clients are homeless as well, so that has meant they have literally no private space, and they can't be vulnerable at all because it's not safe for them to be. Doing counselling feels pretty pointless to me when my clients can't access their emotions because if someone spots it, they'll fear being attacked or taken advantage of.

Glitches and Drops. Another downside to remote therapies, including those provided through OLPs, included the commonality of technical issues and glitches, which could lead to the loss of important moments in therapy. One commentor wrote that they were “frustrated [from] losing therapeutic moments due to glitches, internet drops, or Doxy.me just deciding not to cooperate for no reason in the middle of an important moment.” Another wrote that the glitches and distractions endemic to telehealth disrupted the therapeutic process as well as their “assessment abilities” and, therefore, “I think they're [sic] will still be plenty of clients interested in in person therapy.” Commentors also complained about choppy audio, buffering issues, talking “on top of people because of lag,” and the inability to sit in silence because “I have to make sure the connection is still working.”

Other commentors described specific glitches that they had experienced when working for OLPs. For instance, the OP of post nine (see Appendix D) shared their concerns around alarming notifications on an online platform that seemed to imply a substantial number of “missed clients.” Other commentors shared similar experiences, with some positing that these were actually intentional “glitches” designed to alter the behavior of therapists to make them

spend more time on the platform. Another commentor described harrowing reports of servers going down, with therapists...

...unable to let pts know what was going on. The servers, at this time, do NOT let the pts know there's a problem. So it just looks like you abandoned them. Imagine you have a suicidal pt & you are NOT ALLOWED to contact them, but you are also held solely responsible if they subsequently harm themselves.

3.3 Something's Missing

The final subtheme, "Something's Missing," described the ways that remote work could increase avoidance, "feed into" clients' interpersonal problems, and diminish the human connection in ways that compromised the therapeutic relationship.

Avoidance. A number of commentors maintained that teletherapy's unique limitations could allow for clients and therapist alike to remain in their "comfort zones," avoiding unease or challenge. Describing their own challenge with maintaining engagement and a sense of immediacy, one commentor wrote that they "have learned that I don't benefit from virtual therapy nearly to the degree that I do face to face. Too many ways for me to permit myself to covertly engage in emotional avoidance." Another commentor shared a similar sentiment, extending their critique to conditions within the COVID-19 pandemic more generally, writing "on a larger scale, I fear that our increasing comfort with virtual interactions is reinforcing a harmful, anxious, fearful mentality." This commentor also expressed concern that such avoidance could be self-reinforcing and could lead to "an ever-increasing comfort zone," adding that "us humans generally don't grow and prosper in comfortable places." Some commentors expressed particular concern around potential effects on clients who had relational, interpersonal,

or “attachment-based” issues, arguing that the remote environment was inadequate for such work.

Lost Connections. Relatedly, an idea shared by multiple commentors in discussions around teletherapy concerned the ways in which there seemed to be “something missing” in the teletherapeutic space. Some argued that this missing piece was a basic relational connection or “presence,” a kind of experience that could only occur between people in a shared physical space. A number of commentors contended that this lack of presence could be particularly difficult for therapists who practiced from more relational, interpersonal, or process-focused perspectives. As one commentor wrote:

There are some things that I feel are really held back from telehealth... I focus a lot on really specific and emotionally-charged empathic reflections as well as pretty creative exposure techniques in sessions, [but] I feel like these aspects have been a bit harder to achieve with the telehealth format.

Other commentors discussed further disconnections including a kind of affect barrier where emotions became harder to read or reflect. As one commentor argued, such barriers made telehealth:

...arguably less emotionally intense and more detached than meeting in the office (sweeping statement, but I think it’s generally true). For our clients that are struggling with being close to people, creating an emotionally distant relationship with a therapist isn’t going to help address that.

Working from home and “telecommuting” also came with relational costs for therapists, with a number of commentors lamenting the loss of an in-person workplace as a result of the COVID-19 pandemic. One commentor recounted aspects of office work that they particularly

missed, including “walking the clients up the hall from the waiting room and the bits of chit chat there,” as well as getting a chance to connect with “the other counselors in the lunch room.”

Ultimately, several commentors shared that they found the blurring of workplace and home to be a depleting and unsatisfying experience. One commentor shared:

I have heard people mention to me that if this was what they had to do forever moving forward they would quit the field- I don't necessarily agree with that but I admit my intrinsic love of the therapy goes down when I can't see people in-person. I still feel like I'm doing good work, but I definitely long for the day things are back to normal

Another commentor wrote that they felt psychologically “fed” by in-person therapy work in a way that “motivates me and helps me feel recharged, and there's none of that now - just a constant drain.”

Despite these concerns, commentors across a number of threads provided counterpoints, with one commentor writing that they had “found it just as natural to build rapport with new clients over the screen or phone.” Another agreed, writing: “I LOVE telehealth, I don't think my ability to connect with my clients has diminished in the least and I have a really hard time seeing myself ever going back [to in-person work].” Other commentors contended that, even if telehealth came with certain limitations, such limitations could be worked around and compensated for. For instance, in response to a commentor bemoaning the relational constraints of teletherapy, a commentor wrote:

You can find new ways to build rapport don't throw in the towel. Validation is a very strong rapport builder. Sounding genuine. And quality reflections that really hit the nail on the head. And of course the ultimate rapport builder is finding something that makes

you both laugh. Not saying you aren't [sic] doing any of that already. But that's what I find really helps.

Summary. Like themes one and two, this theme further demonstrated the ways that digital technologies could negatively impact therapists and therapy, generally through the creation of new client-clinician barriers. In contrast to the systemic corruption or perverse incentives described by other themes, the barriers described in this theme arose mostly from attempts to protect and serve clients, whether through HIPAA regulations designed to ensure confidentiality or teletherapy platforms designed to increase client access. The overarching sentiment expressed by commentators was one of frustration, whether at having to navigate red tape or to manage the unique challenges posed by teletherapy. Most strikingly, commentators' descriptions of "something missing" in the teletherapeutic medium could speak to the limits of digital technology in a field so intimately focused on the interpersonal and relational facets of existence. Further, the barriers described within the theme could each, in different ways, reduce therapist desire or ability to use DMHTs in practice.

Major Theme 4: Pandemic

The fourth major theme, "Pandemic," described the ways that the COVID-19 pandemic had altered the digital-psychological landscape and impacted clients, therapists, and the field of therapy itself, creating a sense of uncertainty about the future.

4.1 Effect on Clients

The first Subtheme, "Effect on Clients," described some of the ways that clients' lives had been upturned by the pandemic, including disrupted socialization and increased isolation, as well as the ways that clients had tried to address the need for others through digital means (e.g., through online dating or social media).

In post four (see Appendix D) the OP queried Redditors about their experiences with client concerns related to online dating (OD). In response, some commentors discussed ways in which the pandemic had impacted client experiences, including the difficulty it had posed for in-person meetings. Commentors expressed both the negative impacts and the “silver linings” of this contingency, with one commentor writing that...

...Dating is sooooo much harder now in quarantine (at least where I am) but I've had some really resilient patients that have done their best to enjoy the process and lean into online dating and virtually getting to know people while we have access to so few connections.

While the majority of post four commentors focused on more general, non-pandemic-related concerns connected to online dating, post 13 (see Appendix D) more specifically focused on the ways in which the pandemic had affected another social need. In the post, the OP shared a repeating dilemma that they had experienced with multiple teen clients whose parents had removed phone access as a form of punishment for unacceptable behavior. While the OP agreed that such punishments were not necessarily problematic, they expressed significant concern about the effects of such proscriptions *now*, during a pandemic, writing:

Normally I don't think taking a phone away from a teen is an inappropriate punishment, but most of the teens I work with right now are seriously struggling with the isolation and with online learning. I have a client whose parents have taken away their contact with friends as a punishment for some bad grades without a clear timeline or goals to reach to earn privileges back. Client is really struggling with increased depression from this.

Several commentors agreed with OP's concerns, with one emphasizing how important social contact was to teen client social development:

This is such a radically weird time to work with teens (...or anyone). I am typically very flexible when working with parents about disciplinary strategies, but I have been, ah, extremely assertive about this particular issue since the start of the pandemic. They have literally no other way to get any social contact, and their whole developmental task right now is largely dependent on it.

Within the thread, commentors went on to discuss the specifics of working with families, providing psychoeducation around effective punishment, and advocating for teen clients in order to preserve their social connections.

4.2 Choice & Uncertainty

The second Subtheme, “Choice & Uncertainty,” described the ways that the pandemic affected therapist autonomy, especially in regard to workplace requirements and expectations. It included discussions around workplaces that had put their therapist employees at risk by requiring in-person work without adequate protection, the sometimes illogical decisions made by employers in regard to telehealth (e.g., requirements to be in the office to provide tele-services one could provide from home), and the ways that therapists acquiesced to or pushed back against such requirements. For instance, within post 20 (see Appendix D), multiple commentors shared their workplace experiences of being asked to come into their workplace office to provide teletherapy, despite the fact that they had been doing so successfully from home. These commentors were responding to questions posed by an OP who experienced the same frustration. In post 20, the OP asked if others had...

...been doing telehealth from home but now being required to return to the office to do telehealth from the office? Feeling frustrated that I will be going back in to our building

with other departments. I guess I just don't see the point in going back in to do what I have shown that I am capable of doing from home, safely.

One commentor shared that they had a similar experience to the OP and had found it “incredibly frustrating.” They protested being required to return for the unconvincing reason that ...

...our administrators have decided things “run more smoothly” when we are in office...The whole thing is stressful. It was optional and encouraged to work from home back in March when this started. Now [in September] our cases are thousands higher and we have to come back and mingle. And half the staff doesn't take the mask wearing seriously. It's all a mess.

While several commentors expressed similar frustrations, others described workplaces that granted significantly more freedom of choice. For example, one commentor shared that they were required to stay home earlier in the pandemic but were subsequently given the choice to come back, while another wrote “our place just gives people the option. You want to keep working from home for [teletherapy] sessions, 100% your choice.” Ultimately, some commentors reflected on the greater connotation of these workplace requirements and affordances, writing that “some places have really stepped up, while others have shown how much they don't value or trust their employees.”

While the majority of commentors discussed ways in which workplaces had either forced in-person return or provided more flexibility, some commentors wrote that they had experienced the opposite concern: desiring to do in-person work but being “thrust into the role of teletherapist.” For instance, a “doctoral intern working in substance abuse” wrote that they would go back to in-person work “tomorrow if I could – with or without the vaccine.” Another commentor agreed, writing that they had “never wanted to stop” but resided in a state where the

department of health was particularly strict around “face-to-face” therapy. Ultimately, regardless of ones’ preference for in-person versus teletherapy, a shared sentiment across threads was a sense of uncertainty regarding the pandemic and how it would evolve. For instance, one commentor wrote:

To be honest, I’m in no rush to figure out a timeline of when I’m going back to in-person. I feel like its putting undue pressure onto myself when I do. And in reality, I really have no more answers about what this pandemic is going to look like in 2021 than the next guy.

While commentors fell on either side of the debate when it came to workplace requirements, they showed greater consensus across other threads when it came to discussions around another arbiter of choice—insurance companies. Commentors processed how therapists’ ability to work remotely, in the office, or to choose a hybrid practice was ultimately contingent on decisions made by insurer middlemen who held the reimbursement purse strings. One commentor shared that they would be “100% remote if I could” but lived in a state that would no longer be reimbursing after April 21 of 2021. Other commentors shared a sense of frustration with the uncertainty of how teletherapy would be compensated as the pandemic receded. While such concerns represented the bulk of future thinking around the issue of reimbursement, other commentors were more sanguine, identifying potential legislation in a number of states that could—or already had—altered these circumstances, mandating that teletherapy be covered on a permanent basis.

Summary. While the first three major themes focused on the effects of technologies and technological systems on therapists, clients, and the provision of therapy more generally, this theme focused on the added effects of a global pandemic. Throughout, these effects were

explored in connection with digital technology, whether in relation to clients' experiences with online dating or social media in a time of social distancing or in relation to therapists' experiences with teletherapy. In contrast to previous themes in which technology acted as a barrier or corrupting influence, the technologies described here generally acted as facilitators of connection in a time of great uncertainty. For instance, commentors described the ways that smartphones provided a bridge to peer connection or how teletherapy maintained the link between client and therapist. The theme also helped to draw a clearer distinction between digital technologies and the human systems they existed within, a distinction I will discuss further in the next chapter. For instance, Subtheme 4.2 outlined both how teletherapy had allowed for greater freedom and safety for therapists while workplaces had created requirements and regulations that threatened to reduce this autonomy and safety. Overall, this theme described a number of potential DMHT use facilitators including increased access (e.g., through teletherapy) and the maintenance of client social/relational needs (e.g., through smartphones, online dating). In the context of a global pandemic, the relational bridges provided by these technologies were all the more vital.

Major Theme 5: Boundaries

The fifth major theme, "Boundaries," illustrated the ways that therapists set and maintained boundaries in digital spaces and described therapists' rights to both boundaries and a sense of personal safety.

5.1 A Right to Safety

The first Subtheme, "A Right to Safety," described therapists' right to personal safety and freedom from harassment, as well as the ways in which the maintenance of therapeutic boundaries could allow for such safety and space. In response to post five (see Appendix D),

where the OP shared an experience of being harassed and stalked by a client, several commentors asserted that therapists had the right to feel safe and secure. One commentor, after sharing their own harrowing experience of harassment, wrote:

One thing that I realized from this experience is that sometimes safety risks to MH providers are downplayed, which makes it even more important to advocate for ourselves. At the time, I was a new clinician and I was reluctant to set strong boundaries. I internalized the questions of others that implied that I was exaggerating the risks to myself and worried instead about potential negative impacts on the patient... You [OP] said that you feel harassed and hunted. Know that you have a right to keep yourself physically and psychologically safe.

Another commentor echoed this sentiment, writing that, while it had been “very difficult to get any guidance regarding my rights and responsibilities,” the OP had “a right and duty to prevent harm and that includes to yourself.”

In other threads, multiple commentors discussed therapists’ safety rights when it came to their workplaces and the risk infection posed by the COVID-19 virus. Some of these commentors expressed frustration or anger that their workplaces had not seemed to value their safety, with one commentor sharing that the failure of their workplace to ensure safety had precipitated their movement into private practice:

The way my agency has handled COVID has been unorganized and mostly in the interest of money instead of client/staff safety. For example, not requiring masks at all and allowing face-to-face contact in an inpatient setting with no rules or regulations despite being in an area with high COVID cases and city mandated masks. Their carelessness led me to take the leap into private practice.

Another commentor shared a similar experience, writing that their agency had never allowed remote work and insisted that “until clinicians insist on better treatment of ourselves as employees, our agencies will continue to treat us like shit.”

5.2 Boundary Setting

The second Subtheme, “Boundary Setting,” described the ways that therapists set (and failed to set) boundaries in digital spaces (e.g., teletherapy, email) as well how these boundaries could potentially help to prevent harm and manage liability. In discussions around setting appropriate digital boundaries with clients, commentors offered advice around best practices, including informed consent, specific techniques (e.g., the use of automated email responses), and the knowledge of when a higher level of care was warranted. Regarding informed consent, some commentors emphasized the importance of discussing digital boundaries early and explicitly with clients. One commentor wrote that they had drafted “a communication policy as part of my informed consent and it includes what communication methods are acceptable for what types of information and when they can expect a response for different types of communication.” Others emphasized the importance of including policy reminders within communications such as having “a disclaimer at the end of your emails” as well as verbal reminders and clarifications in session to let clients know the “ways you’re more comfortable communicating with them like telephone vs email and [how] it is for their protection.”

In response to post two (see Appendix D), where the OP voiced concern about multiple clients expressing risk through email in off hours, commentors responded that an important aspect of boundary-setting was considering the possible need for a higher level of care. That is, if clients were consistently crossing boundaries in the ways that the OP’s clients were, said clients might benefit from more intensive or frequent treatment, treatment that could potentially

necessitate a referral. One commentor, in discussing the importance of presenting this information in an empathetic way, wrote:

I always like to use the verbiage around the lines of how can we “meet the level of needs that you deserve” and really letting them know that you would like to expand their support team to best benefit them. This is a great reframe that still promotes empathy rather than a strict boundaries talk that doesn’t feel good for either party.

Another commentor echoed this sentiment, writing that one positive way to broach the topic with clients was “to let them know that you’ve noticed a pattern which may be indicating a gap in their care needs that you cannot sustainably keep doing.”

In the process of maintaining boundaries, several commentors also considered the need for resetting or reasserting boundaries that had faltered. For instance, several respondents to the OP of post two instructed the OP to set a new email policy and then inform their clients of the new policy. One commentor wrote that they reiterated every session that they did not provide crisis services and further emphasized email was to be used “strictly for the purpose of scheduling/rescheduling and general resources.” Other commentors wrote more generally of the importance of therapists having a clear understanding of their own boundary needs and a willingness to alter their boundaries in response to those needs being unmet or changing. One commentor wrote that therapists could use their boundary needs to open a discussion of boundary needs more generally, either to set new boundaries or to re-affirm extant ones. They wrote “it can be great modeling to own up to your own boundary/needs and allow them to change as we all evolve and change,” while adding that therapists should “allow time for processing reactions because there could be some interesting transference.”

In a similar vein, several commentors discussed the key importance of setting boundaries with oneself. That is, because therapists cared deeply for their clients, they might feel compelled to compromise their own boundaries to ensure client wellbeing (e.g., checking emails on weekends). In response to the OP of post two, who described experiencing significant burnout from responding to client emails in off hours, one commentor asserted that “if you want that boundary, it sounds like you need to take away that temptation to know what’s happening and wanting to intervene.” Other commentors who had experienced similar temptations described the ways in which they had erected roadblocks to prevent their own boundary crossings, such as making work-related email significantly harder to check outside of the office. For instance, a commentor shared their technique of making...

...it really hard to check my work email on my phone. I actually don’t have the app on my phone at all. I have to log in to my LastPass account, type in the authentication code that I receive via SMS, then launch my Hushmail account, then get another SMS sent to my phone to log in. There are enough steps involved that I never do it, but I also can if it’s an emergency.

Other commentators discussed specific techniques and methods for navigating email-related boundaries, including underlining the importance of “auto-responders.” These commentors contended that such automatic replies should contain crisis resources, with one commentor writing that the OP of post two should “create an auto response that you turn on when not working that states you are not available during those hours, and that gives options for who they can call.” Other commentors agreed, extending this recommendation to voicemail and other forms of communication, with a commentor sharing that “every therapist voice mail in my area

has a disclaimer about calling a crisis line if it's an emergency because they're not always available.”

Discussions around setting appropriate boundaries also comprised a significant portion of responses to post 21 (see Appendix D), a post where the OP sought feedback about the appropriateness of playing video games with younger clients as a form of rapport building. Both the OP and several commentors discussed best practices for maintaining boundaries in such spaces, including creating special “burner” accounts for gaming with clients and deleting clients “as contacts after each session.” One commentor emphasized that boundary concerns should not prevent therapists from using videogames with clients, as a basic set of best practices could ameliorate them. They wrote:

Playing video games with adolescents in online therapy can be extremely powerful, so while it may take some time and effort to make sure you are not violating HIPAA, it is still worth doing... I would say go ahead and play online games like Minecraft with your clients, just take some precautions, like having a dedicated account for therapy, not using the in game communication (unless you have a good private server), having a good informed consent, etc.

Finally, commentors across other threads discussed diverse situations and practices related to boundary setting, including the importance of “firmness” and consistency, the need to set boundaries against inappropriate behaviors that could arise in teletherapy, and the importance of the continual documentation of boundary changes. In one of these discussions, commentors deliberated the intersections between boundary setting and liability, with some contending that setting and changing boundaries required a consideration of legal matters. For instance, one

commentor shared that, in certain states, therapists who provided contact information at all were technically “on call” throughout the week:

Everyone is talking about limits, but you also need to make sure that you are meeting the ethical expectations for your degree and possibly insurance companies. In NY, at least, I am technically on call all the time as a private practitioner who accepts insurance... It is technically not good enough for me to merely have a voicemail message or email response that says “if in crisis, call 911 or a crisis support line.” It’s my responsibility to make contact.

5.3 Boundary Violations

The third Subtheme, “Boundary Violations,” described client violations of therapeutic boundaries in digital spaces. On one hand, such violations included the ways that clients tested boundaries and therapists’ responses to such testing and, on the other, it included more severe violations where clients engaged in cyberstalking or harassment. It also considered best practices and ethics related to the setting of digital boundaries.

Testing Boundaries. Several commentors described ways in which clients pushed against digital boundaries, for example, through attempts at contact outside of session time. For instance, the OP of post two wrote:

I recently started working in private practice full time with a group practice. I have noticed, especially the last two weekends, a significant increase in client’s emailing me during hours that I do not work with messages of emotional distress, sometimes even communicating passive suicidal ideation. Because I receive my email on my phone, I am seeing these messages even though I normally would not be working these hours, and feel compelled to reply because I am concerned for them.

Another commentor described a client's use of "manipulation" to cross boundaries with them, writing:

I had a client who was trying to manipulate me into doing what he wanted by guiltting me for not responding to texts (google voice #) and emails. My supervisor reminded me that we are the ones teaching our clients what the therapeutic relationship looks like. It doesn't feel good when we lay down the boundaries but it's good to do so because we are showing clients how to respect them and what a good healthy boundary looks like.

Crossing the Line. While clients pushing against and testing boundaries was experienced as frustrating and draining, commentors in other threads discussed how alarming and unsettling more severe boundary violations could be. For instance, in post five (see Appendix D) the OP described an individual whose behavior escalated over time to more overt online harassment and cyberstalking. The OP shared that, after having a potential client repeatedly fail to complete an intake, their supervisor agreed with them...

...that I would send one final email encouraging the individual to contact local resources [while] indicating that I would not be responding further. Since I have stated this, client has been increasingly persistent in trying to reconnect. Voicemails, emails, and most troubling - multiple aliases including alternative names, email and phone numbers to try and get in touch, and I suspect finding me on social media. I have had to shut down my online booking software due to this individual creating many, many new profiles under new names trying to book appointments.

Several commentors shared similar stories, with one commentor emphasizing that such violations should be taken seriously, and that online harassment was no less serious than in-person harassment, nor were mental health problems an excuse for engaging in such behavior. In

response to the OP of post five, this commentor argued that “if you are being harassed you are being harassed. Having mental health problems for the most part does not excuse one from obeying the law and being respectful with other people.”

Online harassment was also discussed in reference to the r/psychotherapy subreddit itself as commentors, at times, had received private messages of a harassing nature. For instance, the OP of post five wrote that they “got quite a nasty PM about this post essentially saying I’m an awful person for abandoning this client and that I signed up for the job so I should deal or GTFO.” Another commentor responded that “the PM probably came from a client. There are many disgruntled clients who browse this sub looking to take it out on someone,” while clarifying that “we in fact do not sign up for being harassed.”

Best Practices. Just as commentors had discussed and provided best practices for the setting and maintenance of boundaries, within post five they also discussed how to respond to boundary violations in an ethical manner. Multiple commentors encouraged the OP to contact law enforcement, with one writing “it may be wise to involve law enforcement at this time and perhaps send a cease and desist letter.” Others emphasized the importance of consultation and continual documentation. For instance, one commentor asked post five’s OP if there were any “law/legal agencies available for your particular clinic” as such consultations could “be helpful if you’re still conflicted about your next step.” In response, OP shared that they had contacted their licensing board but had not heard back for an extended period. Further, regarding documentation, one commentor emphasized that documenting was not only important for liability concerns but to have material to make a future report if needed. They wrote “even if you don’t choose to go to the police now, I would start keeping a detailed log with evidence/pictures in case it ever comes to a point where you make a report.”

Who's Responsible? An additional dialogue that emerged within post five concerned the question of therapists' responsibilities to non-clients in online spaces. As the OP of the post had never completed an intake or began working with the harassing individual, some commentors argued that OP had no ethical responsibility to the individual at all. One commentor succinctly wrote that a therapist "can't abandon someone who was never your client. They don't make it through intake, they're not your client. 🙄" Another commentor agreed, emphasizing that therapists had autonomy in who they decide to ultimately work with, writing:

You don't need to have a therapeutic relationship with everyone that walks through your door. You did your due diligence to provide them with resources and referrals as well as seeking supervision on your own. The rest is harassment and as a human being, you don't deserve that by virtue of the profession you've selected. Hopefully the no contact will cause interest to wane and you'll be able to resume as usual.

Summary. While the previous theme described the ways that digital technologies like smartphones or teletherapy could act as a bridge between parties, this theme illuminated some of the costs of such expedited connections. Commentors expressed a sense of disquiet and apprehension around digital access, whether through clients pushing against therapy boundaries with after-hour emails or—more severely—engaging in digital harassment or cyberstalking behaviors. Such concepts gave rise to a wider discussion around therapist safety and the need for advocacy in relation to that safety. Overall, similarly to themes one through three, this theme outlined factors that could serve as barriers to therapists' use of certain DMHTs. Specifically, these barriers arose from the potential for DMHTs to compromise the vital boundaries that therapists set with their clients.

Major Theme 6: Support & Solidarity

The sixth major theme, “Support & Solidarity,” described the ways that therapists utilized Reddit to support clients as well as the ways they sought and offered support and solidarity to one another.

6.1 How Can I Help?

The first Subtheme, “How Can I Help?” described the ways that therapists used the r/psychotherapy subreddit for advice and consultation around clients’—and therapists’—technology-related concerns. Such consultation included ways of helping clients navigate the online dating world, maintain social connections during a global pandemic, and get the most out of teletherapy.

Connections. In post four, where Redditors discussed online dating, as well as in post 13, where they discussed teen smartphone use, a common theme revolved around the desire to help clients navigate digital spaces, with many of the comments focusing on understanding the problem and sharing solutions. For instance, in post four, several commentors emphasized the importance of psychoeducation, including providing clients with information around attachment, dating, and healthy relationships. To that end, multiple commentors suggested bibliotherapy, suggesting specific books or podcasts that could be helpful. One commentor provided a more comprehensive recommendation that outlined an acceptance and commitment therapy (ACT) approach to helping clients navigate online dating and its pitfalls, writing that they had found success in an approach...

...where I focus on helping the client identify his/her personal values and then finding ways the client can live their values in a way that is meaningful. This would include exploring what the client’s definition of a good relationship (e.g., mutual trust, good communication, etc...) so that the client can work to find/cultivate this type of

relationship instead of whatever approach they have done in the past. It's a gentle way of leading the client to the realization that the goal shouldn't be simply to "find a relationship," but to find the person who shares the same values and interests. In a pre-covid world, we could then do some values-guided behavioral activation and exploration to find mutual interest groups where the client would at least have the opportunity to engage with others who share their same interests...I would also normalize that dating is really difficult in the best of times (which is why the entire romcom industry exists, for example) and validate frustrations.

In Post 13, the OP shared a dilemma of parents limiting teen phone access as a punishment, a punishment that could have damaging effects on social development during the COVID-19 pandemic. Several shared similar experiences to the OP's, providing suggestions for how they had navigated the dilemma, with some emphasizing the importance of advocacy. One commentor shared their technique of advocating against such punishment by providing psychoeducation to the parents and offering alternative ways of dealing with problematic behavior, writing that it is important to...

...validate parental desire to exert some control, and then discuss how teens can earn more or lose some tech privileges outside of a protected social contact time, discuss appropriate parameters of the protected time, then praise the parents A LOT for making sure their child's social needs AND boundary/structure needs are met. Honestly, I just go in acting like this is already the plan, and then work with the parents on variations of the protected time such as frequency, length of time, what apps are allowed, etc. Although this very directive approach is different from how I usually work, it's been really good and effective for this particular issue.

Teletherapy. Another theme, which emerged from several threads related to teletherapy, concerned ways of improving the teletherapy experience and addressing specific teletherapy problems. One such conversation related to the importance of therapist attitude towards the technology. As several commentors had shared their disdain for teletherapy as well as their belief that it was less effective, some commentors responded by questioning how their attitudes towards teletherapy might affect its efficacy. In response to a commentor who wrote that they “hate [teletherapy] as a therapist,” one responder asked, “how much of this is your feelings and motivations about telehealth vs. the actual empirical evidence for the effectiveness of telehealth?” The respondent went on to provide a link to a 2013 study that found teletherapy to be as effective as face-to-face treatment. Another commentor shared their view as someone who was “both a client who does 100% remote work with my therapist now and a therapist who does 100% remote work with my private practice.” They wrote:

I find telehealth to be just as helpful as a client as being in person. However, I’ve had to go through a few therapists to find that. I can tell if the therapists who don’t like it and it really messes with the dynamic and it does feel less personal. With a therapist who is comfortable with telehealth, though, there is little difference to when I was in therapy in person. Just as deep of a connection, just as helpful. Thankfully there are therapists who like and are good at offering telehealth otherwise I would not be able to have regular therapy as I love overseas and tend to move every 4-5 years.

Another discussion related to improving the teletherapy experience emphasized the importance of location and medium. Multiple commentors recognized that, despite the convenience of working from home, having their workspace and home overlap had its drawbacks. In a discussion of workplace requirements for in-person telehealth, one commentor

wrote “it annoys me that I’m going all that way to do Telehealth but I find I’m a lot more productive in the office than at home,” while another wrote that “making collateral calls and other outreach is so much easier in the office, and not having to block my number.” Other commentors discussed the importance of the teletherapeutic medium itself, with some commentors contending that video was superior to phone for rapport-building and assessment. One commentor shared that while they had a “fairly easy time building rapport via virtual (audio + visual) sessions,” in phone-only sessions they found it “extremely difficult to build rapport for me for whatever reason.” However, others expressed a preference for phone work, with one commentor sharing that they found “video to be draining and somewhat superfluous” in comparison to phone, while another wrote that they could “relax more on the phone than over video” as, when using video, they had found themselves continually searching for hard-to-read nonverbal cues.

Other commentors discussed the importance of matching medium (i.e., teletherapy vs. in-person) to client needs and therapist orientation, with some contending that specific populations and specific orientations would get less benefit from teletherapeutic delivery than they would with in-person therapy. One specific population that multiple commentors agreed was less served by teletherapy was children. As one commentor wrote: “I don’t mind telehealth for adults...but working with kids is much more different!” Others agreed, with one commentor writing “while you can definitely adapt I just do not think long term Telehealth will ever be possible or as beneficial for children as it might be for adults. Especially for younger kids.” Others extended this stipulation to family work more generally, with one commentor writing that their family-based practice “simply does not work” through telehealth and that “clients hate it, kids don’t participate, and activities fall flat.”

6.2 *I Feel...*

The second Subtheme, “I Feel,” described the ways in which Redditors expressed affect, expressions that often occurred through “venting” and the sharing of stories about difficult experiences. Across different threads, commentors and posters alike expressed anger, frustration, shame, and sadness, with these expressions often met with a supportive, validating, and normalizing response.

Anger. Anger, frustration, and irritation were not uncommon expressions in the posts and comments explored in this analysis. Some of the strongest of these expressions occurred in post six (see Appendix D), where Redditors voiced their annoyance at, and disdain for, non-credentialed helpers such as life coaches and social media influencers. Some commentors expressed more extreme sentiments, saying that life coaching “actually makes me feel crazy,” “I can’t stand this shit,” or that it “drives me absolutely insane.” Others discussed the potential illogic of such strong disdain, with the OP of post six writing that their anger “may be irrational, immature, or even just territorial.” However, others commented that they did not view such feelings as “irrational at all” as...

We have put in a lot of time and energy to learn and develop the skills we have, and for most of us becoming counselors was motivated by some deeply personal events in life.

We genuinely want to help people because we’ve been helped. We don’t do it for the likes or upvotes or whatever else. We also know how much care must be taken in our line of work to avoid doing further harm... It’s sort of like Imposter Syndrome, but instead of experiencing it we recognize it in others.

Others agreed that the anger was justified due to the level of work and energy those in the field continue to put in, with one commentor writing that their anger came down to defending

against “any thing that threatens to demean our titles or licenses.” However, others took a more equanimous view, with one commentor writing that—while it sometimes annoyed them—at the “end of the day, I know my worth and the value I bring to peoples lives.” Other instances of anger expression emerged around workplaces, including offices not taking COVID precautions seriously and failing to protect their clinicians as well as the OLPs and their treatment of clinicians and clients alike. Finally, others expressed frustration with therapists misrepresenting their credentials and clients violating boundaries.

Sadness, Guilt, and Shame. In other threads, commentors expressed a range of negative emotions related to a sense of shame, sadness, or guilt. For instance, some commentors in post two—a post where digital therapeutic boundaries were discussed—expressed a sense of guilt around setting or changing boundaries and “not being there” for clients in need. For instance, the post’s OP wrote that they “definitely have some of my own work to do around feeling guilt with setting/changing these boundaries, and at the end of the day I want to encourage my clients to be able to set their own.” Another commentor expressed guilt around re-asserting boundaries that had faltered, writing “I’ve felt this guilt too, feeling like I’m being mean or inconsistent because I was lax, and now they expect this from me, and how could I ever change etc.”

Sadness and a sense of hurt were commonly expressed in post 10, where Redditors discussed the experience of receiving negative online reviews. In response to OP’s question of how others “deal with negative reviews,” commentors empathized and shared their own pain, with one commentor writing that “it’s extremely upsetting when you know you’re trying so hard and doing the right things.” The OP agreed, writing that they found it especially “awful to see that being communicated in such a strong and angry way...” and that it was particularly hard in a

context of “everything being accessible on the internet and not being able to reply because of hipaa.”

6.3 I Need/I Offer

The third Subtheme, “I Need/I Offer,” described the ways that posters and commentors on the r/psychotherapy subreddit used the forum for seeking answers, consulting, and expressing needs, as well as offering advice, support, and validation.

Across the majority of posts, OPs sought answers or support in some form, with four OPs (2, 4, 9, and 13) asking for basic advice around how to address a problem, three OPs (2, 5, and 21) consulting about ethical concerns, and six OPs (1, 5, 10, 14, 15, and 20) seeking emotional validation or support. Additionally, seven OPs (3, 6, 7, 8, 2, 16, and 19) sought to elicit opinions, views, or predictions, while two OPs (17 and 18) asked Redditors about their experiences with teletherapy. In response to original posters’ requests, commentors answered questions, provided emotional validation and support, shared their opinions, views, and predictions, and recounted their experiences. The expression of solidarity characterized a central way that emotional validation was offered, with commentors sharing how they had been through similar difficulties as the ones described by OPs. For instance, in post 10, a commentor stated “don’t have any advice, just support,” while another wrote “this happened to me once and it was very painful so I can completely understand.”

Other ways in which commentors offered emotional support was through the expression of concern towards those who felt unsafe and the offering of reassurance for those who voiced uncertainty that they had done the right thing. Even when posters expressed significant anger and frustration, many commentors responded with a sense of understanding and solidarity. For instance, in post 15, after the OP had ranted about frustrations with technology, one commentor

wrote “I felt this rant in my soul” and expressed “solidarity in technology hate and frustration,” while another wrote “I hear you...No words of wisdom, just that I feel your pain.” While there were times when comment threads devolved into arguments or commentors criticized the OP, these types of reactions represented a minority of responses.

Summary. Most of the thematic content explored in the five previous themes centered around technology-related challenges, frustrations, fears, and the expression of negative sentiment. In contrast, this theme focused on the social, professional, emotional, and clinical benefits of the use of online consultation through the r/psychotherapy subreddit. Posters and commentors expressed complex feelings, addressed specific problems they had encountered, and articulated vital needs. In return, other commentors offered advice, solidarity, empathy, and connection. While previous themes spoke to the ways that technology acted upon individuals, content in this theme focused on the ways that therapists could best use—or help clients use—specific technologies. At the same time, particularly in the second subtheme, significant negative technology-related sentiment was expressed, including anger at online “impostors,” guilt around setting digital boundaries, and sadness around receiving negative online reviews. Overall, the theme showed how DMHTs such as online consultation could offer solutions and address problems, even when those problems were caused by or resulted from other digital technologies (e.g., social media, online review sites).

Major Theme 7: Tech’s Promise

The seventh and final major theme, “Tech’s Promise,” described the ways in which Redditors viewed DMHTs in a more positive light, including the specific benefits of technologies like teletherapy, the creative use of technologies such as videogames or virtual

reality for therapeutic benefit, tech-based solutions for navigating bureaucracies, and the advantages of online therapy platforms.

7.1 Access

The first Subtheme, “Access,” described the ways that Redditors saw digital technologies meet client needs for access to both services (e.g., through teletherapy) and content (e.g., psychoeducational content on YouTube).

Content. While the OP and commentors in post three (see Appendix D) largely focused on concerns around the validity of online content related to mental health, a sizable minority of commentors shared a contrary view. These commentors contended that online material related to narcissism and “toxic” relational behaviors could be beneficial. For example, one commentor shared how such content had helped them understand their traumatic childhood, while another wrote that it had helped them “move past the wounds and bewilderment of a relationship that I had for almost two years while in grad school.” Referring to a specific YouTube content creator, the latter commentor went on to write:

I honestly don't think that any resources offer what she does, and there's a true need for it. Most of the pop psych stuff around narcissism are generic, inaccurate, and a catch all when people are wounded after a breakup. Most therapists don't have a great roadmap for helping someone experiencing a lot of post-relationship distress that is unique to moving past a narcissist: they tend to either center the problem within the client by calling them “a codependent” or pathologizing the ruminating thoughts, or they jump straight to doing “better” in relationships in the future.

The sentiment that such content addressed an unfilled need was echoed by others who had discovered online content that had helped them in ways in which individual therapy had not.

Such comments not only argued for the utility of such content, but, in case, a commentor contended that, instead of policing content that already existed, “there needs to be more content put out there” to counter the more problematic material such as “10 ways to spot a narcissist in your life.”

Connection. In addition to increasing access to information, commentors in other threads discussed the ways in which technology had increased access to beneficial human connection, including connecting clients to therapists through teletherapy or individuals to their peers through smartphones. For instance, in post 13 (see Appendix D), the OP and several commentors argued for the preservation of teens’ access to smartphones during the increased isolation that had been wrought by the COVID-19 pandemic. One commentor contended that—while parents might be used to limiting technology access as a form of punishment—the current situation was one in which “it’s already hard because they can’t see their friends, so all they have is technology to communicate with them.” Another commentor agreed, arguing that—in the special circumstances of the pandemic—smartphone access could help ameliorate the extent to which teens were “struggling with the isolation and with online learning.” Other commentors argued that teens’ access to smartphones could also mean access to other benefits, with one commentor writing that they had explained to a client’s parents that “having access to her phone was part of her safety plan and coping.”

Increased access was also referenced up as a key benefit of teletherapy, with numerous commentors across threads sharing their view that teletherapy had increased client access to therapy in several ways. For instance, an increased flexibility in scheduling brought about by the lack of need for traveling, and the ability to attend to existing responsibilities more adaptively (e.g., childcare), had facilitated increased access. One commentor shared that their clients

appreciated having “no commute/travel time/worries about transportation issues, [and] no childcare issues for the most part.” This increased scheduling flexibility might also account for an experience that had been named by several commentors: increased session attendance. As one commentor wrote, “I do not think I’ve had a single no-show appointment since I started telehealth.” Another commentor—who was less enthusiastic about teletherapy overall—agreed that “the one upside is my attendance is way up” and even when clients “...forget their appointment [they] still make it to their session.”

7.2 Therapist Benefits

The second Subtheme, “Therapist Benefits,” described the ways in which digital technologies like teletherapy or practice management software could reduce burnout and increase quality of life as well as the ways that therapists proactively used online spaces for consultation and community building.

A Shift. OPs and commentors in multiple threads shared their experience of a recent shift in their view of teletherapy. For instance, in post 12 (see Appendix D), the OP queried Redditors about their experiences “going fully remote” because of the pandemic, writing:

I had always dreaded the day when telehealth took over but having been forced into it I actually really enjoy it. Having been almost a year of telehealth and working from home, I have a real hard time imagining that a lot of people will be going back to in-person. I have found it just as natural to build rapport with new clients over the screen or phone. Not to mention the overall convenience of it. If we have the capabilities to do this work from home with same therapeutic benefit, then why not?

The OP’s sentiment was echoed by numerous commentors who described their own journeys from significant skepticism and worry around the prospect of teletherapy to a belief in its

efficacy and awareness of its benefits. For some commentors, this shift had been significant enough that they had decided to transition to full-time remote work. For instance, one commentor wrote that:

I finally closed my physical office a few months ago when it became clear I wouldn't be returning anytime soon. I think that the world has been forced into realizing the validity of telecommuting for so many things (therapy being one of them) due to Covid-19 that what used to be kind of a niche thing is and will continue to be widely accepted and even preferred by many.

Quality of Life. For many commentors, the clearest benefits of shifting towards teletherapeutic practice were related to quality of life. For instance, Redditors discussed how their quality of life increased with the freedom of working from home, the advantage of no longer having to spend time commuting, the ability to spend more time with family, and huge cost savings for those in private practice who had previously rented spaces. Some commentors found themselves considering the ways in which teletherapy opened up the possibility of a radical shift in one's living situation, with one commentor writing "we are now in a position where we could sell our suburban house and move waaaay far away from the city. I would no longer need to commute. I could very easily give up the office space and never look back."

In Subtheme 3.3, "Something's Missing," some commentors had discussed feeling depleted by teletherapeutic work. However, others spoke of the opposite experience, finding that the freedom and flexibility offered by teletherapy had led to feeling energized and less "burned out." For example, one commentor described the psychological benefits of having...

...a little more space and time for self-care (because I am not commuting, get to make meals at home, etc.). I feel a lot less tired and more free with the extra time, and my hope

is that this combats the burn-out that was creeping up on me & translates into better client care over the long term.

Another commentor echoed these sentiments, writing that teletherapy was “rewarding” because it allowed them to work...

...from home part time while also parenting and homeschooling my kids, and I’ve never felt less pressure and more energized by my work... For the first time, I can see 7+ clients in one day and feel energized. Not like I can’t move or talk afterwards.

It was clear within threads about teletherapy that differences in experience were common, with one commentor noting the apparent “range of reception...[where] some people love and prefer it to in person” and others were impatient to return to in-person. One pro-teletherapy commentor expressed surprise at “these [negative] responses, because I am absolutely loving it and am trying to find a way to make it work long-term.” At the same time, other commentors left their inherent like or dislike out of their comments and simply discussed their practical reasons for embracing teletherapy. For example, one commentor wrote “I’m a stay at home mom and would not be working if it wasn’t for the pandemic normalizing teletherapy.” Another commentor wrote about their hopefulness around increased teletherapy as a person with a disability:

As a disabled person who has always worried about how I would be as a therapist working over the phone or through screens due to my health - you have given me hope I can do it. I think it’s a wonderful thing. On the flip side of wanting therapy but having been housebound it’s so much more accessible now. Some positives to take from the experience!

Humanization. While many of the previously discussed benefits of teletherapy related to its secondary benefits (e.g., cost saving, time with family etc.), commentors also discussed some

of the unique primary benefits of the medium itself. One such benefit was in how teletherapy could serve to humanize both therapist and client through allowing a glimpse into one another's living spaces. For instance, one commentor discussed how they had used their own home space to help normalize a client's stress around an untidy house:

I had a client talking about being overwhelmed with an untidy house and I literally turned my camera from its Designated Tidy Viewing Space (tm) from my makeshift home office that is just the corner of my bedroom. I was like, here is a basket of clean clothes that need to be put away, they're super wrinkles [sic] and there's no way I'm ironing that, we're just going to have wrinkly clothes, an unmade bed, and an amazon box that I opened... 😊 She said she felt so comforted that it was normal, it gave her such relief.

Other commentors discussed the ways that pets "visiting" in sessions created new kinds of connections, allowed for "comic relief," and helped build rapport and trust. One commentor said that they had found pets were "an easy way to show you're a real person without giving a lot of personal info." Another commentor wrote that, while their cats "interfere" at times, "my clients are fine with it... [and they] share their pets with me which helps them bond with me on that level. And we all smile when the animals present themselves." One commentor described how their cat and their client's cat had helped build a connection, humanizing their interactions:

I have a dog and a cat and live alone so sometimes they make noise during sessions and it's funny. My cat likes to hangout next to me during video sessions, which has been calming for my clients to see my cat perched on my arm rest. One sweet moment was during a session where a client was having a rough time and between sobs said that our cats should be friends. Another cute moment was during a session my cat and my client's cat started meowing to each other.

Other commentors shared similar sentiments around being able to peer through a “window” into their clients’ lives including their real-world experiences, family dynamics, living spaces, and interpersonal interactions. For instance, one commentor described how working with a client amidst their home life allowed for an enriched assessment, writing:

I feel like and you gain so much information from seeing those interactions. Mom brings kids to office, we talk about parenting, [but when] kids are in the background on tele health...it becomes learning how to manage time and set boundaries with kids...We have to stop pretending like we are robots. Some of my best sessions have been when someone was cooking dinner or doing laundry.

The Future. Several Redditors expressed interest in how teletherapy might evolve post-pandemic and sought others’ plans and predictions around remote work. In post 12 (see Appendix D), where the OP queried Redditors about their short- and long-term teletherapy plans, commentors shared a range of experiences and insights. Some wrote that they had already made the shift towards a more permanent teletherapy practice, with one commentor providing a detailed overview of their experience as well as guidelines for how others could set up similar practices. They wrote:

So I did quit my former employment and went and started my own telehealth practice. I am going to have to start turning people away or have a waitlist soon, but here are things I have found as someone doing this for the last four months, and advice/things to consider.

They went on to provide a list of 10 pointers for establishing a practice, ranging from determining a market niche to attending to legal, tax, and insurance considerations. Overall, the commentor shared that they had found the experience “incredibly daunting and nerve wracking

and rewarding all at once,” while also echoing other commentors’ sentiments around an increased quality of life, writing:

I’ve never felt less pressure and more energized by my work. Being able to choose my clients has invigorated my love for the work I do, and it’s steering me into other aspects of work and advocacy I didn’t plan on...

In answer to the OP’s question around teletherapy plans, other commentors in post 12 provided a range of responses. Many echoed the previously discussed commentor, describing the process of movement towards a fully teletherapeutic practice. For example, one commentor wrote “I’m transitioning my practice to fully online permanently,” while another wrote that they planned to continue “doing telehealth until I retire/die.” In contrast, several commentors expressed the goal of a hybrid practice with a mix of teletherapy and in-person work. For example, one commentor wrote:

My dream is a hybrid practice. Half remote, half in-person. This way I can have both!

Plus, it would be interesting to work with clients on their choice of which they prefer and having the option to either would be fruitful info IMO.

In response, one commentor shared that “this is what I am planning for myself...[I’m] looking at a structure that would have the intake be in person, then telehealth for follow-ups- maybe with the option of meeting in person at regular intervals if they wish.” Others echoed the previous commentor’s sentiment, endorsing that a key motivation was the ability to provide clients with more autonomy in the format they chose.

Simple Solutions and Supportive Spaces. In different threads, Redditors discussed other beneficial prospects in the digital world. While some commentors agreed with the sentiments expressed by the OP of post one, who decried the digital red tape and e-bureaucracy

that they had to navigate in setting up a private practice, many commentors suggested that there were simple technological solutions to such problems, including practice management software and password managers. For instance, in response to the OP, one commentor wrote:

You're seriously over thinking all this. Grab an all in one solution like Theranest or Simple Practice for like \$50 a month, with compliant video, messaging, and payment acceptance/processing. Add a disclaimer to your privacy statement that says "Please don't email me clinical information..." How much money is your time and frustration worth? Probably less than the \$1 you might save by trying to scrape together a hodgepodge of free services, if it's causing this level of worry and frustration for you!

Others agreed, suggesting specific practice management solutions and naming their comprehensive benefits, including "notes, billing, consents, messaging, and Telehealth" as well as "two way calendar integration, scheduling widget for websites, stripe processing and insurance claims, EMR, and secure messaging." Even the necessary paperwork one needed to run a private practice could be purchased "online, as a package," which one could then have "checked over by a lawyer."

Finally, while not discussed explicitly in the posts that were analyzed as a part of this thematic analysis, another benefit of the technology seemed to be the supportive community provided by the r/psychotherapy subreddit itself. As outlined in Subtheme 6.3, "I Need/I Offer," the forum was clearly a space where clinicians could come together and support one another through a mixture of validation and emotional support on one hand and advice and consultation on the other. Across threads, OPs and commentors alike expressed gratitude and a sense of relief in the responses they received. Additionally, while Subtheme 1.3, "Online Reputations," argued that certain aspects of the forum negatively impacted clients, such sentiments were in the

minority. Reddit's democratic upvote/downvote system as well the subreddit's active moderation seemed capable of keeping the space supportive, "non-toxic," and ethically sound. In the end, such a space provided an unprecedented ability to "consult" across an entire community of tens of thousands of therapists with different orientations, experience levels, areas of practice, cultural identities, locations, and personalities.

7.3 New Paths

The third Subtheme, "New Paths," described the ways that therapists were using emerging and novel technologies (e.g., video games, virtual reality) to provide therapeutic benefit as well as the potential advantages of online therapy platforms (OLPs), including the already existing platforms as well as the possibility of creating new ones.

Collectives. While Subtheme 2.1, "Middlemen," outlined numerous criticisms of OLPs, including poor working conditions, inadequate risk management, and other questionable practices, a more sanguine view of platforms like BetterHelp and Talkspace was offered by several commentors, many with firsthand experience. For instance, one commentor argued that the emergence of OLPs was a sign of progress in mental health care access, rather than an existential threat:

I don't see things like BetterHelp being a detriment or threat to my profession. I don't see virtual treatment as lessened from in person, and I don't feel that this is something I have concerns about moving forward... if this is the future, there are a myriad of positives. Reaching people who otherwise wouldn't have services being chiefly what comes to mind.

On a more individual level, multiple commentors shared how working OLPs made sense for their unique situations, with one writing that...

...because I don't have to pay for childcare since I get to make my own schedule I actually make more at BH than at most other jobs. Most of my clients are high functioning and frankly easy for me compared to CMH. I guess a lot of the issues you had with your last site was...they did not support you and had you make unethical, even illegal decisions. I don't feel that way with BetterHelp. It's my private practice so I do a detailed informed consent in the first session and explain that at any time I can decide teletherapy is not appropriate for the client and refer them out, especially when it comes to severe issues and SI.

Part-time work in particular seemed to represent a favorable use of OLPs, with one commentor suggesting "if you want a handful of clients I found it easy to do." Another commentor agreed, writing "I love it for seeing clients part time, I guess it depends. The site has moments of being janky but I have a caseload of great clients." Further, other commentors pointed out that BetterHelp and Talkspace were not the only OLPs and there were far better alternatives. For example, in response to an inquiry about working for BetterHelp, one commentor responded to "consider Open Path Psychotherapy Collective" as an alternative. Another commentor responded "if you're looking for that kind of work, apply to American Well or Teladoc. They are far more serious and offer actual resources to their providers."

Additionally, due to the frustrations with existing services and the fears of automation that had been expressed in relation to current OLPs, commentors suggested that therapists should band together and create their "own version." One commentor wrote:

Technology is fast paced and we might soon be left behind if they figure out how to do this in a way that actually benefits people. I wonder if the solution is not to just join

together and create our own version of their apps that are safer. Get out ahead of the problem so to speak...

Such was also the suggestion of a non-clinician commentor, an individual who had been a former client of Talkspace and was featured in an article about the service. They wrote “do not ever think you need these platforms if you wish to really embrace online therapy. You have the power to do that and make it happen. Not them.” Some argued that the profitability of and demand for OLPs showed simply that there was an unmet need, a need that traditional therapists and the mental health system had failed to address, with one commentor asserting that OLPs were a...

...shitty stopgap that exists and has a demand only because legitimate demands for services are not being met in any other way. The solution to that is not to eliminate the shitty stopgap—it’s to fulfill the actual need. That means, in my opinion: MUCH better laws related to mental health coverage. Policy mandating adequate mental health coverage by insurance (for as long as we have insurance as a system) is a no-brainer, in my opinion. Policies that make it easier for therapists to be on a wider range of insurance panels. Increased funding for low-cost services for low-income folks.

Other commentors shared that they had already begun moving towards addressing this need, with one commentor sharing how they had been motivated by anger at the OLPs to take action and was working with others to create an alternative. Other commentors discussed how their current individual and group teletherapy practices were thriving, suggesting that there may not be a real need for OLP middlemen at all, regardless of who created them. For instance, one commentor wrote they “own a group practice that is entirely online,” a practice they created because they wanted to support therapists “so we can do our best work.” Finally, while some therapists might not want to work for an OLP or join a group teletherapy practice, one

commentor argued that "...just about every therapist in private practice should have remote sessions option...It's just too easy not to, and with covid, it would argue its necessary."

Video Games and VR. In addition to OLPs and teletherapeutic practices, the use of videogames in therapy was another novel concept discussed on the subreddit. In post 21, titled "Question About Playing Video Games with Clients," the OP asked Redditors for their opinion on the ethics of discussing video games with younger clients to build rapport. They wrote:

I'm currently working in an agency where ALL of our appointments have been via telehealth since March 2020. This has made it especially difficult to work with kids since we can't utilize hands on activities that help build rapport, trust, and conversation. I have young clients who are very nonverbal. One way that I have been able to build rapport with some have been to ask them to give me tips on a video game that they like. When I utilize this tactic, I never ask about games that are controversial or violent such as Call of Duty, Grand Theft Auto V, etc. If they mention a lighthearted game such as Minecraft, Roblox, or Animal crossing, I ask them to give me some tips.

In response, commentors not only agreed that the OP was behaving ethically, but also shared how they had utilized game playing in session. Some commentors drew comparisons to more known and accepted therapy mediums such as "play therapy," arguing that video gaming in therapy was simply an extension of this therapy into a new medium. For example, one commentor who had historically used play therapy with child clients had to come up with an alternative when the "pandemic took away my tools." They wrote that "leaning in to the video game world and taking a client-centered approach has made my time in session much more effective and fun!"

Regarding the specific therapeutic benefits of gaming, many commentors discussed how they utilized gaming as a method of rapport and alliance building, especially with younger clients. One commentor shared that...

Letting some of my younger clients “teach me” how to set up a Minecraft account, and then lead me through servers etc. does so much to build the relationship and make that young person feel like they have something of value to show an other... I’ve also found that sometimes when middle school age clients are playing a “low risk, low intensity” game like Minecraft they actually become a lot more open with verbal emotional disclosure.

Other commentors spoke of the potential of games beyond rapport building, with one writing “I think gaming is a gold mine—strategizing/planning, problem solving, concentration, perseverance, time management, etc.... all skills we use IRL!” Others agreed, with several commentors arguing that videogames were underused despite their great potential, with some positing that it could relate to a stigma against gaming as a psychologically unhealthy activity. Overall, commentors endorsed excitement about the possibility of utilizing games in therapy, with one commentor writing:

I do believe there is serious untapped potential in gaming for therapeutic purposes. Both directly and as an adjunct (how is it that different from play therapy?) ...It’s easily one of the best routes to legitimize myself with kids and teens... Countless clients of mine have found gaming to be an essential part of their life and identity. I think it would be absurd to exclude gaming talk if that’s a big piece of their life. I think “video game streamer” is one of the most consistent dream careers for my clients.

While commentors wrote that there was a dearth of information about gaming in therapy, some commentors suggested specific texts, best practices, and useful games. Further, several commentors agreed that specific games might be more therapeutically appropriate and useful than others, with creative games like Roblox and Minecraft representing the former. One commentor expressed their wish for a “a game made specifically for treatment” because they would “love to see how the clients build there [sic] houses and ask them why they put things in certain places or if there were role playing games where they could practice different skills.” Another commentor contended that nearly any game could be used in therapy, writing “I do pride myself as a gamer and therapist in being able to make any game therapeutic,” while also admitting that “there are popular games I’ve used more frequently than others.” Finally, regarding training, the OP of post 22, “Video Game Counseling Meetup,” shared how they had organized a free...

...video game training group for the therapists out there that want to learn how to use video games in their therapy practice. I’ve had some therapists reach out to me about video game therapy/counseling and thought it’d be more effective for us to get together, talk about our struggles, share solutions, and practice our video game skills together!

The OP went on to make several edits to their post, providing updates around the huge amount of interest that Redditors had expressed.

7.4 For Whose Benefit?

The fourth and final Subtheme, “For Whose Benefit?” contended with how technological costs and benefits were distributed between client and therapist and how—at times—one’s benefit came at another’s cost.

These questions specifically arose in conversations around the relative advantages of teletherapy and in-person work, although they have wider implications. As discussed in Subtheme 7.2, “Therapist Benefits,” a key benefit of teletherapy for clinicians was an improvement in their quality of life. While, at times, client quality of life was discussed as a benefit, the general focus remained on how teletherapeutic practice gave therapists increased freedom, cost and time savings, and relational benefits (e.g., spending more time with their family). While increased quality of life could lead to a less depleted or “burned out” therapist—which could be a net benefit for clients—the question of whether teletherapy itself was clinically beneficial was posed by some commentors. One commentor outlined the dilemma clearly, writing:

Personally, I much prefer being able to work from home. Therapeutically, I mostly prefer meeting in person. Deciding what’s best for me personally and professionally, as well as what’s best for clients, is something I’ve been thinking a lot about too.

Another commentor described clearly recognizing the “value that in person brings, and honestly even the energy and attention on my end is better,” yet, “the convenience factor [of teletherapy] is just too hard to ignore.” However, for one commentor, the expected negative impact on clients outweighed the purported advantages of being able to work from home. They argued that...

...as much as it might be easier to work from home, it’s not as good for my clients. Some clients don’t have a safe space to share feelings, struggles, etc. my physical office is that space for them, and as long as they desire for in person is there, which it very much is, I’ll prefer in person over Telehealth.

One commentor put the situation starkly, arguing that, after the COVID pandemic had receded and safety was no longer a concern, those who continued teletherapy were doing it “more for

their sake than it is for the clients.” Another commentor described other double-edged sword aspects of teletherapy, writing:

I like some aspects of being remote, but for the wrong reasons e.g. It takes less effort/focus, I can write notes while I am conducting therapy, etc. I do see some value added in certain situations and for patients with busy lives who have a hard time making therapy in person; however, there isn't a single patient on my caseload where I can honestly say that I believe telehealth would be more effective than in-person.

Summary. This final theme built upon the previous one regarding its focus on technology-related benefits and the leveraging of technology to address therapists' needs. Sentiments expressed by commentors included hope, a sense of possibility, and excitement. Commentors wrote of client benefits both regarding access (e.g., through teletherapy) and content (e.g., through online mental health content). Commentors also shared therapist benefits in relation to quality of life and of wider clinical benefits that ranged from the relational (e.g., humanization through teletherapy, rapport-building through videogames) to the administrative (e.g., addressing red tape through practice management software). However, as the final subtheme illustrated, benefits can always be tempered by a consideration of costs. In the final subtheme, commentors wrestled with the tradeoffs between therapist and client benefit. While these considerations were aimed specifically at teletherapy, this discernment of contrasts can be retrospectively applied to all content explored in this thematic analysis. That is, every DMHT-related benefit examined here carried with it a potential cost, and vice versa. At a wider level, this consideration around the duality of technology is incredibly relevant to our place in the midst of a digital revolution that has only just begun.

Summary

The results of the thematic analysis spoke to a wide range of topics, ideas, technologies, emotions, and experiences that related to the confluence of digital technology and psychotherapy. Reddit commentors and posters explored and shared their experiences in online spaces, on social media, in teletherapy sessions, and in jobs working for OLPs. Further, they described their experiences with and views of DMHTs in the domains of teletherapy, text-based therapies, administrative technologies, emerging technologies like AI and videogames, smartphones, online consultation (e.g., r/psychotherapy), and online content (e.g., psychoeducational YouTube videos). They shared fear and apprehension, anger and frustration, sadness and guilt, disbelief and disillusionment, but also hope and excitement, interest and curiosity, and a deep desire to help both clients and one another.

In summary, each of the challenges described by commentors and posters across the thematic analysis may serve as barriers to DMHT adoption and utilization. At the same time, each of the benefits and advantages described may help to facilitate such use. While this analysis aimed at illuminating the experiences of, sentiments towards, and barriers to clinician DMHT use, it also captured the experience of providing therapy in a digitally immersed, always-online world. In this world, advantages were contrasted with disadvantages, limitations with opportunities, and fears with hopes. Ultimately, while many questions remained unanswered and new questions were raised, the information unearthed by the analysis may serve as an important contribution to understanding the intersection of psychotherapy with digital technology and what it means to be a therapist in the 21st century.

Chapter 5

Discussion

In this chapter, I discuss the study's findings, identify key barriers to DMHT use, offer suggestions for addressing barriers and leveraging facilitators, discuss the study's limitations, and pose future research questions. To do so, I first review and synthesize the barriers to DMHT use identified across the literature review and thematic analysis and then compare this synthesis against existing literature. Next, I revisit the seven themes that emerged from the thematic analysis in light of the original research questions. In light of the identified barriers and facilitators, I then offer seven suggestions for increasing DMHT utilization. Finally, I address the study's limitations and pose several further questions for future research.

Research Questions

While DMHTs offer great potential for addressing a global need for increased access to quality mental health care, this potential may remain unfulfilled if these technologies continue to be underutilized by those in the field. To address this challenge, this study sought to illuminate potential barriers, biases, and/or concerns that stood between practitioners and their utilization of DMHTs by answering four key research questions:

RQ1: How do psychotherapists subjectively view or think about DMHTs?

RQ2: What kinds of experiences have psychotherapists had with DMHTs?

RQ3: In what ways do psychotherapists utilize DMHTs in their practice?

RQ4: What are psychotherapists' DMHT-related concerns and/or what barriers (e.g., emotional, ethical, regulatory, or access-related) do they perceive to their use?

In the following sections, I will further explore these barriers, synthesize them, and compare them against existing literature, doing the same for several identified facilitators.

Further, I will continue to explore the results of the thematic analysis, examining the seven major themes for their ability to answer the remaining research questions and for how they relate to current research. Finally, throughout this discussion section, I will include the subjective experiences of both myself and others in the research group where appropriate, exploring the thoughts, feelings, questions, and reflections that arose during the process of meeting, discussing the literature, and coding the data.

Domains, Barriers, and Facilitators

Identifying and Integrating DMHT Domains

As the central aim of this study was to illuminate barriers to DMHT use, I will first focus on the fourth research question: What are psychotherapists' DMHT-related concerns and/or what barriers (e.g., emotional, ethical, regulatory, or access-related) do they perceive to their use? To do so, I will draw from barriers explored in the literature review as well as those that arose from the results of the thematic analysis (see Table 4 for a summary and comparison). However, to discuss these barriers coherently, it is first necessary to reexamine the specific DMHT domains under discussion. Ultimately, this reexamination is necessary because of discrepancies between the literature review and the results of the study, with some of the domains identified in the literature absent from the results and vice versa.

Defining DMHT Domains. In the literature review, several different ways of defining DMHTs were provided. For instance, I discussed how Doherty and colleagues (2010) had defined DMHTs by their function (e.g., preventative, self-help, or adjunctive) while Apolinário-Hagen et al. (2018) offered a broader definition, classifying DMHTs as any use of digital technology or media that allowed for “monitoring, screening, psychoeducation, prevention, health promotion, self-help, counseling, aftercare, and[/or] psychotherapy” (p. 2). Through this

literature, I classified nine domains of DMHTs: 1) Administrative technologies (i.e., technologies that enable convenience, save time, and generally help the practitioner handle the business side of psychotherapy; e.g., practice management software and electronic health records); 2) Computerized and internet interventions (i.e., programs, used as standalone or adjunctive treatments, that dispense manualized interventions to clients; e.g., computerized CBT); 3) Mobile technologies (e.g., cell phones, PDAs, and modern smartphones and wearable devices); 4) Mobile apps (i.e., software programs that typically run on smartphones and other smart devices; e.g., meditation apps, apps to treat social anxiety); 5) Games and “gamified” treatments; 6) Video and audio-based telehealth (e.g., synchronous videoconferencing and telephonic therapy); 7) Text-based telehealth (e.g., email therapy, chat therapy, and asynchronous text therapy); 8) Online supervision and training (e.g., webinars, resources, telesupervision); and 9) Various emerging technologies (e.g., virtual reality, augmented reality, artificial intelligence). Some, but not all, of these domains arose in the results. In addition, four novel domains emerged, which are discussed next. For a full comparison of DMHT domains between the literature review and the results, see Table 2.

Four Novel Domains. In the thematic analysis, the four novel domains of (a) online presence, (b) online content, (c) online consultation and supervision, and (d) online therapy platforms and collectives emerged. The domain of “Online Presence” included the ways that therapists were seen, reviewed, and “showed up” in online spaces, and the ways that they attempted to contribute to or manage these perceptions. Other forms of online presence could include a therapist maintaining a website, social media accounts, or being a known content provider or “influencer” on a social media platform like Instagram or TikTok. While the domain of online presence was overlooked in the literature review, it represents an important area of both

concern and interest for the therapists examined in this study and it has the potential to affect clients. For instance, a client might choose a therapist based on the therapists' endorsements on *Psychology Today's* therapist finder portal, based the reviews of other clients on review sites like "GoodTherapy.org," or based on the social media presence of the therapist. Additionally, a client's perception of a therapist and their level of trust in them could be affected by their online presence, including their associations, social media "likes," endorsements, and so forth.

The second novel domain, "Online Content," included the use of existing online media (e.g., YouTube videos, Instagram memes, websites etc.) or other online content to offer some benefit for clients. For instance, a therapist could send a client a link to a psychoeducation-providing YouTube video that addressed a presenting concern in a compelling and helpful way. Similarly, a therapist could share a link to the social media account of another clinician who offered helpful content or to a recorded meditation on their personal website. The third novel domain, "Online Consultation and Support," bore some resemblance to the Online Supervision and Training domain discussed in the literature review, but it had several important differences. Overall, the domain was exemplified by the r/psychotherapy subreddit itself, a space where clinicians consulted with one another, posed ethical dilemmas, asked for advice, shared helpful resources, and both sought and provided emotional support and solidarity. In contrast, the domain of supervision and training was more circumscribed to online trainings or the utilization of tele-supervision. Finally, the fourth novel domain, "Online Therapy Platforms and Collectives," included the large, silicon-valley based online psychotherapy companies such as Talkspace and BetterHelp as well as lesser-known platforms like Open Path Psychotherapy Collective. Also included in this domain was the potential for therapist-driven online group practices or collectives, which were discussed at different points by commentors.

Identifying and Synthesizing DMHT Use Barriers

Throughout this study, potential barriers to the use of DMHTs have been discussed extensively, both in the literature review and in the results of the thematic analysis. Just as there were discrepancies in the specific DMHT domains that emerged between the literature and the results, there were different, non-overlapping barriers that emerged from each as well. These barriers ranged considerably and included client concerns around access, engagement, and wellbeing, clinical concerns around assessment, risk, and treatment environment, ethical concerns around confidentiality, informed consent, and exploitation, and financial and professional concerns, among others. As shown in Table 2, eight of these barriers were shared between the two chapters, 19 were exclusive to the literature review, and another 19 were exclusive to the results. In the following paragraphs, I will further discuss these barriers and provide examples of where they arose in one or both chapters.

Client-Related Barriers. Many of barriers found in both the results and the literature related to clinicians' concerns regarding their clients, including clients' access to services, their level of treatment engagement, their overall wellbeing, and their technological competence. One concern, which was shared between both chapters, revolved around limitations to client teletherapy access due to regional constraints (e.g., rural areas without internet) or low resources (e.g., the inability to afford needed technologies). For instance, Hollis et al. (2018) discussed clinician concerns that DMHTs could increase the "digital divide" between those who were engaged with technology and those who were not for "reasons of choice...cost, age group, geography...[etc.]" (p. 1). Such concerns were echoed by commentors in Subtheme 3.2, with one commentor writing that none of their clients had "the safe space, technology, or internet access to participate in this movement without additional assistance from the government or local

agencies.” A similar concern, expressed only in the literature review, related to access barriers that arose from client impairment or disability rather than region or resources. For instance, in Subtheme 3.2, one commentor wrote “people with hearing loss also may not be able to access virtual counselling, or not prefer it. I specialize in this population and many refused the switch to virtual and have just gone without.”

Two client-related barriers that were only discussed in the literature review concerned client engagement in standalone treatments (e.g., CIIs, certain apps), and clients’ overall technological competency. Regarding the former, Ly et al. (2017) illuminated therapist concerns that self-directed treatments would lack key ingredients for motivation, such as accountability. Concerning technological competency, Stallard et al. (2020) found that therapists expressed concern that clients might be unable to understand how to use a particular DMHT but would have no one to receive guidance from. Both chapters revealed potential barriers related to concerns around client wellbeing, albeit in different ways. For instance, Subtheme 1.2 uncovered a concern that psychological or relational harm could come to clients through their viewing online content (e.g., YouTube videos related to narcissism), content that could be stigmatizing, overpathologizing, or misinforming. Several commentors in the thread further worried that such content could encourage viewers to see others (e.g., partners, family) through pathological lenses. The literature review uncovered another barrier related to client wellbeing in the form of the potential for social isolation. That is, therapists expressed concern in relation to standalone treatments that clients’ social disconnection or isolation would be compounded by a lack of contact with a clinician. Stallard et al. (2010) found that clinicians were concerned that such a lack of human contact could be particularly damaging to younger clients who were already significantly socially isolated and/or primarily communicated through electronic devices.

Clinical Barriers. Both chapters illuminated several clinical or treatment-related barriers, including concerns around assessment, client or therapist treatment avoidance, risk management, and communication. For instance, in the literature review, I discussed Harris and Birnbaum's (2015) findings that clinicians were concerned about the limitations of assessment in teletherapy in light of the loss of important information including idiosyncrasies in dress, speech tone, smell, and mental status factors, among others. Another barrier revealed by the same authors concerned communication in teletherapy, with clinicians expressing concern that the absence of cues in teletherapy could lead to communication challenges for online therapists, reducing "the emotional proximity of the client," which could then "leave the counselor vulnerable to cultural insensitivity and unintentional discrimination" (p. 4).

Two more clinical barriers were shared between the literature review and the results of the thematic analysis. The first barrier related to risk management, with clinicians concerned that they would not be able to address client risk or de-escalate crises. For instance, Titov et al. (2016) discussed clinician concerns that different DMHT mediums would complicate the process of responding to or detecting risk, while commentors in Subtheme 2.4 discussed their own experiences of being hampered in their ability to get "accurate reads" of their clients. One of these commentors discussed an attempted suicide by a client, an attempt that they saw directly resulting from their inability to properly assess through teletherapy. The second shared barrier related to the potential for avoidance in teletherapy, with the risk that clients and therapists alike could take advantage of the medium to avoid some of the discomfort present in therapy. For instance, in Subtheme 3.3, commentors expressed worries that teletherapy could allow for both client and therapist to stay in their "comfort zones," while similar concerns were echoed in a study by Manfrida et al. (2017).

Another clinical concern, which was previously discussed in the literature review, related to the fear that certain DMHTs could foster over-dependent clients. For instance, Richards et al. (2018) found that therapists worried that their clients might contact them too frequently or that they may appear “too available” to clients if they used certain DMHTs. A further three clinical barriers were exclusive to the results of the thematic analysis and, in different ways, were related to concerns around some of the limitations of teletherapy. For instance, in Subtheme 3.3, commentors expressed a sense that they were missing the connection or “presence” of in-person treatment when practicing through teletherapy. Commentors also expressed concerns related to clients who lacked safe or confidential spaces through which to attend teletherapy sessions. For instance, in Subtheme 3.2, one commentor wrote that many of their clients simply “don’t have a safe space to share feelings, struggles etc. [and] my physical office is that safe space for them.” A related concern arose around clinicians’ lack of ability to control the remote environment or manage the frame of therapy and its expectations through teletherapy. For instance, in traditional therapy, therapists exert significant control over the treatment environment, choosing seating, lighting, proximity, and creating a space that fosters a sense of intimacy and immediacy. However, as discussed in Subtheme 3.2, therapists had little control over the way that clients connected to their teletherapy sessions, with commentors describing experiences of having clients show up while walking, sitting in public areas, in rooms with others, or even using the bathroom. Overall, it is possible that the clinical barriers discussed here could reduce clinicians’ belief in the effectiveness of DMHT-based treatments like teletherapy.

Ethical Barriers. Eight barriers drawn from the literature review and the thematic analysis related to ethical practice, including concerns around confidentiality, perverse incentives, informed consent, and jurisdiction. Three concerns discussed only in the literature

review related to client confidentiality. For instance, clinicians expressed concerns that digital files (e.g., shared EHRs) could allow for third parties to inappropriately view client files. Van Allen and Roberts (2011) described an event of this nature where news of a completed suicide at a hospital spread “like wildfire and before IT services could lock down her chart, several people had entered into her chart, ‘to see what happened’” (p. 436). A separate concern related to the ways that client confidentiality and data security could be compromised by mobile apps. For instance, Gratzner and Goldbloom (2020) found that third-party information sharing in mental health apps was common, with their review of app data sharing practices finding that 29 of the 36 reviewed mental health apps sold data to third parties. Finally, Naeem et al. (2016) discussed a concern around smartphones’ ability to leak personal information through attributes like notifications or reminders, which could be visible to anyone near the device.

Another ethical barrier, which arose from the thematic analysis, related to the perverse incentives that could be present in the use of certain DMHTs. For instance, in Subtheme 2.3, commentors discussed several cases where clinicians could find themselves motivated by forces other than client benefit while using certain DMHTs. Regarding OLPs, one commentor discussed the concern that clinicians were paid by the word, creating a bad incentive to type more or meet word counts regardless of their clinical benefit. Others wrote about clinicians who had become YouTube celebrities, and pondered if their current motivations had become more about accumulating views than spreading the most helpful and accurate information. It is possible that such perverse incentives could act psychological barriers towards the use of certain DMHTs. For instance, while a therapist may desire to create online content to share with clients on YouTube (e.g., a guided meditation), they might have legitimate concerns about their own vulnerability to the perverse incentives of the platform. Similarly, fears could exist around the use of *Psychology*

Today's therapist finder, where—as one commentor posited—therapists could find themselves caught in an endorsement arms race, compelled to check every box to compete with other therapists at the cost of accuracy.

Four additional ethical barriers emerged from the literature review, including fears around the potential for exploitation, difficulties with informed consent, and the lack of a clear set of ethical guidelines at all. As Allen (2017) wrote, modern social media platforms have “exploited human vulnerabilities” in ways similar to junk food industries, creating addictive technologies that individuals felt compelled to stay connected to. It is possible that clinicians, familiar with the psychological and behavioral manipulation tactics of Silicon Valley and the tech sector, could experience wariness around DMHTs related to online content. For example, a clinician might hesitate to send a client a link to a helpful YouTube video for fear that the algorithm would then suggest increasingly controversial or untherapeutic videos. Such a so-called “radicalization algorithm” has been explored by several researchers (e.g., Ledwich & Zaitzev, 2019; Ribeiro et al., 2019). A further ethical concern arose around informed consent (IC) and the difficulty of meeting ethical standards for IC through mediums like teletherapy or mobile apps. For instance, Harris and Birnbaum (2015) argued that teletherapeutic environments could make it difficult for clinicians to determine clients’ capacity for consent through the medium of teletherapy, as deficits in verbal or nonverbal cues could be missing or harder to read. Further, mobile apps may not attend to informed consent at all or instead only provide inscrutable disclaimers that are rarely read (Martinez-Martin & Kreitmair, 2018). Ethically concerned clinicians might find the sacrifice of a sufficient informed consent process unacceptable, thereby creating a personal barrier to their embrace of either medium.

An additional ethical concern, which could act as a barrier to teletherapy, is related to the difficulty in understanding and navigating practice laws. For instance, Lovejoy et al. (2009) described difficulty in determining jurisdiction of practice, with therapists uncertain whether they could practice throughout their own states, across state lines, or how parity laws functioned. A final ethical concern, described by Torous et al. (2019), was an overall absence of coherent ethical guidelines for working with DMHTs and in online spaces, potentially making the entire territory appear more fraught. In other words, therapists could be reluctant to engage with any particular DMHT because of their lack of ethical knowledge and the absence of a way to access such knowledge.

Financial Barriers. Another set of barriers, arising mostly from the thematic analysis, revolved around financial worries. For instance, commentors in Subtheme 2.2 expressed concerns around compensation from OLPs, with one commentor writing: “\$22-30 was the rate for a doctoral level psychologist. That’s pre-tax. My teenager makes more than that at a large parcel delivery company that hires literally anyone to move boxes.” Commentors shared the sentiment that such low pay was an obstacle to their willingness to work for an OLP. Another area where financial concerns could act as barriers was in the domain of Online Training. For instance, commentors cited in Subtheme 2.2 discussed the high expenses of training and certification, expenses that could serve as barriers to all but the most financially privileged clinicians. One commentor shared their view that such certifications were ultimately “classist” and admitted “I’d like to be able to afford those privileges.”

A further financial barrier, which was shared across the literature review and thematic analysis, concerned insurance reimbursement for teletherapy. For instance, in the literature review, I discussed Lovejoy et al.’s (2009) contention that significant questions existed around

how online therapists were reimbursed for their services through insurance. Similarly, in Subtheme 2.1, commentors discussed their own concerns around insurer reimbursement. For instance, regarding the future of teletherapy and whether clinicians would be able to continue to practice through the medium, one commentor wrote that “the main thing coming up is whether insurance companies will continue to pay for teletherapy after the pandemic is over.” A lack of adequate reimbursement for teletherapy services—or increased bureaucratic red tape towards receiving such reimbursement—could act as a barrier not only to the adoption of teletherapy but to its continued use post-pandemic.

Professional Barriers. Four DMHT barriers related to professional concerns arose from the thematic analysis, including worries around professional autonomy, the potential for the devaluation of therapists and their roles, apprehensions around liability, and concerns around both personal reputation and the reputation of the field more generally. Autonomy arose as a concern within discussions related to working for OLPs. For instance, commentors in Subtheme 2.1 discussed some of the ways that OLPs could exert control over clinicians and their work, including viewing “all transcripts, [and] end[ing] relationships without giving time for closure.” A separate concern was around the ways that online content (e.g., videos, memes, social media posts) could devalue therapists’ roles and contributions. For instance, commentors in Subtheme 1.2 expressed concern that online content and influencers gave “the entire profession a bad name,” while another commentor expressed sadness and frustration that “society doesn’t respect our roles like they ought to, but will shower these stupid memes with praises.”

In addition to these potential obstacles to DMHT use, two barriers related to reputational concerns arose in Subtheme 1.3. First, these concerns were expressed regarding the DMHT domain of online consultation, with commentors expressing worries about the sharing negative

experiences on the subreddit. For instance, one commentor admonished another by saying “you are a fellow professional with the ability to make my field look bad.” While other commentors vehemently disagreed with this sentiment, it remains a possibility that such concerns served as a barrier for certain clinicians around consulting in such an open forum. A related but distinct reputational concern was found in the domain of online presence, where several commentors expressed worry about the effect on their personal reputations through negative online reviews. Such reviews could feel not only hurtful but also unfair, as commentors described feeling unable to defend themselves against them due to privacy laws. Overall, the five professional barriers discussed in this section could serve to make the domains of online consultation, online presence, teletherapy, and/or OLPs significantly less appealing or viable.

Technological Barriers. Five technological barriers were illuminated within both chapters, including design barriers, apprehensions about the evolution of technology and its social effects, and concerns around glitches and hassles related to the use of technology. Regarding design barriers, researchers cited in the literature review have outlined the crucial importance of design in the adoption and use of DMHTs, particularly in the DMHT domain of apps. Despite the importance of design considerations such as usability, aesthetics, or user engagement, many existing apps are poorly designed, with low usability, a lack of ease of use, poor aesthetics, and/or an unenjoyable experience, all of which could create barriers to client engagement (Wilhelm et al., 2020). Such concerns might lead therapists to feel wary about assigning such apps to clients. Further, therapists—who were generally untrained in design principles or the fundamentals or user experience—might simply be unable to determine which apps are well designed or would lead to engaging and helpful experiences for clients. Two further technological barriers—which arose in the thematic analysis—related to the potentially

frustrating and depleting use of certain DMHTs. For instance, in Subtheme 3.2, numerous commentors bemoaned teletherapy glitches that had led to “losing therapeutic moments,” the conversational disruptions caused by lag, or the risk of servers going down mid-session while working for an OLP. Another kind of technological barrier, which was discussed in Subtheme 3.1, related to the frustrations inherent in having to deal with the “series of hoops” related to HIPAA, e-bureaucracy, and digital red tape. Such frustrations were summarized by the OP of post 15 who wrote that they were “done with every damn EHR, password, two-step authentication, can’t-move-without-doing-this-thing bullshit technology.”

Two further technological barriers related to future concerns, concerns about the direction that certain DMHTs might take and the ways that field could ultimately be transformed. The first of these concerns relate to the possibility of automation or “Uberization” of the field. For instance, in Subtheme 2.1, many commentors expressed apprehensions that OLPs’ goal was to replace human therapists with technologies like AI chatbots or conversational agents. A related idea, which spanned both chapters, corresponded to the potential for social inequalities to arise through such automated systems. For instance, in the literature review, Rice (2018) expressed concerns that pervasive “class dynamics” could lead to “only the rich having access to...in-person therapy...” (p. 3). Similarly, commentors in Subtheme 2.1 expressed worry that automated treatments could lead simply be considered “good enough,” for lower SES clients in the eyes of insurers, while traditional therapy would increasingly become a luxury good. Such an issue could compound the already stark inequalities seen in treatment, with “evidence from the psychotherapeutic literature suggest[ing] that the poor are still largely absent from consideration” (Smith, 2005).

Therapist Barriers. Finally, nine therapist-level barriers emerged, both from the literature review and the thematic analysis, ranging from concerns about boundaries, the inhumanity of technology, and mistrust of online spaces, to the risk of therapist disengagement and threats to therapist wellbeing. Three therapist-level barriers related to therapists' biases, both in the form of longstanding biases and those that seemed borne from more recent experiences. For instance, in Subtheme 1.2, many commentators discussed their frustrations with and skepticism of non-clinicians in online spaces who created content or offered services, including online influencers, alternative healers, and life coaches. It is possible that such skepticism could dissuade therapists from creating online content or having a stronger online presence due to a fear of guilt by association with those they perceived to be unprofessional and unethical. As one commentator wrote, "they give the entire profession a bad name and make us all seem like quacks."

Another therapist-level barrier, as discussed in the literature review, concerned apprehensions around the inhumanity of DMHIs with—for instance—Lovejoy et al. (2009) finding that DMHIs were seen by therapists as less interactive and less alliance-based and, in many ways, less human or personal. A separate barrier, described by Kerst et al. (2019) and Shalom et al. (2015), came in the form of the belief DMHTs were simply inferior to or suboptimal to traditional treatment, face-to-face treatment. It is important to note the possibility that some of the biases around DMHTs discussed here (e.g., inferiority, inhumanity), could ultimately stem from a lack of exposure rather than firsthand negative experiences. For instance, Shalom et al. (2015) found that those with less experience with DMHTs like (cCBT) had less positive attitudes towards them, while Kerst and colleagues (2019) showed that those with less overall technological experience were less likely to consider the clinical use of an app.

A further therapist-level barrier that emerged from both the results and the literature review concerned the potential for DMHTs to blur, compromise, or otherwise negatively impact therapeutic boundaries. For instance, Doherty et al. (2010) wrote that therapists worried that DMHT use would lead to “greater responsibility and more opportunities for client-therapist contact” (p. 247). Relatedly, commentors in Subtheme 5.2 expressed concerns around clients either pushing against digital boundaries (e.g., emailing in off hours) or simply not respecting them. An additional therapist-level concern related to therapist engagement, with the potential risk of therapist disengagement when using DMHTs. For instance, Harris and Birnbaum (2015) found that therapists could become less engaged when using systems (e.g., asynchronous chat, adjunctive CIIs) that allowed them to work with multiple clients at once. Another therapist-level barrier, which was discussed in both chapters, related to theoretical orientation, with the belief that certain DMHTs (e.g., teletherapy) would be unable to meet the needs or expectations of therapists practicing from more relational or dynamic orientations. For instance, Donovan et al. (2015) and Wangberg et al. (2017) both described finding that therapeutic orientation was a predictor of DMHT acceptance and utilization, with clinicians who endorsed dynamic orientations evincing more negative attitudes and CBT therapists showing more positive ones. Relatedly, several commentors in Subtheme 3.3 discussed how teletherapy interfered with their own relational, interpersonal, or process-focused orientations.

Additional therapist-level barriers related to therapist wellbeing and safety. For instance, both chapters revealed therapists’ concerns that teletherapy could blur boundaries between the workplace and the home. For instance, Richards et al. (2018) found that therapists were worried that work-life balance could be blurred by using a teletherapy platform and that this blurring could impact their ability to “switch off.” Similar sentiments were echoed by some commentors

in discussions around teletherapy, leading to some commentators to express a strong desire to “return to the office.” A related concern centered around the risk of losing one’s supportive workplace and collegial relationships in a shift towards teletherapy and telework more generally. For instance, in Subtheme 3.3, some commentators discussed how “telecommuting,” despite its convenience, had come with relational costs. One commentator recounted aspects of office work that they particularly missed, including “walking the clients up the hall from the waiting room and the bits of chit chat there.” Concerns around therapist safety also arose from the thematic analysis, such as in Subtheme 5.3 where commentators shared harrowing experiences of clients violating digital boundaries, including through escalating cyberstalking and harassment.

Two final therapist-level concerns, which were exclusive to the literature review, included an inability to properly vet DMHTs and a wider lack of technological competency. Regarding the former, Anthes (2016) contended that an absence of guidelines for separating the good from the bad in the vast array of apps, devices, and services could make selecting technologies challenging, even for technologically savvy therapists. Regarding concerns around technological competency, Doherty et al. (2010) maintained that one reason that therapists could be uncomfortable navigating the possibilities of DMHTs was due to a lack of perceived competence, which could cause them to experience discomfort “in the role of computer novice” (p. 247).

Summary. The 46 barriers discussed in this section were synthesized from those identified in the literature review as well as those that emerged from the thematic analysis. The barriers described ranged regarding their intensity (i.e., from annoyance to infuriation or from mild apprehension to intense fear) and crossed domains from the physical (e.g., a lack of technology access), to the psychological (e.g., status quo biases), to the ethical (e.g., data

confidentiality and security). It is possible that therapists who intentionally avoid certain DMHTs do so due to a combination of barriers. It is also possible that avoidance of one DMHT (e.g., online content) is not necessarily indicative of avoidance of others (e.g., teletherapy). At the same time, the reverse is possible whereby negative experiences or biases in one DMHT domain could spill over into other domains. It is also possible that fears, apprehensions, or negative experience with digital technologies unrelated to psychotherapy or mental health could bias clinicians against DMHTs, to varying degrees. Such possibilities will be discussed further in sections that follow. However, whether some, most, or all of the barriers identified in this section can be addressed will remain a question for future researchers and practitioners. That said, methods of increasing the adoption and utilization of DMHTs by clinicians are not limited to the reduction of barriers. As the following section discusses, DMHT use may also be increased through the leveraging of facilitators.

Identifying and Synthesizing DMHT Use Facilitators

Across the literature review and in the results of the thematic analysis, multiple use facilitators were identified. These facilitators, which include benefits for clinicians across domains of administration, client access, and treatment improvement, among others, are both explored in the following paragraphs and collected in Table 3.

Administrative Facilitators. A use facilitator that was examined in both chapters came in the form of potential practice benefits arising from the use of practice management (PM) software. Such software offered significant promise for improving and streamlining key aspects of practice such as billing and record keeping as well as facilitating client-therapist communication, all while maintaining HIPAA compliance (Owings-Fonner, 2019). Commentors in Subtheme 7.2 suggested PM software as a kind of panacea to the digital red tape that arose in

online spaces, recommending several specific platforms. It is possible that the benefits outlined here could facilitate therapist adoption of administrative DMHTs like practice management software.

Client Access. Four facilitators related to increasing client access were identified. First, certain DMHTs such as teletherapy or CIIs had the potential to increase access to treatment for those with psychological barriers to in-person treatment, barriers such as fear of stigma (e.g., in rural areas), certain life-limiting disorders (e.g., agoraphobia), or feelings of shame. Regarding the latter, Fairburn and Patel (2017) posited that bulimia might be a condition that could benefit from the use of more self-directed DMHTs, as the disorder “responds well to self-help interventions...yet many sufferers do not seek treatment because of the associated shame and secrecy” (p. 21). The thematic analysis also revealed ways in which the DMHT of teletherapy could increase access. For instance, commentors in Subtheme 7.1 discussed how an increased flexibility in scheduling could be brought about both by the lack of a need for commuting and by the ability to attend to existing responsibilities more adaptively (e.g., childcare, work). This flexibility ultimately meant increased client access, especially for clients with significant obligations. As one commentor shared, their clients appreciated having “no commute/travel time/worries about transportation issues, [and] no childcare issues for the most part.” In both chapters, teletherapy’s ability to increase access for those who were location-bound or who lived in underserved areas was highlighted. Finally, Price et al. (2014) contended that DMHTs could help increase access to traditional, face-to-face treatments by facilitating connections between consumers and providers, with the use of systems designed to identify providers who matched with clients’ presenting concerns and insurance plans.

Other Client Factors. Several additional client-level facilitators emerged, facilitators with the potential to increase client engagement in therapy and to improve client support outside of therapy. Regarding the latter, both chapters discussed distinct ways that technologies could be leveraged to bolster client support systems. For instance, Fairburn and Patel (2017) found that laypersons could be quickly trained in providing basic adherence-increasing support for online self-directed interventions, “a role that does not require extensive training or supervision” (p. 22). Relatedly, in Subtheme 6.1, commentators discussed the importance of teen smartphone use to maintain connections with peers during the COVID-19 pandemic.

The ability to increase treatment engagement was another potential client-level benefit, with gamified or thoughtfully designed DMHTs potentially having the ability to make certain therapeutic tasks more compelling or enjoyable, particularly for younger clients. For instance, with respect to more self-directed interventions, Garrido et al. (2019) found that younger clients were more interested in “interventions with a game-like feel and relatable, interactive content” (p. 1), while much less interested in basic psychoeducational materials that resembled reading from a self-help manual. Another client-level facilitator came in the form of prior exposure. For instance, Rosi et al. (2017) found that clients tended to have positive experiences with DMHTs when they were able to use them, with the majority of DMHT-related studies reviewed revealing “high or very high levels of user acceptance” (p. 7). While client-level facilitators may not directly promote the adoption or utilization of DMHTs by clinicians, it is possible that client interest in or acceptance of DMHTs could foster the same from therapists. For instance, a client with a prior positive DMHT experience might mention their experience to a therapist or ask their therapist for recommendations of similar technology, thereby prompting consideration by the

clinician. Such favorable client reports might also help diminish therapists' negative biases or feelings of skepticism or mistrust in connection with DMHTs.

Clinical Facilitators. Nine separate facilitators related to clinical or treatment-level benefits, ranging from enriched assessment to improvements in rapport, were identified. Regarding the former, the literature review outlined how a substantial amount of prior research had affirmed the benefits of mobile devices like smartphones to enrich assessment in creative ways. For instance, ecological momentary assessment (EMA) tools dispensed on smartphones could allow for the collection of real-time, extremely granular information about client experiences (Horesh & Brown, 2020), something that has been found to be both feasible and well-accepted among users (Mathews et al., 2008). Another clinical benefit related to smartphone and app-based DMHTs' ability to enhance homework completion through specific features such as reminders. For instance, Jones et al. (2014) discussed how reminders could be set in session to encourage clients to engage in certain tasks or practice skills between sessions. Additionally, apps could be leveraged to provide in-the-moment, contextual interventions precisely in the spaces and times when they would be most beneficial. For instance, Newman et al. (2011) described how DMHTs could enable interventions to be provided live, during the actual moment that the client was facing their problem (e.g., a panic attack in public), thereby improving not only the effectiveness of treatment but allowing for the direct application of skills and techniques learned in therapy.

Financial Facilitators. While several barriers related to financial concerns were discussed in the previous section, two financial-level facilitators also emerged from the literature and thematic analysis—both in relation to teletherapy. One facilitator came in the form of an increased potential for profitability, with commentors in some posts sharing ways that they had

found providing teletherapy services to be both lucrative and in high demand. For instance, in Subtheme 7.2, several commentors remarked on the personal success they had found offering teletherapy services, with one commentor writing that they were able to quit their former job and launch their own teletherapy practice, adding that “I am going to have to start turning people away or have a waitlist soon.” The potential financial benefits of teletherapy came not only through profits but through prospective savings as well. For instance, in Subtheme 7.2, commentors discussed the financial boons of working from home and no longer having to rent office space, be bound to a particular geographical area, or spend money commuting.

Professional Facilitators. Two facilitators related to professional benefits were also revealed, including the ability to consult more widely and easily using online forums and the professional flexibility engendered by working remotely. In regard to the first benefit, Patel (2017) outlined some of the ways that DMHTs could be used for “social network based supervision.” As discussed in Subtheme 6.1, the r/psychotherapy subreddit acted as such a space, with commentors enumerating the ways that they had utilized the forum for advice and consultation. In the subtheme, an analysis of the functions of the 21 posts showed that some form of consultation, support, or advice seeking was revealed to be the most common use of the forum. Commentors and posters had used the subreddit to elicit basic advice around how to address a problem, to consult around ethical concerns, to seek emotional validation or support, to elicit opinions, views, or predictions, or to ask Redditors’ about their specific experiences. In response to such requests, forum contributors answered questions, provided emotional validation and support, shared their opinions, views, and predictions, and recounted their experiences. While no other forums besides the r/psychotherapy subreddit were discussed in either chapter, it

was clear that many of the thousands of therapists and therapists in training who had contributed to the subreddit benefited because of their participation.

Another potential DMHT benefit came in the form of increased professional flexibility. For instance, while OLPs were generally criticized across multiple posts, some commentors had voiced more positive viewpoints, discussing how OLPs could benefit clinicians working under specific constraints. For instance, one commentor shared that they were “a stay at home mom and would not be working if it wasn’t for the pandemic normalizing teletherapy.” Other commentors discussed the benefits of receiving extra income through their side work at an OLP or the ability for early career clinicians to get their “feet wet” with teletherapy by working for one of the platforms. Relatedly, commentors in other threads spoke to the flexibility engendered by teletherapeutic practice in general, with many commentors sharing their appreciation for the nationwide shift towards teletherapy and its affordances.

Design Facilitators. In the literature review, two important design-related facilitators emerged. Both stemmed from research by Wilhelm et al. (2020), who showed the fundamental importance of well-designed DMHTs as well as the merit of extensive collaboration in the design process. The authors contended that a key facilitator to both client and clinician DMHT adoption arose from their overall design, including their usability and ease of use, aesthetics, and the level of engagement and enjoyment they generated. However, the authors argued that success in such design necessitated collaboration between researchers, clinicians, clients, and developers. Overall, the authors maintained that each party had an important and vital role to play in the design process. The huge number of dysfunctional, unhelpful, poorly designed, and potentially iatrogenic mental health apps available on app stores attested to the results of ignoring this design process.

Therapist-Level Facilitators. Finally, five facilitators that emerged both from the literature review and the thematic analysis related to therapist-level factors. These facilitators ranged from increased access to enhanced wellbeing. For instance, in Subtheme 7.2, a commentor shared that they were hopeful about the increase in teletherapy services because—as a clinician with a location limiting disability—they were unable to provide services in any other fashion. Another therapist-level facilitator—echoing a client-level facilitator—came in the form of previous exposure. For instance, Stallard et al. (2020) discussed the findings that education about, training with, and previous positive experiences with DMHTs could engender markedly increased positive attitudes towards their use.

Two further potential facilitators pertained to increased therapist wellbeing, both through therapists' ability to receive emotional support using online consultation and through overall improvements in quality of life because of a shift towards teletherapy. For instance, regarding consultation, Subtheme 6.3 outlined some of the ways that the r/psychotherapy subreddit could be utilized for venting and the expression of affect. Such expression could allow for the opportunity to process difficult emotions as well as to receive support and validation from fellow clinicians. Additionally, in relation to teletherapy, Subtheme 7.2 examined commentors' endorsements of increased wellbeing and quality of life because of their shift towards exclusive teletherapy practice. A number of these commentors had shared how the freedom and flexibility offered by teletherapy had led to feeling more energized and less “burned out.” One commentor wrote that they felt “a lot less tired and more free with the extra time, and my hope is that this combats the burn-out that was creeping up on me & translates into better client care over the long term.” Other commentors shared similar sentiments, speaking to benefits that arose from the

freedom to work from home, the advantage of no longer having to spend time commuting, and the ability to spend more time with family.

Therapist Views of, Experiences with, and Utilization of DMHTs

While the overarching goal of this study was to illuminate DMHT use barriers, other key goals included increasing an understanding of therapists' views of, experiences with, and utilization of technologies in their practice. Such an understanding could not only help provide context and nuance to the identified barriers but could also illuminate use facilitators and/or help to identify the specific unmet needs of clinicians in relation to DMHTs. To that end, the following sections explore the major themes and subthemes considering research questions one through three:

RQ1: How do psychotherapists subjectively view or think about DMHTs?

RQ2: What kinds of experiences have psychotherapists had with DMHTs?

RQ3: In what ways do psychotherapists utilize DMHTs in their practice?

Theme 1: Altered Perceptions

The first major theme, "Altered Perceptions," described the ways in which credentials, reputations, services, and information related to therapy and mental health were shared, represented, advertised, and regulated in online spaces. Within the theme, commentors expressed concerns around misrepresentation, a lack of credentialing regulation, their own online reputations, and the spreading of misinformation.

RQs 1-3: Subjective Views, Experiences, and Utilization. As previously stated, the first three research questions focused on therapists' experiences with, utilization of, and subjective views of DMHTs. Regarding the latter, commentors in Subtheme 1.1, "Online Credentials," primarily described viewing the DMHT in question—a therapist finding web

portal—with a sense of skepticism and mistrust. Such sentiments first arose in the OP’s post, with phrases like “I really start to question...” and “it’s hard to believe,” and were reflected throughout the comments that followed. While several commentors defended therapists’ endorsements of credential “laundry lists,” for varying reasons, no commentors expressed positive sentiments towards the therapist finder itself. Instead, several commentors expressed frustration with the technology itself, the perverse incentives that drove therapists to engage in credentialing arms races, and the real harm that could be caused by therapists treating clients outside of their scope of competency. This frustration was, in some cases, born out of direct experience with and utilization of the therapist finder. Commentors discussed frustrating attempts to use the finder to obtain referrals for clients, with one commentor sharing how their own experience of searching for a therapist had convinced them that “those lists of modalities are almost entirely nonsense.” Commentors also discussed a potential discrepancy in how they perceived over-credentialing as a “red flag,” while clients may lack the context or understanding to see such warning signs. In fact, clients might experience a reverse effect to the one described by commentors. For instance, some research (e.g., Devlin et al., 2009) suggests that—in general—the greater number of credentials a therapist physically displays (e.g., in an office space), the more qualified clients perceive them to be.

Frustration and skepticism also characterized the views of commentors when it came to non-trained or non-credentialed helpers in the second subtheme “Impostors & Influencers.” This subtheme expanded the conversation around credential misrepresentation to the ways in which individuals in online spaces provided information, gave advice, and diagnosed. Further, it described the ways in which non-therapists advertised and provided online services under the banner of “life coaching” or alternative healing, sometimes at great cost to the mental health of

their clients. Significantly stronger negative sentiment, including anger and frustration, was expressed by commentors when discussing life coaches than when discussing therapist over-endorsement, a discrepancy also reflected by text analysis. The overall emotional tone of post six—the post in which commentors discussed therapist over-endorsement—was generally balanced between positive and negative, with an LIWC score of 49.28. On the other hand, the emotional tone of the post 13—where commentors discussed life coaches and alternative healers—skewed significantly more negative (tone = 27.09). More specifically, there was a discrepancy in the percentage of words related to the expression of anger, with nearly four times more words expressing anger in post 13 than in post six (0.94% vs. 0.27). There was also a notable discrepancy regarding the LIWC text analysis variable of “clout,” with a clout score of 39.63 for post six and 52.86 for post 13, potentially suggesting that commentors felt more confident and assured (Kacewicz et al., 2013) when expressing negative sentiments about non-credentialed outsiders (e.g., life coaches) than credential misrepresentation by those in the field.

The third subtheme, “Online Reputations,” drew its material from post 10 in its discussion of concerns around receiving bad reviews. In the post, commentors expressed sadness and anxiety. Several commentors also expressed a sense of “unfairness” stemming from the fact that therapists—unlike most professionals—were unable to respond to negative reviews and critiques from clients due to confidentiality laws. Within these discussions, a sense of solidarity arose between commentors, with many telling the OP of their own experiences of receiving negative reviews and the hurt they had experienced. One commentor shared that their colleagues had expressed a similar sense of solidarity, writing: “When this happened to me I was also super upset - and then some colleagues showed me their own very negative reviews, which helped. It definitely happens to a lot of us.”

Researcher Impressions and Observations. In the process of coding and discussing posts six and 13, members of our research team voiced empathy for the sentiments and experiences expressed in both posts. In either our clinical work or personal lives, we had all encountered *Psychology Today's* therapist finder, and some had attempted to use it for the purpose of helping clients find therapists in the community. In my own experience, I had found the tool almost useless for anything other than generating a list of names of those practicing within the area, with the primary issue being the inability to distinguish one practitioner from another regarding orientation or specialization.

The negative sentiment expressed by commentors around social media-based influencers and life coaches in post 13 was less personally resonant with our team. However, the ethical dimensions of both posts prompted discussions around the potential harm to clients both through working with therapists who were practicing outside of their competency or by working with wholly untrained coaches or healers. Finally, as previously mentioned, our research team contained three doctoral students and one professor. While all of us had worked with clients in different contexts, none of us were aware of any online reviews from clients, negative or otherwise. Still, in discussing the possibility of negative reviews in the future when coding post 10, we could empathize with the hurt expressed by the OP and other commentors and the sense of unfairness in not being able to defend oneself.

Theme 2: Broken Systems

The second major theme, “Broken Systems,” described malfunctioning and corrupted technological systems that modern therapists contended with. The four subthemes revealed ways in which third parties mediated relationships and exploited those with less power, financial incentives influenced therapy in online spaces, and perverse incentives drove online behaviors.

RQs 1-3: Subjective Views, Experiences, and Utilization. The first subtheme, “Middlemen,” encompassed several diverging spaces where relationships (e.g., between therapist and client) were mediated in some way by a third party. Many of the comments that constituted the theme were drawn from two posts on OLPs (7 and 8). Anger, anxiety, and disbelief defined a number of these conversations, with commentors expressing their disdain for OLPs, their business practices, and their treatment of therapists and clients alike. On the other hand, anxiety characterized the concerns of those who worried that OLPs would “uberize” the field. Such fears were discussed in the literature review in relation to other technologies with—for instance—Aguilera (2015) positing that one barrier to DMHT use could arise from clinicians’ concerns that technological innovations could replace the need for their services.

Overall, despite a few defenders, the majority of commentors in both posts appeared to view OLPs in a negative light. Text analysis using LIWC (Pennebaker et al., 2001) demonstrated that the two posts (when analyzed together) skewed somewhat more negatively in their emotional tone than the overall data set (45.24 vs. 51.39), with 1.57% of the total words representing negative emotions. However, even though the majority of commentors expressed negative views around working for OLPs, several commentors suggested alternative platforms and the possibility of creating new platforms. These proposals may suggest that the concept of OLPs or group teletherapy platforms could appeal to clinicians. Further, despite concerns around poor compensation, perverse incentives, and substandard ethics, the effectiveness of the platforms for treating client concerns was generally not a part of the discussion. While research on specific OLPs like Talkspace or BetterHelp was incredibly limited at the time of writing, a few studies demonstrating a positive impact had been published. For instance, Marcelle et al. (2019), who described BetterHelp as a “multimodal digital psychotherapy platform,” discussed

the effectiveness of the platform for treating adults with depression. Further, Hull (2015) published a “preliminary study of Talkspace’s text-based psychotherapy,” which showed high levels of client satisfaction, an overall improvement in wellbeing for most clients, and high cost-effectiveness when compared to traditional therapy.

The second subtheme, “Money Talks,” focused more specifically on the ways that financial considerations affected commentors’ interests in or ability to utilize certain technologies including OLPs and online trainings. Sentiment expressed in both cases revealed feelings of frustration and a sense of unfairness. Regarding OLPs, commentors expressed indignation that certain platforms compensated their clinicians at the level of a “pizza delivery driver.” Regarding online trainings, and certification more generally, commentors expressed some resentment at the inequality that would allow only “independently wealthy grads” to afford “certification[s] like hakomi, emdr, pact, somatic, cbd, etc.”

The third subtheme, “Perverse Incentives,” focused on some of the unethical drivers that existed within certain digital spaces, including those that drove clinicians to over-endorse their credentials on *Psychology Today*’s site or compelled YouTube content creators to produce videos that increased views at the expense of veracity. The idea of “perverse incentives” arose from economics but has also been used in relation to scientific inquiry to describe “counterproductive financial incentives [that] divert time and resources from the scientific enterprise” (Stephan, 2012, p. 29). While Stephan’s article discusses the incentives that drove—for instance—over-hiring in labs, her suggestion for addressing such incentives could be relevant to this study. Overall, Stephan argued that scientists have a mandate to “fix what’s broken,” through building awareness and/or creating opposing incentives. In relation to misinformation on YouTube, for instance, therapists could advocate for the platform to bolster their fact-checking

process and provide disclaimers on videos that addressed inaccuracies. Additionally, as some commentors suggested, those in the mental health field should produce their own content in online spaces, both to counter misinforming content and to provide public access to helpful content. For instance, one commentor in post 10 wrote “I think there needs to be more content put out there [than the] ‘10 ways to spot a narcissist in your life’ type things,” while another wrote that they saw the importance of some of the material being provided for helping to “educate people on healthy relationship dynamics and how to navigate unhealthy and dysfunctional relationships with family, friends, and partners.” Yet, they wrote “a balance needs to be struck and I would prefer that the people delivering the information are fully informed and trained to do so.”

The fourth subtheme, “Ticking Time Bombs,” focused on the real risks engendered by the malfunctioning systems discussed throughout the major theme, including concerns around client risk and crisis de-escalation when using remote therapies. The potential for impairment in clinicians’ ability to manage risk with certain DMHTs has been discussed frequently in research on teletherapy and remote technologies. For instance, Aguilera (2015) and Baumel and Schueller (2016) discussed the risk of digital systems (e.g., standalone apps) where there was no “human in the loop” to respond to a need for crisis support. Regarding technologies where therapists were more directly involved (e.g., teletherapy), authors have offered suggestions around addressing risk-related concerns. For instance, Harris and Birnbaum (2015) reviewed the importance of verifying client identity in cases where there was no in-person meeting. They argued that such up-front verification was vital, particularly in cases where issues related to risk or mandatory reporting could transpire. Such concerns were expressed by commentors in relation to OLPs with several commentors writing that they considered it their own clinical responsibility to verify

client identity, location, and emergency contact information before proceeding, regardless of whether the OLP required it.

Researcher Impressions and Observations. In coding posts related to OLPs, and in our meetings, members of the research team expressed sentiments towards OLPs that often mirrored those expressed by commentors in posts seven and eight. While none of us had had firsthand experience with the platforms, we had all been exposed to their advertising (e.g., on podcasts, YouTube videos), and Nick—as a practicing clinician—had been a target of their clinician recruitment efforts on several occasions. My own negative sentiment towards OLPs had preceded our work on this study and had primarily arisen from a report I completed for a class on the questionable ethics of OLPs. As I brought such concerns into the conversation and the process of coding, I found it important to recognize my potential for bias. Through bringing awareness of this bias to the forefront as well as through the practice of continually relying on coder consensus, we sought to eliminate any effects this bias might have on coding or interpretation.

In addition, while I found many of my previous fears around OLPs confirmed, I also—somewhat unexpectedly—found myself better appreciating the great potential of such platforms to increase access, to streamline the connection between therapists and clients, and to tap into novel methods of approaching treatment, including through the hybrid text- and video-based models that some OLPs offered. At the same time, it seemed clear that the business practices and values reflected of these companies, at least as reflected by commentors, lacked moral standing. A particularly resonant quote for the coding team came from a commentor who wrote an OLP was “a tech company masquerading as a Mental Health company.” This idea prompted a discussion around why OLPs had been successful and what that success said about the nature of

mental health care in the United States. For instance, were OLPs a response to a system that erected endless roadblocks to finding help or were they simply exploiting a broken mental health care system?

Additionally, we discussed the individual responsibility of therapists who worked for OLPs or within similar systems, grappling with the question of individual accountability. If OLPs were in fact unethical or potentially iatrogenic, how were they able to attract clinicians? Should clinicians refuse to work for such platforms or could there be a benefit attempting to foster from within such systems? Further, as psychologists, we were curious if the APA had taken a stance on OLPs and psychologists working for them. However, as of the time of this writing, the APA had not provided an official policy or set of ethical guidelines related to working for OLPs, although they had published a single article in 2017's *Monitor*. In the article, they contended that “the onus is on psychologists to make sure they comply with federal and state laws” (Novotney, 2017, p. 48). The article also included a section on benefits of OLPs for both clients and therapists, including “ease and convenience of scheduling,” the ability to see a clinician from “the privacy of one’s home,” as well as the potential for the services provided by OLPs—including asynchronous text-messaging—to be efficacious. The latter half of the article outlines some potential risks and downsides of OLPs, with the warning for psychologists to “tread carefully.” Specific concerns outlined included the constraints of text-based therapy, issues with responding to risk and identifying client locations, and HIPAA and state licensing concerns, among others. In a statement that echoed the post eight commentator’s assertion that OLPs were tech companies “masquerading” as mental health companies, Novotney’s article quoted a psychologist’s concern that “some of these models are probably start-ups that are launched by

people in technology, who have good intentions but haven't fully investigated all the nuances in what's involved in providing health services" (p. 48).

Theme 3: F*ck Technology

The third major theme, "F*ck Technology," described therapists' frustrations and fears in the face of technology-related barriers, from Kafkaesque bureaucracies, digital red tape, and difficulties with telehealth, to a missing sense of human connection with remote therapy. Subthemes explored the ways that digital bureaucracies loomed over therapy and therapy-related duties, barriers that could arise in remote work including disruptions and technological frustrations, and concerns around the ways that teletherapy could interfere with the human connection in therapy.

RQs 1-3: Subjective Views, Experiences, and Utilization. Sadness, frustration, and anger characterized much of the affective content across the posts that contributed to this theme. Text analysis with LIWC showed that the overall emotional tone of post 15 (titled "F*ck Technology), in which the OP engaged in a rant around e-bureaucracy and digital red tape, was markedly more negative (tone = 27.82) than the overall data set. Further, 2.15% of words in the post represented negative emotions, with 1.17% of all words in the post expressing anger. However, while several commentors agreed with the OP's frustrations around digital bureaucracy, a substantial number of commentors maintained that the OP was overexaggerating the problem or not technologically competent enough to address it. For instance, regarding the latter, several commentors suggested that the use of a practice management software platform would address all of the concerns expressed by the OP while also facilitating their practice in other ways. While different commentors suggested different specific platforms, the overall sentiment was that such programs were worth the cost.

In the second subtheme, “New Barriers,” comments primarily focused on teletherapeutic barriers, including issues with the remote environment, disruptive client behaviors, and the problematic glitches and technical errors that could arise. Interestingly, most of the comments that comprised the theme were drawn from more lighthearted and humorous posts, including 17 and 18, in which OPs had enquired about “weird,” “unexpected,” and “funny” things that had occurred with clients during teletherapy. Text analysis of post 17, for instance, found an overall emotional tone (73.11) substantially higher than the data set as a whole, with 4.46% of all words communicating positive emotions. In other words, the overall sentiment around teletherapy-related mishaps, distractions, and other issues seemed to be one of levity, with commentors often addressing the humor they saw in the situations they described.

In the third subtheme, “Something’s Missing,” many comments were drawn from post 16, a post where the OP disclosed apprehensions about the potential for an enduring shift towards teletherapy. Overall, the emotional tone (tone = 64.03) was significantly more positive than the data set as a whole. Still, around 2% of all words in the post conveyed negative emotion, with the largest contribution coming from words that expressed anxiety (0.70%). An apprehension about a shift towards telehealth was echoed by commentors, with a concomitant sense of sadness and grief around the loss of in-person connection during the time of COVID. For instance, one commentor wrote that their “intrinsic love of the therapy goes down when I can’t see people in-person...[and] I definitely long for the day things are back to normal.” Another commentor wrote that they felt psychologically “fed” by in-person therapy work in a way that “motivates me and helps me feel recharged, and there’s none of that now - just a constant drain.” However, both within this thread and across other teletherapy-focused threads, the majority of commentors

expressed positive sentiments towards teletherapy, suggesting that the technology had widespread appeal—at least among the commentors who posted on the forum.

Theme 4: Pandemic

The fourth major theme, “Pandemic,” described the ways that the COVID-19 pandemic had altered the digital-psychological landscape and impacted clients, therapists, and the field of therapy itself, creating a sense of uncertainty about the future. Specifically, the two subthemes explored the effects of the pandemic on clients (e.g., increased isolation, disrupted socialization) and therapists (e.g., autonomy, workplace requirements, safety).

RQs 1-3: Subjective Views, Experiences, and Utilization. The first subtheme, which explored the effects of the pandemic on clients, was drawn primarily from post 13. In that post, the OP sought input from others about a specific issue they had seen arising in therapy with families with teens. The OP started by contending that they did not see the removal of device access for minor clients by parents as an inappropriate or inherently harmful punishment. However, they argued that the isolation created by the pandemic meant that such punishment could risk creating further isolation. The overall emotional tone of the post (tone = 27.09) was significantly more negative than the data set as a whole, with anger (0.94% of words) being the strongest negative sentiment expressed. This anger manifested in a sense of protectiveness for clients and their social connections as well as frustration towards parents who failed to understand the current context. Further, the defense of smartphone access also implied the view that—at least in certain contexts—clinicians believed that smartphones could have beneficial psychological impacts. Such a view stood in contrast to prevailing sentiments regarding teen mental health and smartphone/social media use. For instance, research by Twenge (2018) had found that the amount of time teens spent on social media could be correlated with negative

impacts on mental health, while others (e.g., Lanette et al., 2018) discussed how language used by teens and parents in relation to phone use implied that both parties were “aware of and potentially influenced by a narrative that smartphones are addictive and can lead to negative, though largely undefined, consequences” (p. 1). Interestingly, the unprecedented circumstances of the COVID-19 pandemic have led to recent research that may be altering the bleak picture painted by Twenge and others. For instance, Hamilton et al. (2021) described ways in which the use of social media could be “especially helpful for teens in the midst of physical distancing practices,” as well as providing “practical guidance on facilitating teens’ helpful use of social media and mitigating its negative effects during the COVID-19 pandemic” (p. 2).

The second subtheme, which focused on the pandemic’s effect on therapists, was comprised of comments drawn largely from post 20. In the post, the OP expressed frustration that they were being required to return to in-person work in order to continue to provide teletherapy services they had already successfully provided from home. In their original post, they asked other Redditors if they had had similar experiences and, more generally, how they had fared in the face of workplace requirements. LIWC text analysis showed that the overall emotional tone (tone = 32.98) was significantly more negative than the data set as a whole, with anger (0.75% of words) and anxiety (0.60% of words) being the most prominent. One key frustration expressed by several commentors in the thread related to the ways in which commentors’ workplaces had failed to respond appropriately to the pandemic, failures that had endangered clinician health, or simply enforced irrational policies. The sentiment expressed by these commentors reflects the potential for institutional barriers to DMHTs that could arise from a lack of understanding or adaptability. In other words, forcing clinicians to return to the office—potentially with risks to their health—in order to provide the same teletherapy service they could

provide more safely from home, could reflect another way in which institutions and bureaucracies interfered with clinician autonomy.

Researcher Impressions and Observations. Each member of the research team had been affected by the COVID-19 pandemic across life domains, including personally, professionally, and academically. We had all seen the effects of increased isolation on clients, dealt with workplaces and other professional settings that had responded poorly to the pandemic, and experienced our own psychological impacts from the pandemic. The theme of COVID-19 pervaded both the posts we coded—posts that were all made during the pandemic—and the context in which we coded them. For instance, regarding the latter, our weekly meetings would historically have been in-person, but instead were attended through zoom. Overall, our team resonated most with the sense of uncertainty expressed by commentors when it came to the pandemic and its future.

Theme 5: Boundaries

The fifth major theme, “Boundaries,” illustrated the ways that therapists set and maintained boundaries in digital spaces as well as the ways that clients respected or failed to respect such boundaries. Subthemes covered therapists’ right to personal safety and freedom from harassment, the ways that therapists set and maintained boundaries in digital spaces, and the ways that clients tested and violated these boundaries.

RQs 1-3: Subjective Views, Experiences, and Utilization. Comments in Subtheme 5.1, “A Right to Safety,” expressed therapists’ right to personal safety and freedom from harassment, while comments in 5.3 “Boundary Violations,” discussed ways in which clients tested and violated such boundaries. Much of the material that comprised both subthemes came from post five, a post where the OP had come to the subreddit to seek advice and consult around being

harassed and stalked online. Text analysis showed that post five significantly skewed towards negative emotions (tone = 25.77) in comparison to the overall data set. Specifically, negative emotion words comprised 2.80% of all words in the post, with anxiety and anger each comprising around 1% of words used. This anger and anxiety were clear within the comments, with commentors sharing their own distressing stories of harassment, empathizing with the OP's anxiety-provoking experience, and voicing anger around the idea that such treatment would be a "part of the job" of being a therapist. As one commentor wrote, "we in fact do not sign up for being harassed."

The disquiet expressed by commentors was not limited to clients' boundary violating behavior, it also included an expression of apprehension around how to respond in an ethical manner, which could provide coverage against liability. While empathizing with the OP, one commentor wrote, "I have the same personal safety fears and the paranoia around being dragged in front of the board for something a client accused me of doing or saying." While no commentors specifically stated that the threat of digital boundary crossings would prevent them from using DMHTs, it is possible that the fears, apprehensions, and concerns discussed in the post resonated with practitioners and played a part in clinicians' overall wariness around digital technologies. Further, as has been the case with many of the technology-related ethical concerns discussed thus far, there remains a glaring lack of guidance around ethical practice. Commentors reflected this lack of guidance, describing experiencing a lack of "clear cut answer[s]" when it came to navigating the complexities of digital practice." One commentor wrote that they had had a similar experience to the OP of post five, yet they had found it "very difficult to get any guidance regarding my rights and responsibilities."

The second subtheme, “Boundary Setting,” drew largely from post two, a post in which the OP shared that their clients were increasingly emailing during off hours expressing distress and risk. To stem a rising sense of burnout from addressing these messages at all hours, the OP expressed the desire to set email limits, querying Redditors about the best possible way of doing so. Overall, the emotional tone of the post (tone = 69.27) was significantly more positive than the complete data set, with nearly 3% of all words in the post representing positive emotions. This difference in emotional tone between posts two and five was likely due to the nature of the specific subject matter. In other words, unlike the frightening material described in post five around client harassment, the OP of post two described largely understandable client behavior that resulted from the OP’s own failure to set proper digital boundaries. While commentors reacted with empathy and solidarity to the OP of post five, they tended towards offering advice and gentle criticism to the OP of post two. Additionally, while no specific guide or set of ethical principles was cited regarding the dilemma that post two’s OP shared, commentors evinced significantly more certainty in their suggestions for the OP of post two than of post five. In other words, commentors—perhaps through personal experience—had learned how to set and maintain digital boundaries during practice, but more severe boundary violations occupied less familiar territory.

As previously cited, researchers have looked at how digital boundaries function and the ways they can be compromised in modern practice. For instance, Doherty et al. (2010) found that therapists might be wary towards DMHTs more generally due to fear of “greater responsibility and more opportunities for therapist client contact,” especially in regard to the introduction of “a constant line of communication between them and client which they would feel obliged to monitor” (p. 247). Ultimately—according to the authors—while digital boundary crossings may

be a modern problem, they can be addressed through the standard practice rules, protocols, and boundaries therapist have historically set for themselves and their clients. Still, like the ethical concerns addressed throughout this study, the need for up-to-date ethical guidelines and best practice related to DMHTs and online spaces remain a pressing need.

Researcher Impressions and Observations. Coding and discussing this material brought up emotions among team members related to our own experiences with client digital boundary crossings. Further, we empathized with commentors' difficulties in setting and maintaining boundaries. Our coding of post two prompted a discussion around the unique position that those in counseling professions can find themselves in relation to access and availability. While we all could cite ways that technology had enabled connections and the forging of relationships in our own lives (e.g., maintaining connections through social media or the use of teletherapy), we all could also cite ways in which it had altered and compromised our relational boundaries. In other words, the always online nature of our society had led to changes in how we connected with one another and our expectations for responses. For instance, we debated how long one could wait to respond to a text message without potentially offending the texter. Further, we contemplated whether instant access to one another primed us to see such access as something we were entitled to. When reading post two, Mandy reported seeing her own difficulties reflected in the OP's difficulty with resisting the urge to help clients, even if it meant compromising her own wellbeing and risking burnout. Both Aaron and I empathized with this difficulty and, as several commentors had pointed out in post two, we all recognized that it was not only clients who pushed against and compromised therapeutic boundaries.

Theme 6: Support & Solidarity

The sixth major theme, “Support & Solidarity,” described the ways that therapists utilized Reddit to support clients as well as the ways they sought and offered support and solidarity to one another. Subthemes described the ways that clinicians used the forum for advice around client technology-related concerns, the use of the subreddit for expressions of affect, and the ways that posters and commentors on the forum sought and provided answers, consulted, and offered support.

RQs 1-3: Subjective Views, Experiences, and Utilization. As the comments that comprised Theme 6 were drawn from many different posts, I completed a text analysis using LIWC on the comments that composed each subtheme instead of on a particular post. Overall, Subtheme 6.2, “I Feel,” contained a variety of emotional expression including anger, frustration, shame, sadness, irritation, annoyance, and disdain. The text analysis showed that the comments that comprised the subtheme were highly negatively skewed (tone = 17.85) and were significantly more negative than the overall data set. Negative emotion words comprised 3.69% of all words analyzed for the theme, with 1.08% expressing anxiety and 1.63% expressing anger. Conversely, sadness was expressed by only 0.22% of the words. At times, commentors further intensified their emotional expressions with terms like “extremely” or “absolutely.” For instance, one commentor wrote that the phenomenon of life coaches in online spaces drove them “absolutely insane.” Additionally, in reference to a discussion of the impact of negative online reviews, a commentor wrote that it could be “extremely upsetting when you know you’re trying so hard and doing the right things.” Additionally, intense emotion words like awful, terrible, and devastating were used to express strong sentiment.

The strong expression of negative affect in relation to DMHTs in this subtheme may help to provide insight into potential emotional barriers to DMHT use. For instance, the commentor

who shared the feeling that it could be “extremely upsetting” to receive a negative review, or the commentor who felt driven “absolutely insane” by life coaches on social media, might choose to avoid having an online presence and/or creating or sharing online content, respectively. In other words, through an association with experiences or content that elicited strong negative emotions, therapists might avoid utilizing said technologies or exploring their potential therapeutic benefits. As I will discuss in a later section, it is also possible that negative experiences in one technology-related domain could affect one’s view of others, creating an increasing negative bias towards digital technology.

While it was clear that many commentors and posters used the forum to vent, express difficult emotions, or share painful experiences, it was also apparent that the forum typically met such expressions with empathy, support, and statements of solidarity and community. As I previously articulated in Subtheme 6.3, the expression of solidarity characterized a central way that this emotional validation was offered, with commentors sharing how they had been through similar difficulties as the ones described by OPs. It was clear through these exchanges and others that posters benefited through their use of the online support and consultation provided by the subreddit. Further, despite outlining the opposite possibility, it is also conceivable that positive experiences with digital technologies (e.g., receiving support, validation, solidarity, and helpful advice from the subreddit) could lead an individual to be more positively biased towards digital technologies and DMHTs in the future.

Researcher Impressions and Observations. Three members of the research team, myself, Mandy, and Aaron, had been users of Reddit for many years. At the time of the study, I was also a frequent visitor to the r/psychotherapy subreddit and related subreddits. In my own experience, I had found the r/psychotherapy subreddit personally and professionally valuable and

I had both posted and commented in the forum in the past. I have historically seen and continue to see the forum as a valuable DMHT in the realm of online supervision and consultation, but it also became clear during the process of coding and analyzing these posts the extent to which it fulfills a key emotional support role for many of the commentors and posters. In our coding meetings, we all experienced a sense of solidarity around our use of Reddit and our familiarity with its functioning and idiosyncrasies. At times, this “insider knowledge” of Reddit was at odds with Nick’s understanding as he was not a “Redditor.” Our differences in knowledge and basic understanding of how Reddit worked prompted a discussion about the individuals who posted, commented on, or “lurked” on the r/psychotherapy subreddit and Reddit more generally. In this conversation, we recognized that the sample we were drawing our thematic analysis from would be demographically unique and could—potentially—bias results towards a higher level of interest in and use of DMHTs. In other words, a certain “tech savviness” might be implied by being a therapist with a Reddit account, meaning that the study’s results may not reflect the “average” therapist. This specific limitation, as well as other demographic-related limitations, are discussed in the Limitations section.

Theme 7: Tech’s Promise

The seventh and final major theme, “Tech’s Promise,” described the ways in which Redditors viewed EMHTs in a more positive light. Subthemes included ways that DMHTs could increase access to both services and content, the ways that DMHTs could benefit therapists, ways in which therapists were using emerging and novel technologies, and—finally—a consideration of the differential benefits and costs of certain DMHTs between client and clinician.

RQs 1-3: Subjective Views, Experiences, and Utilization. Like Theme 6, the comments that comprised Theme 7 were drawn from many different posts, meaning it was more

practical to perform a text analysis on comments that comprised the theme itself. To that end, a text analysis on the comments of Theme 7 showed a strong bias towards positive affect (tone = 69.46), with 3.92% of all words expressing positive emotions. This analysis was consistent with the content of the theme, which focused on the benefits, advantages, and promise of certain DMHTs.

For instance, Subtheme 7.1, “Access,” described the ways that Redditors saw digital technologies meet client needs for access to both services (e.g., through teletherapy) and content (e.g., psychoeducational content on YouTube). While commentators at other times had focused on the way that teletherapy could reduce access (e.g., for those with few resources) or how online content could spread misinformation or lead to stigmatization, the comments that comprised this subtheme provided the opposite perspective. Commentors shared the ways they had seen technology increase social connection, whether between therapist and client in teletherapy or between adolescents and their peers through smartphones or social media. The specific ways in which teletherapy increased access are important to note when considering how to facilitate therapist adoption of DMHTs such as teletherapy. It was clear from comments that teletherapy was not only beneficial in regard to its ability to increase access to those in remote (e.g., rural) areas, but in the ways it intersected with both time and responsibility. That is, regardless of the location that a client lived in or the availability of therapists, clients’ competing demands (e.g., family responsibilities, work), teletherapy helped them balance time and location demands. As I previously discussed, such flexibility could be at least partly responsible for a phenomenon experienced by several commenters: a lack of canceled or missed appointments. As one commentator wrote, even when clients forgot their appointments, they were still able to make it to session.

Another important area explored in Theme 7 was the psychological shift related to teletherapy that had occurred because of the COVID-19 pandemic. In Subtheme 7.2, “Therapist Benefits,” this shift was explored by drawing upon comments from post 12. In that post, the OP queried Redditors about their experiences of “going fully remote” as a result of the pandemic, writing: “I had always dreaded the day when telehealth took over but having been forced into it I actually really enjoy it.” The OP went on to explain how the shift had improved their quality of life while also not detracting from therapy in ways that they had feared (e.g., reducing rapport). This sentiment was reflected many times by commentors in the thread and in other teletherapy-focused posts. In many ways, the pandemic had provided the opportunity for a unique pre-post naturalistic study, a phenomenon future researchers may want to examine further by analyzing views around teletherapy expressed on the subreddit pre-COVID, during COVID, and post-COVID.

In the comments of post 12, one of the most pronounced changes resulting from the shift towards teletherapy came in an overall improvement in therapists’ quality of life. Commentors spoke of increased time with friends and family, opportunities for self-care, significantly expanded options for living area (e.g., being able to live outside of a city), and a sense of feeling energized by the work in a way that they had not felt pre-shift. While many of the DMHT domains I have discussed have focused on client benefit, this teletherapy shift as well as the use of online consultation (e.g., on the r/psychotherapy subreddit) and the convenience provided by practice management software show that DMHTs can have direct benefits for therapists as well. When considering how to increase adoption and utilization of DMHTs, such individual benefits could represent a key motivator. Additionally, when considering therapist-level factors, it is also important to consider therapists’ pre-COVID mindsets related to teletherapy and how their

beliefs, biases, and concepts of teletherapy may have been formed. For instance, had those commentors who “dreaded” teletherapy had a bad past teletherapy experience or did their biases arise from different sources? If so, what were these sources? Ultimately, building an understanding of the specifics of therapists’ previous negative biases could help to elucidate more general anti-DMHT biases as well.

Summary

Throughout this section, I explored the ways in which the seven major themes illuminated by the thematic analysis helped to answer the first three research questions. Additionally, I investigated how this material intersected with current research, including the research reviewed in the literature review, as well as how it contextualized the barriers to DMHT use outlined previously.

Overall, the balance of sentiment expressed across the seven major themes skewed in a negative direction. Commentors expressed concerns, frustrations, and skepticism in the first theme, while conveying fear and annoyance in the second. Such negative patterns of sentiment were repeated in Theme 3, where commentors expressed anger and a sense of depletion, in Theme 4, where they expressed uncertainty and disappointment, and in Theme 5, where they expressed safety fears and wariness. At times, these negative sentiments were expressed directly about a particular technology (e.g., when discussing OLPs). At other times, (e.g., post 15, titled F*ck Technology), technological systems were blamed more generally. However, most often, the negative sentiments expressed in the analysis were not made towards technology itself but instead in relation to people, circumstances, dilemmas, hassles, or other concerns in which technology played a role. For instance, commentors expressed frustration with clients who crossed boundaries by emailing in off hours, but not annoyance at the email system itself.

Similarly, commentators expressed anger at “life coaches” on Instagram rather than social media, mistrust of content creators on YouTube rather than the platform itself, and sadness at negative reviews rather than indignation at the review website.

This phenomenon may be important to understand when considering both the facilitators and barriers to clinician use of digital technologies. Technology theorists have debated the morality or “neutrality” of technologies for decades, with the idea of technology as an amoral or “neutral object” claimed by some (e.g., Carnevali, 1985). According to Barnard (1997), such theorists have cast technology as a “mechanical means, separate to consideration of values...socially, culturally and morally neutral...[and] nothing more than a resource” (p. 127). However, others—such as Ellul (1968) and Cotgrove (1982), have argued the dominant belief in the neutrality of technology represents a failure to identify or confront the ways in which our technological environment affect us. As Barnard (1997) wrote:

The neutral belief suggests there is nothing intrinsic to technology or the circumstances of its emergence which predetermines how it is used and controlled, or the effects technology will manifest upon individuals, groups, or the political forms around us... The use of technology may have a ‘good’ or ‘bad’ outcome, but most certainly not an outcome which is neutral. (p. 127)

While Barnard was writing primarily regarding the role of technology in the practice of nursing, his overall premise is highly applicable to therapists’ use of technology as well. Ultimately, his argument about the nature of technology resonates. According to his definition, technology is a:

...complex arrangement of machinery, processes, people and systems. For many...technology may not be a neutral servant of their will, but a pervasive reality. A

reality which modifies practice, politics, values and environments often without due recognition of the importance of the transformation. (p. 130)

It is clear from both the results of the thematic analysis and from the review of existing literature that technology is a “pervasive reality” in the lives of therapists, regardless of whether it is utilized in practice. Barnard made his argument in relation to his own profession as a registered nurse. As previously discussed, the last 100 years have seen his medical field utterly transformed by the technology and machinery of modern medicine, while psychotherapy has remained nearly unchanged.

Despite this technological stagnation, the COVID-19 pandemic has created a powerful opportunity to begin to examine what the field of therapy might become if it more closely followed the technological path of medicine, for better or worse. In other words, the shift of the field towards a near universal adoption of teletherapy—while born from necessity—has offered the ability for a vital examination of the effects of digital technology on the field more generally. These effects are only beginning to be explored, including in studies such as this one. While the results of this new research are preliminary, they are compelling and they make a strong case for the utility and effectiveness of teletherapy, even for higher levels of care. For instance, a recent study by Miu et al. (2020) found that those with serious mental illness (SMI) were equally as likely to maintain services when shifting from in-person to teletherapy as general populations were, suggesting equivalent “conversion.” Further, the authors found that the SMI group “had a significantly greater number of teletherapy visits compared to non-SMI patients, indicating that the SMI group utilized teletherapy regularly after conversion” (p. 1).

As the field of psychotherapy allows DMHTs to become part of standard practice, either through necessity or choice, it is possible that certain technologies will prove highly beneficial,

while others may ultimately add little to the therapist's toolkit. In other words, while teletherapy may become a routine offering, the use of—for instance—virtual reality may never become widespread. In this way, the many domains of DMHTs explored in this paper all represent uncertainties. At the same time, it is worth considering the lessons provided by the COVID-19 pandemic in relation to teletherapy. As the OP of post 12 wrote, "I had always dreaded the day when telehealth took over but having been forced into it I actually really enjoy it." The coming decades will demonstrate new ways in which expectations interact with experiences, ways in which DMHT domains are adopted or abandoned, and—ultimately—the ability of the field to adapt, self-regulate, and address new challenges.

Suggestions, Limitations, & Future Directions

In this final section, with the goal of both reducing barriers to DMHT adoption and addressing potential future challenges, I provide several recommendations and reflections. First, I provide seven suggestions for addressing the underutilization of DMHTs, suggestions that have resulted both from my examination of existing literature and the findings of the thematic analysis. With these suggestions, I recommend future avenues of research that address remaining questions. Finally, I review some of the study's potential limitations.

Suggestions for Addressing DMHT Underutilization

Several suggestions for addressing the underutilization of DMHTs are provided here, suggestions that are based both on the prior literature and the specific results of the thematic analysis. These suggestions include: 1) Reducing identified barriers; 2) Leveraging identified facilitators; 3) Altering or reducing clinician biases; 4) Advocating for reform; 5) Creating coherent ethical guidelines; 6) Improving design; and 7) Increasing exposure and opportunities for use.

1 & 2. Reducing Barriers and Leveraging Facilitators. In previous sections, I have extensively outlined specific barriers and facilitators to DMHT use. While the identification of these barriers and facilitators serves to increase awareness, it does not alone suggest specific ways to address them. While it is beyond the scope of this section to discuss how each specific barrier or facilitator could best be addressed or leveraged, those interested in increasing DMHT adoption and utilization may benefit from exploring these barriers and facilitators further, whether through conducting further research or experimentation, engaging in advocacy, or incorporating facilitators into practice. For instance, those hoping to respond to barriers related to client access could engage in advocacy aimed at improving infrastructure needed to address the problem (e.g., increasing internet connectivity in rural areas). Additionally, researchers interested in addressing barriers around client engagement in standalone treatments could experiment with variations in level of therapist contact or contact with peer supporters. Alternatively, practitioners concerned with the limitations of assessment through mediums like teletherapy could endeavor to develop alternative assessment methods and best practices that complement the teletherapy medium.

Research, advocacy, experimentation, and practice could also be drawn on to leverage facilitators. For instance, app designers could focus on appealing to clinician-level facilitators, highlighting the specific abilities of apps to increase homework completion or enrich assessment to increase therapist adoption. With the knowledge that exposure to DMHTs can increase therapist and client interest, clinicians who were intent on increasing adoption could seek to introduce colleagues or other therapists to useful DMHTs. Alternatively, researchers could investigate the ways that already existing systems of online support (e.g., the r/psychotherapy subreddit for therapists or mental health forums for clients) could meet the needs of clinicians

and clients. Overall, a combination of research, practice, advocacy, and informal experimentation that both draws on facilitators and works to reduce barriers is likely needed. While Wilhelm et al. (2020) were focused on DMHT design in arguing for the fundamental importance of collaboration, their point also holds true for addressing barriers and leveraging facilitators. Ultimately, widespread changes are most likely to be achieved through the collaboration of researchers, designers, clinicians, and clients in the process.

3. Address Clinician Biases and Alter Attitudes. Clinicians have legitimate reasons to be doubtful, skeptical, or apprehensive about DMHTs along several levels. Concerns related to the effects of technologies on their clients' wellbeing, threats to confidentiality, and anxieties around their own autonomy, liability, or reputation are all valid. However, it is also possible that certain biases against DMHTs are less valid. For instance, Subtheme 7.2 described how several commentors had experienced a notable shift in their view of teletherapy, from one of "dread" or disinterest to one of enthusiasm and excitement. It remains an important question where this initial bias or assumption came from, but there are several possibilities that can be explored. Therapists, like all humans, have personal experiences with technology, are exposed to technology-related stories and media, and absorb the sentiments of peers, colleagues, friends, and family. Finally, while some (e.g., Ellul, 1968; Cotgrove, 1982) have characterized the public perception of technology as an amoral, neutral object, it is also true that more general concerns and biases against technology have historical precedent (e.g., Leibniz bemoaning the proliferation of books in the 1600s). In other words, it is possible that some therapist biases against DMHTs have not arisen from negative DMHT experiences but instead from a tangle of tech-related concerns, including historical fears of technology, frustrating individual experiences, disturbing anecdotes from others, or frightening media reports.

Further, while positive experiences with technologies or DMHTs could lessen this bias, a strong negativity bias remains a staple of the human mind. It is a well-supported finding from cognitive sciences that negative experiences and judgments are both more consciously accessible and more strongly motivating (Rozin & Royzman, 2001) and that the digital realm can engender the same biases (Katsyri et al., 2016; Van der Meer et al., 2020). In addition, it may also be the case that therapists are under the influence of specific biases related to historical norms for the way that therapy is “supposed” to be conducted (e.g., face-to-face, 50-minute hour). While such proposed biases are hypothetical, they may help to explain some of the nonintuitive findings that emerged from the thematic analysis. For instance, they could help to explain the nature of the psychological shift in relation to teletherapy that commentors described experiencing—from “dread” to excitement. Overall, regardless of the origin of therapist biases against DMHTs or technology more generally, addressing them at their roots is likely to be an important part of facilitating DMHT usage.

4. Advocate for Reform. Throughout the results of the thematic analysis, commentors offered a litany of disturbing claims. Such claims included the unethical practices of OLPs, stories of individuals who had been traumatized by online life coaches, YouTube content that had led clients to see “everyone as a narcissist,” or therapists being cyberstalked by disgruntled clients. In other words, it was clear that several therapists on the subreddit had been exposed to a side of digital technologies and DMHTs that could lead to an understandable sense of trepidation.

Earlier, I emphasized the important role of psychologists in not only harnessing but in “steering” digital technology. The specific issues highlighted throughout the thematic analysis represent prime targets for such steering and—it could be argued—create a mandate for reform

that the field must respond to. Advocacy and activism, information sharing, lobbying, and other methods of reform should be leveraged in a way that addresses the ethical pitfalls, abuses, exploitations, and dangers present in an under-regulated online world. Further, efforts for reform may be able to address issues without removing access to potentially beneficial technologies and services altogether. In other words, while some might argue to abolish OLPs, a valid argument can be made to reform them instead. Such reform need not mean a lack of accountability, rather it could be focused on bringing to light the ways that such platforms were risking client safety and wellbeing, mistreating clinicians, or otherwise acting unethically, in order to bring about lasting change.

While commentors raised many important issues with OLPs, they also spoke to their potential. In the end, taxi drivers may not have ultimately appreciated (or benefited) from the way that Uber transformed their field, but there were many ways in which this “Uberization” actually addressed longstanding issues with price, poor services, and a lack of access and benefited consumers (Cramer & Krueger, 2016; Wallsten, 2015). What would have been the fate of taxi companies if they had tried to adapt, leveraging their decades of knowledge and experience to create better services rather than trying to shut Uber or Lyft down? Arguments for reform can also be extended to other online spaces and services, such as addressing misinformation on YouTube or regulating the practice of online coaches or mental health influencers. While commentors in the thematic analysis shared their concerns about both, they also shared ways in which both online content and peer helpers had provided a positive impact.

5. Create Evolving and Relevant Ethical Guidelines. A frequent use of the subreddit revealed by the thematic analysis was for the purpose of consultation around ethical concerns. Redditors consulted in relation to managing boundaries, addressing liabilities, and the ethics of

certain interventions, among other topics. Many of the issues posed—and many of the responses—illuminated a lack of coherent ethical guidance, an issue that has been discussed throughout this paper. As previously discussed, Torous et al. (2019) overviewed a number of ethical concerns that had emerged in the domain of online mental health, arguing that the field lacked a set of coherent ethical guidelines for the digital spaces that it must now navigate. Further, in the absence of these guidelines, Torous and colleagues argued that the field continually risked compromising its core ethical principles of “respect for persons, beneficence, and justice” (p. 3).

Two central questions emerge when considering the need for ethical guidelines around technology and psychotherapy: 1) What guidelines already exist and where can they be found?; and 2) What areas remain unaddressed? These questions are complicated by the lack of one regulatory body in the field. Counselors, psychologists, social workers, psychiatrists, substance use counselors, trained peer support helpers, and countless others all provide mental health care and support in the United States. Due to this fractionation, the paths forward become complex. For instance, each regulatory body could create its own guidelines, some or all bodies could collaborate on universal set of guidelines, one body could create a set of guidelines that others adopted, or a third party could create guidelines that were accepted by some or all bodies. While it may be ideal for these bodies to work together on a centralized set of standards, such an endeavor may never be undertaken.

In examining the ways that existing bodies have addressed technology-related issues, a study by Firmin et al. (2018) represents an important resource. The study’s authors compared contrasted the ethical codes of the American Psychological Association (APA) and the American Counseling Association (ACA), finding significant discrepancies between the two. Overall, they

found 144 differences between the codes, with 36 differences pertaining to technology and culture. Overall, they found that 25 specific issues with technology that were addressed by the ACA were entirely omitted by the APA. Such omissions related to boundaries in distance counseling, digital informed consent and assessment, rules related to electronic record keeping and digital security, and other related topics.

The ACA has clearly sought to address issues that have been overlooked by the APA and—in so doing—has provided a source of valuable guidance when it comes to ethical practice in online spaces. Bodies like the APA have a responsibility to follow the ACA's lead in this regard, and all bodies will need to ensure the timeliness of their material. While organizations may have reservations about creating guidelines for the quickly transforming digital worlds that we now inhabit, failing to create such guidelines will not only serve as a barrier to therapists' ability to leverage technologies for therapeutic benefit but will ultimately risk public harm.

6. Improve Design. As discussed previously in regard to both barriers and facilitators of DMHT use, design is a crucial consideration. To increase the adoption and use of DMHTs both by clinicians and clients, it is necessary to increase collaboration between those clinicians and clients with researchers and developers in order to create DMHTs that are relevant, engaging, user-friendly, and designed with the unique needs of end user at the forefront. Design considerations are wide ranging and encompass much more than aesthetic decisions or user experience, although both are important. For instance, Lovejoy et al. (2009) discussed how the degree to which a new technology fits into a clinician's existing values system is an important predictor of adoption. For therapists, they argued, personal values of human interaction and professional valuing of therapeutic alliance may represent a barrier for a number of clinicians, as DMHTs are seen as less interactive and less alliance-based, and in essence, less human.

Designers and researchers should work with therapists, striving to understand what it means—at an operational level—for a technology to “feel more human.” It is only through such collaborative work that DMHTs will be effective, engaging, and useful.

7. Increase Exposure and Opportunities for Use. Previously discussed facilitators, both for clients and therapists, came from prior exposure. Therefore, the final suggestion for increasing DMHT adoption and utilization is to increase clinician and client exposure to DMHTs and opportunities for use. As previously discussed, simple demonstrations of DMH interventions can positively influence clinicians’ attitudes towards them, meaning that the dissemination of demonstrations, trainings, and information “could be used to positively influence attitudes and uptake of web-and mobile-based interventions” (Kerst et al., 2019). Further, Kerst et al. (2019) found that increased familiarity with technology and computer experience both increased the likelihood that a therapist would consider using apps in their clinical practice and predicted they would have higher expectations for their therapeutic benefits. As argued by Apolinário-Hagen et al. (2018), a substantial effort in promoting “e-awareness” for both the public and professionals is a key step in increasing utilization and decreasing barriers.

Limitations

While the current study helped elucidate a number of novel barriers and facilitators to DMHT use, it had a number of potential limitations. First, the study’s sample was restricted in key ways. While the overall aim was to understand barriers to the average clinician’s use of DMHTs, the clinicians and clinicians in training who comprised the sample may deviate from this “average” in regard to demographic characteristics. Overall, it is unknown what specific characteristics comprised the clinicians to the forum, but if Reddit’s overall demographics were replicated in the results, then the sample skews male (71% of users), White (70% of users), and

young, with 64% under 29 years of age and only 1% of users above age 65, as well as more liberal (43%) than independent (38%) or conservative (19%; Barthel et al., 2016). While Barthel and colleagues also provided estimates of Redditors' degrees and incomes, these were less relevant as one could assume that all posters in the forum have—or were pursuing—Masters' or Doctorates in one of a number of specialties (e.g., social work, psychology), and that their current or eventual pay was or would be commiserate with their degree and region of practice. As highlighted in Appendix D, the purported credentials of the OPs of each post are known and included four licensed clinical social workers (LCSWs), two licensed marriage and family therapists (LMFTs) and one MFT student, two PhDs, one PsyD and one PsyD candidate, one "MA Student," and one "Registered Psychotherapist." All OPs, with the exception of the registered psychotherapist who resided in Canada, resided in the United States.

Despite knowing overall Reddit demographics and the credentials of the original posters, much about the sample remained completely unknown. While the subreddit purported to verify posters' identities, the process of verification remained opaque, so it is possible that not all commentors or posters were therapists or student therapists. That said, the comments and posts had high face validity. Across the four members of the coding team, none of us reported any intuitions that particular commentors or posters were impostors. However, this does not mean that all commentors were genuine nor does it preclude the possibility of someone who had studied the field or had prior experience from creating convincing comments.

Another limitation that related to the study's sample was the possibility that only tech savvy therapists or therapists with an inherent interest in or comfort with technology composed the sample. However, while it is likely that those on the forum were, on average, more comfortable with or interested in technology than the average clinician, the thematic analysis

managed to uncover a range of responses, responses that implied different views of technology, diverse levels of comfort, and varying levels of technological competence. Ultimately though, all such demographic data was unknown. As pioneers of Reddit qualitative inquiry Caplan and Purser (2017) wrote, “any analysis that considers race, gender, disability, sexual orientation, immigration status, national origin, or other identities/contexts and their intersectional ties cannot be achieved” (p. 11) on Reddit. In fact, the authors continued, such a limitation is a defining feature of studies using so-called “big data.” Other concerns related to Reddit itself and forum-based content more generally included the ways in which social desirability might shape responses (Weisbuch et al., 2009), and/or how the desire for “karma points” could affect what one posted or commented.

A further limitation of the study was a methodological one and related to the way that negative information can have increased salience. As mentioned previously, the overall sentiment expressed across the thematic analysis was more negative than positive. Themes 1 through 5, for instance, focused on fears, apprehensions, angers, frustrations, disdain, hurt, disappointment, and other strong negative sentiments. While more positive sentiments were found in Themes 6 and 7, it was clear that overall content skewed in a negative direction. When considering this potential bias in sentiment, it may be important to consider the ways in which online content achieves status and popularity. Historically, in mass media such as cable news or newspapers, the maxim “if it bleeds it leads” has been perennial (Kveraga et al., 2015). This maxim captures the fact that disturbing, titillating, violent, or extreme content rises to the top of public interest and spectacle, becoming the topic of “leading” news stories and headlines. The Internet and its major platforms—Reddit, YouTube, and Facebook—have not been immune to such effects.

In the methodology, I outlined the adjustments I had to make in regard to upvotes, comments, and time constraints in order to end up with a manageable data set that was comparable to those examined by researchers completing similar analyses. However, it is possible that—by placing constraints on the findings that were ultimately related to popularity (upvotes) and interest (comment number)—an overly negative picture emerged. For instance, while a particular clinician could have a generally rosy view of technology and find benefit in leveraging apps as an adjunct to treatment, he or she could be prone to the same negative information biases that often causes the most extreme or titillating content to rise to the top of news sites and forums. In other words, despite their overall view of technology, they might be slightly more compelled to upvote or comment on a post about a client cyberstalking their therapist than one about a therapist sharing their love of therapy apps.

A final limitation of the study related to the historical context in which the data was mined. While we considered analyzing data from the subreddit pre-COVID-19, we ultimately decided the pandemic's potential effects on therapist use of technology like teletherapy were too important to overlook. While this decision ultimately yielded important information about therapists' experiences with technology in relation to the pandemic (e.g., the shift towards teletherapy), it is also possible that the data was less generalizable to non-pandemic times. In other words, the specific concerns, sentiments, and dilemmas faced by commentators might be more relevant to the effects of the pandemic itself than the more general effects of technological evolution or the state of the online world.

Future Directions

While each of the seven suggestions represents a potential future avenue of research or practice, the study's results also revealed a number of further avenues of exploration. First,

continued research is needed to expand the generalizability of the study's findings. For instance, a further investigation of clinicians' pre- and post-COVID views of teletherapy could be undertaken. To do so, researchers could examine teletherapy-related sentiment on the r/psychotherapy subreddit pre-COVID, during COVID, and at a sufficient span of time post-COVID, with the hope of elucidating whether unquestioned biases or other factors lay at the heart of therapist teletherapy hesitancy.

Additionally, because a central limitation of the study arose from a lack of demographic data, future studies that examine DMHT use facilitators and barriers from a cross-cultural perspective are needed. Such research may entail conducting qualitative interviews, utilizing quantitative surveys, or engaging in other research methods that more directly pinpoint any effects of identity, personality, or demographic factors on individuals' views of, attitudes towards, and/or use of DMHTs. Alternative research methods might also be helpful in addressing any biases that might drive more negative or controversial content to the top of results in online spaces. For instance, individual interviews or surveys might be freer of the kinds of biases related to popularity or interest that can skew sentiment on public forums. Alternatively, researchers could experiment with different inclusion/exclusion criteria that aim to reduce or eliminate such biases. For instance, instead of basing inclusion on number of upvotes or comments, a researcher could add every technology-related post within a certain time frame (e.g., one week) to the final data set.

Finally, while this study primarily focused on harnessing and leveraging digital technologies for mental health, the negative psychological impacts of existing digital technologies cannot be overlooked. Ultimately, it will not be sufficient for psychologists to collaborate with researchers, developers, and clients in creating and improving DMHTs while

ignoring existing problems. Instead, those who are concerned about mental health in the 21st century must not ignore the ways that the digital revolution has exacerbated inequalities, threatened the basic epistemological foundations of society, and fostered dependency and compulsive behavior. Nor can they ignore how digital technologies have negatively affected psychosocial and sexual development and created a more depressed, anxious, and socially fractionated society. In summary, harnessing and leveraging digital technology for the greater psychological good must occur on two fronts: designing and producing technologies that provide benefit, while also addressing, ameliorating, and preventing its greatest harms.

References

- Abdullah, S., & Choudhury, T. (2018). Sensing technologies for monitoring serious mental illnesses. *IEEE Multimedia*, 25(1), 61–75.
- Aboujaoude, D. E., & Starcevic, D. V. (2015). *Mental health in the digital age: Grave dangers, great promise*. Oxford University Press.
- Aboujaoude, E. (2010). Problematic Internet use: An overview. *World Psychiatry*, 9(2), 85.
- Adelman, C. B., Panza, K. E., Bartley, C. A., Bontempo, A., & Bloch, M. H. (2014). A meta-analysis of computerized cognitive-behavioral therapy. *The Journal of Clinical Psychiatry*, 75(7), 695–704.
- Aguilera, A. (2015). Digital technology and mental health interventions: Opportunities and challenges. *Arbor*, 191(771), a210-a210.
- Aguilera, A., & Muñoz, R. F. (2011). Text messaging as an adjunct to CBT in low-income populations: A usability and feasibility pilot study. *Professional Psychology: Research and Practice*, 42(6), 472.
- Allen, M. (2017, December 15). *Sean Parker unloads on Facebook: “God only knows what it’s doing to our children’s brains.”* Retrieved from <https://www.axios.com/sean-parker-unloads-on-facebook-2508036343.html>
- Alvandi, E. O., Van Doorn, G., & Symmons, M. (2017). Modes of delivering psychotherapy: Investigating technology. *International Journal of Reliable and Quality E-Healthcare (IJRQEH)*, 6(3), 1-23.
- Anderson, M., Perrin, A., Jiang, J., & Kumar, M. (2019, April 22). *10% of Americans don’t use the internet. Who are they?* <https://www.pewresearch.org/fact-tank/2019/04/22/some-americans-dont-use-the-internet-who-are-they/>

- Andersson, G. (2018). Internet interventions: Past, present and future. *Internet Interventions, 12*, 181–188.
- Andersson, G., Carlbring, P., & Lindfors, N. (2016). History and current status of ICBT. In *Guided internet-based treatments in psychiatry* (pp. 1–16). Springer, Cham.
- Andrews, G., Cuijpers, P., Craske, M. G., McEvoy, P., & Titov, N. (2010). Computer therapy for the anxiety and depressive disorders is effective, acceptable and practical health care: A meta-analysis. *PloS One, 5*(10), e13196.
- Anthes, E. (2016). Pocket psychiatry: Mobile mental-health apps have exploded onto the market, but few have been thoroughly tested. *Nature, 532*(7597), 20–24.
- Apolinário-Hagen, J., Fritsche, L., Bierhals, C., & Salewski, C. (2018). Improving attitudes toward e-mental health services in the general population via psychoeducational information material: A randomized controlled trial. *Internet Interventions, 12*, 141–149.
- Arean, P. A., Hallgren, K. A., Jordan, J. T., Gazzaley, A., Atkins, D. C., Heagerty, P. J., & Anguera, J. A. (2016). The use and effectiveness of mobile apps for depression: results from a fully remote clinical trial. *Journal of Medical Internet Research, 18*(12), e6482.
- Arjadi, R., Nauta, M. H., & Bockting, C. L. (2018). Acceptability of internet-based interventions for depression in Indonesia. *Internet Interventions, 13*, 8-15.
- Arnberg, F. K., Linton, S. J., Hultcrantz, M., Heintz, E., & Jonsson, U. (2014). Internet-delivered psychological treatments for mood and anxiety disorders: A systematic review of their efficacy, safety, and cost-effectiveness. *PloS One, 9*(5), e98118.
<https://doi.org/10.1371/journal.pone.0098118>
- Attrill, A., & Fullwood, C. (2016). *Applied cyberpsychology*. Palgrave Macmillan.
- Avedon & Sutton-Smith, B. (1971). *The study of games*. John Wiley & Sons.

- Balick, A. (2014). Technology, social media, and psychotherapy: Getting with the programme. *Contemporary Psychotherapy, 6*(2).
- Balick, A. (2014). Technology, social media, and psychotherapy: Getting with the programme. *Contemporary Psychotherapy, 6*(2).
- Ball, C., Francis, J., Huang, K. T., Kadylak, T., Cotten, S. R., & Rikard, R. V. (2019). The physical–digital divide: Exploring the social gap between digital natives and physical natives. *Journal of Applied Gerontology, 38*(8), 1167–1184.
- Bambling, M., King, R., Reid, W., & Wegner, K. (2008). Online counselling: The experience of counsellors providing synchronous single-session counselling to young people. *Counselling and Psychotherapy Research, 8*(2), 110-116.
- Barnard, A. (1997). A critical review of the belief that technology is a neutral object and nurses are its master. *Journal of Advanced Nursing, 26*(1), 126–131.
- Barnett, J. E. (2011). Utilizing technological innovations to enhance psychotherapy supervision, training, and outcomes. *Psychotherapy, 48*(2), 103–108.
- Barry, C. A., Britten, N., Barbar, N., Bradley, C. & Stevenson, F. (1999). Using reflexivity to optimize teamwork in qualitative research. *Qualitative Health Research, 9*(1), 26–44.
- Barthel, M., Stocking, G., Holcomb, J., & Mitchell, A. (2016). *Reddit news users more likely to be male, young and digital in their news preferences*. Pew Research Report.
<https://www.journalism.org/2016/02/25/reddit-news-users-more-likely-to-be-male-young-and-digital-in-their-news-preferences/>
- Batterham, P. J., Calear, A. L., O'Dea, B., Larsen, M. E., J Kavanagh, D., Titov, N., March, S., Hickie, I., Teesson, M., Dear, B. F., Reynolds, J., Lowinger, J., Thornton, L., & Gorman,

- P. (2019). Stakeholder perspectives on evidence for digital mental health interventions: Implications for accreditation systems. *Digital Health, 5*, 1–7.
- Bauer, S., & Moessner, M. (2012). Technology-enhanced monitoring in psychotherapy and e-mental health. *Journal of Mental Health, 21*(4), 355–363.
- Bäuerle, A., Graf, J., Jansen, C., Dörrie, N., Junne, F., Teufel, M., & Skoda, E.-M. (2020). An e-mental health intervention to support burdened people in times of the COVID-19 pandemic: CoPE It. *Journal of Public Health*.
- Bäuerle, A., Graf, J., Jansen, C., Musche, V., Schweda, A., Hetkamp, M., ... & Skoda, E. M. (2020). E-mental health mindfulness-based and skills-based ‘CoPE It’ intervention to reduce psychological distress in times of COVID-19: study protocol for a bicentre longitudinal study. *BMJ open, 10*(8), e039646.
- Baumel, A., & Schueller, S. M. (2016). Adjusting an available online peer support platform in a program to supplement the treatment of perinatal depression and anxiety. *JMIR Mental Health, 3*(1), e11.
- Becker, E. M., & Jensen-Doss, A. (2013). Computer-assisted therapies: examination of therapist-level barriers to their use. *Behavior therapy, 44*(4), 614-624.
- Bee, P. E., Bower, P., Lovell, K., Gilbody, S., Richards, D., Gask, L., & Roach, P. (2008). Psychotherapy mediated by remote communication technologies: A meta-analytic review. *BMC Psychiatry, 8*, 60.
- Bengio, Y., Courville, A., & Vincent, P. (2013). Representation learning: A review and new perspectives. *IEEE Transactions on Pattern Analysis and Machine Intelligence, 35*(8), 1798–1828. <https://doi.org/10.1109/TPAMI.2013.50>

- Bentley, F., Church, K., Harrison, B., Lyons, K., & Rafalow, M. (2015). Three hours a day: Understanding current teen practices of smartphone application use. In *arXiv [cs.HC]*. arXiv. <http://arxiv.org/abs/1510.05192>
- Ben-Zeev, D., Brenner, C. J., Begale, M., Duffecy, J., Mohr, D. C., & Mueser, K. T. (2014). Feasibility, acceptability, and preliminary efficacy of a smartphone intervention for schizophrenia. *Schizophrenia Bulletin*, *40*(6), 1244-1253.
- Bloom, N. (2014, February 27). Telecommuters are more productive. *New York Times*. <https://www.nytimes.com/roomfordebate/2013/02/27/the-costs-and-benefits-of-telecommuting/telecommuters-are-more-productive>
- Bonnington, C. (2017, June 3). *5 years on, the app store has forever changed the face of software*. Wired. Retrieved from <https://www.wired.com/2013/07/five-years-of-the-app-store/>
- Borba, A. (2018, January 30). *Despite anti-theft features, thieves still seek out iPhones*. Retrieved from <https://sanfrancisco.cbslocal.com/2018/01/30/despite-anti-theft-features-thieves-seek-out-iphones/>
- Boyatzis, R. E. (1998). *Transforming qualitative information: Thematic analysis and code development*. Sage Publications, Inc.
- Brailas, A. (2019). Psychotherapy in the era of artificial intelligence: Therapist Panoptes. *Homo Virtualis*, *2*(1), 68–78. <https://doi.org/10.12681/homvir.20197>
- Branson, C. E., Clemmey, P., & Mukherjee, P. (2013). Text message reminders to improve outpatient therapy attendance among adolescents: A pilot study. *Psychological Services*, *10*(3), 298.

- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101.
- Bricker, J. B., Mull, K. E., Kientz, J. A., Vilardaga, R., Mercer, L. D., Akioka, K. J., & Heffner, J. L. (2014). Randomized, controlled pilot trial of a smartphone app for smoking cessation using acceptance and commitment therapy. *Drug and Alcohol Dependence, 143*, 87-94.
- Bruehlman-Senecal, E., Aguilera, A., & Schueller, S. M. (2017). Mobile phone-based mood ratings prospectively predict psychotherapy attendance. *Behavior Therapy, 48*(5), 614–623.
- Brynjolfsson, E., & McAfee, A. (2014). *The second machine age: Work, progress, and prosperity in a time of brilliant technologies*. WW Norton & Company.
- Buntin, M. B., Burke, M. F., Hoaglin, M. C., & Blumenthal, D. (2011). The benefits of health information technology: A review of the recent literature shows predominantly positive results. *Health Affairs, 30*(3), 464–471.
- Burger, F., Neerinx, M. A., & Brinkman, W. P. (2020). Technological state of the art of electronic mental health interventions for major depressive disorder: Systematic literature review. *Journal of Medical Internet research, 22*(1), e12599.
- Burnham, J. (2009). *Accident prone: A history of technology, psychology, and misfits of the machine age*. University of Chicago Press.
- Burns, M. N., Begale, M., Duffecy, J., Gergle, D., Karr, C. J., Giangrande, E., & Mohr, D. C. (2011). Harnessing context sensing to develop a mobile intervention for depression. *Journal of Medical Internet Research, 13*(3), e1838.

- Burns, M., & Griffith, A. (2018). *The learning imperative: Raising performance in organisations by improving learning*. Crown House Publishing Ltd.
- Caplan, M. A., & Purser, G. (2019). Qualitative inquiry using social media: A field-tested example. *Qualitative Social Work, 18*(3), 417–435.
- Caplan, M. A., Purser, G., & Kindle, P. A. (2017). Personal accounts of poverty: A thematic analysis of social media. *Journal of Evidence-Informed Social Work, 14*(6), 433–456.
- Carlbring, P., Andersson, G., Cuijpers, P., Riper, H., & Hedman-Lagerlöf, E. (2018). Internet-based vs. face-to-face cognitive behavior therapy for psychiatric and somatic disorders: An updated systematic review and meta-analysis. *Cognitive Behaviour Therapy, 47*(1), 1–18.
- Carroll, K. M., Ball, S. A., Martino, S., Nich, C., Babuscio, T. A., & Rounsaville, B. J. (2009). Enduring effects of a computer-assisted training program for cognitive behavioral therapy: A 6-month follow-up of CBT4CBT. *Drug and Alcohol Dependence, 100*(1-2), 178–181.
- Casey, L. M., Joy, A., & Clough, B. A. (2013). The impact of information on attitudes toward e-mental health services. *Cyberpsychology, Behavior, and Social Networking, 16*(8), 593–598.
- Chan, L., Cuplinskas, D., Eisen, M., Friend, F., Genova, Y., Guédon, J. C., & La Manna, M. (2002). *Budapest Open Access Initiative*.
- Chan, Y. Y., Wang, P., Rogers, L., Tignor, N., Zweig, M., Hershman, S. G., Genes, N., Scott, E. R., Krock, E., Badgeley, M., Edgar, R., Violante, S., Wright, R., Powell, C. A., Dudley, J. T., & Schadt, E. E. (2017). The Asthma Mobile Health Study, a large-scale clinical observational study using ResearchKit. *Nature Biotechnology, 35*(4), 354–362.

- Chapman, A. L. (2006). Dialectical behavior therapy: Current indications and unique elements. *Psychiatry (Edgmont)*, 3(9), 62–68.
- Chester, A., & Glass, C. A. (2006). Online counselling: A descriptive analysis of therapy services on the Internet. *British Journal of Guidance & Counselling*, 34(2), 145–160.
- Clay, R. A. (2019). Adopting an electronic health record—Or not. *Good Practice*, 8–12.
- Clement, J. (2019, November 25). *Apple App Store: Average app price 2019*. Statista. Retrieved from <https://www.statista.com/statistics/267346/average-apple-app-store-price-app/>
- Clement, J. (2020, January 15). *Number of apps available in leading app stores as of 4th quarter 2019*. Statista. Retrieved from <https://www.statista.com/statistics/276623/number-of-apps-available-in-leading-app-stores/>
- Clement, J. (2020, January 15). *Number of available apps at Google Play from 2nd quarter 2015 to 4th quarter 2019*. Statista. Retrieved from <https://www.statista.com/statistics/289418/number-of-available-apps-in-the-google-play-store-quarter/>
- Clement, J. (2020, January 30). *Number of Facebook users worldwide 2008-2019*. <https://www.statista.com/statistics/264810/number-of-monthly-active-facebook-users-worldwide/>
- Clough, B. A., & Casey, L. M. (2011). Technological adjuncts to enhance current psychotherapy practices: A review. *Clinical Psychology Review*, 31(3), 279–292. <https://doi.org/10.1016/j.cpr.2010.12.008>
- Cohn, M. A., Mehl, M. R., & Pennebaker, J. W. (2004). Linguistic markers of psychological change surrounding September 11, 2001. *Psychological Science*, 15, 687–693.

- Cooper, C. P., & Roter, D. L. (2000). “If it bleeds it leads”? Attributes of TV health news stories that drive viewer attention. *Public Health Reports, 115*(4), 331–338.
- Cotgrove, S. (1982). *Catastrophe or cornucopia: The environment, politics and the future*. John Wiley.
- Cramer, J., & Krueger, A. B. (2016). Disruptive change in the taxi business: The case of Uber. *The American Economic Review, 106*(5), 177–182.
- Creswell, J. W. (2003). A framework for design. *Research design: Qualitative, quantitative, and mixed methods approaches*, 9-11.
- Cristol, S. (2018). Patient’s perspective on using mobile technology as an aid to psychotherapy. *JMIR Mental Health, 5*(4), e10015. <https://doi.org/10.2196/10015>
- Crowe, M., Inder, M., Farmar, R., & Carlyle, D. (2020). Delivering psychotherapy by video conference in the time of COVID-19: Some considerations. *Journal of Psychiatric and Mental Health Nursing, 28*(5), 751–752.
- Cuijpers, P., & Quero, S. (2019). Wearable devices in the treatment of mental disorders: Motivational gadgets or new opportunities to improve treatments? *Clinical Psychology: Science and Practice, 26*(3). <https://doi.org/10.1111/cpsp.12296>
- de Alarcón, R., de la Iglesia, J. I., Casado, N. M., & Montejo, A. L. (2019). Online porn addiction: What we know and what we don’t—A systematic review. *Journal of Clinical Medicine, 8*(1), 91.
- de Alarcón, R., de la Iglesia, J. I., Casado, N. M., & Montejo, A. L. (2019). Online porn addiction: What we know and what we don’t—A systematic review. *Journal of Clinical Medicine, 8*(1), 91.

- de Alva, F. E. M., Wadley, G., & Lederman, R. (2015, December). It feels different from real life: users' opinions of mobile applications for mental health. In *Proceedings of the annual meeting of the Australian special interest group for computer human interaction* (pp. 598-602).
- De Choudhury, M., & De, S. (2014, May). Mental health discourse on Reddit: Self-disclosure, social support, and anonymity. In *Eighth international AAAI conference on weblogs and social media*.
- de Mello, F. L., & de Souza, S. A. (2019). Psychotherapy and artificial intelligence: A proposal for alignment. *Frontiers in Psychology, 10*, 263.
<https://doi.org/10.3389/fpsyg.2019.00263>
- Denzin, N. K. (1978). *Sociological Methods*. McGraw-Hill.
- Denzin, N. K., & Lincoln, Y. S. (Eds.). (2011). *The Sage Handbook of Qualitative Research*. sage.
- Dewa, C. S., Lesage, A., Goering, P., & Caveen, M. (2004). Nature and prevalence of mental illness in the workplace. *Healthcare Papers, 5*(2), 12–25.
- Dias, L. P. S., Barbosa, J. L. V., & Vianna, H. D. (2018). Gamification and serious games in depression care: A systematic mapping study. *Telematics and Informatics, 35*(1), 213–224. <https://doi.org/10.1016/j.tele.2017.11.002>
- Dickey, B., Normand, S. L. T., Weiss, R. D., Drake, R. E., & Azeni, H. (2002). Medical morbidity, mental illness, and substance use disorders. *Psychiatric Services, 53*(7), 861–867.
- DiClemente, C. C. (1983). Stages and processes of self-change of smoking: Toward an integrative model of change. *Journal of Consulting and Clinical Psychology, 51*(3), 390.

- Dimmock, M. (2019, January 17). Defining generations: Where Millennials end and post-Millennials begin. *Pew Research Center*. Retrieved December 21, 2019.
- Doherty, G., Coyle, D., & Matthews, M. (2010). Design and evaluation guidelines for mental health technologies. *Interacting with Computers*, 22(4), 243–252.
<https://doi.org/10.1016/j.intcom.2010.02.006>
- Donovan, C. L., Poole, C., Boyes, N., Redgate, J., & March, S. (2015). Australian mental health worker attitudes towards cCBT: What is the role of knowledge? Are there differences? Can we change them? *Internet Interventions*, 2(4), 372–381.
<https://doi.org/10.1016/j.invent.2015.09.001>
- Ebert, D. D., Berking, M., Cuijpers, P., Lehr, D., Pörtner, M., & Baumeister, H. (2015). Increasing the acceptance of internet-based mental health interventions in primary care patients with depressive symptoms. A randomized controlled trial. *Journal of Affective Disorders*, 176, 9-17.
- Eichenberg, C., & Schott, M. (2017). Serious games for psychotherapy: A systematic review. *Games for Health Journal*, 6(3), 127–135. <https://doi.org/10.1089/g4h.2016.0068>
- Ellul, J. (1968). *A critique of the new common places*. Alfred A. Knopf.
- Eonta, A. M., Christon, L. M., Hourigan, S. E., Ravindran, N., Vrana, S. R., & Southam-Gerow, M. A. (2011). Using everyday technology to enhance evidence-based treatments. *Professional Psychology: Research and Practice*, 42(6), 513.
- Erhardt, D., & Dorian, E. (2013). Going mobile: A case vignette illustrating the integration of mobile technology in psychotherapy. *Independent Practitioner*, 33(1), 15–21.
- Ewbank, M. P., Cummins, R., Tablan, V., Bateup, S., Catarino, A., Martin, A. J., & Blackwell, A. D. (2020). Quantifying the association between psychotherapy content and clinical

outcomes using deep learning. *JAMA Psychiatry*, 77(1), 35–43.

<https://doi.org/10.1001/jamapsychiatry.2019.2664>

Fairburn, C. G., & Patel, V. (2017). The impact of digital technology on psychological treatments and their dissemination. *Behaviour Research and Therapy*, 88, 19–25.

<https://doi.org/10.1016/j.brat.2016.08.012>

Farwell, J. (2017, April 10). Hackers steal patients' personal data from Bangor mental health practice. *Bangor Daily News*. Retrieved from

<https://bangordailynews.com/2017/04/10/health/hackers-steal-patients-personal-data-from-bangor-mental-health-practice/>

Feijt, M., De Kort, Y., Bongers, I., Bierbooms, J., Westerink, J., & IJsselsteijn, W. (2020).

Mental health care goes online: Practitioners' experiences of providing mental health care during the COVID-19 pandemic. *Cyberpsychology, Behavior, and Social Networking*, 23(12), 860-864.

Feijt, M., de Kort, Y., Bongers, I., Bierbooms, J., Westerink, J., & IJsselsteijn, W. (2020).

Mental health care goes online: Practitioners' experiences of providing mental health care during the COVID-19 pandemic. *Cyberpsychology, Behavior, and Social Networking*, 23(12), 860–864.

Feldman, D. B., & Crandall, C. S. (2007). Dimensions of mental illness stigma: What about mental illness causes social rejection? *Journal of Social and Clinical Psychology*, 26(2), 137–154.

Finn, J., & Barak, A. (2010). A descriptive study of e-counsellor attitudes, ethics, and practice.

Counselling and Psychotherapy Research, 10(4), 268–277.

<https://doi.org/10.1080/14733140903380847>

- Fiordelli, M., Diviani, N., & Schulz, P. J. (2013). Mapping mHealth research: A decade of evolution. *Journal of Medical Internet Research*, *15*(5), e2430.
- Firmin, M. W., DeWitt, K., Smith, L. A., Ellis, H. M., & Tiffan, N. M. (2018). Academic Differences Between the NASP and APA Ethical Codes. *Education*, *139*(2), 74-80.
- Firth, J., Torous, J., Nicholas, J., Carney, R., Prapat, A., Rosenbaum, S., & Sarris, J. (2017). The efficacy of smartphone-based mental health interventions for depressive symptoms: A meta-analysis of randomized controlled trials. *World Psychiatry*, *16*(3), 287–298.
- Firth, J., Torous, J., Nicholas, J., Carney, R., Rosenbaum, S., & Sarris, J. (2017). Can smartphone mental health interventions reduce symptoms of anxiety? A meta-analysis of randomized controlled trials. *Journal of Affective Disorders*, *218*, 15–22.
<https://doi.org/10.1016/j.jad.2017.04.046>
- Fiske, A., Henningsen, P., & Buyx, A. (2019). Your robot therapist will see you now: Ethical implications of embodied artificial intelligence in psychiatry, psychology, and psychotherapy. *Journal of Medical Internet Research*, *21*(5), e13216.
<https://doi.org/10.2196/13216>
- Fitzgerald, M., & Ratcliffe, G. (2020). Serious games, gamification, and serious mental illness: A scoping review. *Psychiatric Services*, *71*(2), 170–183.
<https://doi.org/10.1176/appi.ps.201800567>
- Fitzpatrick, K. K., Darcy, A., & Vierhile, M. (2017). Delivering cognitive behavior therapy to young adults with symptoms of depression and anxiety using a fully automated conversational agent (Woebot): A randomized controlled trial. *JMIR Mental Health*, *4*(2), e19. <https://doi.org/10.2196/mental.7785>

Fleitas, J. (1998). Spinning tales from the world wide web: Qualitative research in an electronic environment. *Qualitative Health Research, 8*, 283-292.

Folker, A. P., Mathiasen, K., Lauridsen, S. M., Stenderup, E., Dozeman, E., & Folker, M. P. (2018). Implementing internet-delivered cognitive behavior therapy for common mental health disorders: A comparative case study of implementation challenges perceived by therapists and managers in five European internet services. *Internet Interventions, 11*, 60–70. <https://doi.org/10.1016/j.invent.2018.02.001>

Foody, M., Samara, M., & Carlbring, P. (2015). A review of cyberbullying and suggestions for online psychological therapy. *Internet Interventions, 2*(3), 235-242

Freeman, D., Reeve, S., Robinson, A., Ehlers, A., Clark, D., Spanlang, B., & Slater, M. (2017). Virtual reality in the assessment, understanding, and treatment of mental health disorders. *Psychological Medicine, 47*(14), 2393–2400.

Friesen, L. N., Hadjistavropoulos, H. D., & Pugh, N. E. (2014). A qualitative examination of psychology graduate students' experiences with guided Internet-delivered cognitive behaviour therapy. *Internet Interventions, 1*(2), 41-48.

Friesen, L. N., Hadjistavropoulos, H. D., & Pugh, N. E. (2014). A qualitative examination of psychology graduate students' experiences with guided Internet-delivered cognitive behaviour therapy. *Internet Interventions, 1*(2), 41–48.
<https://doi.org/10.1016/j.invent.2014.04.001>

Gainsbury, S., & Blaszczynski, A. (2011). A systematic review of Internet-based therapy for the treatment of addictions. *Clinical Psychology Review, 31*(3), 490–498.
<https://doi.org/10.1016/j.cpr.2010.11.007>

- Game. (2020, January). In *Dictionary.com*. Retrieved from <https://www.dictionary.com/browse/game?s=t>
- García-Lizana, F., & Muñoz-Mayorga, I. (2010). Telemedicine for depression: A systematic review. *Perspectives in Psychiatric Care, 46*(2), 119–126. <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1744-6163.2010.00247.x>
- Garrido, S., Millington, C., Cheers, D., Boydell, K., Schubert, E., Meade, T., & Nguyen, Q. V. (2019). What works and what doesn't work? A systematic review of digital mental health interventions for depression and anxiety in young people. *Frontiers in Psychiatry / Frontiers Research Foundation, 10*, 759. <https://doi.org/10.3389/fpsy.2019.00759>
- George, D., Jameson, J. P., Michael, K., Yarbrough, J., & George, D. (2021). Assessing the efficacy of a self-administered treatment for social anxiety in the form of a gamified mobile application: A pilot study. *Journal of Technology in Behavioral Science, 6*(1), 124-136.
- Germain, V., Marchand, A., Bouchard, S., Guay, S., & Drouin, M. S. (2010). Assessment of the therapeutic alliance in face-to-face or videoconference treatment for posttraumatic stress disorder. *Cyberpsychology, Behavior, and Social Networking, 13*(1), 29–35.
- Gertner, J. (2012). *The idea factory: Bell Labs and the great age of American innovation*. Penguin.
- Gonzalez, V. M., & Dulin, P. L. (2015). Comparison of a smartphone app for alcohol use disorders with an Internet-based intervention plus bibliotherapy: A pilot study. *Journal of Consulting and Clinical Psychology, 83*(2), 335.
- Gratzer, D., & Goldbloom, D. (2020). Therapy and e-therapy—preparing future psychiatrists in the era of apps and chatbots. *Academic Psychiatry, 44*(2), 231-234.

- Gratzer, D., & Goldbloom, D. (2020). Therapy and e-therapy—preparing future psychiatrists in the era of apps and chatbots. *Academic Psychiatry, 44*(2), 231-234.
- Grundlingh, L. (2017). Identifying markers of sensationalism in online news reports on crime. *Language Matters, 48*(2), 117-136.
- Gunter, T. D., & Terry, N. P. (2005). The emergence of national electronic health record architectures in the United States and Australia: Models, costs, and questions. *Journal of Medical Internet Research, 7*(1), e3.
- Gustafson, D. H., McTavish, F. M., Chih, M. Y., Atwood, A. K., Johnson, R. A., Boyle, M. G., ... & Shah, D. (2014). A smartphone application to support recovery from alcoholism: a randomized clinical trial. *JAMA Psychiatry, 71*(5), 566-572.
- Halpern, E. S. (1983). *Auditing naturalistic inquiries: The development and application of a model* [Unpublished doctoral dissertation]. Indiana University.
- Hamari, J., Koivisto, J., & Sarsa, H. (2014). Does gamification work?—A literature review of empirical studies on gamification. *47th Hawaii International Conference on System Sciences, 3025–3034*. <https://doi.org/10.1109/HICSS.2014.377>
- Handley, T. E., Kay-Lambkin, F. J., Inder, K. J., Attia, J. R., Lewin, T. J., & Kelly, B. J. (2014). Feasibility of internet-delivered mental health treatments for rural populations. *Social Psychiatry and Psychiatric Epidemiology, 49*(2), 275–282.
- Harris, B., & Birnbaum, R. (2015). Ethical and legal implications on the use of technology in counselling. *Clinical Social Work Journal, 43*(2), 133–141.
<https://doi.org/10.1007/s10615-014-0515-0>
- Harris, E., & Younggren, J. N. (2011). Risk management in the digital world. *Professional Psychology: Research and Practice, 42*(6), 412.

- Hedman, E., Ljótsson, B., & Lindefors, N. (2012). Cognitive behavior therapy via the Internet: A systematic review of applications, clinical efficacy and cost-effectiveness. *Expert Review of Pharmacoeconomics & Outcomes Research, 12*(6), 745–764.
- Heffner, J. L., Vilaradaga, R., Mercer, L. D., Kientz, J. A., & Bricker, J. B. (2015). Feature-level analysis of a novel smartphone application for smoking cessation. *The American Journal of Drug and Alcohol Abuse, 41*(1), 68-73.
- Heinicke, B. E., Paxton, S. J., McLean, S. A., & Wertheim, E. H. (2007). Internet-delivered targeted group intervention for body dissatisfaction and disordered eating in adolescent girls: a randomized controlled trial. *Journal of Abnormal Child Psychology, 35*(3), 379-391.
- Henderson, M., Selwyn, N., & Aston, R. (2017). What works and why? Student perceptions of ‘useful’ digital technology in university teaching and learning. *Studies in Higher Education, 42*(8), 1567–1579.
- Hilty, D. M., Ferrer, D. C., Parish, M. B., Johnston, B., Callahan, E. J., & Yellowlees, P. M. (2013). The effectiveness of telemental health: A 2013 review. *Telemedicine Journal and E-Health: The Official Journal of the American Telemedicine Association, 19*(6), 444–454.
- Hines-Martin, V., Malone, M., Kim, S., & Brown-Piper, A. (2003). Barriers to mental health care access in an African American population. *Issues in Mental Health Nursing, 24*(3), 237–256.
- Hogan, M., & Shepherd, T. (2015). Information ownership and materiality in an age of big data surveillance. *Journal of Government Information: An International Review of Policy, Issues and Resources, 5*, 6–31.

- Holland, E. (2019, February 6). Online psychotherapy for the elderly. *Wall Street Journal*.
<https://www.wsj.com/articles/online-psychotherapy-for-the-elderly-11549477494>
- Hollis, C., Sampson, S., Simons, L., Davies, E. B., Churchill, R., Betton, V., Butler, D., Chapman, K., Easton, K., Gronlund, T. A., Kabir, T., Rawsthorne, M., Rye, E., & Tomlin, A. (2018). Identifying research priorities for digital technology in mental health care: Results of the James Lind Alliance Priority Setting Partnership. *The Lancet, Psychiatry*, 5(10), 845–854. [https://doi.org/10.1016/S2215-0366\(18\)30296-7](https://doi.org/10.1016/S2215-0366(18)30296-7)
- Holmes, E. A., O'Connor, R. C., Perry, V. H., Tracey, I., Wessely, S., Arseneault, L., Ballard, C., Christensen, H., Cohen Silver, R., Everall, I., Ford, T., John, A., Kabir, T., King, K., Madan, I., Michie, S., Przybylski, A. K., Shafran, R., Sweeney, A., ... Bullmore, E. (2020). Multidisciplinary research priorities for the COVID-19 pandemic: A call for action for mental health science. *The Lancet, Psychiatry*, 7(6), 547–560.
[https://doi.org/10.1016/S2215-0366\(20\)30168-1](https://doi.org/10.1016/S2215-0366(20)30168-1)
- Horesh, D., & Brown, A. D. (2020). Traumatic stress in the age of COVID-19: A call to close critical gaps and adapt to new realities. *Psychological Trauma: Theory, Research, Practice and Policy*, 12(4), 331–335.
- Howells, A., Ivtzan, I., & Eiroa-Orosa, F. J. (2016). Putting the ‘app’ in happiness: A randomised controlled trial of a smartphone-based mindfulness intervention to enhance wellbeing. *Journal of Happiness Studies*, 17(1), 163–185
- Hudson, J. M., & Bruckman, A. (2004). “Go away”: Participant objections to being studied and the ethics of chatroom research. *The Information Society*, 20(2), 127–139.
- Hull, T. D. (2015). A preliminary study of Talkspace’s text-based psychotherapy. (Doctoral dissertation).

- Hull, T. D., & Mahan, K. (2017). A study of asynchronous mobile-enabled SMS text psychotherapy. *Telemedicine and e-Health, 23*(3), 240-247.
- Imel, Z. E., Caperton, D. D., Tanana, M., & Atkins, D. C. (2017). Technology-enhanced human interaction in psychotherapy. *Journal of Counseling Psychology, 64*(4), 385–393.
- Inkster, B., Sarda, S., & Subramanian, V. (2018). An empathy-driven, conversational artificial intelligence agent (Wysa) for digital mental well-being: Real-world data evaluation mixed-methods study. *JMIR mHealth and uHealth, 6*(11), e12106.
<https://doi.org/10.2196/12106>
- Ivanova, E., Lindner, P., Ly, K. H., Dahlin, M., Vernmark, K., Andersson, G., & Carlbring, P. (2016). Guided and unguided Acceptance and Commitment Therapy for social anxiety disorder and/or panic disorder provided via the Internet and a smartphone application: A randomized controlled trial. *Journal of Anxiety Disorders, 44*, 27-35.
- Jones, D. J., Forehand, R., Cuellar, J., Parent, J., Honeycutt, A., Khavjou, O., Gonzalez, M., Anton, M., & Newey, G. A. (2014). Technology-enhanced program for child disruptive behavior disorders: Development and pilot randomized control trial. *Journal of Clinical Child & Adolescent Psychology, 43*(1), 88–101.
- Kacewicz, E. (2013). Language as a marker of CEO transition and company performance. (Doctoral dissertation).
- Kahn, J., Ducharme, P., Rotenberg, A., & Gonzalez-Heydrich, J. (2013). “RAGE-Control”: A game to build emotional strength. *Games for Health Journal, 2*(1), 53–57.
<https://doi.org/10.1089/g4h.2013.0007>
- Kapp, E. (2018). *Elements of a philosophy of technology: On the evolutionary history of culture*. University of Minnesota Press.

- Kazantzis, N., Deane, F. P., Ronan, K. R., & L'Abate, L. (2005). *Using homework assignments in cognitive behavior therapy*. Routledge.
- Kazdin, A. E. (1982). The token economy: A decade later. *Journal of Applied Behavior Analysis*, *15*(3), 431–445.
- Kazdin, A. E., & Bootzin, R. R. (1972). The token economy: An evaluative review. *Journal of Applied Behavior Analysis*, *5*(3), 343–372.
- Keles, B., McCrae, N., & Grealish, A. (2020). A systematic review: The influence of social media on depression, anxiety and psychological distress in adolescents. *International Journal of Adolescence and Youth*, *25*(1), 79–93.
- Kelly, H. (2012, December 3). *OMG, the text message turns 20. But has SMS peaked?* Retrieved from <https://edition.cnn.com/2012/12/03/tech/mobile/sms-text-message-20>
- Kerst, A., Zielasek, J., & Gaebel, W. (2019). Smartphone applications for depression: A systematic literature review and a survey of health care professionals' attitudes towards their use in clinical practice. *European Archives of Psychiatry and Clinical Neuroscience*, *270*(2), 139–152.
- Kessler, R. C., Demler, O., Frank, R. G., Olfson, M., Pincus, H. A., Walters, E. E., Wang, P., Wells, K. B., & Zaslavsky, A. M. (2005). Prevalence and treatment of mental disorders, 1990 to 2003. *The New England Journal of Medicine*, *352*(24), 2515–2523.
- Kim, H. E., Kim, H. H., Han, B. K., Kim, K. H., Han, K., Nam, H., Lee, E. H., & Kim, E. K. (2020). Changes in cancer detection and false-positive recall in mammography using artificial intelligence: A retrospective, multireader study. *The Lancet Digital Health*, *2*(3), e138-e148.

- Kitchin, H. A. (2002) The Tri-Council on cyberspace: Insights, oversights, and extrapolations. In W. C. Van den Hoonaard (Ed.), *Walking the tightrope: Ethical issues for qualitative researchers*. University of Toronto Press.
- Klein, B., Mitchell, J., Gilson, K., Shandley, K., Austin, D., Kiropoulos, L., ... & Cannard, G. (2009). A therapist-assisted internet-based CBT intervention for posttraumatic stress disorder: Preliminary results. *Cognitive behaviour therapy*, 38(2), 121-131.
- Kool, V. K., & Agrawal, R. (2016). *Psychology of Technology*. Springer International Publishing AG.
- Kortz, L. (2017). *Understanding the working alliance and alliance ruptures in online psychotherapy from the therapist's perspective*. State University of New York at Albany.
- Krauss, S. E. (2005). Research paradigms and meaning making: A primer. *The Qualitative Report*, 10(4), 758-770.
- Kveraga, K., Boshyan, J., Adams, R. B., Jr, Mote, J., Betz, N., Ward, N., Hadjikhani, N., Bar, M., & Barrett, L. F. (2015). If it bleeds, it leads: separating threat from mere negativity. *Social Cognitive and Affective Neuroscience*, 10(1), 28–35.
- Lal, S., & Adair, C. E. (2014). E-mental health: A rapid review of the literature. *Psychiatric Services*, 65(1), 24–32.
- Larson, J. E., & Corrigan, P. W. (2010). Psychotherapy for self-stigma among rural clients. *Journal of Clinical Psychology*, 66(5), 524–536.
- Latour, B. (1996). On actor-network theory: A few clarifications. *Soziale Welt*, 369-381.
- Lavelle, D. (2019, January 4). Move over, millennials and Gen Z – here comes Generation Alpha. *The Guardian*. Retrieved July 8, 2019.

- Ledwich, M., & Zaitsev, A. (2019). Algorithmic extremism: Examining YouTube's rabbit hole of radicalization. In *arXiv [cs.SI]*. arXiv. <http://arxiv.org/abs/1912.11211>
- Leech, N. L., & Onwuegbuzie, A. J. (2011). Beyond constant comparison qualitative data analysis: Using NVivo. *School Psychology Quarterly*, 26(1), 70–84.
- Lenhart, A., Purcell, K., Smith, A., & Zickuhr, K. (2010). Social media & mobile internet use among teens and young adults. *Pew Internet & American life project*.
- LePage, J. P., DelBen, K., Pollard, S., McGhee, M., VanHorn, L., Murphy, J., Lewis, P., Aboraa, A., & Mogge, N. (2003). Reducing assaults on an acute psychiatric unit using a token economy: A 2-year follow-up. *Behavioral Interventions: Theory & Practice in Residential & Community-Based Clinical Programs*, 18(3), 179–190.
- Leung, R., Hastings, J. F., Keefe, R. H., Brownstein-Evans, C., Chan, K. T., & Mullick, R. (2016). Building mobile apps for underrepresented mental health care consumers: A grounded theory approach. *Social Work in Mental Health*, 14(6), 625–636. <https://doi.org/10.1080/15332985.2015.1130010>
- Lewandowsky, S., Ecker, U. K., & Cook, J. (2017). Beyond misinformation: Understanding and coping with the “post-truth” era. *Journal of Applied Research in Memory and Cognition*, 6(4), 353–369.
- Linardon, J., & Fuller-Tyszkiewicz, M. (2020). Attrition and adherence in smartphone-delivered interventions for mental health problems: A systematic and meta-analytic review. *Journal of Consulting And Clinical Psychology*, 88(1), 1.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Sage Publications.

- Lindhiem, O., Bennett, C. B., Rosen, D., & Silk, J. (2015). Mobile technology boosts the effectiveness of psychotherapy and behavioral interventions: A meta-analysis. *Behavior Modification, 39*(6), 785–804.
- Lovejoy, T. I., Demireva, P. D., Grayson, J. L., & McNamara, J. R. (2009). Advancing the practice of online psychotherapy: An application of Rogers' diffusion of innovations theory. *Psychotherapy, 46*(1), 112–124.
- Luepker, E. T. (2012). *Record keeping in psychotherapy and counseling: Protecting confidentiality and the professional relationship*. Routledge.
- Lui, J. H., Marcus, D. K., & Barry, C. T. (2017). Evidence-based apps? A review of mental health mobile applications in a psychotherapy context. *Professional Psychology: Research and Practice, 48*(3), 199.
- Ly, K. H., Ly, A.-M., & Andersson, G. (2017). A fully automated conversational agent for promoting mental well-being: A pilot RCT using mixed methods. *Internet Interventions, 10*, 39–46.
- Ma, J. (2019, December 5). African entrepreneurs will drive the next digital revolution. *New York Times*. <https://www.nytimes.com/2019/12/05/opinion/jack-ma-africa-digital-economy.html>
- Malterud, K. (2001). Qualitative research: Standards, challenges, and guidelines. *The Lancet, 358*(9280), 483–488.
- Mandryk, R. L., & Birk, M. V. (2017). Toward game-based digital mental health interventions: Player habits and preferences. *Journal of Medical Internet Research, 19*(4), e128.

- Manfrida, G., Albertini, V., & Eisenberg, E. (2017). Connected: Recommendations and techniques in order to employ internet tools for the enhancement of online therapeutic relationships. Experiences from Italy. *Contemporary Family Therapy, 39*(4), 314–328.
- Marcelle, E. T., Nolting, L., Hinshaw, S. P., & Aguilera, A. (2019). Effectiveness of a multimodal digital psychotherapy platform for adult depression: A naturalistic feasibility study. *JMIR mHealth and uHealth, 7*(1), e10948.
- Marks, I. (2004). Psychiatry in the future: Information technology can pull mental health care into the 21st century. *Psychiatric Bulletin, 28*(9), 319–320.
- Maron, E., Baldwin, D. S., Balōtšev, R., Fabbri, C., Gaur, V., Hidalgo-Mazzei, D., Hood, S., Juhola, M., Kampman, O., Kasper, S., Kärkkäinen, H., Látalová, K., Lähteenvuo, M., Mastellos, N., McTigue, J., Metsallik, J., Metspalu, A., Nutt, D., Nykänen, P., ... Eberhard, J. (2019). Manifesto for an international digital mental health network. *Digital Psychiatry, 2*(1), 14–24. <https://doi.org/10.1080/2575517X.2019.1617575>
- Martinez-Martin, N., & Kreitmair, K. (2018). Ethical issues for direct-to-consumer digital psychotherapy apps: Addressing accountability, data protection, and consent. *JMIR Mental Health, 5*(2), e32. <https://doi.org/10.2196/mental.9423>
- Marzano, L., Bardill, A., Fields, B., Herd, K., Veale, D., Grey, N., & Moran, P. (2015). The application of mHealth to mental health: Opportunities and challenges. *The Lancet Psychiatry, 2*(10), 942-948.
- Massanari, A. (2013). Playful participatory culture: Learning from Reddit. *AoIR Selected Papers of Internet Research*.
- Matthews, M., Doherty, G., Sharry, J., & Fitzpatrick, C. (2008). Mobile phone mood charting for adolescents. *British Journal of Guidance & Counselling, 36*(2), 113-129.

- McKee, M. (2008). Biofeedback: An overview in the context of heart-brain medicine. *Cleveland Clinic Journal of Medicine*, 75, S31.
- McMahon, G., Palmer, S., & Wilding, C. (2013). *The essential skills for setting up a counselling and psychotherapy practice*. Routledge.
- McMinn, M. R., Bearnse, J., Heyne, L. K., Smithberger, A., & Erb, A. L. (2011). Technology and independent practice: Survey findings and implications. *Professional Psychology, Research and Practice*, 42(2), 176–184.
- McMonagle, T., & Sultana, A. (2000). Token economy for schizophrenia. *Cochrane Database of Systematic Reviews*, (3).
- Melek, S., Davenport, S., & Gray, T. J. (2019). Addiction and mental health vs. physical health: Widening disparities in network use and provider reimbursement. *Milman Research Report*.
- Merriam, S. B., & Tisdell, E. J. (2015). *Qualitative research: A guide to design and implementation*. John Wiley & Sons.
- Migone, P. (2013). Psychoanalysis on the Internet: A discussion of its theoretical implications for both online and offline therapeutic technique. *Psychoanalytic Psychology*, 30(2), 281–299. <https://doi.org/10.1037/a0031507>
- Miner, A. S., Shah, N., Bullock, K. D., Arnow, B. A., Bailenson, J., & Hancock, J. (2019). Key considerations for incorporating conversational AI in psychotherapy. *Frontiers in Psychiatry / Frontiers Research Foundation*, 10, 746. <https://doi.org/10.3389/fpsy.2019.00746>

- Miu, A. S., Vo, H. T., Palka, J. M., Glowacki, C. R., & Robinson, R. J. (2021). Teletherapy with serious mental illness populations during COVID-19: Telehealth conversion and engagement. *Counselling Psychology Quarterly*, 34(3-4), 704-721.
- Mohr, D. C., Tomasino, K. N., Lattie, E. G., Palac, H. L., Kwasny, M. J., Weingardt, K., Karr, C. J., Kaiser, S. M., Rossom, R. C., Bardsley, L. R., Caccamo, L., Stiles-Shields, C., & Schueller, S. M. (2017). IntelliCare: An eclectic, skills-based app suite for the treatment of depression and anxiety. *Journal of Medical Internet Research*, 19(1), e10.
- Morrissey, J. (2018, November 7). *When robots ring the bell*. New York Times. Retrieved from <https://www.nytimes.com/2018/11/07/business/robotics-automation-productivity-jobs.html>
- Morrissey, J. (2019, February 14). The instant, custom, connected future of medical devices. *New York Times*. <https://nytimes.com/2019/02/14/business/smart-medical-devices-implants.html>
- Morrissey, J. (2019, February 21). Looking to technology to avoid doctors' offices and emergency rooms. *New York Times*. <https://www.nytimes.com/2019/02/21/business/medical-technology-ai-tests.html>
- Morrow, S. L. (2007). Qualitative research in counseling psychology: Conceptual foundations. *The Counseling Psychologist*, 35(2), 209-235.
- Naeem, F., Gire, N., Xiang, S., Yang, M., Syed, Y., Shokrane, F., Adams, C., & Farooq, S. (2016). Reporting and understanding the safety and adverse effect profile of mobile apps for psychosocial interventions: An update. *World Journal of Psychiatry*, 6(2), 187-191.
- Ndung, N., & Signé, L. (2020, February 7). *The Fourth Industrial Revolution and digitization will transform Africa into a global powerhouse*. Retrieved from

- <https://www.brookings.edu/research/the-fourth-industrial-revolution-and-digitization-will-transform-africa-into-a-global-powerhouse>
- Neary, M., & Schueller, S. M. (2018). State of the field of mental health apps. *Cognitive and Behavioral Practice, 25*(4), 531–537.
- Newman, M. G., Szkodny, L. E., Llera, S. J., & Przeworski, A. (2011). A review of technology-assisted self-help and minimal contact therapies for anxiety and depression: Is human contact necessary for therapeutic efficacy? *Clinical Psychology Review, 31*(1), 89–103.
- Nicholas, J., Fogarty, A. S., Boydell, K., & Christensen, H. (2017). The reviews are in: A qualitative content analysis of consumer perspectives on apps for bipolar disorder. *Journal of Medical Internet Research, 19*(4), e7273.
- Norcross, J. C., Pfund, R. A., & Prochaska, J. O. (2013). Psychotherapy in 2022: A Delphi poll on its future. *Professional Psychology, Research and Practice, 44*(5), 363–370.
- Novotney, A. (2017, February). *A growing wave of online therapy*. Retrieved from <https://www.apa.org/monitor/2017/02/online-therapy>
- Obar, J. A., & Wildman, S. S. (2015). Social media definition and the governance challenge: An introduction to the special issue. *Telecommunications Policy, 39*(9), 745–750.
- Olthuis, J. V., Watt, M. C., Bailey, K., Hayden, J. A., & Stewart, S. H. (2016). Therapist-supported Internet cognitive behavioural therapy for anxiety disorders in adults. *Cochrane Database of Systematic Reviews, (3)*.
- Ortiz-Ospina, E. (2019, September 18). *The rise of social media*. Retrieved from <https://ourworldindata.org/rise-of-social-media>
- Owings-Fonner, N. (2019, June). *Let's get technical: How does this practice management software stack up?* Retrieved from

<https://www.apaservices.org/practice/business/technology/tech-column/practice-management-software>

- Parikh, S. V., & Huniewicz, P. (2015). E-health: An overview of the uses of the Internet, social media, apps, and websites for mood disorders. *Current Opinion in Psychiatry*, 28(1), 13–17. <https://doi.org/10.1097/YCO.0000000000000123>
- Park, A., Conway, M., & Chen, A. T. (2018). Examining thematic similarity, difference, and membership in three online mental health communities from Reddit: a text mining and visualization approach. *Computers in Human Behavior*, 78, 98-112.
- Passos, I. C., Mwangi, B., & Kapczynski, F. (2019). *Personalized psychiatry: Big data analytics in mental health*. Springer International Publishing.
- Patel, V., Xiao, S., Chen, H., Hanna, F., Jotheeswaran, A. T., Luo, D., Parikh, R., Sharma, E., Usmani, S., Yu, Y., Druss, B. G., & Saxena, S. (2016). The magnitude of and health system responses to the mental health treatment gap in adults in India and China. *The Lancet*, 388(10063), 3074–3084.
- Patton, E. A. (2019). Knowing your neighbors: An analysis of the social media app “Nextdoor” and human interaction (Doctoral dissertation).
- Patton, M. Q. (1999). Enhancing the quality and credibility of qualitative analysis. *HSR: Health Services Research*, 34(5), 1189–1208.
- Patton, M. Q. (2002). Two decades of developments in qualitative inquiry: A personal, experiential perspective. *Qualitative Social Work*, 1(3), 261-283.
- Pennebaker, J. W., Chung, C. K., Frazee, J., Lavergne, G. M., & Beaver, D. I. (2014). When small words foretell academic success: The case of college admissions essays. *PLoS ONE* 9(12), e115844. <https://doi.org/10.1371/journal.pone.0115844>

Pennebaker, J. W., Francis, M. E., & Booth, R. J. (2001). *Linguistic inquiry and word count: LIWC*. Lawrence Erlbaum Associates.

Perano, U. (2019, August 8). *Millennials babies make up Generation Alpha and they'll shape our future*. Axios. <https://www.axios.com/generation-alpha-millennial-children-63438b10-6817-483e-8472-38810df77880.html>

Perle, J. G., Langsam, L. C., Randel, A., Lutchman, S., Levine, A. B., Odland, A. P., ... & Marker, C. D. (2013). Attitudes toward psychological telehealth: Current and future clinical psychologists' opinions of Internet-based interventions. *Journal of Clinical Psychology, 69*(1), 100-113.

Perrin, A., & Kumar, M. (2019, July 25). *About three-in-ten U.S. adults say they are 'almost constantly' online*. <https://www.pewresearch.org/fact-tank/2019/07/25/americans-going-online-almost-constantly/>

Petrow, S. (2017, January 24). Text-based therapy is not ready for prime time. *USA Today*. <https://www.usatoday.com/story/tech/columnist/stevenpetrow/2017/01/24/text-based-therapy-not-ready-prime-time/96799556/>

Pew Research Center. (2019). *Internet/Broadband fact sheet*. <https://www.pewresearch.org/internet/fact-sheet/internet-broadband/>

Piasecki, T. M., Hufford, M. R., Solhan, M., & Trull, T. J. (2007). Assessing clients in their natural environments with electronic diaries: Rationale, benefits, limitations, and barriers. *Psychological Assessment, 19*(1), 25–43. <https://doi.org/10.1037/1040-3590.19.1.25>

Pinker, S. (2012). *The better angels of our nature*. Penguin.

Pogue, D. (2009, November 4). A place to put your apps. *New York Times*.

<https://www.nytimes.com/2009/11/05/technology/personaltech/05pogue.html?pagewanted=all>

Poletti, B., Tagini, S., Brugnera, A., Parolin, L., Pievani, L., Ferrucci, R., Compare, A., & Silani, V. (2020). Telepsychotherapy: A leaflet for psychotherapists in the age of COVID-19. A review of the evidence. *Counselling Psychology Quarterly*, 1–16.

Pramana, G., Parmanto, B., Kendall, P. C., & Silk, J. S. (2014). The SmartCAT: An m-health platform for ecological momentary intervention in child anxiety treatment. *Telemedicine and e-Health*, 20(5), 419-427.

Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon*, 9(5), 1–6.

Price, M., Davidson, T. M., Andrews, J. O., & Ruggiero, K. J. (2013). Access, use and completion of a brief disaster mental health intervention among Hispanics, African-Americans and Whites affected by Hurricane Ike. *Journal of Telemedicine and Telecare*, 19(2), 70–74.

Price, M., Yuen, E. K., Goetter, E. M., Herbert, J. D., Forman, E. M., Acierno, R., & Ruggiero, K. J. (2014). mHealth: A mechanism to deliver more accessible, more effective mental health care. *Clinical Psychology & Psychotherapy*, 21(5), 427–436.

Probst, T., Kuska, M., Stipl, P., & Pieh, C. (2020, April 20). *Psychotherapists register impacts of the covid-19 lockdown on their patients*. SSRN. <https://doi.org/10.2139/ssrn.3581015>

Probst, T., Stipl, P., & Pieh, C. (2020). Changes in provision of psychotherapy in the early weeks of the covid-19 lockdown in Austria. *International Journal of Environmental Research and Public Health*, 17(11), 3815.

- RachBeisel, J., Scott, J., & Dixon, L. (1999). Co-occurring severe mental illness and substance use disorders: A review of recent research. *Psychiatric Services, 50*(11), 1427–1434.
- Ragusea, A. S., & VandeCreek, L. (2003). Suggestions for the ethical practice of online psychotherapy (Vol. 40, No. 1-2, p. 94). *Educational Publishing Foundation*.
- Reamer, F. G. (2013). Social work in a digital age: Ethical and risk management challenges. *Social Work, 58*(2), 163-172.
- Renn, B. N., Hoefl, T. J., Lee, H. S., Bauer, A. M., & Areán, P. A. (2019). Preference for in-person psychotherapy versus digital psychotherapy options for depression: Survey of adults in the US. *NPJ Digital Medicine, 2*(1), 1-7.
- Ribeiro, M. H., Ottoni, R., West, R., Almeida, V. A. F., & Meira, W. (2019). Auditing radicalization pathways on YouTube. In *arXiv [cs.CY]*. arXiv.
<http://arxiv.org/abs/1908.08313>
- Rice, E., Lee, A., & Taitt, S. (2011). Cell phone use among homeless youth: Potential for new health interventions and research. *Journal of Urban Health, 88*(6), 1175-1182.
- Rice, K. (2018, April 11). *Will artificial intelligence revolutionize psychotherapy?* Retrieved from <http://www.publicseminar.org/2018/04/will-artificial-intelligence-revolutionize-psychotherapy/>
- Richards, P., Simpson, S., Bastiampillai, T., Pietrabissa, G., & Castelnuovo, G. (2018). The impact of technology on therapeutic alliance and engagement in psychotherapy: The therapist's perspective. *The Clinical Psychologist, 22*(2), 171–181.
<https://doi.org/10.1111/cp.12102>

- Riva, G., Calvo, R., & Lisetti, C. (2015). Cyberpsychology and affective computing. In R. Calvo, S. D'Mello, J. Gratch, & A. Kappas (Eds.), *The Oxford handbook of affective computing*. Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199942237.013.017>
- Rizvi, S. L., Dimeff, L. A., Skutch, J., Carroll, D., & Linehan, M. M. (2011). A pilot study of the DBT coach: An interactive mobile phone application for individuals with borderline personality disorder and substance use disorder. *Behavior Therapy, 42*(4), 589-600.
- Robinson, P., & Serfaty, M. (2008). Getting better byte by byte: A pilot randomised controlled trial of email therapy for bulimia nervosa and binge eating disorder. *European Eating Disorders Review: The Professional Journal of the Eating Disorders Association, 16*(2), 84-93.
- Rodham, K., & Gavin, J. (2006). The ethics of using the internet to collect qualitative research data. *Research Ethics, 2*(3), 92-97.
- Roose, K. (2019, December 30). The 2019 good tech awards. *New York Times*. <https://www.nytimes.com/2019/12/30/technology/the-2019-good-tech-awards.html>
- Rosen, L. D., Cheever, N., & Carrier, L. M., (2015). *The Wiley handbook of psychology, technology, and society*. John Wiley & Sons.
- Rost, T., Stein, J., Löbner, M., Kersting, A., Luck-Sikorski, C., & Riedel-Heller, S. G. (2017). User acceptance of computerized cognitive behavioral therapy for depression: systematic review. *Journal of Medical Internet Research, 19*(9), e7662.
- Rost, T., Stein, J., Löbner, M., Kersting, A., Luck-Sikorski, C., & Riedel-Heller, S. G. (2017). User acceptance of computerized cognitive behavioral therapy for depression: Systematic review. *Journal of Medical Internet Research, 19*(9), e7662.

- Royal College of Psychiatrists. (2018). *Long waits for mental health treatment lead to divorce, job loss and money problems, RCPsych finds*. <https://www.rcpsych.ac.uk/news-and-features/latest-news/detail/2018/10/08/long-waits-for-mental-health-treatment-lead-to-divorce-job-loss-and-money-problems-rcpsych-finds>
- Rozin, P., & Royzman, E. B. (2001). Negativity bias, negativity dominance, and contagion. *Personality and Social Psychology Review*, 5(4), 296-320.
- Russell Stuart, J., & Norvig, P. (2009). *Artificial intelligence: A modern Approach*. Prentice Hall.
- Ryan, G., & Bernard, H. (2003). Techniques to identify themes. *Field Methods*, 15(1), 85–109.
- Saeb, S., Zhang, M., Karr, C. J., Schueller, S. M., Corden, M. E., Kording, K. P., & Mohr, D. C. (2015). Mobile phone sensor correlates of depressive symptom severity in daily-life behavior: An exploratory study. *Journal of Medical Internet Research*, 17(7), e175.
- Sandoval, L. R., Torous, J., & Keshavan, M. S. (2017). Smartphones for smarter care? Self-management in schizophrenia. *American Journal of Psychiatry*, 174(8), 725-728.
- Sanger, L. (2012, December). *Who says we know: On the new politics of knowledge*. Retrieved from http://www.edge.org/3rd_culture/sanger07/sanger07_index.html
- Santesteban-Echarri, O., Rice, S., Wadley, G., Lederman, R., D'Alfonso, S., Russon, P., Chambers, R., Miles, C. J., Gilbertson, T., Gleeson, J. F., McGorry, P. D., & Álvarez-Jiménez, M. (2017). A next-generation social media-based relapse prevention intervention for youth depression: Qualitative data on user experience outcomes for social networking, safety, and clinical benefit. *Internet Interventions*, 9, 65–73.
- Schlosser, D. A., Campellone, T. R., Truong, B., Etter, K., Vergani, S., Komaiko, K., & Vinogradov, S. (2018). Efficacy of PRIME, a mobile app intervention designed to

- improve motivation in young people with schizophrenia. *Schizophrenia Bulletin*, 44(5), 1010–1020.
- Scholten, H., & Granic, I. (2019). Use of the principles of design thinking to address limitations of digital mental health interventions for youth: Viewpoint. *Journal of Medical Internet Research*, 21(1), e11528.
- Shalom, J. G., Israel, R., & Shalom, N. (2015). Combining face-to-face therapy with computerized techniques: A therapists' attitudes survey. *Studies in Health Technology and Informatics*, 219, 69–74. <https://www.ncbi.nlm.nih.gov/pubmed/26799882>
- Sharma, R., Wigginton, B., Meurk, C., Ford, P., & Gartner, C. E. (2017). Motivations and limitations associated with vaping among people with mental illness: A qualitative analysis of reddit discussions. *International Journal of Environmental Research and Public Health*, 14(1), 7.
- Shen, J. H., & Rudzicz, F. (2017). Detecting anxiety through Reddit. In *Proceedings of the Fourth Workshop on Computational Linguistics and Clinical Psychology – From Linguistic Signal to Clinical Reality*. <https://doi.org/10.18653/v1/w17-3107>
- Sidhu, I. (2016). *The digital revolution: How connected digital innovations are transforming your industry, company, and career*. Pearson Education, Inc.
- Silver, L. (2019, December 30). *Smartphone ownership is growing rapidly around the world, but not always equally*. <https://www.pewresearch.org/global/2019/02/05/smartphone-ownership-is-growing-rapidly-around-the-world-but-not-always-equally/>
- Sims, H., Sanghara, H., Hayes, D., Wandiembe, S., Finch, M., Jakobsen, H., ... & Kravariti, E. (2012). Text message reminders of appointments: A pilot intervention at four community mental health clinics in London. *Psychiatric Services*, 63(2), 161-168.

- Singer, N., Perlroth, N., & Krolik, A. (2020, April 8). Zoom rushes to improve privacy for consumers flooding its service. *New York Times*.
<https://www.nytimes.com/2020/04/08/business/zoom-video-privacy-security-coronavirus.html>
- Smalley, K. B., Yancey, C. T., Warren, J. C., Naufel, K., Ryan, R., & Pugh, J. L. (2010). Rural mental health and psychological treatment: A review for practitioners. *Journal of Clinical Psychology, 66*(5), 479–489.
- Smith, A., & Williams, K. D. (2004). RU there? Ostracism by cell phone text messages. *Group dynamics: Theory, Research, and Practice, 8*(4), 291.
- Smith, L. (2005). Psychotherapy, classism, and the poor: Conspicuous by their absence. *American Psychologist, 60*(7), 687–696.
- Snider, M. (2019, November 23). T-Mobile says hackers accessed some wireless customers' data in recent data breach. *USA Today*.
<https://www.usatoday.com/story/tech/2019/11/22/hack-t-mobile-customers-accessed-account-data-but-not-credit-cards/4269332002/>
- Solecki, S., & Fay-Hillier, T. (2015). The toll of too much technology on teens' mental health. *Journal of Pediatric Nursing, 30*(6), 933-936.
- Spek, V. (2007). Internet-based cognitive behaviour therapy for subthreshold depression in people over 50 years old. *Psychological Medicine, 37*(12), 1797–1806.
- Stallard, P., Richardson, T., & Velleman, S. (2010). Clinicians' attitudes towards the use of computerized cognitive behaviour therapy (cCBT) with children and adolescents. *Behavioural and Cognitive Psychotherapy, 38*(5), 545–560.
<https://doi.org/10.1017/S1352465810000421>

- Starks, H., & Trinidad, S. B. (2007). Choose your method: A comparison of phenomenology, discourse analysis, and grounded theory. *Qualitative Health Research, 17*(10), 1372–1380.
- Stephan, P. (2012). Perverse incentives: Counterproductive financial incentives divert time and resources from the scientific enterprise. *Nature, 484*(7392), 29–32.
- Stephens, M. (1998). *The rise of the image, the fall of the word*. Oxford University Press, USA.
- Sucala, M., Cuijpers, P., Muench, F., Cardoso, R., Soflau, R., Dobrea, A., Achimas-Cadariu, P., & David, D. (2017). Anxiety: There is an app for that. A systematic review of anxiety apps. *Depression and Anxiety, 34*, 518-525.
- Suits, B. (1967). What is a game? *Philosophy of Science, 34*(2), 148–156.
- Sundar, S. (2015). *The handbook of the psychology of communication technology*. John Wiley & Sons.
- Sunyaev, A., Dehling, T., Taylor, P. L., & Mandl, K. D. (2015). Availability and quality of mobile health app privacy policies. *Journal of the American Medical Informatics Association, 22*(e1), e28–e33.
- Tausczik, Y. R., & Pennebaker, J. W. (2010). The psychological meaning of words: LIWC and computerized text analysis methods. *Journal of Language and Social Psychology, 29*(1), 24–54.
- Teachman, B. A. (2014). No appointment necessary: Treating mental illness outside the therapist's office. *Perspectives on Psychological Science: A Journal of the Association for Psychological Science, 9*(1), 85–87.
- These are Lune, H., & Berg, B. L. (2017). *Qualitative Research Methods for the Social Sciences*. Pearson.

- Thompson-de Benoit, A., & Kramer, U. (2020). Work with emotions in remote psychotherapy in the time of Covid-19: A clinical experience. *Counselling Psychology Quarterly*, 1–9.
- Titov, N., Staples, L. G., Fogliati, V. J., & Dear, B. F. (2016). From research to implementation: The eCentreClinic and MindSpot Clinic. *Innovations and Future Directions in the Behavioural and Cognitive Therapies*, 256.
- Topooco, N., Riper, H., Araya, R., Berking, M., Brunn, M., Chevreur, K., ... & behalf of the E-COMPARED, O. (2017). Attitudes towards digital treatment for depression: A European stakeholder survey. *Internet interventions*, 8, 1-9.
- Topooco, N., Riper, H., Araya, R., Berking, M., Brunn, M., Chevreur, K., Cieslak, R., Ebert, D. D., Etchmendy, E., Herrero, R., Kleiboer, A., Krieger, T., García-Palacios, A., Cerga-Pashoja, A., Smoktunowicz, E., Urech, A., Vis, C., Andersson, G., & E-COMPARED consortium. (2017). Attitudes towards digital treatment for depression: A European stakeholder survey. *Internet Interventions*, 8, 1–9.
<https://doi.org/10.1016/j.invent.2017.01.001>
- Torous, J., Andersson, G., Bertagnoli, A., Christensen, H., Cuijpers, P., Firth, J., Haim, A., Hsin, H., Hollis, C., Lewis, S., Mohr, D. C., Pratap, A., Roux, S., Sherrill, J., & Areal, P. A. (2019). Towards a consensus around standards for smartphone apps and digital mental health. *World Psychiatry: Official Journal of the World Psychiatric Association*, 18(1), 97–98. <https://doi.org/10.1002/wps.20592>
- Torrey, E. F., & Miller, J. (2001). *The invisible plague: The rise of mental illness from 1750 to the present*. Rutgers University Press.

- Trilling, D., Tolochko, P., & Burscher, B. (2017). From newsworthiness to shareworthiness: How to predict news sharing based on article characteristics. *Journalism & Mass Communication Quarterly*, *94*(1), 38–60.
- Trombello, J. M., South, C., Cecil, A., Sánchez, K. E., Sánchez, A. C., Eidelman, S. L., Mayes, T. L., Kahalnik, F., Tovian, C., Kennard, B. D., & Trivedi, M. H. (2017). Efficacy of a behavioral activation teletherapy intervention to treat depression and anxiety in primary care VitalSign6 Program. *The Primary Care Companion for CNS Disorders*, *19*(5).
- Twenge, J. M. (2017). *iGen: Why today's super-connected kids are growing up less rebellious, more tolerant, less happy—and completely unprepared for adulthood—and what that means for the rest of us*. Simon and Schuster.
- Twenge, J. M., Joiner, T. E., Rogers, M. L., & Martin, G. N. (2018). Increases in depressive symptoms, suicide-related outcomes, and suicide rates among US adolescents after 2010 and links to increased new media screen time. *Clinical Psychological Science*, *6*(1), 3–17.
- Van Allen, J., & Roberts, M. C. (2011). Critical incidents in the marriage of psychology and technology: A discussion of potential ethical issues in practice, education, and policy. *Professional Psychology, Research and Practice*, *42*(6), 433–439.
<https://doi.org/10.1037/a0025278>
- Van der Meer, T. G., Hameleers, M., & Kroon, A. C. (2020). Crafting our own biased media diets: The effects of confirmation, source, and negativity bias on selective attendance to online news. *Mass Communication and Society*, *23*(6), 937–967.
- Van Deursen, A. J., Helsper, E., Eynon, R., & Van Dijk, J. A. (2017). The compoundness and sequentiality of digital inequality. *International Journal of Communication*, *11*, 452–473.

- Vigerland, S., Ljótsson, B., Bergdahl Gustafsson, F., Hagert, S., Thulin, U., Andersson, G., & Serlachius, E. (2014). Attitudes towards the use of computerized cognitive behavior therapy (cCBT) with children and adolescents: A survey among Swedish mental health professionals. *Internet Interventions, 1*(3), 111–117.
<https://doi.org/10.1016/j.invent.2014.06.002>
- Vostanis, P., & Bell, C. A. (2020). Counselling and psychotherapy post-COVID-19. *Counselling and Psychotherapy Research, 20*(3), 389–393. <https://doi.org/10.1002/capr.12325>
- Wagner, B., Knaevelsrud, C., & Maercker, A. (2007). Post-traumatic growth and optimism as outcomes of an internet-based intervention for complicated grief. *Cognitive Behaviour Therapy, 36*(3), 156-161.
- Wallsten, S. (2015). The competitive effects of the sharing economy: How is Uber changing taxis. *Technology Policy Institute, 22*, 1–21.
- Wang, P., & Johnson, C. (2018). Cybersecurity incident handling: A case study of the Equifax data breach. *Issues in Information Systems, 19*(3), 150–159.
- Wangberg, S. C., Gammon, D., & Spitznogle, K. (2007). In the eyes of the beholder: Exploring psychologists' attitudes towards and use of e-therapy in Norway. *Cyberpsychology & Behavior: The Impact of the Internet, Multimedia and Virtual Reality on Behavior and Society, 10*(3), 418–423. <https://doi.org/10.1089/cpb.2006.9937>
- Watts, S., Mackenzie, A., Thomas, C., Griskaitis, A., Mewton, L., Williams, A., & Andrews, G. (2013). CBT for depression: A pilot RCT comparing mobile phone vs. computer. *BMC Psychiatry, 13*(1), 1–9.

- Weisbuch, M., Ivcevic, Z., & Ambady, N. (2009). On being liked on the web and in the “real world”: Consistency in first impressions across personal webpages and spontaneous behavior. *Journal of Experimental Social Psychology, 45*(3), 573–576.
- Weisel, K. K., Fuhrmann, L. M., Berking, M., Baumeister, H., Cuijpers, P., & Ebert, D. D. (2019). Standalone smartphone apps for mental health—A systematic review and meta-analysis. *NPJ Digital Medicine, 2*(1), 1-10.
- Weissman, R. S., Bauer, S., & Thomas, J. J. (2020). Access to evidence-based care for eating disorders during the COVID-19 crisis. *The International Journal of Eating Disorders, 53*(5), 639–646. <https://onlinelibrary.wiley.com/doi/abs/10.1002/eat.23279>
- Weitz, P. (2015). *Online counseling and psychotherapy – The challenge for the next ten years, let’s dare together*. E-Beratung.
- Weitz, P. (2018). *Psychotherapy 2.0: Where psychotherapy and technology meet*. Routledge.
- Weizenbaum, J. (1966). ELIZA—A computer program for the study of natural language communication between man and machine. *Communications of the ACM, 9*(1), 36–45.
- Weninger, T. (2014) An exploration of submissions and discussions in social news: Mining the collective intelligence of Reddit. *Social Network Analysis and Mining, 4*(1), 1–19.
- Wentzel, J., van der Vaart, R., Bohlmeijer, E. T., & van Gemert-Pijnen, J. E. W. C. (2016). Mixing online and face-to-face therapy: How to benefit from blended care in mental health care. *JMIR Mental Health, 3*(1), e9.
- Whitfield, G., & Williams, C. (2004). If the evidence is so good—why doesn’t anyone use them? A national survey of the use of computerized cognitive behaviour therapy. *Behavioural and Cognitive Psychotherapy, 32*(1), 57–65.

- Whittaker, R., Merry, S., Stasiak, K., McDowell, H., Doherty, I., Shepherd, M., ... & Rodgers, A. (2012). MEMO—a mobile phone depression prevention intervention for adolescents: development process and postprogram findings on acceptability from a randomized controlled trial. *Journal of medical Internet research, 14*(1), e1857.
- Wilhelm, S., Weingarden, H., Ladis, I., Braddick, V., Shin, J., & Jacobson, N. C. (2020). Cognitive-behavioral therapy in the digital age: Presidential Address. *Behavior Therapy, 57*(1), 1–14. <https://doi.org/10.1016/j.beth.2019.08.001>
- Williams, R., & Edge, D. (1996). The social shaping of technology. *Research Policy, 25*(6), 865–899.
- Wind, T. R., Rijkeboer, M., Andersson, G., & Riper, H. (2020). The COVID-19 pandemic: The “black swan” for mental health care and a turning point for e-health. *Internet Interventions, 20*.
- Windfuhr, K., & Kapur, N. (2011). Suicide and mental illness: A clinical review of 15 years findings from the UK National Confidential Inquiry into Suicide. *British Medical Bulletin, 100*(1), 101–121.
- Wong, E. C., Marshall, G. N., Schell, T. L., Elliott, M. N., Hambarsoomians, K., Chun, C. A., & Berthold, S. M. (2006). Barriers to mental health care utilization for US Cambodian refugees. *Journal of Consulting and Clinical Psychology, 74*(6), 1116–1120.
- Wood, J. A. V., Miller, T. W., & Hargrove, D. S. (2005). Clinical supervision in rural settings: A telehealth model. *Professional Psychology, Research and Practice, 36*(2), 173–179.
- Woolf, N. H., & Silver, C. (2017). *Qualitative analysis using NVivo* (1st ed.). Routledge. <https://doi.org/10.4324/9781315181660>

Wuthrich, V. M., & Frei, J. (2015). Barriers to treatment for older adults seeking psychological therapy. *International Psychogeriatrics*, 27(7), 1227–1236.

Zhou, X., Snoswell, C. L., Harding, L. E., Bambling, M., Edirippulige, S., Bai, X., & Smith, A. C. (2020). The role of telehealth in reducing the mental health burden from COVID-19. *Telemedicine Journal and E-Health: The Official Journal of the American Telemedicine Association*, 26(4), 377–379.

Figure 1: Thematic Analysis Structure

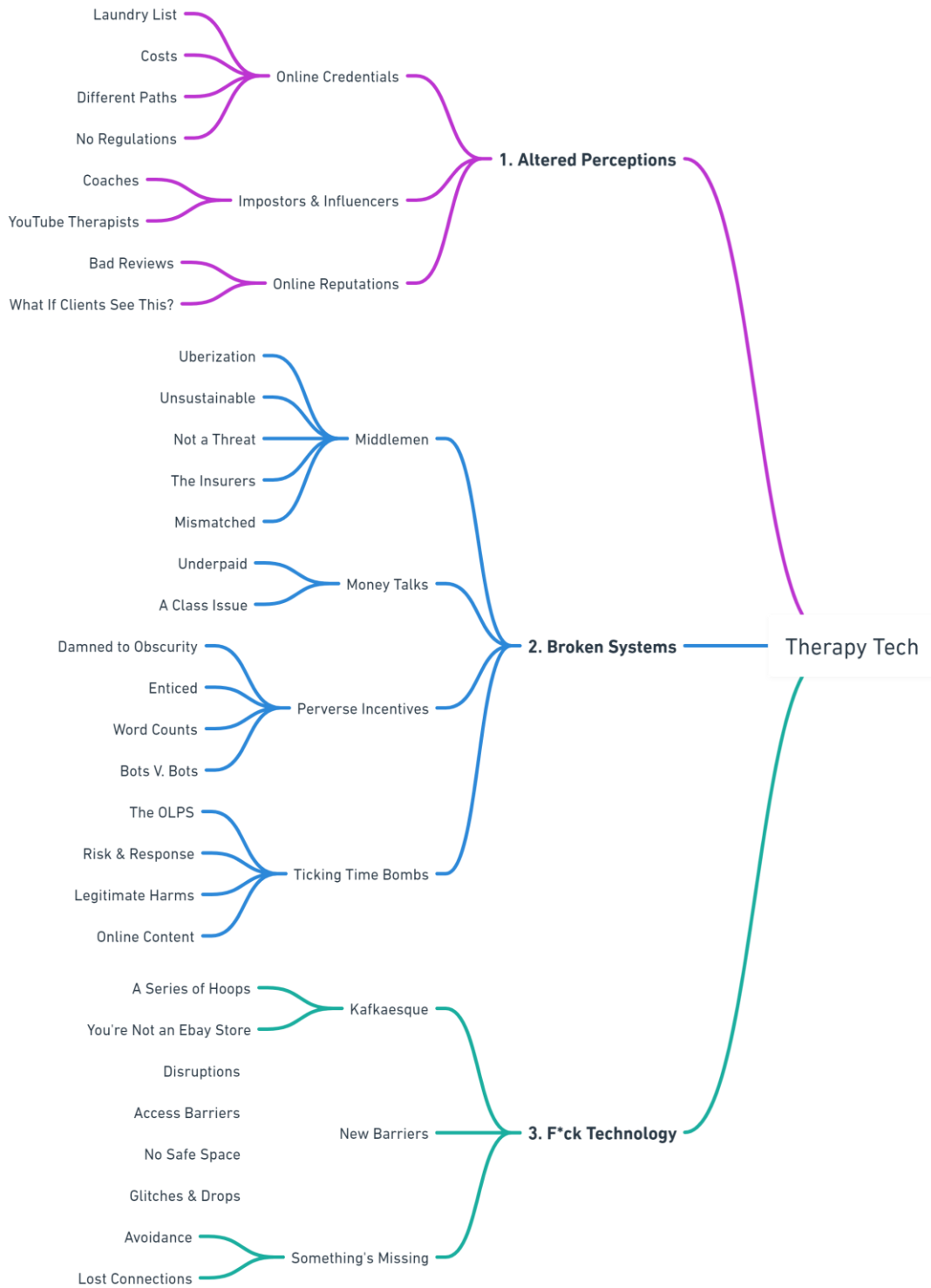




Table 1*Comparison of DMHT Domains*

From Literature Review (Chapter 2)	From Results (Chapter 4)
Admin, (e.g., email, EHR etc.)	Admin, (e.g., email, EHR etc.)
CIIs (e.g., online CBT program)	X
Emerging Tech, AI	Emerging Tech, AI
Emerging Tech, VR	Emerging Tech, VR
Games & Gamification	Games & Gamification
Mobile Apps	X
Mobile Tech, Smartphones	Mobile Tech, Smartphones
X	Online Consultation & Support (e.g., r/psychotherapy)
X	Online Content (e.g., YouTube videos)
X	Online Presence (e.g., Reviews, Social Media)
Online Supervision and Training	Online Supervision and Training
X	Online Therapy Platforms & Collectives
Teletherapy, Text-Based	Teletherapy, Text-Based
Teletherapy, Video/Phone	Teletherapy, Video/Phone

Notes. X = Not discussed in chapter

Table 2

DMHT Use Barriers Derived from Chapters 2 and 4

<i>Domain</i>	<i>Specific DMHT</i>	<i>Barrier due to clinician concerns...</i>	<i>Example(s)</i>	<i>CH</i>
Client Access	Teletherapy	Around a lack of client access due to region (e.g., rural area), or resources (e.g., low SES)	Ch2: Hollis et al. (2018) posited DMHTs could increase the “digital divide” between those who were engaged with technology and those who were not for “reasons of choice...cost, age group, geography...[etc.]” (p. 1). Ch4: In Subtheme 3.2, one commentor wrote that none of their clients had “the safe space, technology, or internet access to participate in this movement without additional assistance from the government or local agencies.”	2, 4
Client Access	Teletherapy	Regarding a client disability or impairment that prevents use of the technology	Ch4: In Subtheme 3.2, a commentor wrote “People with hearing loss also may not be able to access virtual counselling, or not prefer it. I specialize in this population and many refused the switch to virtual and have just gone without.”	4
Client Engagement	Standalone TXs	That clients will be less engaged or motivated without the presence of a human therapist	Ch2: Ly et al., 2017, found that therapists expressed concerns that self-directed interventions may lack important therapeutic ingredients such as accountability or other engagement factors	2

Client Tech Competence	Multiple	About clients' lack of technological competency or savvy	Ch2: Stallard et al. (2020) found that therapists were concerned that clients would not understand a DMHT or how to use it but would have no one to receive guidance from	2
Client Wellbeing	Online Content	About clients being exposed to stigmatizing, overpathologizing, or misinforming material	Ch4: In Subtheme 1.2, commentors discussed concerns around "questionable content" relating to NPD, content that encouraged viewers to see others through a pathological lens.	4
Client Wellbeing	Standalone TXs	About client social disconnection or isolation being compounded by lack of contact with a clinician	Ch2: Stallard et al. (2010) found that clinicians were concerned about a lack of human contact, not only in regard to a lack of the important element of the therapeutic alliance, but in regard to concerns that younger clients were already significantly socially isolated and spent too much time communicating through electronic devices.	2
Clinical Assessment	Teletherapy	About difficult accurately assessing clients through the teletherapy medium	Ch2: Harris and Birnbaum (2015) found that clinicians were concerned that factors like clothing idiosyncrasies, speech tone, smell, and mental status factors would be absent or harder to access	2

Clinical Avoidance	Teletherapy	That both clients and therapists alike could use the medium to avoid discomfort, compromising efficacy	Ch4: In Subtheme 3.3, commentors worried that teletherapy could allow for clients and therapists alike to remain in their comfort zones. Ch2: Similar concerns were echoed in study by Manfrida et al. 2017	2, 4
Clinical Risk	Multiple	Around inability to manage or address client risk or crises	Ch2: Researchers contended that various DMHT mediums may complicate the process of detecting and responding to risk (e.g., Titov et al., 2019). Ch4: In Subtheme 2.4, commentors discussed not being able to get “accurate read[s]” of clients, and difficulty de-escalating crises remotely.	2, 4
Clinical, Communication	Teletherapy	That verbal and nonverbal cues between client and clinician will be harder for either to detect, hampering communication	Ch2: The absence of cues can lead to communication challenges for online therapists, reducing “the emotional proximity of the client,” which may “leave the counselor vulnerable to cultural insensitivity and unintentional discrimination” (Harris & Birnbaum, 2015, p. 4).	2
Clinical, Overdependence	Multiple	That certain DMHTs could lead to overdependence	Ch2: Richards et al. (2018) found that therapists worried that clients might contact them too frequently and that they may appear “too available” to their clients	2
Clinical, Relational	Teletherapy	About the lack of a human element or connection in therapy	Ch4: In Subtheme 3.3, commentors expressed missing the relational connection or sense of presence provided by in-person treatment.	4

Clinical, Treatment Environment	Teletherapy	About clients not having a safe space that is confidential	Ch4: In Subtheme 3.2, commentors discussed how clients not having a safe space at home to attend sessions makes therapy unviable. One commentor wrote that some of their clients simply “don’t have a safe space to share feelings, struggles etc. [and] my physical office is that safe space for them.”	4
Clinical, Treatment Environment	Teletherapy	About disruptive and inappropriate presentation including clients walking, driving, etc.	Ch4: In Subtheme 3.2, commentors discussed disruptions caused by clients using teletherapy in unhelpful ways. For instance, a number of commentors discussed the dizziness, nausea, and distraction they experienced from clients who moved their phones around or walked while video-conferencing	4
Ethical, Confidentiality	Administrative Technology	About third parties being able to view client information	Ch2: Van Allen and Roberts (2011) described an event where a clinician reported that news of a completed suicide at a hospital spread “like wildfire and before IT services could lock down her chart, several people had entered into her chart, ‘to see what happened’” (p. 436)	2
Ethical, Confidentiality	Apps	Around data sharing and data mining compromising client confidentiality	Ch2: Gratzner and Goldbloom (2020) found that third-party information sharing in mental health apps was common with a review of app data sharing practices finding that 29 of the 36 reviewed mental health apps sold data to third parties	2

Ethical, Confidentiality	Smartphones	About confidentiality being compromised through clients' phones	Ch2: Naeem et al. (2016) discussed the insidious leaks of confidential information through attributes of phones and apps, such as notifications, which are visible to anyone who sees the screen	2
Ethical, Perverse Incentives	Multiple	About the perverse incentives (PIs) that certain technologies can engender	Ch4: PIs that clinicians might hope to avoid include those discussed in Subtheme 2.3, including PIs of being a content creator trying to get views and over-endorsing credentials to compete with other therapists etc.	4
Ethics, Exploitation	Online Content	That clients will be exploited, manipulated, etc. by digital technologies and silicon valley	Ch2: Modern social media platforms have “exploited human vulnerabilities” in ways similar to junk food industries, creating addictive technologies that people feel compelled to stay connected to (Allen, 2017).	2
Ethics, Informed Consent	Multiple	That clients won't be provided with informed consent	Ch2: It may be difficult to determine capacity for consent through online mediums as deficits in verbal or nonverbal cues may be missing (Harris & Birnbaum, 2015). DMHTs like apps may not attend to informed consent at all or provide inscrutable disclaimers that are rarely read (Martinez-Martin, 2018).	2
Ethics, Jurisdiction	Teletherapy	Around jurisdiction or area that clinician can practice in	Ch2: Teletherapists may find it difficult to determine their jurisdiction of practice, with complex laws regarding parity across states (Lovejoy et al., 2009)	2

Ethics, Uncertainty	Multiple	Uncertainty around best practices ethically and a lack of coherent ethical guidelines for digital technologies	Ch2: Torous et al. (2019) argued that current technological threats and concerns bring to light how the field lacks a set of coherent ethical guidelines for the digital spaces it must now navigate.	2
Financial Compensation	OLPs	Around very poor financial compensation when working for an OLP	Ch4: In Subtheme 2.2, a number commentors discussed the extremely poor compensation of OLPs, with one commentor writing: “\$22-30 was the rate for a doctoral level psychologist. That's pre-tax. My teenager makes more than that at a large parcel delivery company that hires literally anyone to move boxes.”	4
Financial Reimbursement	Teletherapy	That therapist will not be reimbursed at the same rate or will have difficulty more generally with reimbursement	Ch2: Significant questions remain around how online therapists are reimbursed for their services through insurance (Lovejoy et al., 2009). Ch4: In Subtheme 2.1, commentors discussed concerns around insurer reimbursement, with one commentor writing “I think the main thing coming up is whether insurance companies will continue to pay for teletherapy after the pandemic is over.”	2, 4
Financial, Affordability	Online Training	About the costs of online trainings and credentials	In Subtheme 2.2, commentors discussed the expense of training and certification, with only wealthier clinician able to afford trainings and certifications, including ones provided online	4

Professional Autonomy	OLPs	Around clinician autonomy when working for an OLP	Ch 4: In Subtheme 2.1, commentors discussed some ways that OLPs exert control over clinicians and their work including viewing “all transcripts, [and] end[ing] relationships without giving time for closure.”	4
Professional Devaluation	Online Content	That online content will devalue therapists' roles and contributions and	Ch4: In Subtheme 1.2, commentors expressed concern that online content and influencers gave “the entire profession a bad name and make us all seem like quacks.”	4
Professional Liability	Administrative Technology	About using services like texting or email to communicate with clients due to liability issues	Ch4: In Subtheme 5.2, commentors discussed liability issues implied by digital contact mediums and boundaries, with certain states considering therapists who provide such contact “on call” and liable 24/7	4
Professional Reputation	Online Consultation	About the reputation of the field it might give if consultants (e.g., on reddit) expressed certain views or emotions	Ch4: In Subtheme 1.3, some commentors worried about commentors sharing negative experiences on the subreddit, with one commentor admonishing another by saying “you are a fellow professional with the ability to make my field look bad.”	4
Professional Reputation	Online Presence	Of public reputational damage (e.g., negative review) that could be facilitated by an online presence	Ch4: In Subtheme 1.3, a number of commentors expressed hurt and concern about negative reviews provided by clients (and non- clients), reviews which they felt unable to defend themselves against	4

Technological Design	Apps	Around poor user experience design and enjoyability, poor usability, and clunkiness	Ch2: Wilhelm et al. (2020) argued that poor usability of apps, including lack of ease of use, poor aesthetics, and/or an unenjoyable experience could create barriers to client engagement	2
Technological Evolution	Multiple	About the general evolution of certain DMHTs and their future use, including concerns around automation	Ch 4: In Subtheme 2.1, many commentors worried about the automation or “uberization” of the field of therapy through technologies like AI chatbots on OLPs.	4
Technological Evolution	Standalone TXs	That they will lead to economic and social inequality, with lower SES individuals channeled towards automated treatments	Ch2: Rice (2018) expressed concerns that pervasive “class dynamics” could lead to “only the rich having access to...in-person therapy...” (p. 3). Ch4: Similarly, commentors in Subtheme 2.1 expressed concern that automation will lead to treatments that are “good enough,” for lower SES clients in the eyes of insurers and therapy will become an increasingly luxury good.	2, 4
Technological Glitches	Teletherapy; OLPs	About the disruptiveness of glitches, dropped sessions, and poor resolution on teletherapy or crashed servers on OLPs	Ch4: In Subtheme 3.2, numerous commentors bemoaned glitches that lead to “losing therapeutic moments,” the conversational disruption caused by lag, or servers going down while working for an OLP, causing clients to feel “abandoned.”	4

Technological Hassles	Multiple	Barrier to use of DMHTs more generally due to e-bureaucracy and digital red tape (e.g., HIPAA compliance)	Ch4: In Subtheme 3.1, many commentors discussed frustrations and depletion in having to deal with “a series of hoops” related to HIPAA, e-bureaucracy, and digital red tape, with the OP of post 15 writing “I’ve had it. I’m done with every damn EHR, password, two-step authentication, can’t-move-without-doing-this-thing bullshit technology.”	4
Therapist Bias, Coldness	Multiple	Related to a belief that DMHTs are inhuman, cold, or impersonal	Ch2: Lovejoy et al. 2009 finding dehumanization was a concern. as DMHTs are seen as less interactive and less alliance-based and, in essence, less human.	2
Therapist Bias, Mistrust	Online Presence	Barriers to having an online presence due to mistrust of others online who self-promote, mislead etc.	Ch4: In Subtheme 1.2, many commentors discussed their frustrations and skepticism of online influencers, alternative healers, and life coaches. It is possible that such views reduce clinician desire to have an online presence for fear of association	4
Therapist Bias, Negativity	Multiple	Related to a negative view of digital technologies and their impact on mental health, including belief they are inferior to f2f	Ch2: Those with less experience with DMHTs like (cCBT) have less positive attitudes towards them (Shalom et al., 2015). Those with less technology and computer experience are less likely to consider the clinical use of an app (Kerst et al., 2019)	2

Therapist Boundaries	Multiple	About the compromising or blurring of digital boundaries between therapist and client	Ch2: Doherty et al. (2010) wrote that therapists worry that DMHT use will lead to “greater responsibility and more opportunities for client-therapist contact” (p. 247). Ch4: Commentors in 5.2 expressed concerns around clients pushing against digital boundaries or not respecting them (e.g., emailing in off hours in crisis).	2, 4
Therapist Engagement	Multiple	Around their own sense of disengagement with certain DMHTs, such as CIIs	Ch2: Folker et al., 2018 found that some therapists using cCBT platform experience it as “strenuous” and “boring” while Harris and Birnbaum (2015) contended that therapists may become less engaged when using systems that allow them to work with multiple clients at once (e.g., asynchronous chat)	2
Therapist Orientation	DMHTs	Related to specific therapeutic orientations which rely on certain in-person factors	Ch2: Therapeutic orientation is a predictor of DMHT acceptance and utilization, with dynamic orientations evincing more negative attitudes, and CBT therapists showing higher positive attitudes (Wangberg et al., 2007; Donovan et al., 2015). Ch4: A number of commentors in Subtheme 3.3 discussed how teletherapy interferes with their practice, especially in regard to relational, interpersonal, or process-focused orientations.	2, 4

Therapist Vetting	DMHTs	Related to an inability to vet DMTHs or determine what works and what doesn't	Ch2: An absence of guidelines for separating the good from the bad in the vast array of apps, devices, and services may make selecting technologies challenging, even for technologically savvy therapists (Anthes, 2016).	2
Therapist Wellbeing	Teletherapy	About blurring workplace and home boundaries	Ch2: Richards et al. (2018) found that therapists were concerned that work-life balance would be blurred by using a teletherapy platform and would impact their ability to "switch off." Ch4:	2, 4
Therapist Wellbeing	Teletherapy	Around the loss of a supportive workplace and colleagues.	Ch4: In Subtheme 3.3, some commentors discussed how "telecommuting" came with relational costs for therapists. With the loss of an in-person workplace as a result of the COVID-19 pandemic, one commentor recounted aspects of office work that they particularly missed, including "walking the clients up the hall from the waiting room and the bits of chit chat there."	4
Therapist, Safety	Multiple	Around one's own safety from online threats like cyberstalking or harassment	Ch4: In Subtheme 5.3, commentors shared experiences of clients severely violating digital boundaries, including through escalating cyberstalking and harassment	4

Therapist, Tech Competency	DMHTs	A lack of technological competency	Doherty et al. (2010) argued that therapists may be uncomfortable navigating the possibilities of DMHTs because their lack of perceived competence causes them to experience discomfort “in the role of computer novice” (p. 247).	2
-------------------------------	-------	--	--	---

Notes. Standalone Txs are those designed to be used by clients alone, such as self-help apps, CIIs like online CBT, and related technologies.

Table 3

DMHT Use Facilitators Derived from Chapters 2 and 4

<i>Domain</i>	<i>Specific DMHT</i>	<i>Facilitation of DMHT use through...</i>	<i>Example</i>	<i>CH</i>
Administrative	Administrative tech	Helping to manage key aspects of practice like billing and record keeping, meeting HIPAA standards etc.	Ch2: Owings-Fonner (2019) discussed the advantages to both clients and clinicians of practice management software, including the streamlining of messaging, scheduling, and billing. Ch4: In Subtheme 7.2, commentators discussed how such software is helpful in managing one’s practice while easily navigating red tape and maintaining HIPAA compliance	2, 4
Client Access	Multiple	Allowing for increased access to treatments for those with psychological barriers to treatment including fears of stigma (e.g., in rural areas), specific disorders (e.g., agoraphobia), or shame/secretcy	Ch2: Fairburn and Patel (2017) posited that bulimia might be a condition that would benefit from the use of DMHIs, especially self-directed ones, as the disorder “responds well to self-help interventions...yet many sufferers do not seek treatment because of the associated shame and secrecy” (p. 21).	2

Client Access	Online Tools	Allowing for increased access to in-person services through tech systems that facilitate connection	Ch2: Price et al. (2014) wrote that DMHTs can help increase access to traditional, face-to-face treatments by helping facilitate connections between consumers and providers, with specific systems developed that help clients identify potential providers who match with both presenting concern and insurance plan.	2
Client Access	Teletherapy	Allowing for increased access for location-bound clients and/or clients in underserved areas	Ch4: For instance, providing services for those with chronic pain or housebound 8	2,4
Client Access	Teletherapy	Allowing for increased client access through scheduling flexibility	Ch4: In Subtheme 7.1, commentors discussed an increased flexibility in scheduling brought about by the lack of need for traveling, and the ability to more adaptively attend to existing responsibilities (e.g., childcare), had facilitated increased access. One commentor shared that their clients appreciated having “no commute/travel time/worries about transportation issues, [and] no childcare issues for the most part.”	4
Client Engagement	DMHTs	Increasing client treatment engagement with technologies that offer enjoyable or game-like experiences	Ch2: Garrido et al. (2019) found that younger users were more interested in “interventions with a game-like feel and relatable, interactive content” (p. 1) and much less interested in basic psychoeducational materials that resembled reading from a self-help manual.	2

Client Exposure	DMHTs	Clients' previous positive experiences with or general frequent use of and comfort with digital technology	Ch2: Rosi et al (2017) found that client experience with DMHTs may result in higher levels of acceptance and that, in a study of CIIs, the “majority of the 29 reviewed studies reveal high or very high levels of user acceptance” (p. 7).	2
Client Support	Online Support	The offering of increased support for clients through peer helpers, forums, and online social connections	Ch2: Fairburn and Patel, 2017 found laypersons could be quickly trained in providing basic adherence increasing support, “a role that does not require extensive training or supervision” (p. 22). Ch4: p 155; In order to connect with peers, maintain a social life, especially when in-person was limited (e.g., with COVID) 188	2,4
Clinical, Assessment	Multiple	The offer of enriched assessment abilities for therapists, including EMA and new modalities like VR	Ch2: ecological momentary assessment (EMA) research methods dispensed on smartphones could allow for the collection of real-time, extremely granular information about client experiences (Horesh & Brown, 2020), something that is both feasible and well accepted among adolescent populations (Mathews et al., 2008).	2

Clinical, Homework	Smartphones and Apps	The possibility of increased completion of homework by clients due to portability, reminders, convenience, and other smartphone features	Ch2: Reminders can be set by therapist and client to encourage the client to engage in certain homework tasks or practice skills between sessions (Jones et al., 2014; Pramana et al., 2014).	2
Clinical, Intervention	Apps	The ability to provide intervention (e.g., exposure) live, in context	Ch2: Newman et al., 2011 described how DMHTs could enable interventions to be provided live, during the actual moment that the client is facing their problem (e.g., a panic attack in public), thereby improving not only the effectiveness of treatment but allowing for the direct application of skills and techniques learned in therapy	2
Clinical, Psychoeducation	Online Content	The ability to provide client psychoeducation through online clinician content makers	Ch4: Provide psychoeducation, help clients (or not clients) understand areas that therapists might not specialize in to the same degree. p 158	4
Clinical, Rapport	Teletherapy	The humanization of therapists (and clients) through the ability to see into their home environment	Ch4: In Subtheme 7.2, a number of commentors discussed the ways that clients being able to see into therapists spaces and meet their pets was humanizing. For instance, one commentor described showing a client an untidy area of their own room to normalize a client's concerns.	4

Clinical, Rapport	Videogames	The increased ability to build rapport, especially with younger clients	Ch4: in Subtheme 7.3, a number of commentors discussed how they utilized gaming as a method of rapport and alliance building, especially with younger clients.	4
Clinical, Treatment	Apps	Allowing for the treatment of disorders through standalone or adjunctive apps	Ch2: For instance, Schlosser et al. (2018) described apps used to treat schizophrenia while George et al., 2021 described a completely standalone, self-directed app to treat social anxiety	2
Clinical, Treatment	CIIs	Allowing for the treatment of specific concerns using CIIs (e.g., online CBT for anxiety) with no or minimal therapist contact	Ch2: For instance, online programs have been used to treat anxiety and depressive disorders (Adelman et al., 2014; Andrews et al., 2010)	2
Clinical, Triage	DMHTs	Allowing for better triaging, including being able to meet severe needs more quickly	Ch2: Stallard et al. (2020) found that clinicians in the study were hopeful that individuals with milder problems could be triaged to cCBT interventions, thereby reducing wait times for those with more severe problems	2
Design & Usability	DMHTs	Appealing, intuitive, enjoyable, and engaging design and user experience considerations	Ch2: Wilhelm et al. (2020) wrote that a key facilitator to client and clinician adoption and use is a DMHT's design, including such factors as overall usability and ease of use, aesthetic choices, and level of engagement and enjoyment	2

Design Collaboration	DMHTs	Collaborative design between researchers, clinicians, and clients in order to meet clinician needs and client needs while maintaining good usability and experience	Ch2: Wilhelm et al. (2020) suggested addressing design, usability, and engagement issues through increasing collaboration between researchers, clinicians, clients, and developers. While they found that the majority of apps on the marketplace were developed without any input from clinicians, they also argued that researchers and clinicians are “bound to fail in creating fun or attractive apps when working in isolation” (p. 6).	2
Ethical, Confidentiality	Smartphones	Allowing for increased client confidentiality with specific assignments (e.g., thought logs, journals)	Ch2: Cristol (2018) described a case study where a client reported that the use an app in place of paper forms allowed him to experience less of a sense of stigma and shame as he felt that “people look at me weird when I randomly take out a notebook and I don’t want to deal with that” (p. 2) and he further appreciated the fact that people were not able to tell what he was using his phone for and did not perceive it as strange (Cristol, 2018, p. 2).	2

Financial Profitability	Teletherapy	The promise of the profitability of teletherapy due to a high demand and need	Ch4: In Subtheme 7.2, a number of commentors discussed the profitability and success they had found offering teletherapy services. For instance, one commentor wrote “[I] quit my former employment and went and started my own telehealth practice. I am going to have to start turning people away or have a waitlist soon.”	4
Financial Savings	Teletherapy	Providing financial benefits including decreased costs (e.g., not having to rent a space; not having to commute)	In Subtheme 7.2, commentors discussed the benefits of working from home in regard to huge cost savings in no longer having to rent office space or live in a particular area.	2,4
Professional Consultation	Online Consultation	The ability to consult in online spaces with other clinicians and communicate with others in the field across a wide variety of experiences,	Ch2: Patel (2017) outlined a number of innovative ways that DMHTs are used, including for the purpose of social network based supervision. Ch4: In Subtheme 6.1, commentors described the ways that they utilized the r/psychotherapy subreddit for advice and consultation	2,4
Professional Flexibility	OLPs; Teletherapy	Allowing for therapist flexibility in work for those in specific circumstances (e.g., stay at home parent)	Ch4: Ideal for stay at home parents, others in constrained situations. Those that need extra income. Those just starting out “I’m a stay at home mom and would not be working if it wasn’t for the pandemic normalizing teletherapy.”	4

Therapist Access	Teletherapy	The promise of increased access for therapists with disability or other limitations	Ch4: In Subtheme 7.2, one commentor wrote about their hopefulness around increased teletherapy services as a person with a disability.	4
Therapist Experiences	DMHTs	Previous positive experiences with DMHTs and/or receiving information or education about DMHTs	Ch2: With education, training, and previous positive experiences with DMHTs, clinicians might have markedly more positive attitudes towards their use (Stallard et al., 2020)	2
Therapist Wellbeing	Online Consultation	The ability to received emotional validation and support	Ch4: Subtheme 6.2 found commentors describing the ways that they used r/psychotherapy for venting and the expression of affect, allowing for the processing of difficult emotions and receiving support and validation (as in Subtheme 6.3)	4
Therapist Wellbeing	Teletherapy	A decreased sense of depletion or risk of burnout when working from home	Ch4: In Subtheme 7.2, commentors expressed finding that the freedom and flexibility offered by teletherapy had led to feeling energized and less “burned out.” One commentor wrote that they “feel a lot less tired and more free with the extra time, and my hope is that this combats the burn-out that was creeping up on me & translates into better client care over the long term.”	4

Therapist Wellbeing	Teletherapy	The experience of increased QOL after the shift towards teletherapy and working from home	Ch4: Many commentors discussed an overall increased quality of life in Subtheme 7.2 that was brought about by the shift towards teletherapy, including through the freedom of working from home, the advantage of no longer having to spend time commuting, the ability to spend more time with family, and huge cost savings.	2,4
---------------------	-------------	---	--	-----

Table 4*Comparison of Use Barriers Between Literature Review and Results*

From Literature Review (Chapter 2)	From Results (Chapter 4)
X	Access barrier for clients due to disability or impairment
Access barrier for clients due to region or resources	Access barrier for clients due to region or resources
X	Affordability concerns around online trainings and certifications.
Assessment hampered due to limitations of teletherapy	X
X	Automation concerns
X	Autonomy concerns around working for an OLP
Avoidance (by both Cs and Ts) enabled by teletherapy	Avoidance (by both Cs and Ts) enabled by teletherapy
Bias that DMHTs are cold, inhuman, or impersonal	X
Bias that DMHTs are suboptimal or inferior treatments	X
Boundary concerns	Boundary concerns
Client wellbeing reduced due to lack of human contact	X
X	Client wellbeing reduction due to stigmatizing or pathologizing, online content
Communication hampered by loss of cues in teletherapy	X
Confidentiality compromised by administrative technology (e.g., EHRs), apps that mine data, and smartphones	X
Design and usability issues of apps	X

X	Devaluation concerns around online content
X	Disruptions and inappropriate client behaviors in teletherapy
Engagement barrier for clients due to lack of human connection	X
Ethical uncertainty, with a lack of coherent guidelines	X
Exploitation of clients by the tech industry	X
X	Financial compensation concerns when working for OLPs
X	Glitches and other technological frustrations on teletherapy and OLPs
X	Hassles and red tape around use of DMHTs
Inequality concerns with in-person therapy becoming further luxury good	Inequality concerns with in-person therapy becoming further luxury good
Informed consent compromised with remote technologies	X
Insurance reimbursement concerns when conducting teletherapy	Insurance reimbursement concerns when conducting teletherapy
Jurisdictional concerns around practice of teletherapy	X
X	Liability concerns around administrative technology
X	Loss of presence and sense of relationship in teletherapy
X	Mistrust of online content and content promoters
Organizational implementation concerns	X
Orientation of therapist a bad match for DMHTs	Orientation of therapist a bad match for DMHTs
Overdependence in clients fostered by increased digital access to therapist	X

X	Perverse incentive concerns around online presence and content creation
X	Reputational concerns around individual reputation due to bad reviews
X	Reputational concerns for the field around online consultation
Risk increased by inability to properly assess or manage crises	Risk increased by inability to properly assess or manage crises
X	Safe space for client to attend teletherapy lacking
X	Safety concerns around cyberstalking or harassment
Technological competence of clients	X
Technological competence of therapists	X
X	Therapist wellbeing reduction due to loss of workplace
Therapist wellbeing reduction through blurring of workplace and home	Therapist wellbeing reduction through blurring of workplace and home
Vetting difficulties	X

Notes. X = Not included in chapter

Table 5*Comparison of Use Facilitators Between Literature Review and Results*

From Literature Review (Chapter 2)	From Results (Chapter 4)
X	Access increased for therapists with disabilities or other limitations through teletherapy
Assessment enriched through novel methods like EMA and VR	X
X	Client access increased due to more flexibility in scheduling
Client access increased for those who are location-bound or live in underserved areas	Client access increased for those who are location-bound or live in underserved areas
Client access increased for those with psychological barriers or specific disorders	X
Client access to in-person treatment increased through facilitative systems	X
Client engagement increased through design of enjoyable DMHT experiences	X
Client view of DMHTs improved through previous exposure	X
Confidentiality increased through smartphone based homework over paper-based	X
Consultation accessed through online means	Consultation accessed through online means
Design collaboration between therapists, researchers, and clients leading to more engaging DMHTs	X
Disorders treated through standalone and adjunctive treatments on apps or CIIs	X
Financial savings through decreased costs provided by teletherapy	Financial savings through decreased costs provided by teletherapy

Homework completion increased through advantages of smartphones and apps	X
Interventions improved by being provided in the moment through apps	X
Managing practice through administrative tech	Managing practice through administrative tech
Previous positive experiences of therapists with DMHTs	X
X	Profitability increased through offering of teletherapy
X	Psychoeducation provided by online content
X	Rapport increased through humanization of seeing therapists spaces and pets in teletherapy
X	Rapport increased through playing of videogames in session
Support of clients outside of therapy increased through online connections	Support of clients outside of therapy increased through online connections
X	Therapist burnout and depletion ameliorated through teletherapy
X	Therapist wellbeing increased through ability to receive online emotional support and validation
X	Therapist wellbeing increased through affordances and QOL improvements of teletherapy
Triage abilities increased by using DMHTs for lower need clients	X
X	Work flexibility for therapists increased through teletherapy

Notes. X = Not included in chapter

Table 6*Frequency of DMHT-Related Terms*

Category	Term	Total Count
Administrative (117)	Client portal	3
	EHR	8
	Email	88
	Simple Practice	11
	Theranest	7
Consultation (1)	r/psychotherapy	1
Emerging Technology (50)	Video game(s)	46
	VR	4
Finder/Review (14)	Psychology Today	14
OLP (95)	BetterHelp	78
	Online Therapy	4
	Talkspace	13
Online Content (121)	Video	109
	YouTube	12
Phones & Apps (126)	App(s)	27
	Phone	91
	Smartphones	2
	Texting	6
Teletherapy (226)	Skype	5
	Telehealth/Teletherapy	201
	Zoom	20

Table 7*Frequency of Other Words Relevant to the Research Topic*

Category	Term	Total Count
COVID (103)	COVID	54
	Pandemic	49
Financial Tech (4)	Venmo	4
Online Content (4)	Meme	4
Security (109)	Authentication	3
	Data	15
	HIPAA	40
	LastPass	7
	Password	32
	PHI	4
	Security	8
	Social Media (35)	Facebook
	Instagram	1
	Reddit	14
	Social media	14
	Tik Tok	2
Tech, General (207)	Computer	13
	Digital	5
	Electronic	2
	Google	20
	Internet	24
	iOS	2
	Laptop	5
	Online	86
	Tech	14
	Technology	17
	Website	19

Table 8*Text Analysis of the Data Set Using LIWC**

<i>Category of variable</i>	<i>Variable</i>	<i>Score</i>	<i>Meaning/Interpretation</i>
Summary	Analytic	48.30	The “Analytic” variable captures the degree of word use that suggests “formal, logical, and hierarchical thinking patterns.” Lower numbers imply language that is more narrativist, present-focused, and comprised of personal experiences (Pennebaker et al., 2014).
	Clout	47.55	The “Clout” variable captures the relative display of “social status, confidence, or leadership” through language (Kacewicz et al., 2013).
	Authentic	53.28	The “Authenticity” variable captures the extent to which individuals honestly reveal themselves including through the use of language that is “personal, humble, and vulnerable” (Newman et al., 2003).
	Tone	51.39	The “Tone” variable summarizes positive and negative dimensions of emotions on a 1-100 scale, with numbers below 50 implying an increasingly negative tone and vice versa (Cohn et al., 2004). This score implies that, overall, the emotional tone of the data set was neutral, with a slight bias towards a positive tone.
Emotion	Affect	5.25%	Pct. of words related to affect or affective processes
	Pos. Emotion	3.25%	Pct. of words implying positive emotions
	Neg. Emotion	1.88%	Pct. of words implying
	Anxiety	0.40%	Pct. of words specifically implying anxiety
	Anger	0.49%	Pct. of words specifically implying anger
	Sadness	0.31%	Pct. of words specifically implying sadness
Time	Past Focus	2.85%	Pct. of words implying a focus on the past
	Present Focus	12.57%	Pct. of words implying a focus on the present

	Future Focus	1.05%	Pct. of words implying a focus on the future
Informal Speech	Overall	0.94%	Pct. of informal language (e.g., swear words, netspeak, fillers etc.)
	Netspeak	0.30%	Pct. of netspeak words (e.g., lol, btw, thx etc.)
	Swearing	0.15%	Pct. of swear words

Notes. LIWC = Linguistic Inquiry and Word Count, a text analysis software. This analysis was performed on 85, 867 words across 21 posts.

Appendices

Appendix A. Reddit Search Terms

1. App
2. Apps
3. Artificial intelligence
4. AI
5. Augmented reality
6. AR
7. Biofeedback
8. Brain stimulation
9. Cybertherapy
10. Digital
11. DMH
12. EHR
13. Electronic
14. Electronic health records
15. Email
16. E-mental health
17. E-mental health technologies
18. Facebook
19. Games
20. Gamification
21. Gaming
22. Instagram
23. Internet
24. Mobile
25. Neurofeedback
26. Online
27. Online therapy
28. Online therapy platform
29. Smartphone
30. Social media
31. Tech
32. Technology
33. Telehealth
34. Teletherapy
35. Text
36. Texting
37. Videogame
38. Virtual reality
39. VR
40. Wearable
41. Web
42. Website

Appendix B. Final Codebook

Major Themes & Subthemes	Description
1.0 Altered Perceptions	<p>Describes the ways in which credentials, reputations, services, and information related to therapy and mental health are shared, represented, advertised, and regulated in online spaces, with a primary focus on concerns around misrepresentation, a lack of regulation and credentialing, and the spreading of misinformation.</p>
1.1 Online Credentials	<p>Describes the ways in which individuals in online spaces self-represent (and misrepresent) their credentials, from therapists over-endorsing competencies on the Psychology Today “Find a Therapist” site to non-therapists misrepresenting their qualifications on social media. At a more latent level, this theme explores the meaning of credentials, questions around who is “allowed” to be a helper, and the possibility that semantic differences are driving some of the debate. Includes:</p> <p><i>Laundry List:</i> Ways in which therapists over-endorse on Psychology Today (PT) site</p> <p><i>Costs:</i> Costs to clients and the field of these misrepresentations</p> <p><i>Different Paths:</i> Counterpoint that there are different paths toward credentials and therapists may not be misrepresenting</p> <p><i>No Regulations:</i> The lack of regulations around ways that individuals represent themselves online, and the need for such regulations, as well as arguments against.</p>
1.2 Impostors & Influencers	<p>Expands the conversation around credential misrepresentation to the ways in which individuals in online spaces (including both therapists and non-therapists) provide mental health information, give advice, and diagnose. Further, it describes the ways in which non-therapists advertise and provide online services under the banner of "life coaching" or alternative healing, sometimes at great cost to the mental health of their clients.</p> <p><i>Coaches & Healers:</i> Ways in which life coaches and alternative healers provide misinformation and charge for services as well as a greater devaluing of the therapy profession</p> <p><i>YouTube Therapists:</i> Ways in which clinicians--and non-clinicians--provide content on YouTube with a huge focus on narcissism and "click-bait" leading to overpathologizing, stigma, and weaponizing the DSM</p>

1.3 Online Reputations

Describes the ways in which therapists' reputations can be affected in online spaces, including through clients leaving unchallengeable bad reviews, as well as reputational concerns about the greater field, including apprehensions about the way the field is represented on the r/psychotherapy subreddit.

Bad Reviews: Ways in which therapists are vulnerable to bad reviews which they are unable to respond to, the emotional effects of these reviews, the reputational effects (which are sometimes paradoxical), and what to do in the face of such reviews

What if Clients See This? Concerns expressed by Redditors around content and sentiment shared on the r/psychotherapy subreddit itself. Including concern that negative sentiment makes the field look bad as well as concern around breaching confidentiality when talking about cases, particularly those with embarrassing or shameful content

2.0 Broken Systems

Describes the malfunctioning, corrupt, and demoralizing technological systems and contexts that modern therapists contend with, systems generally driven by financial motives. The four sub-themes describe an online ecosystem rife with exploitative middlemen, perverse incentives, and poor regulation.

- 2.1 Middlemen Describes the ways that third parties (e.g., online therapy platforms, insurance companies, healthcare vendors, dating apps etc.) stand between therapists and clients, mediate human relationships, and exploit those with less power in online spaces. It includes fears around online platforms (OLPs) and their attempts to “uberize” the field of therapy, concerns about the ways in which insurance companies decide how therapists practice and how clients are cared for, and ways in which online dating apps arbitrate client romantic relationships.
- Uberization:* The ways in which the OLPs threaten the field of therapy, not only through automation but through immense advertising abilities and the ultimate monetary devaluating of therapy
- Unsustainable:* The terrible work environment provided by OLPs and their ultimate unsustainability from a workforce perspective and the need to act in response as a field. Additionally, some counterarguments contending that OLPs are positive workplaces
- Not a Threat:* Arguments against the possibility of uberization due to the lack of appeal of the services and the ineffectiveness of text-based therapy
- The Insurers :*The middleman represented by the insurers and the ways that they decide on the medium of treatment, what is reimbursed and what isn't, all of which has implications for therapist autonomy and client treatment
- Mismatched:* The middlemen represented by the online dating (OD) companies, mediating romantic relationships, and negatively impacting the dating landscape, as seen from the perspective of therapists working with clients using OD
- 2.2 Money Talks Describes the ways that money (and a lack of money) influence therapy in online spaces including therapist work environment and training as well as client care. It includes the ways in which providers are significantly underpaid on OLPs and the resulting costs to clients and the therapeutic relationship, and the ways in which therapist credentials and trainings can reflect class divides, with those from higher SES backgrounds more able to accumulate certifications.
- Underpaid:* The terrible pay provided by OLPs, and the ultimate downstream negative impacts on clients
- A Class Issue:* The ways in which money and class separate those who have multiple credentials from those who cannot afford them

2.3 Perverse Incentives

The third sub-theme “Perverse Incentives” (PIs) describes the ways that incentives unrelated to—or tangential to—providing quality mental health care drive much of what occurs in online spaces. It includes the ways that desires for clicks and views drive the creation of inaccurate online mental health content, as well as how such incentives draw in both influencers and mental health professionals alike. Further, it includes the incentives that drive “arms races” between therapists in online spaces as they try to represent themselves in ways that compete with other therapists, as well as the safety incentives that drive arms races between bots in the information security (infosec) sector. Finally, it includes the ways that therapists are driven by incentives misaligned with the values and ethics of the field, including the meeting of word counts and speed quotas on OLPs.

Damned to Obscurity: The PIs that drive therapists to misrepresent their credentials online in an arms race against other therapists

Enticed: The PIs that drive therapists to make questionable content on YouTube in order to get clicks and views

Word Counts: The PIs that operate on OLPs that drive therapists to make clinical decisions based on things like word count rather than quality care

Bots v. Bots: The PIs that drive the annoying tech frustrations that many experience online that are ultimately due to bots fighting bots in an arms race to exploit and protect data

2.4 Ticking Time Bombs

The fourth and final Subtheme, “Ticking Time Bombs,” describes the ways in which the broken, exploitative, and money-driven systems described across this major theme can lead to harm to therapists, clients, and the general public. Such harms include the jeopardizing of client safety, the spreading of misinformation and disinformation, and damage to the reputation of psychotherapy by those who practice unethically.

The OLPs: The dangers to clients posed by OLPs

Risk & Response: The unique dangers and risks of working remotely through teletherapy

Legitimate Harms: The dangers and legitimate harms caused by the non-credentialed (e.g., life coaches) working with those with MH concerns

Online Content: The harms caused by misleading or inaccurate online mental health information, like that shared on YouTube

3.0 F*ck Technology

The third major theme “F*ck Technology” describes therapists’ frustrations and fears in the face of technology-related barriers, from Kafkaesque bureaucracies and digital red tape and difficulties with telehealth to a missing sense of human connection with remote therapy.

- 3.1 Kafkaesque The first Subtheme “3.1 Kafkaesque,” describes the ways in which digital bureaucracies loom over therapy and therapy-related duties (e.g., note writing, billing) in online spaces, including the frustration and demoralization that therapists experience in their attempts to navigate the hassles of regulations like HIPAA.
- A Series of Hoops:* The annoying, often HIPAA related hoops that therapists have to jump through when working online
- You're Not An eBay Store:* A counterargument, that these hoops are to protect clients, and are not hard to deal with
- 3.2 New Barriers The second Subtheme, “New Barriers,” also describes technology-based frustrations and costs, specifically in the form of the barriers that arise in remote (i.e., teletherapeutic) work. These barriers include the lack of a safe, distraction-free space in which to conduct sessions, the disruptive or inappropriate client behaviors unique to telehealth contexts, and annoying and problematic glitches and drop-outs that plague teletherapy platforms.
- Disruptions:* The disruptive and inappropriate behaviors that clients engage in over telehealth
- Access Barriers:* The barriers posed by telehealth to those with certain disabilities or a lack of access to the needed technology
- No Safe Space:* The barrier to telehealth posed by the lack of a safe space in which to meet
- Glitches & Drops:* The barrier of glitches and dropped calls that ultimately compromise the therapy space and diminish its quality
- 3.3 Something's Missing The final Subtheme, “Something’s Missing” describes the ways that remote work can increase avoidance, “feed into” clients’ interpersonal problems, and diminish the human connection in a way that compromises the therapeutic relationship.
- Avoidance:* The ways in which teletherapy allows therapists and clients alike avoid the immediacy of therapy or the discomfort associated with therapeutic work, remaining in their comfort zones
- Lost Connections:* The ways in which relational connection and information is lost in the translation to telehealth
4. Pandemic The fourth major theme “Pandemic” describes the ways that the COVID-19 pandemic has altered the digital-psychological landscape, leading to uncertainty about the future and impacting clients, therapists, and the field of therapy itself.

- 4.1 Effect on Clients The first Subtheme “Effect on Clients” describes some of the ways that clients’ lives have been affected by the pandemic, including disrupted socialization and increased isolation, as well as the ways that clients try to address the need for others through digital means (e.g., online dating, social media).
- 4.2 Choice & Uncertainty The second Subtheme “Choices” describes the ways that the pandemic has affected therapist autonomy, especially in regard to workplace requirements and expectations. It includes discussions around workplaces that have put therapists at risk by requiring in-person work without adequate protection, the sometimes illogical decisions made by employers in regard to telehealth (e.g., requirements to be in the office to provide tele-services), and the ways that therapists respond and push back or acquiesce to such requirements.
5. Boundaries The fifth major theme “Boundaries” illustrates the ways that therapists set and maintain boundaries in digital spaces and describes therapists’ rights to both boundaries as well as a sense of personal safety.
- 5.1 A Right to Safety The first Subtheme “A Right To Safety” describes therapists’ often underappreciated right to personal safety and freedom from harassment, as well as the ways in which the maintenance of therapeutic boundaries could allow for such safety and space.
- 5.2 Boundary Setting The second Subtheme “Boundary Setting” describes the ways that therapists set (and fail to set) boundaries in digital spaces (e.g., teletherapy, email) and how these boundaries can ultimately help to prevent harm and manage liability.

- 5.3 Boundary Violations
- The third Subtheme “Boundary Violations” describes client violations of therapeutic boundaries in digital spaces. On one hand, it includes the ways that clients test boundaries and therapists’ responses to such testing and, on the other, it includes more severe violations where clients engage in cyberstalking or harassment. It also considered best practices and ethics related to the setting of digital boundaries.
- Testing Boundaries:* The ways that clients test digital therapeutic boundaries and how therapists respond to such test
- Crossing the Line:* The ways that clients cross the line with digital boundaries, leading to stalking and harassment
- Best Practices:* Best practices related to digital boundaries
- Who's Responsible?:* Questions around who bears responsibility for individuals who have made contact in online spaces but have not been taken on as clients
- 6.0 Support
- The sixth major theme “Support” describes the ways that therapists utilize reddit in an attempt to support clients as well as the ways they seek and offer support to one another on the subreddit itself.
- 6.1 How Can I Help?
- The first Subtheme “How Can I Help?” describes the ways that therapists use the r/psychotherapy subreddit for advice and consultation around clients’ technology-related concerns. Such consultation includes methods for improving the teletherapy experience, helping clients navigate the online world, and helping clients maintain social connections (and find new ones), during a global pandemic.
- In Teletherapy:* Ways that therapists seek to help clients navigate teletherapy, match client needs to medium, and the importance of attitude
- With OD:* Ways that therapists help clients navigate online dating
- With Phone Access:* Ways that therapists help teen clients maintain social connections through phones during the pandemic

- 6.2 I Feel The second Subtheme “I Feel...” describes the ways in which therapists use the subreddit to vent and express strong emotion and how others on the subreddit react to and support such expression. It includes anger and frustration with technology, guilt around setting digital boundaries or making mistakes, sadness and hurt around negative online reviews, and worry and fear about the future of the field.
- Angry or Frustrated:* Expressions of anger and frustration regulated to technologies, non-credentialed providers, and other material
- Guilty:* Expressions of guilt, including around setting boundaries and missing information through teletherapy that put clients at risk
- Sad & Hurt:* Expressions of sadness around negative reviews as well as the devaluing of therapy more generally
- Worried or Scared:* Worries and fears about the future of therapy, the pandemic, and things like automation
- 6.3 I Need / I Offer The third and final Subtheme “I Need/I Offer” describes the ways that therapists seek and offer support in the subreddit. It includes the seeking of and expression of solidarity, empathy, normalization, and validation.
- Needed Support & Solidarity:* Ways that therapists seek support and a sense of solidarity on the r/psychotherapy subreddit
- Offered Support & Solidarity:* Ways that therapists provide support and a sense of solidarity on the r/psychotherapy subreddit
- 7.0 Tech's Promise The seventh and final major theme “Tech’s Promise” describes the ways in which redditors view DMHTs in a positive light including the specific benefits of technologies like teletherapy to provide access and benefits, the creative use of technologies such as videogames for therapeutic benefit, simple tech-based solution to navigating digital bureaucracies, and—ultimately—a consideration of the ways in which that which is ideal for therapists may not be ideal for clients and vice versa.
- 7.1 For Clients The first Subtheme “7.1 For Clients” describes the ways that digital technologies and online spaces meet client needs for access (e.g., the increased access provided by teletherapy), and content (e.g., psychoeducational content freely available on YouTube).
- Content Needs:* The providing of helpful content related to mental health online
- Access Needs:* The providing of increased access to therapy through teletherapy

- 7.2 For Therapists
- The second Subtheme “7.2 For Therapists” describes the ways that utilizing digital technologies like teletherapy or practice management software can reduce burnout and increase quality of life as well as the ways that therapists use online spaces for consultation and community building.
- A Better Experience:* The affordances and benefits of teletherapy for therapists, particularly in relation to quality of life
- Simple Solutions:* The straightforward solutions to navigating digital hurdles, such as practice management software
- 7.3 For Teletherapy
- The third Subtheme “7.3 For Teletherapy” describes the ways that teletherapy itself offers unique benefits, the ways that it may evolve and change in the coming years, and the ways that therapists can work together to create alternative platforms in online spaces.
- General benefits:* Unique benefits of teletherapy over traditional therapy
- Future of Teletherapy:* Predictions about the future of teletherapy and how it will affect the field for the better
- Collectives:* The possibility for therapists to compete with and create better platforms than the OLPs
- 7.4 Creative Approaches
- The fourth Subtheme “7.4 Creative Approaches” describes the ways that therapists are using novel technologies (e.g., video games, virtual reality) to provide therapeutic benefit.
- Videogame Therapy:* The therapeutic use of videogames
- Other Creative Approaches:* Other creative approaches to treatment, including VR
- 7.5 For Whose Benefit?
- The fifth and final Subtheme “7.5 For Whose Benefit” contends with the question of costs and benefits with technologies on the lives and wellbeing of therapists and clients alike and how, at times, therapist or client benefit comes at the cost of the other’s detriment.

Appendix C. IRB Approval

Good Morning Daniel,

Thank you for your note and for checking in. If the data is de-identified and in the public domain, you do not need to obtain IRB review/approval for the project. I truly appreciate you reaching out for confirmation. Have a great day and good luck with your research!

Anna Marie

Anna Marie Lee, MHA, CPIA
Research Compliance Manager
Whitt Hall
Radford University
[REDACTED]

From: George, Daniel [REDACTED]
Sent: Sunday, December 20, 2020 12:35 PM
To: irb-iacuc <irb-iacuc@RADFORD.EDU>
Cc: Lee, Nicholas [REDACTED]
Subject: IRB Approval Question

Hello,

I am a third-year doctoral student in the Counseling Psychology program at Radford University. I am in the process of working on my dissertation and am at a point where I am ready to begin downloading and coding data. I wanted to check with your office to see **if I will: a) need approval from IRB and, if so b) what level of approval it might require.**

The study is a Thematic Analysis of a subreddit called “psychotherapy,” found at [reddit.com/r/psychotherapy](https://www.reddit.com/r/psychotherapy). On this reddit page, therapists post comments about therapy in general and share their experiences doing clinical work. All information is de-identified and in the public domain. Thematic analysis is a qualitative approach where we would take the various “posts” and “comments” on this sub-reddit and analyze their content, seeking to build an understanding of how therapists utilize, understand, and experience technology in their practice.

In 2018, my mentor Nick Lee, PhD, and I **did a very similar study**, using the exact same methods and techniques, only on a different subreddit with a different focus. Before conducting that study, Nick sent an email to the IRB research compliance manager Brooke Blevins and asked the same question. This was her response:

“Nick, Thank you for checking with our office. This will not require IRB approval as it is focused on public data. If you have any further questions, please let me know.”

We have since presented the results of that study at APA in 2019. I appreciate your help with this and look forward to your response. Thank you!

Sincerely,
Daniel George, M.A.
Doctoral Candidate in Counseling Psychology
Radford University
Radford, VA 24142



Appendix D. Original Posts

This appendix contains the 21 posts that were analyzed in this study. Each subsection provides details about the post, including its publish date and access date, it's number of upvotes and percentage of upvotes to downvotes, the total number of comments, and the number of comments eliminated from the final analysis due to non-relevance to the research question. Additionally, each subsection provides the title of the post, the endorsed credentials of the OP, a link to the actual post, and a brief synopsis of the post's text.

Post 1: Red Tape

Details. This post, entitled “Becoming very disheartened with all the legal/ethical red tape in this field” was first posted on 6/4/20. When it was accessed on 2/23/21, it had 192 upvotes, with an overall 90% positivity rating. It had 65 total comments, eight of which were eliminated from the analysis for non-relevance. The original post can be found at: <https://bit.ly/3noqLi3>.

Synopsis. The OP (PsyD) posted in order to “vent” about the frustrations they’ve experienced with digital red tape and e-bureaucracy in their attempt to set up a private practice. The OP endorsed feeling that they were having to “jump through hoops” that seemed unnecessary. They went on to recount several different instances of frustration, including problems with email and encryption, payment collection, and video conferring software. For the OP, much of the issue revolved around setting these services up to be HIPAA compliant.

Post 2: Email Boundaries

Details. This post, entitled “Setting limits with email” was first posted on 12/12/20. When it was accessed on 2/23/21, it had 117 upvotes, with an overall 100% positivity rating and 54 total comments, 3 of which were eliminated from the analysis for non-relevance. The original post can be found at: <https://bit.ly/3tWBtyH>

Synopsis. OP (MSW, LCSW in USA) shared that they recently started working in a new group private practice. In this practice, clients were increasingly emailing during off hours expressing distress and risk. OP saw these messages on their phone and felt “compelled” to reply to them, despite the hour—often leading to late night phone calls. The OP felt burned out from this extra work and expressed a feeling as if they are “constantly working.” They expressed the desire to set email limits but came to Reddit to ask how to go about doing so in the best possible way. Additionally, they provided an update edit sharing that they listened to and followed commentors’ feedback and had shifted to an automatic out-of-office email reply (with emergency info listed) and would be informing clients of the policy change.

Post 3: YouTube

Details. This post, entitled “Thoughts on the ethics of therapists making content for YouTube regarding narcissism/ the NPD internet explosion” was first posted on 6/25/20. When it was accessed on 2/23/21, it had 168 upvotes, with an overall 96% positivity rating, and 67 total comments, 15 of which were eliminated from the analysis for non-relevance. The original post can be found at: <https://bit.ly/3eCkII8>

Synopsis. The OP wrote that they had noticed how the topics of narcissism and NPD were “super hot” within certain online platforms such as YouTube. They had found creators whose entire platforms were dedicated to the topic, with many having no credentials. While OP saw some benefit provided by increased knowledge around narcissism and NPD, they also perceived multiple “red flags” including: overpathologizing, stigmatization, and a slippery slope towards “weaponizing the DSM and mental disorders.” While OP believed that victims of abuse deserved to be heard and validated, they also believed that the simplistic and pathologizing way that this material was presented online was problematic.

Post 4: Online Dating

Details. This post, entitled “Impressions of today’s dating culture and impact of clients?” was first posted on 6/29/20. When it was accessed on 2/23/21, it had 151 upvotes, with an overall 97% positivity rating, and 38 total comments, seven of which were eliminated from the analysis for non-relevance. The original post can be found at: <https://bit.ly/3eDQaA2>

Synopsis. OP (Psy.D Candidate, AMFT in California) was interested in how other therapists saw online dating (OD) culture affecting their clients. OP reported that their own clients had experienced a number of difficulties with OD including: a general dissatisfaction, an increased resentment between the sexes, a paradox of choice, and commitment concerns. Ultimately, OP posted in hope of hearing about others’ impressions of OD from a clinical perspective including its impact on their clients, how they navigate the topic in therapy, and their overall thoughts on “today’s dating culture.”

Post 5: Online Harassment

Details. This post, entitled “Advice Solicited – Feeling Harassed,” was first posted on 8/11/20. When it was accessed on 2/23/21, it had 132 upvotes, with an overall 99% positivity rating, and 38 total comments, two of which were eliminated from the analysis for non-relevance. The original post can be found at: <https://bit.ly/3tXnIjg>

Synopsis. The OP (a Registered Psychotherapist, MA, from Canada) had come to the subreddit to seek advice and consult around being harassed online. They described an individual who had “attempted to complete a (digital) intake with me” but that OP referred elsewhere due to initial behaviors. Both the OP and their supervisor believed that the OP had no further duty to see, support, or respond to this person, especially as they never completed the intake. However, the OP had decided to send one final email “encouraging the individual to contact local resources, and indicating that I would not be responding further.” Since that time, the “client has been increasingly persistent in trying to reconnect” through voicemails, emails, the utilization of aliases, alternative phone numbers, and social media stalking. OP had to shut down their “online booking software due to this individual creating many, many new profiles under new names trying to book appointments.” OP shared that, while they understood how the individual’s behavior was indicative of mental health concerns, they did not post in order to find an explanation for the individual’s behavior. Instead, they were seeking the advice of others who had similar experiences and had successfully navigated them. OP ended the post by disclosing the emotional toll that the experience had had by writing “At this point I am feeling rather hunted and harassed.”

Post 6: Online Identity

Details. This post, entitled “Laundry list of types of therapy on psychology today..... are therapists really trained in 12 therapies? Including several that are thousands of dollars a pop?” was first posted on 11/12/2020. When it was accessed on 2/23/21, it had 192 upvotes, with an overall 99% positivity rating, and 105 total comments, 45 of which were eliminated from the analysis for non-relevance. The original post can be found at: <https://bit.ly/3sVoCLT>

Synopsis. The OP (an MA, LPCC, in the USA) had noted that, on Psychology Today’s therapist finding site, therapists were reporting that they received massive amounts of training, and certifications. OP expressed skepticism that this was accurate overall and disagreed with the idea that a short course could provide such certification. They ultimately speculate that therapists were significantly stretching the truth. In their post, they asked redditors to share their own views of the situation and expressed a particular interest in hearing from those therapists who were listed on the site.

Post 7: OLPs 1

Details. This post, entitled “Is anyone else worried about services like BetterHelp?” was first posted on 11/11/2020. When it was accessed on 2/23/21, it had 145 upvotes, with an overall 98% positivity rating, and 103 total comments, 41 of which were eliminated from the analysis for non-relevance. The original post can be found at: <https://bit.ly/3gM86eC>

Synopsis. The OP (an MA, LPC, in the USA) expressed the belief that one effect of the pandemic had been to increase the need for and utilization of online therapies. However, they saw current online platforms (OLPs) like BetterHelp as an attempt to uberize therapy. They discussed some of the ways that clients might be drawn to such services due to cheaper prices and easier access. They also believed that one driving factor was the overly high cost of therapy, something that prevented the most vulnerable members of society from getting help. At the same time, they saw OLPs as “inserting themselves as an unnecessary middleman, which is going to have financial implications for all of us if services like BetterHelp continue to grow.” Ultimately, they worried that, because those in the field were not talking about it or trying to prevent it from happening, the field of psychotherapy would be automated.

Post 8: OLPs

Details. This post, entitled “Finally. I’ve been waiting to hear about these “therapy” platforms. Talkspace NYT piece,” was first posted on 8/8/20. When it was accessed on 2/23/21, it had 183 upvotes, with an overall 99% positivity rating, and 99 total comments, 15 of which were eliminated from the analysis for non-relevance. The original post can be found at: <https://bit.ly/3sRIAqF>

Synopsis. The OP (a PhD, Neuropsychologist, in California) shared a link to a New York Times piece that described some of the negative aspects of the OLP Talkspace. While the OP did not include any text other than the title and the link, they did respond to other commentors throughout the post.

Post 9: OLPs 3

Details. This post, entitled “BetterHelp Notification: ‘You missed 741 clients this week’” was first posted on 5/4/20. When it was accessed on 2/23/21, it had 108 upvotes, with an overall 98% positivity rating, and 37 total comments, with no comments eliminated from the analysis for non-relevance. The original post can be found at: <https://bit.ly/3aKBtu1>

Synopsis. The OP (an M.A., LMHC, in the USA), a provider of therapy on the BetterHelp platform, expressed concern about a notification that thy found “deeply alarming” and were hoping was “some sort of glitch.”

Post 10: Online Reviews

Details. This post, entitled “How do you deal with negative reviews on health provider review sites?” was first posted on 11/15/20. When it was accessed on 2/23/21, it had 117 upvotes, an overall 97% positivity rating, and 40 total comments, with no comments eliminated from the analysis for non-relevance. The original post can be found at: <https://bit.ly/32Use6m>

Synopsis. The OP (an MSW, LCSW, in the USA) sought emotional support and advice for coping with “a couple of negative reviews on a review site for health providers.” The negative reviews originated an individual that was not seen as a client but was angered about being turned away. While the OP flagged the reviews for violating site TOS (e.g., by including name calling), they endorsed a sense of helplessness. Ultimately, OP was seeking advice on how others “deal with these situations emotionally?” They made a follow-up edit to the original post sometime later thanking commentors for their support and providing an update that the website had offered to remove the review.

Post 11 was removed from the analysis for non-relevance

Post 12: Remote Work

Details. This post, entitled “Going fully remote?” was first posted on 2/3/2021. When it was accessed on 2/23/21, it had 78 upvotes, with an overall 95% positivity rating, and 78 total comments, none of which were eliminated from the analysis for non-relevance. The original post can be found at: <https://bit.ly/3aGcSXq>

Synopsis. The OP (an MSW, LCSW, in Massachusetts) discussed their experience going “fully remote” during the pandemic and how it had led them to consider continuing to do so in future private practice. The OP wrote that they had:

Always dreaded the day when telehealth took over, but having been forced into it I actually really enjoy it. Having been almost a year of telehealth and working from home, I have a real hard time imagining that a lot of people will be going back to in-person.”

The OP went on to list benefits such as easy rapport building and overall convenience and asked if others were planning on going fully remote as well. Additionally, they asked commentors to their view on the future market for remote work.

Post 13: Smartphone Effects

Details. This post, entitled “Encouraging parents not to completely cut teens off from social media and talking to friends as punishment during the pandemic: appropriate or not?” was first posted on 12/9/20. When it was accessed on 2/23/21, it had 34 upvotes, with an overall 97% positivity rating, and 34 total comments, 14 of which were eliminated from the analysis for non-relevance. The original post can be found at: <https://bit.ly/3sZC4OG>

Synopsis: The OP (a Master’s, LLPC, in the USA) posted in order to seek input from others about a specific issue they had seen arising in therapy with families with teens. Specifically, they argued that, while taking a phone away from a teen as a punishment was not inappropriate or harmful in non-pandemic times, the isolation caused by the pandemic meant that such punishment could create further isolation and be damaging to wellbeing. They reported a specific client whose “parents have taken away their contact with friends as a punishment for some bad grades without a clear timeline or goals to reach to earn privileges back.” Overall, they expressed a desire to advocate for a different action on the part of the parents but also expressed uncertainty around what the appropriate action on their part is.

Post 14: Social Media

Details. This post, entitled “Does anyone else get, perhaps irrationally, angry when people who have no credentials ‘act like’ therapists?” was first posted on 1/28/21. When it was accessed on 2/23/21, it had 476 upvotes, with an overall 95% positivity rating, and 182 total comments, 20 of which were eliminated from the analysis for non-relevance. The original post can be found at: <https://bit.ly/3tVOyYY>

Synopsis. The OP (an LCSW in the USA) discussed the anger they felt with un-credentialed individuals on social media “acting like they think they’re pseudo therapists or something.” Such behavior included excessive posting of therapy-related memes and those in the “spiritual world acting like therapists.” They expressed how hard they had worked to attain and maintain their credentials, and how frustrating and demoralizing these experiences were. They contrasted their belief that the field was devalued by the public with witnessing how individuals online would “shower these stupid memes with praises.” Ultimately, they expressed a desire for the public to “respect our roles.”

Post 15: Technology Concerns

Details. This post, entitled “F*ck technology” was first posted on 9/14/20. When it was accessed on 2/23/21, it had 152 upvotes, with an overall 89% positivity rating, and 51 total comments, 4 of which were eliminated from the analysis for non-relevance. The original post can be found at: <https://bit.ly/3aJcqra>

Synopsis. The OP (an LPC/LMHC in the USA) went on a lengthy rant against therapy-related technology including frustrations with electronic health records, security measures, web portals, and other systems. They expressed frustration with the ultimate inhumanity of these systems, especially in a field so concerned with humanity. They went on to describe a number of specific frustrating experiences with these technologies. Ultimately, they endorsed that they “Just needed someplace to rant where other people understand and agree that there is a difference between biological thinking and machine thinking.”

Post 16: Teletherapy Future

Details. This post, entitled “Is anyone else a little apprehensive about the new world possibly shifting to mostly Telehealth?” was first posted on 7/5/20. When it was accessed on 2/23/21, it had 132 upvotes, with an overall 97% positivity rating, and 102 total comments, 11 of which were eliminated from the analysis for non-relevance. The original post can be found at: <https://bit.ly/3nrwjZd>

Synopsis. The OP (an MA Student in the USA) expressed some apprehension about the shift toward telehealth becoming the default. They expressed worries that many workplaces would not be able to reopen due to difficulties with social distancing (e.g., rooms that are too small). They wrote “I definitely didn’t choose this path to become a zoom therapist but of course I want to continue helping others.”

Post 17: Teletherapy Interesting 1

Details. This post, entitled “Surprising things during teletherapy” was first posted on 12/26/20. When it was accessed on 2/23/21, it had 187 upvotes, with an overall 97% positivity rating, and 82 total comments, 10 of which were eliminated from the analysis for non-relevance.

The original post can be found at: <https://bit.ly/2R3qODA>

Synopsis. The OP (an MFT Trainee, MA) shared a surprising moment in telehealth where a client used the bathroom during a phone call, something OP then had to preemptively caution clients not to do. OP saw humor in this experienced and asked other redditors to share their own experiences of humorous or unique things that had occurred in their teletherapy sessions.

Post 18: Teletherapy Interesting 2

Details. This post, entitled “What funny thing has your client of done during teletherapy?” was first posted on 9/18/20. When it was accessed on 2/23/21, it had 144 upvotes, with an overall 95% positivity rating, and 79 total comments, five of which were eliminated from the analysis for non-relevance. The original post can be found at: <https://bit.ly/3gIZhCn>

Synopsis. The OP (an MA, LMFT, in the USA) shared a story about hearing that a client was using the bathroom in telephone based teletherapy. They created this post in order to elicit similarly funny stories from other redditors.

Post 19: Teletherapy Plans

Details. This post, entitled “Anyone here remaining telehealth only for 2021?” was first posted on 12/28/20. When it was accessed on 2/23/21, it had 132 upvotes, with an overall 97% positivity rating, and 69 total comments, three of which were eliminated from the analysis for non-relevance. The original post can be found at: <https://bit.ly/3noJtpy>

Synopsis. The OP (a Masters, LMHCA, in the USA) was interested in other Redditor’s plans for remote versus in-person work as the pandemic continued to evolve and—potentially—came under control through vaccines. While the OP expressed a desire to be cautious and not return to the office before 2022, they also worried that there would no longer be enough clients interested in teletherapy to make such a decision practical. They elicited predictions from other redditors around how practice may look over the remainder of 2021.

Post 20: Teletherapy Shift

Details. This post, entitled “Has anyone else been doing telehealth from home but now being required to return to the office to do telehealth from the office?” was first posted on 9/7/20. When it was accessed on 2/23/21, it had 144 upvotes, with an overall 97% positivity rating, and 64 total comments, none of which were eliminated from the analysis for non-relevance. The original post can be found at: <https://bit.ly/3vu8MJX>

Synopsis. The OP (an CMHC, in the USA) expressed frustration that they were being required to return to in-person work in order to continue to do the teletherapy they had been doing successfully from home. They asked other redditors if they had had similar experiences and, more generally, how they had fared in the face of workplace requirements.

Post 21: Video Games 1

Details. This post, entitled “Question About Playing Video Games With Clients” was first posted on 1/8/21. When it was accessed on 2/23/21, it had 106 upvotes, with an overall 97% positivity rating, and 51 total comments, 13 of which were eliminated from the analysis for non-relevance. The original post can be found at: <https://bit.ly/2R4sOvC>

Synopsis. The OP (an MS, LPC, in the USA) discussed working in an agency where all work had been done through telehealth for the previous year, something that had made “it especially difficult to work with kids since we can't utilize hands on activities that help build rapport, trust, and conversation.” The OP wrote that one way they have been able to build rapport with young, nonverbal clients was through asking for tips on video games. While OP had noticed that these video-game based conversations had been helpful, they also expressed concern about the ethics of using therapy time in this way. Finally, OP went on to ask specific questions, querying redditors as to their own views around the ethics of OP’s actions as well as the ethics around the use of game playing in therapy.

Post 22: Video Games 2

Details. This post, entitled “Video Game Counseling Meetup” was first posted on 2/1/21. When it was accessed on 2/23/21, it had 162 upvotes, with an overall 99% positivity rating, and 44 total comments, 36 of which were eliminated from the analysis for non-relevance. The original post can be found at: <https://bit.ly/3nrmXMR>

Synopsis. The OP (an MS, LMFT in California) was organizing an online meetup for those who would like to use video games in their therapy. OP shared that they had started to use video games in online sessions post-pandemic and had found that it had been effective in helping clients open up. They posted this thread in order to ask other redditors if they would be interested in meeting for a free training that they would provide in using video games in therapy.