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The Influence of the Telehealth Context on Youth Treatment Engagement:
An Evaluation of School-Based Mental Health Engagement during the Remote Schooling Period
of the COVID-19 Pandemic

A dissertation submitted in partial satisfaction
of the requirements for the degree Doctor of Philosophy
in Psychology

by

Sophie Arkin

2023

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ABSTRACT OF THE DISSERTATION

The Influence of the Telehealth Context on Youth Treatment Engagement: An Evaluation of
School Mental Health Engagement during COVID-19

by

Sophie Arkin

Doctor of Philosophy in Psychology

University of California, Los Angeles, 2023

Professor Bruce Frederick Chorpita, Chair

The coronavirus (COVID-19) pandemic resulted in unprecedented challenges for children due to marked emotional distress, social isolation, and substantial grief and loss. Unfortunately, the rise in mental health challenges for youth due to the pandemic could exacerbate the already high rate of unmet treatment needs of youth (Whitney & Peterson, 2019). The pandemic also transformed the field of mental healthcare due to the rapid expansion of telehealth services to slow the spread of COVID-19. Telehealth or telemental health (TMH) services are defined as services that occur remotely through videoconferencing platforms or telephone calls. Although pre-pandemic research on telehealth has been largely positive, the influence of telehealth on youth treatment engagement is unclear due to inconsistent study findings, use of unidimensional measures of engagement, and low utilization of telehealth services in schools (Brooks et al., 2013; Georgeson et al., 2020; Love et al., 2019). Thus, the

COVID-19 pandemic offered an excellent opportunity to examine the influence of telehealth on multiple dimensions of engagement within a traditional care setting for youth.

The objective of this two-study dissertation was to investigate the influence of the pandemic and rapid expansion of telehealth on youth treatment engagement using a multidimensional measurement framework. These studies occurred within large urban school-based mental health program serving youth and families with well documented logistical, cognitive, and systemic barriers to engaging in mental health services. The first study examined whether telehealth circumstances facilitated or degraded engagement when measured using a multidimensional and multi-perspective lens. We compared two demographically matched cohorts of families receiving services prior to the pandemic with those enrolled during the phase of the pandemic when stay-at-home orders were in effect and schooling and non-essential work occurred remotely (hereafter referred to as the mid-pandemic lockdown period). Results revealed that pre- and mid-pandemic ratings of engagement were similar with the exception that caregivers showed greater risk for low attendance and youth had lower expectations about the benefits of mental health treatment during the lockdown period of the pandemic. We additionally found that the type of delivery mode (i.e., telephone services, videoconferencing services, or a combination of both) was associated with some aspects of engagement for youth, whereas factors unrelated to telehealth were associated with caregiver ratings of engagement during the mid-pandemic lockdown period. The overall results of Chapter 1 suggest that utilization of telehealth services may represent an option for families that does not appear to negatively impact their engagement in services.

Chapter 2 was exploratory and used a mixed methods approach to investigate school-based mental health providers' early impressions of youth treatment engagement for families

enrolled in mental health services during the mid-pandemic lockdown period. A coding system was applied to describe providers' impressions of low and high engagement indicators based on a multidimensional framework. Multilevel logistic regression models were conducted to examine providers' abilities to detect engagement challenges and pandemic factors that may influence provider reports of engagement. The qualitative results revealed that providers' impressions of engagement were substantially more positive than what is described in the literature. The most frequent indicators of engagement reported by providers were associated either with overt behaviors or with ambiguous descriptions that were difficult to code. Use of a multidimensional measurement framework revealed that providers generally appeared to under-detect engagement challenges and use behavioral observation to make engagement inferences. These findings underscore that the telehealth context does not appear to facilitate or degrade providers' detection abilities, which are generally low, possibly due to a lack of shared vocabulary of engagement indicators, suboptimal assessment strategies regardless of the service context, and/or an over-reliance on the delivery mode as an indicator of engagement in the mid-pandemic lockdown context. Overall, the results of Chapter 2 suggest that providers will benefit from receiving additional supports to enhance early identification of engagement problems and reduce the alarmingly high rates of premature termination.

The dissertation of Sophie Arkin is approved.

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2023

Table of Contents

General Abstract of the Dissertation	ii
Acknowledgments	vii
Vita	ix
Chapter 1	1
Abstract.....	2
Introduction	3
Study Aims	13
Methods	14
Study Context	14
Participants	14
Measures	16
Procedure	17
Data Analysis.....	17
Results	22
Discussion.....	26
Tables	41
Figures	50
References	52
Chapter 2	69
Abstract:	70
Introduction	71
Study Aims	77
Methods	78
Study Context	78
Participants	78
Measures	79
Procedure	81
Data Analysis.....	82
Results	85
Discussion.....	89
Tables	102
Figures	104
References	108
General Discussion	119
Appendices	121

List of Tables, Figures, & Appendices

Chapter 1

- Table 1: Demographics of Eligible Cases
- Table 2: Age for Eligible Cases by MTT Record Type
- Table 3: *T*-test Results for Youth MTT Ratings of Engagement
- Table 4: *T*-Test Results for Caregiver MTT Ratings of Engagement
- Table 5: Proportion of Telehealth Barriers by Delivery Mode
- Table 6: Regression Results on Youth MTT Ratings of Engagement
- Table 7: Regression Results on Caregiver MTT Ratings of Engagement
- Supplemental Table 1: Regression Results for the Percentage of Sessions with Caregivers Present in Pre-Pandemic Cohorts
- Supplemental Table 2: Estimated Marginal Means for Youth Age of Eligible Cases
- Figure 1: Case Composition by Year
- Figure 2: Telehealth Barriers by Delivery Mode

Chapter 2

- Table 1: Coding System for Provider Impressions of Low and High Engagement Indicators
- Table 2: Multilevel Binary Logistic Regression for Provider Reports of Engagement
- Figure 1: Diagram of Provider Reports of Engagement
- Figure 2: Engagement Codes Applied in Provider Descriptions of Low and High Engagement
- Figure 3: Distribution of MTT Total Ratings
- Figure 4: Distribution of MTT REACH Ratings

Appendices

- Appendix A: My Thoughts About Therapy –Youth
- Appendix B: Mis Pensamientos Acerca De Terapia – Versión Juvenil
- Appendix C: My Thoughts About Therapy – Caregiver
- Appendix D: Mis Pensamientos Acerca De Terapia – Versión De Guardian
- Appendix E: Telemental Health Detection Survey
- Appendix F: Provider Background Survey

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CHAPTER 1:

Dimensions of Youth Treatment Engagement in the Telemental Health and Face-to-Face
Context: A Multicohort Comparison of Pre-Pandemic and Mid-Pandemic Matched Cohorts

Abstract

The current study aimed to examine youth treatment engagement using a multidimensional framework to gain insights into school-based mental healthcare for a community with well-documented barriers to services during the lockdown period of the COVID-19 pandemic when all school programming was virtual. We compared demographically matched cohorts of families receiving in-person services prior to the pandemic with those enrolled during the lockdown period of the pandemic. We examined whether telehealth circumstances influenced dimensions of engagement in distinct ways. Results revealed that pre-pandemic and mid-pandemic ratings of engagement were largely similar, with the exception that caregivers showed greater risk for low attendance and youth had lower expectations and beliefs about the benefits of mental healthcare during the mid-pandemic lockdown period. These findings may be partially due to continued presence of logistical barriers observed in the current sample and the influence of the pandemic context on those presenting to treatment via telehealth. Additionally, we observed that the type of the remote delivery mode was associated with some, but not all dimensions of engagement for youth, whereas factors unrelated to telehealth were associated with caregiver dimensions of engagement in the mid-pandemic lockdown period. The current study highlights the advantages of utilizing a multidimensional, multi-perspective measure to examine youth treatment engagement. Further, results suggest that utilization of telehealth services represents an option for families that does not appear to negatively impact their engagement in services.

Introduction

National estimates of youth struggling with mental health challenges are as high as 40% (Costello et al., 2011). Unfortunately, a growing body of literature has shown that the COVID-19 pandemic has exacerbated mental health challenges for children due to marked emotional distress, social isolation, grief, and loss, which may increase the already high rates of children's unmet mental health needs (Golberstein et al., 2020; Meherali et al., 2021; Singh et al., 2020; Whitney & Peterson, 2019). Untreated child psychopathology has been cited as a "potent risk factor" for adverse psychosocial outcomes and predictive of lifetime psychopathology including severe mental illnesses such as schizophrenia (Copeland et al., 2009; Costello et al., 2011; Costello et al., 2016; de Girolamo et al., 2012; Rutter et al., 2006). As such, increasing access to mental healthcare for youth and families is essential for reducing the overall burden of child psychopathology, particularly in light of the psychological effects of the pandemic.

Of families who choose to enroll in mental health services, estimates of 20 to 40% do not receive the recommended dose of treatment (Costello et al., 2011). Early termination is not only associated with poor clinical outcomes but may also impact the functioning of children's mental health systems more broadly (Danko et al., 2016; Haine-Schlagel & Walsh, 2015; Karver et al., 2006; Kazdin & Wassell, 1999). Specifically, premature termination is often preceded by increases in late cancellations and no-shows. Without advanced notice, providers cannot reserve the unused time to serve another youth or family. These precedents may result in a simultaneous loss of billable hours and overall workforce capacity, which may exacerbate structural barriers (e.g., long waitlists for families requesting care) and create economic constraints on an already burdened system (Kazdin, 1996; Kazdin et al., 1994; Owens et al., 2002). Therefore, a critical

piece of increasing access to care involves enhancing treatment engagement for youth already enrolled in mental health services.

Treatment Engagement. Treatment engagement can be defined as a multidimensional construct that evolves over the course of treatment in a transactional manner based on interactions between the client, their direct service provider, and the service organization through which mental health services are received (Becker et al., 2015; Gopalan et al., 2010; Lindsey et al., 2014; Staudt, 2007). Research efforts to enhance youth treatment engagement are well underway. For example, barriers to youth treatment engagement have been thoroughly investigated to identify at-risk families. The literature suggests that logistical barriers (e.g., lack of transportation, scheduling conflicts, economic loss associated with taking unpaid time off work, lack of childcare for other children), cognitive barriers (e.g., perceived relevance of chosen treatment approach, caregiver beliefs about themselves or their child, beliefs that treatment is too demanding, mental health stigma), social barriers (e.g., poor therapeutic alliance), structural barriers (e.g., long waitlists, lack of provider training in cultural competencies, high supervisory caseloads, unstable program funding, living in a low resourced neighborhood, utilizing public services) and participant characteristics (e.g., low socioeconomic status, belonging to racial or ethnic minorities, parent psychopathology, and single-parent status) are all associated with poor attendance and premature termination (Armbruster & Kazdin, 1994; Gopalan et al., 2010; Kazdin, 1997; McKay & Bannon, 2004; McKay et al., 2005; Nock & Ferriter, 2005; Ofonedu et al., 2017).

To address logistical barriers and prevent at-risk families from premature termination, school-based services have been widely adopted in the United States (Adelman & Taylor, 2012; Farmer et al., 2003). There is some evidence that school-based services help with the initiation of

services, particularly for racial and ethnic minority youth (Cummings et al., 2010). However, as many as 70% of families prematurely terminate school-based services, with families receiving less than half the prescribed interventions indicated for their presenting problems (Armbruster & Kazdin, 1994; Guo et al., 2014). One possible explanation for high premature termination rates is that school-based services fail to reduce logistical barriers for all participants, namely caregivers, in children's mental healthcare. Caregiver involvement is a standard component of much of children's mental health treatment and important beyond simply ensuring that children attend services (Dowell & Ogles, 2010; McCurdy & Daro, 2001; Nock & Ferriter, 2005). For example, some children's mental health treatment programs intervene at the caregiver level (e.g., parent training programs to treat externalizing behaviors; Nock & Ferriter, 2005; Sheidow et al., 2022; Weisz, 2004). Further, caregivers' cognitive barriers impact engagement outcomes beyond logistical barriers to treatment (Gopalan et al., 2010; Karver et al., 2006; Nock & Kazdin, 2001). Thus, a crucial piece of improving youth treatment engagement is the capacity to detect and address any barriers, whether cognitive or logistical, for both youth and their caregivers. As such, adopting a theoretical framework of youth engagement can help elucidate how, when, and which interventions impact the various dimensions of engagement throughout treatment.

REACH Framework. The REACH measurement framework was developed based on prior conceptual models and an extensive review of the literature to capture the multidimensional, dynamic, and transactional nature of engagement. The framework consists of five factors: *Relationship*, *Expectancy*, *Attendance*, *Clarity*, and *Homework*. Although the five-factors in this model were not designed to be definitive, recent literature has validated the structural validity of the five-factor model relative to a one-factor or four-factor model (Chorpita & Becker, 2022). The *Relationship* domain captures social dimensions of engagement which

measures the therapeutic alliance between families and their treatment providers. The *Expectancy* domain captures attitudes towards participation in treatment, readiness for change, perceived barriers to treatment, and past and present treatment success. The *Attendance* domain reflects attendance behaviors such as presence at a treatment session, tardiness, and attendance over time. The *Clarity* domain reflects understanding treatment goals, the structure of treatment, and each participant's (i.e., youth, caregiver, therapist) role in chosen treatment. Finally, the *Homework* domain represents in- and out-of-session participation in therapeutic activities (Becker et al., 2018; Becker et al., 2015; Chorpita & Becker, 2022).

In a comprehensive review of the last 40 years of randomized control trials (RCT) conducted to target youth treatment engagement, Becker et al. (2018) used a distillation method to identify which practice elements (discrete clinical procedures within effective treatment programs) were associated with each REACH domains and found that there are effective interventions to address each domain. Moreover, the results of a mixed-methods study assessing school-based providers' perceptions of engagement challenges found that the majority of engagement challenges reported by providers had an available evidence-based solution, but providers were typically unable to identify the appropriate solution (Becker et al., 2021). Taken together, these findings suggest there are sufficient strategies available to address engagement concerns, but knowledge of these strategies has not led to substantial gains in enhancing treatment engagement. This may be partially due to an overemphasis on attendance outcomes as proxies for treatment engagement as well as gaps in the literature regarding which interventions work best for which problems in which contexts (Becker et al., 2018). As such, additional work using a multidimensional approach is still needed to improve rates of youth treatment engagement. The current study begins to address this need by investigating the REACH

framework in a novel context whose characteristics may facilitate some aspects of engagement but degrade others.

TMH in the Context of COVID-19. The World Health Organization (WHO) characterized COVID-19 as a global pandemic in March of 2020 (WHO, 2020). Consequently, state and local physical distancing requirements were enacted across the United States to mitigate the burgeoning public health risk. In-person mental health services were largely suspended, which led to the rapid expansion of TMH services. The widespread change in the delivery method was significant because it allowed youth and caregivers to attend services from any location within their state; thus, reducing the barriers to transportation required for in-person services (Fairburn & Patel, 2018; Georgeson et al., 2020).

It has been regularly stated that youth are well-positioned to receive services over technology platforms due to their status as “digital natives” (e.g., being born during the age of technology) and their tendency to have high technology literacy (Burns et al., 2016). However, utilization of TMH services was low in routine care settings for youth prior to the pandemic due to limited reimbursement opportunities, lack of infrastructure, and low acceptability of the delivery mode by mental health providers (Brooks et al., 2013; Love et al., 2019). As such, definitive conclusions about youth treatment engagement via TMH remains unclear (Georgeson et al., 2020). The period of the pandemic in which stay-at-home mandates were in place and all school programming and non-essential work occurred remotely (hereafter referred to as the mid-pandemic lockdown period) created a context in which there was an opportunity to study whether dimensions of engagement were positively or negatively associated with the remote delivery method.

Advantages of TMH. Empirical studies published prior to the pandemic on the efficacy of children's mental health services delivered via TMH have been largely positive. Prior work has illustrated that treatments conducted by the remote delivery mode show similar effects to face-to-face treatment for addressing a host of disorders (e.g., attention deficit hyperactivity disorder, obsessive-compulsive disorder, depression, and post-traumatic stress disorder; Comer et al., 2014; Comer et al., 2017; Myers et al., 2015; Nelson et al., 2003; Stewart et al., 2017; Tse et al., 2015). Further, youth and caregivers show high satisfaction and high ratings of therapeutic alliance in the TMH setting (Boydell et al., 2014; Comer et al., 2014; Elford et al., 2001; Greenberg et al., 2006; Myers et al., 2006; Myers et al., 2008; Reese et al., 2013; Sucala et al., 2012). Notably, Stewart et al.'s (2017) pilot study on delivering trauma-focused CBT via videoconferencing in youth reported a 0% attrition rate. This finding is promising given that trauma treatments delivered in-person typically have high rates of attrition across treatment settings (Cary & McMillen, 2012). Further, an open trial comparing a clinic-based behavioral parent training program to an e-health behavioral parent training program consisting of pre-recorded skills training videos coupled with therapist-assisted videoconferencing sessions found cancellation rates to be significantly lower for parents in the e-health condition (Kirkman et al., 2016).

Research on children's mental healthcare during the lockdown period of the pandemic has shown additional evidence in favor of TMH utilization. For example, a study examining mental health providers experiences during the pandemic suggested that adolescents were more open with their mental health providers, particularly as it pertains to sharing trauma histories or discussing sexual identity issues (Moorman, 2022). Nicholas et al. (2021) examined the impact of the pandemic on mental health providers and young people (ages 12-25) receiving care

through a large mental health system in Australia and found that cancellation rates of young people were lower during the lockdown period of the pandemic as compared with the same timeframe in years prior to the pandemic (Nicholas et al., 2021). The report also revealed that the majority of young people reported that transitioning to TMH services did not impact their motivation to engage in treatment nor did it impact their ratings of the therapeutic alliance. Additionally, young people reported that the transition positively impacted their perceptions of service quality. Therefore, it is plausible that the engagement domain of attendance may be facilitated by TMH without major disruptions to other engagement domains, at least for adolescents or young adults.

Disadvantages of TMH. On the other hand, there are disadvantages to utilizing TMH services. These obstacles include lack of access to proper equipment (i.e., smart devices, cameras, headphones), poor or unstable broadband internet, lack of privacy, and increased distractions in the location in which services are received (Connolly et al., 2020; MacMullin et al., 2020; Payne et al., 2020; Standing et al., 2018; Zhai, 2020). There is growing concern that these barriers impact the same families previously identified as at-risk for low engagement in the face-to-face setting and therefore contribute to the same inequities in mental healthcare (Zhai, 2020). In fact, there is some evidence of this, as one study found that mental health service use in two large public urban hospitals decreased for children from racial minority backgrounds while service use increased for White children during the remote mid-pandemic period (Williams et al., 2022). The U.S. Census Bureau reported in 2016 that among low-income households, approximately 30% did not have home access to any type of smart device (including smartphone, tablet, desktop/laptop computers), and approximately 40% did not have broadband internet in their homes (Ryan, 2018). Regarding concerns related to privacy, overcrowding (more than 1

person per room per household) was found to be higher for households consisting of low-income families, of racial and ethnic minorities, and of recent immigrant status (Curtis et al., 2022; Myers et al., 1996). Continued logistical barriers may explain why previous RCT studies comparing the in-person and TMH delivery format in youth did not reveal significant differences between rates of attrition or retention (Comer et al., 2017; Dadds et al., 2019). That being said, prior RCT studies testing the impact of TMH services in youth consisted of limited sample sizes, were composed of predominantly non-Latinx White participants, and had narrow study objectives designed to address a specific diagnosis for a limited age range, a particular population, or the efficacy of delivering a manualized treatment in the TMH context (Georgeson et al., 2020; Monzon et al., 2021). Therefore, additional work is still needed to determine whether and how barriers to TMH utilization in a routine care setting serving those with well-documented barriers to in-person services influence youth treatment engagement across diagnoses and a wide range of child and adolescent development.

Another possible downside to TMH services is that improvements in one domain (i.e., *Attendance*) may not co-occur with improvements in the other domains of engagement (i.e., *Relationship, Expectancy, Clarity, and Homework*) for all treatment participants (i.e., youth and caregivers). For instance, establishing a strong therapeutic alliance may be more challenging for families with limited privacy because families may not feel comfortable disclosing information to their treatment provider if they fear they may be overheard by others in their home environments. Addressing problems in the *Expectancy* and *Clarity* domains may be more challenging for families who rely on telephone-based services to receive treatment due to unstable internet or lack of equipment. There may be increased barriers to the *Homework* dimension without the use of worksheets, aids (e.g., games), or reinforcers (e.g., toys, sticker

charts) to facilitate in- and out-of-session skills use. Therapists may be used to relying on tools like games and toys for younger age children or those less able to engage for long periods of time without visual cues or interactive approaches to learning. Whereas youth are considered digital natives, TMH services may be more challenging for elderly caregivers (e.g., grandparents) who tend to have lower technology literacy or for elementary-aged youth who may be more distractible in their home environments. Because researchers have shown that social and cognitive barriers influence treatment completion beyond attendance barriers, it is possible that the benefits of TMH services do not outweigh the cons if improvements in engagement are limited to just one domain (Gopalan et al., 2010; Nock & Kazdin, 2001).

Although the pandemic creates an excellent opportunity to study the influence of TMH on treatment engagement, it is important to consider other pandemic-related factors that may influence treatment engagement in the mid-pandemic lockdown context. For example, school-based providers had the ability to physically pick up students from their classrooms to attend therapy sessions or coordinate scheduling with their students prior to the pandemic. Without these conveniences, the onus of attending treatment was placed on the student or their caregiver. The shift in responsibility could have created challenges for children whose caregivers were frontline workers, or those required to continue working in-person despite the stay-at-home mandates, because they may not be available to coordinate or facilitate their children's attendance during the workday. Furthermore, students attending their classes remotely or caregivers whose remote work involves videoconferencing meetings may have experienced heightened zoom fatigue or the feeling of exhaustion resulting from frequent participation in videoconferencing (Bennett et al., 2021). Zoom fatigue is associated with increased negative attitudes towards videoconferencing, suggesting that families may have less energy or desire to

attend therapy services through videoconferencing or may have lower expectations about the treatment itself (Fauville et al., 2021).

There is some preliminary evidence corroborating findings that the mid-pandemic lockdown context negatively affects youth engagement. Two qualitative studies on mental health professionals' impressions of delivering TMH services revealed that "client engagement" was a common barrier to delivering TMH services during the pandemic; though it is unclear what is meant by "client engagement" in these reports (Frye et al., 2021; Sklar et al., 2020). Another study comparing service utilization records for multiple outpatient community mental health clinics in New York State revealed that the number of child psychotherapy sessions significantly decreased during the lockdown period of the pandemic relative to a pre-pandemic period when services were only offered in-person and a period of the pandemic when stay-at-home mandates were lifted and in-person services became available. This pattern appeared to be age specific, as service utilization increased during mid-pandemic lockdown period for adults and remained high when both delivery mode options became available (Hoffnung et al., 2021). Although telehealth has been perceived as advantageous for adolescents, one study revealed that providers reported more difficulty working with children under the age of ten years old via telehealth (Moorman, 2022). The article sites that this is in part because many of the younger children were referred for externalizing problems, which were more easily managed in-person with tangible reinforcements or games. Further, Berry and colleagues found that treatment retention in a telehealth intensive outpatient program based on data collected between 2020 and 2022 was lower for youth in individual treatment relative to youth in family-based treatment even after controlling for the influence of age (Berry et al., 2023). Moreover, one research group found that providers perceived youth under the age of 13 or with higher symptom severity to be ill-suited for

telehealth treatment due to difficulties adapting treatment materials for younger individuals over the telehealth platform (Islam et al., 2023). Thus, the advantages of TMH on youth treatment engagement may not be uniform across all youth and could instead depend on moderating factors, such as age, diagnosis, family involvement, or the chosen treatment approach.

Study Aims

Despite the sufficient evidence base of engagement strategies, rates of attrition in children's routine mental healthcare remain high (Armbruster & Kazdin, 1994; Guo et al., 2014; Nock & Ferriter, 2005). Though limited in scope, open trials testing clinical outcomes in the TMH context suggest that TMH reduces barriers to the most commonly measured engagement indicators (i.e., attendance behaviors; Kirkman et al., 2016; Stewart et al., 2017). At the same time, new barriers to engagement may be introduced in the remote delivery format, particularly in the context of a global pandemic when many individuals were confined to their homes and reliant on this format for all modes of external communication. Additionally, enhanced engagement in one domain may not co-occur with all engagement domains for youth of all ages and/or their caregivers (Connolly et al., 2020; MacMullin et al., 2020; Payne et al., 2020; Standing et al., 2018; Zhai, 2020).

Therefore, we aimed to examine youth treatment engagement using a multidimensional framework during the lockdown phase of the pandemic within a sample for which barriers to engaging in services are well documented. The study objectives were to (1) compare multidimensional indicators of treatment engagement using the REACH framework during the mid-pandemic lockdown period when services were remote with the same indicators measured during the same timeframe in years prior to the pandemic when services were delivered in-person and (2) classify TMH circumstances (TMH-barriers and remote delivery mode use) for

the current sample and determine whether these circumstances were positively or negatively associated with treatment engagement. Though we could not directly measure the impact of TMH services on treatment engagement, as youth were not randomly assigned to delivery mode, the purpose of the current study was to gain insights into which, if any, dimensions of engagement were related to the delivery mode within the context of the lockdown period of the COVID-19 pandemic.

Methods

Study Context

The present study utilized data collected in collaboration with the Los Angeles Unified School District (LAUSD) School Mental Health Clinic and Wellness Center Program from three time periods: January to May of 2018, 2019, and 2021. LAUSD is a large urban school district that serves approximately 650,000 students from kindergarten through twelfth grade. Approximately 80% of students in the district qualify for reduced price or free meals as of the 2018-2019 school year. Students in this district are of predominantly Latinx or Hispanic ethnicity (~70%), with about 25% of students identifying as English language learners (California Department of Education, 2023).

Participants

Data was obtained from student cohorts who received mental health treatment through LAUSD during the three time periods. The 2021 cohort, or the mid-pandemic cohort, consisted of youth and caregivers who received services during the phase of the pandemic in which all school programming was 100% remote and stay-at-home orders were still in place. Data collection ended when LAUSD employees became eligible for vaccination and the district began offering hybrid school programming (partially in-person, partially remote). The 2021 sample

consisted of 162 unique cases, representing youth for whom either they or at least one of their caregivers completed the self-report measure of engagement. Records represented the number of engagement surveys completed by either a youth or a caregiver. There were 215 eligible survey records collected between January and May of 2021. There were 55 cases composed of both youth and caregiver records (referred to as both record cases), 36 cases consisting only of youth records (referred to as youth only cases), and 71 cases consisting of only caregiver records (referred to as caregiver only cases). Among the 162 unique cases, youth ages ranged from 5.6 to 20.1 years ($Mean=13.4$, $SD=3.2$; see Table 1). For a breakdown of ages by record type, see Table 2. The majority of the sample identified as Latinx or Hispanic (88.2%). Fifty-four percent identified as female, 43.5% identified as male, and 5 youth identified as non-binary or gender fluid. Cases where youth identified as gender diverse were excluded from statistical analyses due to a lack of representation across all cohorts and an insufficient sample size to be included in analyses that included gender.

The 2018 and 2019 cohorts, or pre-pandemic cohorts, consisted of youth and caregivers who completed the engagement survey prior to the COVID-19 pandemic wherein LAUSD's school programming, including school-based mental healthcare, occurred in person. In 2018, 284 of the 530 cases completed surveys between January and May of that year. This resulted in 396 eligible records in 2018, with 112 both record cases, 77 youth only cases, and 95 caregiver only cases. In 2019, 234 of the 417 cases completed engagement surveys between January and May of that year. There were 324 eligible records in 2019, with 92 both record cases, 86 youth only cases, and 54 caregiver only cases (See Table 1). The average number of sessions completed by pre-pandemic eligible cases was 25.1 sessions ($SD=20.4$ sessions) and the average

duration of treatment was 9.1 months (SD=8.5 months). At least one caregiver was present for an average of 29.3% of sessions (SD=24.3%).

Measures

Engagement Survey (My Thoughts about Therapy Survey). The My Thoughts about Therapy (MTT) Survey has four versions (Youth-English, Youth-Spanish, Caregiver-English, Caregiver-Spanish) consisting of 35 items. The self-report measure was developed to evaluate youth and caregiver risk for low treatment engagement according to the REACH engagement framework. The measure consists of 5 scales that correspond to the 5 REACH dimensions (7-items per domain). Participants were asked to rate how much they agree on a 0-3 scale (strongly disagree, disagree, agree, strongly agree) with statements about each domain (see Appendix A-D). REACH scale ratings reflect the sum of the 7 items within each scale, with higher scores reflecting higher self-reported engagement (Range=0-21). Records with more than 2 items missing per scale were excluded from analyses on that domain. For valid records with 1-2 missing items, within scale mean substitution was used to calculate the domain score. All four versions of this measure were used in this study and a study on the psychometric properties of the MTT survey supports the structural validity of the measure (Chorpita & Becker, 2022).

TMH Detection Survey. The TMH Detection Survey is a 6-item measure completed by mental health service providers for each of their cases. Two items from this survey were used to address the aims of this study: (1) the delivery mode primarily used by the family (audio only, videoconferencing, varies by session) and (2) what TMH-specific barriers (e.g., internet, equipment, privacy, distractions, others) were present for the family (See Appendix E). The remaining items on this measure will be discussed in Chapter 2.

Procedure

MTT survey data were collected on a secure online platform. For both the pre-pandemic and mid pandemic cohorts, LAUSD providers and LAUSD staff administrators prompted families to complete the MTT survey once they became eligible or after at least the third treatment session. Demographics and diagnostic information were extracted from student records for the pre-pandemic cohorts. Diagnoses were also extracted from student records for the mid-pandemic cohort. However, all other demographic information for the mid-pandemic cohort was gathered directly from families when they completed the MTT survey to reduce the administrative burden for LAUSD collaborators. Members of the research team initially prompted LAUSD providers to complete the TMH Detection survey for eligible cases following a training workshop on the MTT survey administration. As new cases became eligible, LAUSD administrators prompted providers to complete the TMH Detection survey. Due to the district collecting these data for routine clinical procedures and program evaluation, the University of California, Los Angeles Institutional Review Board approved a waiver of informed consent for this study.

Data Analysis

Aim 1. Frequencies and Chi-square tests of independence for eligible cases were performed in SPSS to evaluate the differences in the proportions of demographic characteristics, the composition of cases (youth only cases, caregiver only cases, both record cases), and the diagnostic makeup between the three cohorts (See Table 1). Diagnoses were collapsed into three categories: internalizing disorders, externalizing disorders, and "other" disorders. Depressive disorders, anxiety disorders, adjustment disorders and trauma-related disorders were classified as internalizing disorders. Conduct and oppositional disorders as well as ADHD were classified as

externalizing disorders. “Other” disorders included diagnoses that are typically less prevalent in school-aged children (e.g., bipolar disorder, psychotic-spectrum disorders) or labels that did not meet the threshold of a specific disorder (e.g., “family conflict or stressor”). Post-hoc z -tests for independent proportions corrected for multiple comparisons using Bonferroni corrections were conducted on significant Chi-square tests to determine which proportions significantly differed among the three cohorts.

To prepare the cohort comparisons, we completed a matching procedure in which a case from each of the pre-pandemic cohorts was matched with a case from the 2021 cohort based on demographic characteristics (age bins, gender, ethnicity). The matching criteria were chosen to maximize the sample size. However, there were some cases in the mid-pandemic cohort in which we were unable to find a match with both pre-pandemic cohorts using the matching criteria, including the gender diverse cases and cases with demographic characteristics that were less prevalent across all three cohorts. Age bins were determined based on ranges of ages for different schooling periods (see Table 1). For instances in which there were multiple eligible cases from either 2018 or 2019, the pair was first attempted to be matched based on the exact age in months, then by presenting problem, and then by MTT record date (month and day). For the rare instance in which there were more than two eligible records that matched on these additional characteristics, the eligible records were assigned numeric IDs, and a random number generator was used to randomly select which record was chosen to be included in the sample.

The multicohort comparisons were conducted through multiple paired t -tests and corrected for family wise error rate using false discovery rate. This method was chosen as opposed to the Bonferroni method to avoid a reduction in power due to the sample size (Holm, 1979). T -tests for youth and caregivers were conducted separately for each REACH domain. The

first set of *t*-tests compared the mid-pandemic cohort to each of the pre-pandemic cohorts (i.e., 2021 v. 2018, 2021 v. 2019). Then, to provide evidence that observed differences between the mid- and pre-pandemic cohorts do not reflect differences in years, the two pre-pandemic cohorts were compared (2018 v. 2019). Given the sample size and number of planned comparisons, the study was appropriately powered ($1 - \beta = 0.8$) to detect a relatively small effect size (Cohen's $d = 0.2$). We hypothesized that there would be significant differences between the mid-pandemic cohort and the pre-pandemic cohorts for some, but not all, REACH domains and there would be no significant differences between the two pre-pandemic cohorts. Specific hypotheses for each REACH domain are discussed below.

Hypothesis 1A. Previous studies revealed similar rates of working alliance in the face-to-face and TMH context (Boydell et al., 2014; Comer et al., 2014; Elford et al., 2001; Greenberg et al., 2006; Myers et al., 2006; Myers et al., 2008; Reese et al., 2013; Sucala et al., 2012). However, no prior research has examined how barriers to TMH services impact the *Relationship* domain nor has this work included diverse samples likely affected by TMH-barriers. Therefore, we expected that compared with the pre-pandemic cohorts, both youth and caregivers in the mid-pandemic cohort would have similar or lower reports of engagement on the *Relationship* scale.

Hypothesis 1B: Previous reports have found that youth and caregivers show high satisfaction with TMH services and that use of TMH services may be experienced as less stigmatizing than in-person clinical settings (Boydell et al., 2014). At the same time, we do not have evidence that other aspects of *Expectancy*, such as previous experience with mental health care or readiness towards change would be influenced by the service delivery mode unless the family had a prior experience with the remote delivery mode. This is unlikely given that TMH utilization was low prior to the onset of the pandemic (Love et al., 2019). Therefore, we

hypothesized that there would be no significant differences in *Expectancy* rating between cohorts for youth or caregivers.

Hypothesis 1C: We expected youth in the mid-pandemic cohort to have similar or lower ratings of engagement on the *Attendance* scale as compared with pre-pandemic cohorts for two reasons. First, providers did not have the ability to coordinate scheduling with youth directly at school (e.g., picking up a student from their class at the start of session). Second, experiences of heightened zoom fatigue due to long hours spent on zoom for schooling might influence students' willingness to be present at another online meeting (Bennett et al., 2021; Fauville et al., 2021). Conversely, we hypothesized that caregivers in the mid-pandemic cohort would have higher ratings on the *Attendance* scale due to the increased flexibility to be present at session with fewer transportation barriers.

Hypothesis 1D: Prior reports suggest there is an increased likelihood of miscommunication which could interfere with the domain of *Clarity* (Connolly et al., 2020; MacMullin et al., 2020). Therefore, we expected that the COVID-19 cohort would be significantly lower than the pre-pandemic cohorts for youth *Clarity* scales. However, it is possible that increased caregiver attendance during remote sessions could co-occur with increased caregiver involvement and, therefore, increased caregiver clarity. Thus, we expected that caregivers in the mid-pandemic cohort would have higher *Clarity* scores as compared with the pre-pandemic caregiver cohorts.

Hypothesis 1E: Given the inability to use tangible reinforcement strategies (e.g., a prize reward for completing homework) when providing TMH services coupled with recent findings that families preferred their children receive telephone-based services during the pandemic, we expected that youth in the mid-pandemic cohort would have reduced reports of engagement on

the *Homework* scale (Mishna et al., 2020; Islam et al., 2023). As stated previously, it is possible that if there is increased caregiver attendance, there may also be increased caregiver involvement; therefore, we expected that caregivers in the mid-pandemic cohort would show elevated engagement ratings on the *Homework* scale as compared with the two pre-pandemic cohorts.

Aim 2. To describe the TMH circumstances for the mid-pandemic sample, frequencies of TMH-barriers and the TMH delivery mode reported for each case were calculated. The proportion of each barrier for each delivery mode was also calculated and Chi-square tests of independence were performed in SPSS to determine whether certain barriers differed by the TMH mode. To determine whether the TMH-delivery mode and the number of TMH-barriers were associated with multidimensional indicators of engagement, ten linear regressions were conducted in RStudio using the mid-pandemic data (v4.1.2; R Core Team, 2022). Despite the nested nature of the data (youth within providers; caregivers within providers), linear regression models were chosen because of data sparseness (i.e., a small number of cases per level-2 data) and the average intraclass correlation coefficient (ICC) across all models was close to zero (youth ICC=0.08; caregiver ICC=0.02; Clarke, 2008). Separate models were specified for youth and caregivers for each of the REACH scales. The delivery mode variable was transformed into 2 dummy coded variables with services occurring primarily by videoconferencing as the reference. The two dummy variables representing delivery mode, the total number of TMH-barriers present for each case, youth age and gender (female=0, male=1), and the case composition variable (youth regression models: youth only cases=0, both record cases=1; caregiver regression models: caregiver only cases=0, both record cases=1) were included as predictors for all models. Note, although the composition of cases was described as a three-level

variable in the Chi-square tests, only a two-level variable was entered in the regression models because youth and caregiver ratings of engagement were investigated separately.

Hypothesis 2: It was hypothesized that the delivery mode and the number of TMH-barriers would be significant predictors of youth and caregiver REACH scores. We expected to see scores reflecting higher treatment engagement for cases who received services primarily by videoconferencing as compared with those who received services by telephone or by a combination of both delivery modes for both youth and caregivers. Further, we expect to see a negative association between the number of TMH-barriers and all REACH scales, such that a higher number of barriers would be associated with scores reflecting lower engagement for both youth and caregivers.

Results

Aim 1. Matched Cohort Comparison of REACH Engagement Domains

Descriptive Statistics. Table 1 summarizes the sample characteristics of the eligible cases from the three cohorts. Chi-square tests of independence revealed that a significant difference in the proportion of the composition of cases between cohort years ($\chi^2(4)=21.71$, $p<0.005$; See Figure 1). Post-hoc z -tests of independent proportions found that the percentage of caregiver only cases was significantly lower for 2019 (23.1%) as compared with 2018 (33.5%) and 2021 (43.8%). Further, the percentage of youth only cases was significantly lower for 2021 (22.0%) as compared with 2019 (36.8%). The proportion of diagnostic categories labeled in each case's chart also differed by cohort year ($\chi^2(4)=12.00$, $p<0.05$). Post-hoc z -tests revealed that the proportion of youth diagnosed with an externalizing disorder was lower in 2021 than in 2018 ($p<0.05$). There were no significant differences in the proportion of ages, gender, or race/ethnicity between the three cohorts.

Youth Comparisons. The results did not support our domain-specific hypotheses for pre- versus mid-pandemic youth cohort comparisons (See Table 3). A significant difference was observed for the youth cohorts, such that youth *Expectancy* was significantly lower for the 2021 cohort as compared with the 2018 cohort ($t(87)=-2.45, p<0.05$). There were no other significant differences between the pre-pandemic cohorts and the mid pandemic cohort. As hypothesized, there were also no significant differences observed when comparing the 2018 and the 2019 pre-pandemic cohorts.

Caregiver Comparisons. Paired *t*-test results for the caregiver cohorts are displayed in Table 4. Again, our hypotheses regarding comparisons between the mid-pandemic and each pre-pandemic cohort were not supported. Analyses revealed that caregiver *Attendance* scores were significantly lower for the 2021 cohort as compared with the 2018 ($t(114)=-2.13, p <0.05$) and 2019 cohorts ($t(107)=-2.95, p<0.005$). No other significant differences were observed between the mid-pandemic and the pre-pandemic caregiver cohorts. Once more, no significant differences were found between the two pre-pandemic caregiver cohorts.

Post-Hoc Analyses. With the observed differences in the proportion of the composition of cases and diagnosis type between the pre- and mid-pandemic cohorts and the expectation that youth age might relate to these characteristics, post-hoc analyses were conducted to shed light on the current findings. First, we ran a linear regression model using RStudio to examine how age and case composition relate to the percentage of sessions that at least one caregiver was present using the pre-pandemic service utilization data (v4.1.2; R Core Team, 2022; Bates et al., 2015). Age was grand mean centered and case composition was dummy coded with youth only cases as the reference code. The results revealed a significant relationship between age and the percentage of sessions in which at least one caregiver was present ($b=-2.89, p<0.001$), suggesting

that lower age is associated with a higher percentage of sessions with at least one caregiver present in the pre-pandemic context. We also found that caregiver only cases ($b=13.40, p<0.001$) and both record cases were associated with a higher percentage of sessions with at least one caregiver present relative to youth only cases (See Supplemental Table 1).

Second, we conducted a two-way ANOVA examining the effect of diagnosis type and case composition on youth age for all the eligible cases. The results revealed a significant main effect of diagnosis ($F(2,671)=36.14, p<0.001$) and case composition ($F(2,671)=38.36, p<0.001$). The interaction for diagnosis and case composition was not significant ($F(4,671)=17.27, p>0.05$). Post-hoc pairwise comparisons corrected for multiple comparisons using Bonferroni corrections revealed that age was significantly lower for cases with externalizing disorders as compared with cases with internalizing disorders ($p<0.001$). Post-hoc pairwise comparisons also revealed that youth ages for caregiver only cases were lower than youth only cases ($p<0.001$) and both record cases ($p<0.01$). Youth age for both record cases were also significantly lower than youth only cases ($p<0.001$). The adjusted means and standard errors for age are presented in Supplemental Table 2.

Aim 2. Telehealth Circumstances associated with REACH Engagement Domains during the COVID-19 Pandemic

Descriptive Statistics. During the mid-pandemic lockdown period, approximately half of the cases (53.70%; $N=87$) surveyed received services by videoconferencing, whereas about 17.90% ($N=29$) received services by audio only calls and 28.40% ($N=46$) used both delivery modes to receive school-based mental health treatment. Providers reported that 64.81% ($N=105$) of their cases experienced at least one TMH-barrier, with 26.54% ($N=43$) experiencing internet-related challenges, 9.262% ($N=15$) experiencing equipment-related challenges, 34.57% ($N=56$)

experiencing distractions, 25.31% (N=41) experiencing privacy-related challenges, and 1.85% (N=2) reporting TMH-barriers that fell into the “other” category. Chi-square tests revealed that the proportion of cases experiencing distractions ($\chi^2(2)=7.37, p<0.05$), equipment $\chi^2(2)=9.91, p<0.005$), and privacy concerns ($\chi^2(2)=6.80, p<0.05$; See Table 5) differed across the three TMH delivery modes. Post hoc *z*-test revealed that the proportion of cases experiencing distractions and privacy concerns were significantly higher for cases whose delivery mode varied by session relative to those receiving primarily videoconferencing services. Further, the proportion of cases experiencing equipment challenges was significantly higher for individuals receiving services by audio only calls as compared with those receiving services primarily by videoconferencing (See Figure 2).

COVID-19 Youth. Five multiple linear regression models were calculated to investigate whether TMH-circumstances were associated with youth ratings of engagement (See Table 6). The dummy variable representing the difference between videoconferencing and audio only calls was statistically significant for youth *Expectancy* ($b=-2.20, p<0.05$), *Attendance* ($b=-2.59, p<0.05$), and *Clarity* ($b=-2.06, p<0.05$). Across all three models, scores were significantly higher for cases who received services primarily by videoconferencing as compared with those whose services occurred by audio only calls. We also observed a significant positive association between youth age and youth ratings of the *Relationship* domain, suggesting that older youth were associated with higher ratings of the therapeutic alliance ($b=0.25, p<0.05$). There were no significant associations found between youth REACH scores and the dummy variable representing the difference between videoconferencing and a mix of both delivery modes or for any of the youth REACH ratings and the number of TMH-barriers.

COVID-19 Caregivers. Results are displayed in Table 7. The dummy variable representing the difference between videoconferencing and audio only calls approached significance for caregiver *Relationship* ($b=-2.13, p<0.10$) and *Expectancy* ratings ($b=-2.06, p<0.10$). Similarly, the total TMH-barriers approached significance for caregiver *Attendance* ($b=-0.77, p<0.10$). However, the analyses revealed that other case characteristics were significant predictors for caregiver ratings of engagement. Case composition was significantly associated with caregiver *Expectancy* ($b=2.22, p<0.05$), *Attendance* ($b=1.88, p<0.05$), *Clarity* ($b=1.94, p<0.05$), and *Homework* ($b=1.70, p<0.05$). The pattern suggests that caregiver ratings of engagement were higher for both record cases as compared with caregiver only cases. Further, gender was a significant predictor of caregiver engagement for two domains, such that caregivers of male students reported lower scores than caregivers of female students for the domains of *Clarity* ($b=-1.85, p<0.05$) and *Homework* ($b=-2.11, p<0.01$).

Discussion

The current study aimed to examine youth treatment engagement using a multidimensional framework during an unprecedented time in which all school programming occurred remotely to slow the spread of COVID-19. We first compared demographically matched cohorts of participants in school-based, in-person treatment prior to the pandemic (2018 and 2019) with those enrolled during the lockdown period of the pandemic (2021) using a self-report measure that allowed us to study engagement using the REACH framework. In addition to examining between-cohorts discrepancies, we investigated the lockdown period of the pandemic further to classify TMH-circumstances within this context and determine whether TMH circumstances were positively or negatively associated with the REACH engagement dimensions for youth and caregivers.

Pre- and Mid-Pandemic Engagement Comparisons. Results revealed that youth and caregiver reports of engagement prior to and during the mid-pandemic lockdown period were largely similar across REACH dimensions with two notable exceptions. First, youth *Expectancy* scores were lower for the 2021 mid-pandemic cohort as compared with the 2018 pre-pandemic cohort. This finding was not replicated when comparing youth from 2021 to 2019, suggesting that factors not accounted for in the case-matching process or not measured in the current dataset may have contributed to between-cohort differences. One possibility is that differences in diagnostic makeup contributed to the youth *Expectancy* findings, as there was a lower proportion of youth diagnosed with externalizing disorders in the 2021 mid-pandemic cohort as compared with the 2018 pre-pandemic cohort. This proportional difference was not observed between 2021 and 2019. Although there were no differences in internalizing disorders among the three cohorts, prior work suggests that cognitive disturbances or negative thought patterns are less severe for youth with externalizing disorders relative to internalizing disorders (Epkins, 2000). Given that *Expectancy* is a cognitive domain of engagement, it is possible that the differences between 2018 and 2021 were related to the differences in the prevalence of externalizing disorders between these two cohorts. One caveat to this being that diagnosis type was collapsed into three categories and derived from diagnoses listed in students' medical records. As such, these diagnoses may not accurately reflect each child's symptoms or presenting concerns.

The second difference we observed was that caregivers from the mid-pandemic cohort reported lower *Attendance* ratings relative to both pre-pandemic caregiver cohorts. Although inconsistent with our hypothesis, there are contextual explanations for this finding. First, caregivers may have lost their support networks due to school closures and physical distancing

guidelines, making it challenging to receive support from individuals that typically helped with caretaking, such as a neighbor or grandparent. As such, the temporal burden of treatment may have increased for caregivers who had to balance work and or care for multiple children or other dependent adults. Second, research on the pandemic suggests that Latinx individuals were overrepresented in the makeup of frontline worker when evaluating the overall labor market demographics in the United States (Blau et al., 2021). Because the majority of the families surveyed in the present study identified as Latinx, it is also possible that scheduling challenges contributed to lower *Attendance* ratings as a result of the competing demands of working in-person while navigating the loss of childcare. Finally, caregivers who held remote work positions may have similarly struggled with virtual attendance due to other work obligations during the workday.

Another possibility is that the proportional differences in the composition of cases may have contributed to youth *Expectancy* and caregiver *Attendance* findings. Chi-square tests revealed that there was a lower proportion of youth only cases in 2021 as compared with 2019, a higher proportion of caregiver only cases in 2021 relative to 2019, and a higher proportion of caregiver only cases in 2018 relative to 2019 (See Figure 1). If completion of progress monitoring tools, such as the MTT, are considered as a measure of participation, one might perceive these findings to mean that caregivers may have been more involved in 2021 and 2018 as compared with the 2019 pre-pandemic cohort. The importance of caregiver involvement in youth mental health treatment has been widely supported due to its effects on therapy outcomes and the required involvement of caregivers in several evidence-based treatments (Dowell & Ogles, 2010; Gopalan et al., 2010; Karver et al., 2006; Nock & Ferriter, 2005; Nock & Kazdin, 2001; Sheidow et al., 2022; Weisz, 2004). With the exception of the findings that higher child

symptom severity and younger youth age is associated with greater caregiver involvement, the literature has very few examinations of the association between child-level factors and caregiver engagement outcomes (Berry et al., 2023; Haine-Schlagel & Walsh, 2015). To our knowledge, researchers have not studied whether caregiver involvement is associated with the domain of *Expectancy* in youth. Yet, it is plausible that differences in caregiver involvement between 2021 and 2019 introduced a confound and limited the ability to replicate the 2021 and 2018 difference.

With regards to the influence of the differences in case composition on caregiver ratings of *Attendance*, a prior study on in-person youth treatment engagement revealed that higher caregiver attendance and participation was associated with a higher number of logistical barriers reported by caregivers (Fawley-King, et al., 2013). The authors cite that caregivers who participated more in their child's treatment may have had more opportunities to be critical of the treatment. Given that caregivers cannot participate without first attending treatment, one possibility of the current findings is that that caregivers in the mid-pandemic cohort attended more sessions than the pre-pandemic caregiver cohorts and thus, perceived more barriers to *Attendance* which was then reflected in lower MTT survey scores.

Although we could not examine whether caregiver presence in session differed among the three cohorts, we were able to conduct a linear regression model to examine the effect of case composition and age on the percentage of sessions in which at least one caregiver was present using the service utilization data collected in the pre-pandemic cohorts. The results revealed a significant association between case composition and the percentage of sessions with at least one caregiver present, such that caregiver only cases and both record cases were associated with a higher percentage of sessions in which at least one caregiver was present relative to youth only cases (See Supplemental Table 1). If the same pattern between service utilization and case

composition is preserved in the mid-pandemic telehealth context, then the lower rating of *Attendance* for the mid-pandemic caregiver cohort compared to the pre-pandemic caregiver cohorts may be explained by the differences in the composition of cases. Although it could be argued that this interpretation only accounts for the differences in *Attendance* ratings for 2021 and 2019, the direction of case composition proportional differences was similar for 2021 and 2018, with a higher proportion of caregiver only records in 2021. However, the post-hoc z -test for the 2021 versus 2018 was not significant. Interestingly, the results of the t -test show that the 2021 versus 2018 effect size for caregiver ratings of *Attendance* was smaller than what was observed in the 2021 versus 2019 t -test. If the differences in case composition proportions do explain the differences in the pre- and mid-pandemic caregiver ratings of *Attendance*, then we would expect a larger effect size for the test with greater proportional differences in case composition.

This supplemental analysis also revealed a significant negative association between age and the percentage of sessions caregivers were present, but no significant interactions between age and case composition. Further, the results of the supplemental 2-way ANOVA examining the effect of diagnosis type and case composition on youth age for the entire sample of eligible cases found that lower ages were observed for externalizing disorders relative to internalizing disorders and significant differences in age across all compositions of cases. Thus, it appears that differences in caregiver *Attendance* ratings between pre- and mid-pandemic cohorts are likely not due to age. Instead, it is possible that the differences in *Attendance* ratings may be partially explained by age-related factors that were not controlled for in the matching process, such as caregiver presence in session and child diagnosis.

Telehealth Circumstances We also found that approximately half of the families surveyed received their mental health services by videoconferencing and the majority experienced at least one barrier related to remote service delivery. We interpret this to mean that logistical barriers continued to exist for a sample of families typically at-risk for low engagement in traditional settings (Lu et al., 2021; Marrast et al., 2016; Rodgers et al., 2022). The most frequently reported barrier was distractions which occurred for approximately one third of families sampled. Although overcrowding in one's home may contribute to increased distractions during TMH sessions, distractions could also be a product a child's presenting concern (i.e., ADHD), their age, and/or the time of day (e.g., sessions later in the day, result in reduced focus/concentration). In other words, distractions may not be a direct consequence of socioeconomic or minority status, but rather, may be partially explained by child characteristics or environmental factors unrelated to the delivery mode or the pandemic. The next highest reported barriers were internet challenges and privacy concerns. These barriers are seemingly more related to socioeconomic disadvantages, as prior work suggests that lack of high-speed internet access and overcrowding disproportionately affects low-income households, recent immigrants, and those with lower education (Curtis et al., 2022; Swenson & Ghertner, 2020).

Influence of Telehealth Circumstance on Engagement. The results of the analyses investigating associations between the delivery mode and youth REACH ratings partially supported our hypotheses. Specifically, we found that youth who received services primarily by videoconferencing were associated with significantly higher engagement scores than those who received services primarily by audio only calls for the domains of *Expectancy*, *Attendance*, and *Clarity*. There were no significant differences in associations between youth who relied on

videoconferencing as compared with youth who used a mix of both methods across all five REACH domains. Taken together, one might interpret these findings to mean that providers should not rely primarily on audio only calls when the focus of treatment is with the student or when there is a greater risk of low caregiver involvement, especially for youth who are at heightened risk for low engagement on cognitive dimensions of engagement.

It is also important to note that because the data are cross-sectional, this pattern may instead reflect that youth at risk for low *Expectancy*, *Attendance*, and *Clarity* may choose to rely on audio only calls precisely because of their risk for poor engagement. For *Expectancy*, a student with beliefs that mental health treatment is not helpful may not prioritize using videoconferencing after a full day of remote school. For *Clarity*, a student with a poor understanding of the approach or functions of the chosen treatment may not understand the value of meeting by videoconferencing if they hold beliefs that treatment is a safe space to chat as opposed to a space in which they may be asked to review a worksheet or handout to understand therapy concepts or learn new skills. For *Attendance*, a student who experiences substantial logistical barriers to treatment, like lack of proper equipment, would have to rely on audio only calls in order to attend session at all.

Although the number of TMH-barriers was not a significant predictor of the REACH scales for youth, results of a Chi-square test revealed that those who used audio only calls had a higher proportion of equipment concerns relative to those who used videoconferencing calls for TMH sessions. We also found substantial differences in the proportion of cases who experienced privacy and internet concerns across the three delivery modes, with a pattern showing that a lower percentage of barriers were present for families using videoconferencing as their primary remote delivery mode as compared with the two other delivery modes (See Figure 2). Taken

together, these results suggest that examining the effect of specific barriers on youth engagement may provide more insight than examining the effect of the overall number of barriers.

Interestingly, we also observed a significant association between age and youth ratings of the *Relationship* scale, such that older youth were associated with higher ratings of engagement. This relationship was not observed for any other youth ratings of engagement. Although pre-pandemic literature shows that the therapeutic alliance is comparable in telehealth and in-person studies, there is limited research examining the influence of age on the therapeutic alliance in this setting. This is in part because pre-pandemic studies tended to focus on specific age ranges of children as opposed to children across multiple stages of development. Past in-person studies examining the influence of youth age on the therapeutic alliance show no relationship between age and the therapeutic alliance (Karver et al., 2018; Halfon et al., 2019). Therefore, it is possible that developing rapport with younger children is more challenging in the telehealth context. This may explain why therapists reported more difficulties working with younger children during the pandemic and further highlights how in-person tools, such as prizes or games, may be especially helpful for developing a relationship with younger children (Moorman et al., 2022).

For caregivers, the delivery mode type and the number of TMH-barriers were not significantly associated with any of the REACH ratings. Instead, the results revealed that case characteristics were significantly associated with some aspects of engagement for caregivers in the current context. Most notably, both record cases were associated with higher reports of engagement relative to caregiver only cases for the domains of *Expectancy*, *Attendance*, *Clarity*, and *Homework*. Again, if MTT survey completion is a proxy for participation, these findings might suggest that youth participation is also an important factor for caregiver levels of engagement. This observation is consistent with a prior study on telehealth which found that

treatment retention is higher for cases whose treatment involved at least one or more family sessions regardless of the age of the youth client (Berry et al., 2023). However, Berry and colleagues' study focused on adolescents as opposed to children across multiple stages of development and took place before, throughout, and following the lockdown period of the pandemic or from 2020 through 2022. Notably, in our study the average youth age of cases with caregiver records was lower than that of those with youth records (See Table 2). Additionally, we observed that cases with externalizing disorders had significantly lower ages than those with internalizing disorders (See Supplemental Table 2). Therefore, it is possible that the sample of cases that were available for the caregiver regression analyses consisted of younger children and more children with externalizing disorders. This suggests that youth participation in TMH treatment is important for caregiver levels of engagement when the focus of treatment is for younger aged cases or cases with externalizing disorders.

The current study also found that caregivers of male students reported lower *Clarity* and *Homework* than caregivers of female students. This is inconsistent with past work that suggests there were no associations between parent levels of engagement and gender (Fawley-King et al., 2013). That being said, past literature has shown a significant relationship between gender and diagnosis type, with a higher prevalence of boys receiving an externalizing disorder diagnosis than girls (Zahn-Waxler et al., 2008). Therefore, we considered whether diagnosis type and an interaction between diagnosis type and gender provided explanatory power by re-running all five caregiver regressions with the additional predictors. The additional predictors did not improve the model fit or change the results of the caregiver regression findings. In summary, the results of the regression analyses suggest that the chosen TMH-circumstances had a possible influence on some, but not all REACH dimensions for youth, whereas factors unrelated to the chosen TMH-

circumstances were associated with caregiver dimensions of engagement in the mid-pandemic lockdown context.

Clinical Significance. These findings are important in a number of ways. The current study inspected multiple aspects of engagement for multiple treatment participants receiving school-based mental health services during and prior to the lockdown period of the pandemic. Studying engagement with a multidimensional, multi-perspective tool is uncommon in the study of youth treatment engagement regardless of the context (Lakind et al., 2022). Although our results did not clearly support our dimension-specific hypotheses for youth or caregiver reports of engagement, the use of a multidimensional approach did support the overall hypothesis that some, but not all, dimensions of engagement for youth and caregivers were associated with this novel context in distinct ways. Both the dimensional similarities and differences between pre- and mid-pandemic cohorts may have been overlooked if engagement had been measured through service utilization records or through a survey measuring one dimension of engagement, such as the therapeutic alliance. Discordance between the youth and caregiver findings across both study aims indicate that reliance on one participant's perspective is not sufficient for understanding engagement within this context. Thus, this study serves to highlight the utility of employing a multidimensional, multi-perspective measure of youth engagement, such as the MTT survey.

Furthermore, the current study was conducted in a sample of economically disadvantaged, primarily Latinx families or those at heightened risk for low engagement due to the prevalence of logistical, cognitive, and systemic barriers documented in the literature (Lu et al., 2021; Marrast et al., 2016; Rodgers et al., 2022). Researchers cautioned that the widespread adoption of telehealth during the pandemic would exacerbate engagement challenges for this population; thus, widening mental health disparities for low-income and racial and ethnic

minorities (Fortuna et al., 2020; Williams et al., 2022; Zhai, 2020). Although there was degradation of youth ratings of *Expectancy* and caregiver ratings of *Attendance* within this sample, the current findings did not corroborate the notion that the use of TMH during the lockdown phase of the pandemic would have generalized deleterious effects on engagement among families in this sample. Nevertheless, there were findings worth highlighting that support continued caution about the use of TMH in the future.

It is notable that the majority of families surveyed endorsed sustained logistical barriers in this novel context, suggesting that reducing the transportation burden does not necessarily eliminate other logistical barriers to treatment (e.g., scheduling conflicts). Moreover, the fact that use of audio only calls relative to videoconferencing was associated with lower engagement for three REACH domains in youth and almost half of the families sampled did not use videoconferencing as their primary mode of remote services illustrates that a substantial number of families may continue to be at risk for poor engagement in this remote context. Despite the growing acceptability of TMH utilization resulting from the pandemic and the current findings showing several similarities between the pre- and mid-pandemic engagement ratings, we contend that providers consider the distinct advantages and disadvantages of all delivery mode options and collaborate with families to determine which mode will work best for which family. Due to the past work showcasing that children's mental health providers rely on behavioral indicators to evaluate engagement in the in-person setting, it may be even more beneficial for providers to administer the MTT survey as part of routine progress monitoring to detect engagement concerns early when considering use of TMH or a hybrid form of delivering services (Becker, et al., 2021; Lakind et al., 2022).

Limitations and Future Directions. The current results must be interpreted within the context of several study limitations. There were lower rates of cases who completed the MTT survey between January to May of 2021 relative to the same timeframe in the years 2018 and 2019. An explanation for this could be related to challenges with implementing the MTT survey during the pandemic, as our LAUSD partners anecdotally informed us that their program experienced staffing shortages during this period of the pandemic. Suboptimal workflow or loss of institutional knowledge due to reduced staffing may have interfered with staff administering the MTT or following up with families who did not complete the measures, thus resulting in fewer 2021 cases. Even though the administration of the MTT occurred through a secure online platform for all cohorts, requesting families and youth to complete these measures online may have been more burdensome after or during a full day of school or work within the lockdown period of the pandemic. Alternatively, there is some evidence that children’s mental health service utilization decreased during the lockdown phase of the pandemic relative to pre- and post-lockdown periods (Hoffnung et al., 2021). Therefore, another explanation of the case rate differences is that there were also fewer youth enrolled in LAUSD’s program during the lockdown phase of the pandemic. Those who were able to enroll and complete progress monitoring forms, such as the MTT survey, may have experienced fewer barriers to accessing services and thus, may not reflect a representative sample of families within LAUSD with mental health treatment needs. Although a sampling bias would be problematic, it may shed light on why the current study did not observe significant associations between the number of TMH-barriers and any of the REACH dimensions across treatment participants.

Although the U.S. Surgeon General (2021) cautioned that youth are experiencing detrimental mental health effects resulting from the pandemic and reports across the globe have

corroborated this concern (De France et al., 2022; Ezpeleta et al., 2020; Hussong et al., 2021; Magson et al., 2021; Rosen et al., 2021), a few reports indicated that youth experienced a reduction in mental health symptoms during the pandemic (Hu & Qian, 2021; Li et al., 2021; Van Der Laan et al., 2021). With the remote environment eliminating staffs' ability to observe child behavior or interact with students between classes or outside of the traditional classroom setting (e.g., recess or lunch periods), there may have been fewer staff capable of detecting children's mental health concerns. Therefore, it is also possible that there were fewer cases during the mid-pandemic period because there were fewer referrals to mental health services.

Future research should include measures of accessibility and symptom severity for all participating cohorts to ensure confidence in the relative similarities across engagement dimensions between pre- and mid-pandemic cohorts and determine whether concerns about a sampling bias are valid. Including measures of mental health symptoms would additionally enable us to determine whether different symptom profiles are associated with differences in specific dimensions of engagement. For example, research could examine whether and how engagement profiles differ for internalizing disorders versus externalizing disorders.

A related limitation as a result of case-rate differences between cohorts is that we opted to use a cohort matching process that prioritized increasing our sample size as opposed to matching across all possible case characteristics. As mentioned previously, this process likely introduced noise into the pre- and mid-pandemic cohort comparisons. Nevertheless, observing differences in the proportion of case details revealed that participation in school-based mental health treatment and children's presenting problems may have been influenced by the pandemic. Moreover, this limitation highlighted that certain case characteristics may be a risk factor for poor engagement regardless of the service delivery mode. Future research should therefore

examine reasons why case characteristics differed in these two contexts and across the three cohort years. For instance, one could examine whether reduced externalizing disorders during the pandemic were the result of issues with detecting behavioral challenges, as we might expect externalizing symptoms to be more disruptive or apparent within an in-person classroom as opposed to a remote classroom.

This study was specifically designed to examine the influence of the pandemic and the TMH context within a population that is typically thought to be at greater risk for poor engagement. However, another limitation is that our findings may not generalize across underserved populations because the sample consisted of primarily Latinx/Hispanic families and services occurred within a school-based context. Relatedly, because families living in rural areas are reported to have less access to high-speed internet relative to urban areas, the current results may not apply to school-based programs outside of large metropolitan cities in the United States (Swenson & Ghertner, 2020). Additional work is still needed to understand whether and how dimensions of engagement differ for families with different sociocultural backgrounds across various locations within the United States.

A final limitation that warrants mentioning is that the MTT survey was given during the early phases of treatment across all three cohorts by either an LAUSD administrator or their current provider. Due to the evolving nature of engagement dimensions throughout the course of treatment, researchers may benefit from administering the MTT at multiple time points to compare possible differences in the trajectory of engagement profiles in the two settings. Further, we did not record whether the staff or provider administered the survey in either the pre- or mid-pandemic cohorts. It is therefore possible that there were differences in the proportion of cases that were administered by a non-clinical staff member or a direct service provider which

then influenced the current results. For example, it may be more difficult for families to be honest if they believed their therapist would review their MTT responses. We might expect that non-clinical staff had less contact with families during the pandemic since providers directly initiated services through video or phone calls and there was more turnover in administrators during this period. Though problematic, this limitation may also explain why we did not observe marked evidence that telehealth negatively influenced engagement in the current study.

Nevertheless, providers did not review MTT Survey results and may have communicated this to students and families when administering the survey. To prevent this confound moving forward, future studies should standardize who prompts the youth or family to complete the online survey.

Concluding Remarks. In conclusion, the current study highlights that adoption of a multidimensional, multi-perspective self-report measure of engagement is helpful to examine the influence of novel contexts, such as the lockdown period of the COVID-19 pandemic, particularly in terms of identifying focal impacts that might not be detectable with unidimensional measurement approaches. Altogether, our findings demonstrate that continued use of TMH services is unlikely to have a negative impact on engagement, and that risks might be further mitigated when the preferred service delivery mode is collaboratively determined by families with their providers through a careful consideration of each family's unique circumstances.

Table 1.
Demographics of Eligible Cases

	2018 (n=284)		2019 (n=234)		2021 (n=162)		Statistics
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	χ^2
Age Bins							
Early Elementary (> 6 yo)	2	0.70%	1	0.43%	1	0.62%	$\chi^2(8)=9.41$
Elementary (6-11 yo)	60	21.13%	45	19.23%	39	24.07%	
Middle (<11-14 yo)	69	24.30%	62	26.50%	54	33.33%	
High (<14-18 yo)	115	40.49%	91	38.89%	55	33.95%	
Non-traditional (<18 yo)	38	13.38%	35	14.96%	13	8.02%	
Gender							
Female	141	49.65%	125	53.42%	86	53.09%	$\chi^2(2)=1.98$
Male	143	50.35%	109	46.58%	71	43.83%	
Gender Diverse*	n/a		n/a	n/a	5	3.09%	
Race/Ethnicity							
African American/Black	28	9.86%	11	4.70%	8	4.94%	$\chi^2(10)=11.60$
Asian	6	2.11%	2	0.85%	3	1.85%	
White	14	4.93%	6	2.56%	6	3.70%	
Latinx/Hispanic	233	82.04%	213	91.03%	142	87.65%	
Pacific Islander/ Native American	2	0.70%	1	0.43%	2	1.23%	
Other/Unknown	1	0.35%	1	0.43%	1	0.62%	
Diagnosis Type							
Internalizing Disorder	214	75.35%	189	80.77%	133	82.10%	$\chi^2(4)=12.00^*$
Externalizing Disorder	63	22.18%	36	15.38%	20	12.35%	
Other/Unknown	5	1.76%	8	3.42%	9	5.56%	
Case Composition							
Both Record Cases	112	39.44%	94	40.20%	55	33.95%	$\chi^2(4)=$ 21.71**
Caregiver Only Cases	95	33.45%	54	23.10%	71	43.83%	
Youth Only Cases	77	27.11%	86	36.80%	36	22.22%	

Note: Cases identifying as gender diverse were excluded from the Chi-square analyses due to lack of representation across all cohorts. *p<0.05, **p<0.005

Table 2
Age for Eligible Cases by MTT Record Type

Cohort Year	Age (years)	
	<i>Range</i>	<i>Mean (SD)</i>
2018	5.0-21.1	13.4 (3.7)
Youth	8.0-20.1	14.6 (2.8)
Caregiver	5.0-21.1	12.4 (3.6)
2019	5.0-21.0	13.8 (3.4)
Youth	7.0-21.0	14.6 (2.9)
Caregiver	5.0-18.2	12.6 (3.2)
2021	5.6-20.1	13.4 (3.2)
Youth	8.4-19.3	14.2 (3.0)
Caregiver	5.6-20.1	12.9 (3.1)

Note: Ages represent youth ages grouped by MTT record type and by cohort year.

Table 3
T-Test Results for Youth MTT Ratings of Engagement

Scale	2021		2018		<i>df</i>	<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Relationship	17.06	3.04	17.55	3.61	87	-0.96	0.34
Expectancy	16.64	2.98	17.67	2.84	87	-2.45	0.02
Attendance	15.47	2.88	15.93	3.08	82	-1.20	0.24
Clarity	16.95	2.90	17.36	3.16	85	-0.80	0.42
Homework	16.33	2.79	16.57	2.74	82	-0.32	0.75
	2021		2019				
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Relationship	17.05	3.02	17.27	3.12	85	-0.51	0.61
Expectancy	16.65	3.01	16.93	3.36	85	-0.65	0.52
Attendance	15.53	2.88	15.69	2.95	80	-0.51	0.61
Clarity	16.95	2.89	16.79	3.06	83	0.21	0.83
Homework	16.31	2.75	16.30	2.86	80	-0.13	0.90
	2018		2019				
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Relationship	17.66	3.62	17.14	3.42	100	1.05	0.30
Expectancy	17.63	2.94	16.94	3.55	100	1.50	0.14
Attendance	15.93	3.17	15.71	3.23	100	0.44	0.66
Clarity	17.40	3.23	16.77	3.34	100	1.38	0.17
Homework	16.68	2.85	16.30	3.04	100	0.79	0.43

Table 4
T-Test Results for Caregiver MTT Ratings of Engagement

Scale	2021		2018		<i>df</i>	<i>t</i>	<i>p</i>	<i>Cohen's d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Relationship	17.32	4.40	17.31	4.12	117	0.01	0.99	-0.01
Expectancy	17.17	4.47	17.71	3.47	117	-1.08	0.28	-0.08
Attendance	14.98	4.05	16.00	3.39	114	-2.01	0.04	-0.19
Clarity	16.79	4.76	17.07	3.53	116	-0.52	0.60	-0.05
Homework	16.37	4.03	16.68	3.37	113	-0.54	0.59	-0.07
	2021		2019					
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Relationship	17.41	4.14	17.66	3.35	111	-0.40	0.69	-0.04
Expectancy	17.28	4.28	17.81	3.39	111	-0.99	0.33	-0.09
Attendance	15.07	3.95	16.48	3.38	108	-2.83	0.01	-0.28
Clarity	16.94	4.59	17.12	3.40	110	-0.40	0.69	-0.03
Homework	16.47	3.72	16.60	3.23	107	-0.08	0.94	-0.03
	2018		2019					
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Relationship	17.30	3.99	17.65	3.36	109	-0.59	0.55	-0.07
Expectancy	17.52	3.53	17.78	3.41	109	-0.55	0.58	-0.06
Attendance	15.85	3.50	16.56	3.31	109	-1.51	0.13	-0.14
Clarity	16.99	3.56	17.13	3.42	109	-0.48	0.63	-0.03
Homework	16.60	3.39	16.63	3.24	109	-0.11	0.91	-0.01

Table 5
Proportion of Telehealth Barriers by Delivery Mode

Barrier	Audio Only (N=29)		Videoconferencing (N=87)		Varies by Session (N=46)		Total (N=162)		Statistic
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	
Distractions	10	34.48%	26	29.89%	23	50.00%	56	34.57%	$\chi^2 (2)=7.37^*$
Equipment	7	24.14%	4	4.60%	7	15.22%	15	9.26%	$\chi^2 (2)=9.91^{**}$
Internet	4	13.79%	26	29.89%	13	28.26%	43	26.54%	$\chi^2 (2)=2.99$
Privacy	9	31.03%	15	17.24%	17	36.96%	41	25.31%	$\chi^2 (2)=6.80^*$
Other	2	6.90%	1	1.15%	0	0.00%	3	1.85%	$\chi^2 (2)=5.165$
1+	20	68.97%	50	57.47%	35	76.09%	105	64.81%	$\chi^2 (2)=4.839$
None	9	31.03%	37	42.53%	11	23.91%	57	35.19%	

Note: * $p < 0.05$, ** $p < 0.005$, corrected for multiple comparisons using Bonferroni correction

Table 6*Regression Results on Youth MTT Ratings of Engagement*

	Relationship	Expectancy	Attendance	Clarity	Homework
	<i>Estimate (SE)</i>	<i>Estimate (SE)</i>	<i>Estimate (SE)</i>	<i>Estimate (SE)</i>	<i>Estimate (SE)</i>
Intercept	12.61 (2.12)***	13.79 (2.22)***	11.49 (2.13)***	13.63 (2.23) ***	13.93 (2.19)***
Audio Only (Video)	-1.59 (1.07)	-2.20 (1.06)*	-2.59 (0.99)*	-2.06 (1.02)*	-1.93 (1.05) -
Varies by Session (Video)	-0.69 (0.74)	-0.42 (0.77)	0.49 (0.75)	-0.54 (0.77)	-0.55 (0.75)
Number of Barriers	0.23 (0.35)	0.14 (0.36)	-0.11 (0.35)	0.17 (0.35)	0.25 (0.34)
Youth Age	0.25 (0.11)*	0.15 (0.12)	0.16 (0.11)	0.19 (0.12)	0.18 (0.12)
Youth Gender					
Male (Female)	-1.28 (0.65)	-0.88 (0.67)	0.37 (0.64)	0.26 (0.70)	0.67 (0.65)
Case Composition					
Both Records (Youth Only)	0.97 (0.67)	0.79 (0.69)	1.11 (0.67)	0.39 (0.68)	-0.17 (0.67)
	$F(6,80)=2.03$	$F(6,80)=1.42$	$F(6,75)=2.04$	$F(6,78)=0.39$	$F(6,75)=0.84$
	$R^2=0.13$	$R^2=0.09$	$R^2=0.13$	$R^2=0.07$	$R^2=0.07$

Note: The reference groups for categorical variables are in parentheses. SE: standard error. -p<0.10, *p<0.05, **p<0.005

Table 7
Regression on Caregiver MTT Ratings of Engagement

	Relationship	Expectancy	Attendance	Clarity	Homework
	<i>Estimate (SE)</i>	<i>Estimate (SE)</i>	<i>Estimate (SE)</i>	<i>Estimate (SE)</i>	<i>Estimate (SE)</i>
Intercept	16.01 (1.95)**	15.46 (1.98)**	14.11 (1.76)**	15.10 (2.13)**	17.94 (1.78)**
Audio Only (Video)	-2.13 (1.12)-	-2.06 (1.13)-	-1.49 (1.03)	-1.85 (1.22)	-1.02 (1.02)
Varies by Session (Video)	-0.09 (0.99)	-0.92 (1.00)	-1.02 (0.90)	-0.89 (1.08)	-0.94 (0.90)
Number of Barriers	-0.69 (0.44)	-0.13 (0.44)	-0.77 (0.40)-	-0.27 (0.48)	-0.29 (0.40)
Youth Age	0.05 (0.14)	0.00 (0.14)	0.00(0.12)	0.05 (0.15)	-0.18 (0.13)
Youth Gender					
Male (Female)	-1.03 (0.83)	-1.35 (0.84)	-0.83 (0.75)	-1.85 (0.90)*	-2.12 (0.75)**
Case Composition					
Both Records (Caregiver Only)	1.52 (0.85)-	2.22 (0.86)*	1.88 (0.77)*	1.94 (0.95)*	1.70 (0.76)*
	<i>F</i> (6,113)=2.59*	<i>F</i> (6,112)=2.73*	<i>F</i> (6,110)=3.22** <i>R</i>	<i>F</i> (6,112)=2.44	<i>F</i> (6,109)=3.05
	<i>R</i> ² =0.13	<i>R</i> ² =0.13	² =0.15	<i>R</i> ² =0.12	<i>R</i> ² =0.14

Note: The reference groups for categorical variables are in parentheses. SE: standard error. -p<0.10, *p<0.05, **p<0.005

Supplemental Table 1

Regression Results on the Percentage of Sessions with Caregivers Present in Pre-Pandemic Cohorts

	Caregiver Presence
	<i>Estimate(SE)</i>
Intercept	21.90(2.28)**
Youth Age	-2.89(0.66)**
Case Composition	
Caregiver Only (Youth Only)	13.40(2.72)**
Both Records (Youth)	10.54(3.11)*
Age X Case Composition	
Age X Caregiver Only (Youth Only)	0.13(0.81)
Age X Both Records (Youth Only)	1.31(0.76)
	$F(5,512)=32.2^{**}, R^2=0.24$

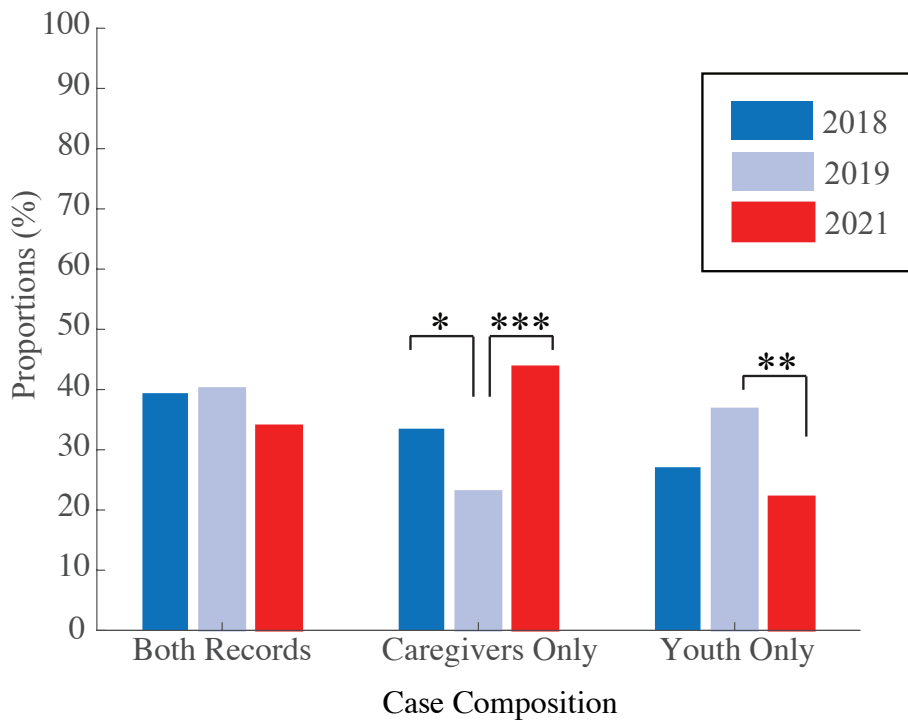
Note: The reference groups for categorical variables are in parentheses.

* $p < 0.005$, ** $p < 0.001$, *** $p < 0.0005$

Supplemental Table 2*Estimated Marginal Means for Youth Age of Eligible Cases*

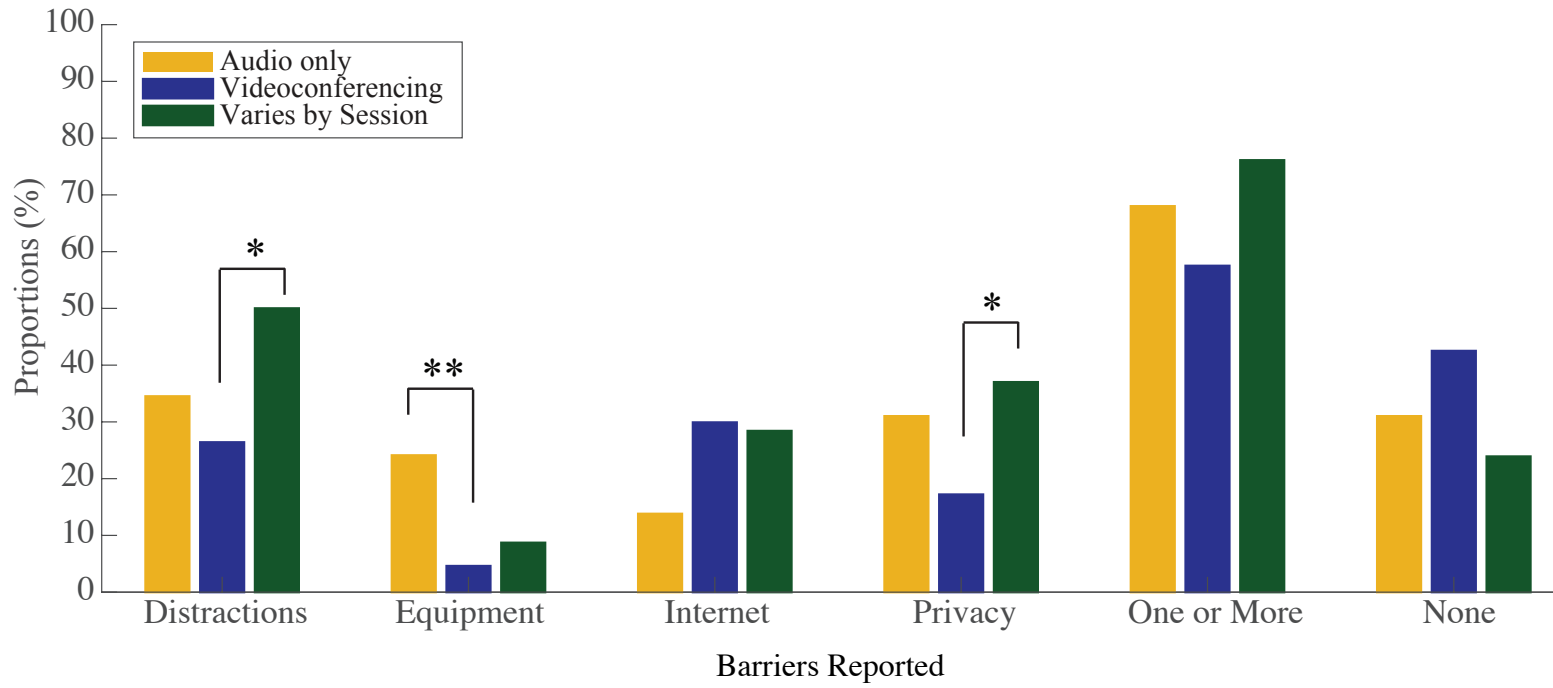
Diagnosis	Case Composition	<i>M</i>	<i>SE</i>
Internalizing	Both Records	14.05	0.19
	Caregiver Only	12.67	0.23
	Youth Only	15.96	0.21
Externalizing	Both Records	11.62	0.42
	Caregiver Only	8.73	0.36
	Youth Only	13.66	0.81
Other	Both	12.31	1.40
	Caregiver Only	10.33	0.88
	Youth Only	15.56	0.84

Figure 1
Case Composition by Cohort Year



Note: A Chi-square test of independence was conducted to examine the proportion of cases composed of both record cases, caregiver only cases, and youth only cases by cohort year. Significant post-hoc z -tests are represented by black bars. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.005$

Figure 2
Telehealth Barriers by Delivery Mode



Note: Chi-square tests of independence were conducted to examine the differences in the proportion of telehealth barriers present for cases receiving services through each delivery mode type. Significant post-hoc z-tests are represented by black bars. * $p < 0.05$, ** $p < 0.01$

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CHAPTER 2:

An Investigation of Providers' Impressions of School-Based Treatment Engagement via

Telehealth within the COVID-19 Pandemic

Abstract

This study examined school-based mental health providers' impressions of youth treatment engagement for cases in the early phases of treatment during the lockdown period of the COVID-19 pandemic. A coding system was applied to describe provider impressions of low and high engagement indicators based on a multidimensional framework. Multilevel logistic regression models were conducted to examine providers' abilities to detect engagement challenges and pandemic factors that may influence provider reports of engagement. Results revealed that providers under detected levels of poor engagement. The qualitative coding results indicated that the most frequently reported indicators were either overt behaviors, such as attendance and participation, or were too ambiguous to code reliably. This observed difficulty with detection and the pronounced reliance on behavioral observation align with past research in the pre-pandemic context. Therefore, it appears that the most commonly used strategy for assessing engagement was neither facilitated nor degraded by the pandemic or telehealth context. The multilevel logistic regression analyses not only corroborated the qualitative results by showing that provider reports of engagement did not correspond with client ratings of engagement, but also highlighted that difficulty with detection within the telehealth context may be due in part to an over reliance on interpreting the telehealth delivery mode (e.g., use of video) as an indicator of engagement. Overall, the results underscore that providers will benefit from additional supports, such as training on a shared taxonomy of engagement dimensions and/or the adoption of progress monitoring tools, in order to enhance early identification of engagement challenges and reduce alarmingly high rates of premature termination.

Introduction

Through the application of a multidimensional lens, researchers have shown that some evidence-based practices enhance multiple dimensions of engagement (e.g., assessment, psychoeducation, accessibility promotion) whereas other interventions are best suited to target focal engagement challenges (e.g., pairing psychoeducation with modeling to enhance clarity; Becker et al., 2018). Further, most challenges reported by children's mental health providers have evidence-based solutions (Becker et al., 2020). Despite this research, effectively leveraging the available knowledge on engagement to inform clinical decision-making remains a challenge (Becker & Chorpita, 2023). One hypothesized barrier to leveraging available knowledge is that providers may not have sufficient training to effectively identify when engagement problems arise in treatment (Becker et al., 2020; Becker et al., 2019; Park et al., 2020). Current research suggest that providers perceive engagement challenges multidimensionally at the population-level but may not use the appropriate strategy to identify concerns at the client-level (Becker et al., 2020).

Becker and colleagues (2021) surveyed a sample of community-based providers to examine this question at the client-level and found that the majority of providers reported using behavioral observation as the main tool for assessing clients' levels of engagement. Over-reliance on behavioral observation is not surprising given that attendance behaviors are the most frequently used measures for RCTs on youth treatment engagement and there are few tools that assess youth treatment engagement using a multidimensional lens (Lakind et al., 2022; Lindsey et al., 2014). Nevertheless, over reliance on this strategy may be ineffective for several reasons. First, social or cognitive engagement concerns are thought to be associated with subtle behavioral indicators or could be undetectable (Chu et al., 2010). Second, a myriad of challenges

can lead to similar behavioral consequences that can be misperceived without direct assessment (Gearing et al., 2012; Murdock et al., 2010; Westmacott et al., 2010). Third, overt behavioral indicators such as attendance issues are thought to be late-stage indicators of poor engagement wherein attempts to address the concern through focal interventions might be enacted too late to benefit the client (Kazdin, 1996). For example, a provider might perceive a child who consistently attends weekly sessions but gives yes or no responses to questions as having problems with participation or the therapeutic alliance. A provider could also assume the behavior reflects a stable trait that cannot be targeted in treatment (e.g., “lazy” or “shy”) or a presenting clinical concern (e.g., too anxious to respond due to social anxiety). Another possibility is that the positive child behavior (i.e., weekly attendance) is the result of the caregivers’ level of engagement, such that the parent believes the treatment will be helpful and ensures their child has transportation to attend. Alternatively, a provider might see the behavior as a broad sign of poor engagement without understanding the causes (Becker et al., 2020; Becker et al., 2021).

Altogether, this example highlights that one behavior could stem from one engagement challenge, multiple related engagement challenges, an unrelated problem that indirectly impacts engagement or the consequences of one treatment participant having different levels of engagement than another. Even though some evidence-based strategies may be beneficial for targeting multiple dimensions of engagement, previous work suggests that providers who identify focal engagement problems are better able to select appropriate strategies for addressing a concern than providers who do not specify a clear problem (Becker et al., 2019). Moreover, dimensions of low engagement that are associated with subtle or undetectable cues may precede decisions to prematurely terminate treatment (Aubuchon-Endsley & Callahan, 2009; Garcia &

Weisz, 2002). Without direct assessment, a provider may not only choose an intervention that is a poor fit for the problem but possibly fail to address the problem altogether. It could therefore be argued that reliance on behavioral observation alone to measure engagement contributes to high rates of premature termination.

In addition to noting the high reliance on behavioral observation, Becker et al.'s (2021) study found that some providers determined engagement indicators through clients' spontaneous self-disclosure of engagement indicators, such as receiving positive feedback from youth and caregivers. However, previous research suggests that use of self-disclosure is also inadequate for identification of engagement challenges. For example, past work suggests that clients tend to avoid confrontation and are unlikely to disclose dissatisfaction with therapy to their current providers (Farber, 2003; Gibson & Cartwright, 2013). Another study found that therapists of adolescents who dropped out of a randomized control trial for depression did not accurately perceive that the reason for dropping out was due to dissatisfaction with the treatment (O'Keeffe et al., 2019). Building on this finding, a subsequent study by the same authors demonstrated that confrontational ruptures in the therapeutic alliance were infrequent during the early stages of treatment. However, when such ruptures did occur and were left unresolved, the likelihood of clients prematurely ending their therapy due to dissatisfaction was higher (O'Keeffe et al., 2020). Others have shown that therapist level factors, such as levels of burnout, influence whether clients self-disclose engagement indicators (Farber, 2003; O'Keeffe et al., 2020). Given these complexities, relying solely on clients to spontaneously self-disclose engagement challenges is insufficient for detecting all engagement problems.

A small but growing body of research has provided valuable insights on providers' current strategies and impressions of engagement indicators at the case and population level

within traditional youth systems (Becker et al., 2021; Haine-Schlagel & Walsh, 2015; Lau et al., 2018; O’Keeffe et al., 2020; O’Keeffe et al., 2019; Stevens et al., 2006). With the exception of one study (Lau et al., 2018), investigations of providers’ perceptions of youth engagement indicators at the client-level consisted of limited sample sizes and were conducted with non-Latinx/Hispanic White providers. Additionally, this research has primarily focused on providers’ perceptions of previous clients, rather than current cases, which introduces the possibility of recall bias. In other words, providers may unintentionally select clients who represent extreme examples of high or low engagement (Becker et al., 2021). Further, most studies examining provider impressions of engagement have measured engagement through unidimensional measures and focus on adolescents or adults as opposed to children across multiple stages of development or the family unit (Hunsley et al., 1999; O’Keeffe et al., 2019; Westmacott et al., 2010). Many families drop out of mental health services after just one session or prior to the recommended dose of treatment. Therefore, gaining a better understanding of providers’ perceptions of engagement in the early phases of treatment may provide additional insight into strategies to enhance early identification of engagement problems, and ultimately reduce premature termination in children’s mental healthcare (Guo et al., 2014; Nock & Ferriter, 2005; Saloner et al., 2014). The current study examines providers’ early impressions of engagement for active cases enrolled in treatment within a routine care setting and a novel treatment context whose characteristics may uniquely influence providers’ perceptions of engagement.

Assessing Engagement in the TMH Context. Studies on providers’ perceptions and attitudes toward delivering services remotely both prior to and due to the rapid expansion of TMH resulting from the COVID-19 pandemic led us to hypothesize that certain aspects of the remote context facilitate providers’ abilities to detect engagement concerns while other aspects

may create additional problem identification barriers. Freitag et al., (2022) proposed that the TMH context enables providers to gain “entry” into clients’ natural environments which improves “awareness, understanding, and sensitivity” of the families they work with and perhaps enhances their perspective taking skills; whereas traditional office-based settings may “filter out” relevant contextual information about a child or family. These claims have been supported in studies examining providers’ experiences transitioning to telehealth during the pandemic. Reports indicate that providers glean clinically relevant insights through TMH that they are not privy to in face-to-face settings through increased behavioral observation in families’ home environments (Connolly et al., 2020; MacMullin et al., 2020; Sklar et al., 2020). Providers have also shared that the remote context enabled providers to gather collateral information by speaking with individuals who would not typically attend in-person sessions (e.g., grandparent or siblings; Sklar et al., 2020; Sugarman et al., 2021). Providers also reported experiencing improvements in communication and more frequent client self-disclosure through the TMH delivery because of its informal nature as well as the convenience, the comfort, and the anonymity of receiving services from one’s home (MacMullin et al., 2020; Sklar et al., 2020; Guinart, et al. 2020). Thus, we wondered if the most commonly reported tools for assessing engagement (use of behavioral observations and spontaneous self-disclosure) yielded more information in the TMH setting relative to use of these tools in the in-person setting.

There is also evidence to suggest that delivering services through telehealth may interfere with providers’ abilities to detect engagement concerns. When asked about their concerns with delivering TMH services prior to and throughout the lockdown period of the pandemic, providers expressed challenges about working with young children via TMH, in part because externalizing disorders are more prevalent for younger children and use of in-person strategies, such as

tangible reinforcements, are less available to help manage behavioral challenges in TMH sessions (Moorman et al., 2022; Islam et al., 2023). Additionally, providers perceived there to be a higher likelihood of misunderstandings and miscommunication (Connolly et al., 2020; Glueckauf et al., 2018; MacMullin et al., 2020; Racine et al., 2020; Ramtekkar et al., 2020). Providers suggest that the reduction in nonverbal communication and common logistical barriers associated with telehealth could interfere with communication (e.g., lack of or challenges with equipment, unstable broadband internet or poor phone service, multiple distractions, or lack of privacy in one's remote location; Connolly et al., 2020; MacMullin et al., 2020; Racine et al., 2020; Ramtekkar et al., 2020; Grondin et al., 2021; Guinart et al., 2021). Relatedly, clients who primarily received services by telephone calls or audio only videoconferencing could be at increased risk for miscommunication and misunderstandings because providers are tasked with making behavioral observations through verbal communication without visual cues to help inform observations. This risk warrants particular concern given a report about technology use during the pandemic, which revealed that adolescent youth and parents of young children preferred for services to take place by telephone calls due to "zoom fatigue" and reduced attention span (Mishna et al., 2020). Thus, it is also plausible that detection of engagement indicators within the TMH context, particularly amid parts of the pandemic when schooling was remote and stay-at-home mandates were in place, was dependent on the medium of communication used by each family. In other words, providers may have an easier time detecting indicators for cases seen via videoconferencing as compared with those delivered via telephone due to the differences in ease of making behavioral observations.

Study Aims

The pre-pandemic literature suggests that providers' engagement problem identification strategies may be insufficient for identifying multiple aspects of engagement for all participants involved in the treatment (Becker et al., 2021). There is qualitative work prior to and during the pandemic that highlights the unique advantages and disadvantages of TMH service delivery as it relates to gathering clinically relevant information (Connolly et al., 2020; MacMullin et al., 2020; Racine et al., 2020; Ramtekkar et al., 2020; Grondin et al., 2021; Guinart et al., 2021). To our knowledge, prior work has not examined providers' impressions of engagement nor their assessment capabilities within a telehealth context for youth and families who recently began treatment. Moreover, the bulk of past work on engagement assessment capabilities in the in-person setting have either examined a limited age range or a specific disorder, instead of investigating this topic across all school-aged children enrolled in treatment. TMH utilization has continued, despite schools resuming in-person learning, and TMH has received growing support since its expansion in 2020 (Doran & Lawson, 2021; Gangamma et al., 2022). With the evidence that current strategies for identifying engagement indicators contribute to premature attrition in traditional care settings and the lack of work on this topic, especially within the TMH context, the goal of the current study was to document providers' impressions of engagement indicators within the lockdown period of the pandemic.

We used a mixed methods approach to study the following exploratory objectives within the context of a large urban school-based mental health program during the period of the pandemic when all school programming was remote. The aims were to (1) describe providers' early impressions of low and high engagement indicators using a multidimensional framework within the lockdown period of the pandemic, (2) examine providers' detection abilities within the

mid-pandemic lockdown period by examining the correspondence between client self-reported engagement and providers' reports of engagement challenges, and (3) determine whether the TMH delivery mode influences providers' reports of engagement challenges.

Although we could not directly measure the impact of TMH services on providers' impressions and abilities to detect engagement indicators, the purpose of the current study was to gain additional understanding of the influence of various factors on engagement problem identification within the TMH context to help inform what supports are needed for TMH utilization in school-based mental health systems moving forward.

Methods

Study Context

As discussed in Chapter 1, data were obtained from the LAUSD School Mental Health Clinic and Wellness Center Program from January to May of 2021. Data collection ended when LAUSD employees became eligible for vaccination and the district began offering hybrid models of schooling (partially in-person, partially remote). LAUSD is a large urban school district that serves approximately 650,000 students from kindergarten through twelfth grade. Approximately 80% of students in the district qualify for reduced price or free meals as of the 2018-2019 school year. Students in this district are of predominantly Latinx or Hispanic ethnicity (~70%), with about 25% of students identifying as English language learners (California Department of Education, 2023).

Participants

Seventy-one school-based mental health providers employed by LAUSD participated in this study. Providers were predominantly female (87.3%; N=62). Their ages ranged from 22-71 (*Mean*=36.05, *SD*=9.27). They were primarily of Latinx or Hispanic ethnicity (83.1%; N=59).

Providers' caseloads ranged from 1-21 cases (*Mean* = 11.72, *SD* = 5.93). Most providers held master's degrees (84.5%; N=60), and 63.4% (N=45) held California-state licenses in their professional specialty. Providers completed a survey about levels of engagement (hereafter referred to as the TMH Detection survey) for 448 cases. Based on an inspection of the survey responses, data from 5 cases were excluded from analyses. Three of the cases were excluded because providers reported they had not started treatment. One case was excluded because the provider reported they had already terminated treatment and another case had missing data. This resulted in 443 cases with usable TMH Detection survey data.

As noted in Chapter 1, cases represent youth for whom either they or their caregiver completed the self-report measure of engagement (hereafter referred to as the MTT survey). Of the 162 cases with MTT survey data and 443 cases with TMH Detection survey data, there were 139 cases with both surveys. Due to the study design, we were unable to collect demographic characteristics for the full sample, as we opted to gather this information directly from families when they completed the MTT survey. See Chapter 1, Table 1 for the demographic breakdown of the 139 cases with both the TMH Detection survey and MTT survey.

Measures

Engagement Survey (My Thoughts about Therapy Survey). As noted in Chapter 1, the My Thoughts about Therapy Survey (MTT) has four versions (Youth-English, Youth-Spanish, Caregiver-English, Caregiver-Spanish) consisting of 35 items. The self-report measure was developed to evaluate youth and caregiver risk for low treatment engagement according to the REACH engagement framework. The measure consists of five scales that correspond to the five REACH dimensions (7-items per domain). Participants were asked to rate how much they agree on a 0-3 scale (strongly disagree, disagree, agree, strongly agree) with statements about

each domain (see Appendix A-D). REACH scale ratings reflect the sum of the 7 items within each scale, with higher scores reflecting higher self-reported engagement (Min Score= 0, Max score=21). Records with more than 2 items missing per scale were excluded from analyses on that domain. For valid records with 1-2 missing items, within scale mean substitution was used to calculate the domain score. All four versions of this measure were used in this study and a study on the psychometric properties of the MTT survey supports the structural validity of the measure (Chorpita & Becker, 2022).

TMH Detection Survey. The TMH Detection survey is a 6-item measure developed to evaluate providers' abilities to detect engagement indicators at the client level. Providers were asked about which delivery mode (e.g., audio only, videoconferencing, varies by session, other) and TMH-specific barriers (e.g., internet, equipment, privacy, distractions, others) were present for each case. They were then asked the two yes or no questions: 1) Are there any indications that engagement is POOR with this student or family? 2) Are there any indications that engagement is GOOD with this student or family? If they answered yes to either question, they were asked to describe the ways in which engagement was poor or good for that student or family. Note, we used low engagement to refer to "poor" engagement and high engagement to refer to responses about "good" engagement (See Appendix E).

Provider Background Survey. The Provider Background survey is an 11-item questionnaire used to acquire information about providers' demographics, professional backgrounds, and impressions of delivering TMH services during the pandemic. Demographic variables were used for the aims of this study (See Appendix F).

Procedure

As noted in Chapter 1, all case data were collected by LAUSD staff as part of standard routine outcome monitoring procedures. MTT surveys were administered after at least three treatment sessions using a secure online data collection platform which allowed us to examine their early ratings of engagement. Providers were initially recruited by members of the research team following a virtual workshop on MTT survey administration. The research team provided a link via email to providers who attended the workshop to complete the Provider Background Questionnaire and the TMH Detection survey for eligible cases. Following the initial launch, LAUSD administrators prompted providers to complete subsequent TMH Detection surveys when new cases became eligible. Providers were instructed to complete the TMH Detection surveys at the time their clients completed the MTT survey. Due to the district collecting these data for routine clinical procedures and program evaluation, the University of California, Los Angeles Institutional Review Board approved a waiver of informed consent for this study.

Qualitative Coding Procedure. A qualitative content analysis was applied to code for the presence of multidimensional engagement indicators in the open-ended survey items asking providers to describe ways in which engagement was poor or good for each case (Elo & Kyngaes, 2008). The current coding system was adapted from Becker et al.'s (2021) study which examined open-ended responses completed by providers' about specific clients to determine strategies providers used to make inferences about levels of engagement and characterize common high and low engagement indicators based on the REACH framework. As described in Chapter 1, the REACH framework is a multidimensional conceptual model based on prior literature which consists of five domains: *Relationship*, *Expectancy*, *Attendance*, *Clarity*, and *Homework*. A binary engagement code was applied the first time a corresponding indicator was

described. Two binary non-REACH codes were used to account for the indicators that did not fall into REACH domains: *Engagement-not otherwise specified (E-NOS)* and *Not-Engagement (Not-E)*. The *E-NOS* code was applied to account for indicators of engagement that did not fall into the REACH domains but were related to engagement (i.e., “consistent in treatment”). The *Not-E* code was applied to indicators that were not clearly related to engagement but related to other aspects of treatment or the client (i.e., “client is very depressed”). Definitions and examples of each code are displayed in Table 1. Seven binary codes per response and up to fourteen binary codes per case were applied.

The coding team consisted of the study author and four doctoral students, all of which had familiarity with the REACH engagement framework. The team piloted the initial codebook by randomly selecting and coding 10% of the open-ended responses independently. The team then met to discuss discrepancies and consulted with experts on youth treatment engagement as needed to clarify the coding system. After the piloting phase, the coding team was assigned to code a portion of the open-ended responses every two weeks. Each open-ended response was double-coded. After each round of coding, inter-rater reliability between coders was calculated for low and high engagement responses separately. The team met to further refine the coding system throughout the active coding phase to facilitate continued reliable coding. All kappa's fell within acceptable standards (Above .40; Fleiss et al., 1981) with the exception of the *Expectancy* and *Clarity* codes due to low base rates (See Table 1).

Data Analysis

Aim 1. To examine providers' impressions of low and high engagement indicators during the remote schooling period of the pandemic, frequencies and percentages were calculated based on the results of the TMH Detection survey (i.e., “yes/no” survey responses and qualitative

coding of open-ended questions). To determine whether providers perceived any of their cases as having indicators of both high and low engagement, we calculated the percentage of TMH Detection survey responses for which providers answered “yes” to the question about whether there were indications of high engagement and “yes” to the question about whether there were indications of low engagement. To determine whether providers perceived any of their cases as having indicators of only high engagement, we calculated the percentage of TMH Detection survey responses for which providers answered “yes” to the question about high engagement indicators and “no” to the question about low engagement indicators. To determine whether providers perceived any of their cases as having indicators of only low engagement, we calculated the percentage of TMH Detection survey responses for which providers answered “yes” to the question about low engagement indicators and “no” to the question about high engagement indicators. Finally, to determine whether providers did not perceive either high or low engagement indicators for any of their cases, we calculated the percentage of TMH Detection survey responses for which providers answered “no” to both questions about indications of high and low engagement.

To examine the distribution of engagement codes across descriptions of low engagement, we divided the frequency of a given engagement code by the total number of cases that were reported to have indication of low engagement. For example, we divided the frequency that the *Relationship* code was applied to low engagement descriptions by the total number of cases that providers answered “yes” to the question about indication of low engagement. These analyses were repeated to examine the distribution of all codes across descriptions of high engagement.

Aim 2. Two-level multilevel logistic regression models were conducted in RStudio using the subset of cases that had completed MTT survey and TMH Detection survey data to examine

the correspondence between client self-reported engagement and providers' abilities to detect engagement challenges (v4.1.2; R Core Team, 2022; Bates et al., 2015). The binary outcome was based on the providers' response to the yes/no question about whether there was indication that engagement was poor for each case. Because the five rating scales of the MTT survey were highly correlated and violated the assumption of non-multicollinearity, we summed the five scales and used the MTT total score as the predictor of interest to reflect each cases' self-report of engagement. Cases with one or more missing scales were excluded from the analysis. For cases with both youth and caregiver responses, the lowest score was chosen to be included in the analysis.

Up to five additional multilevel logistic regression models were planned as follow up analyses to examine whether providers classification of engagement challenges corresponded with case-reports of low engagement. We hoped to determine the correspondence between client self-reported engagement based on the 5 MTT rating scales and providers' descriptions of low engagement, as determined by the qualitative coding of providers' descriptions of poor engagement. For example, we planned to examine whether the MTT *Relationship* scale predicted whether providers' descriptions of poor engagement included the presence of a *Relationship* indicator. We anticipated that we may not have enough variability in the frequency of each binary REACH code to run all five analyses based on prior in-person research on this topic (Becker et al., 2021). However, we were unable to run any follow-up analyses due to other limitations of the current data set which are discussed in the Results section.

We used a model building procedure starting with the null model to determine whether use of multilevel modeling was appropriate. Next, we added the MTT Total rating variable to the model. The final model included youth demographic variables (age, gender). Likelihood ratio

tests were conducted to examine the difference in model fit for each successive model. All continuous independent variables were grand mean centered.

Aim 3. To determine whether TMH circumstances (primarily videoconferencing, primarily audio only calls, varies by session) explained additional variability in the provider reports of engagement, the model specified in Aim 2 was re-run with the addition of the 2 dummy variables representing the delivery mode. A likelihood ratio test was conducted to examine whether including the additional variable improved the model fit.

Results

Aim 1: Providers' Impressions of Low and High Engagement Indicators

Engagement Codes. Among the 443 usable TMH Detection survey responses, 29.12% (N=129) of the cases were reported as having indication of low engagement and 91.65% (N=406) of cases were reported as having indication of high engagement. Providers reported there was indication of both high and low engagement for 24.83% (N=110) of cases. Providers reported that 4.06% (N=18) of cases did not have indication of high or low engagement. Providers reported indication of only low engagement for 4.29% (N=19) of cases and only high engagement for 66.81% (N=296) of cases (See Figure 1). As displayed in Figure 2, the percentage of low engagement descriptions that included an engagement indicator was highest for the *Attendance* (52.71%; N=68) and the *Homework* (42.64%; N=55) codes. The percentage of high engagement descriptions that included an engagement indicator was highest for the *Attendance* (49.51%; N=201), the *E-NOS* (45.34%; N=185), and the *Homework* (44.33%; N=180) codes. The *Relationship* code was applied in 8.53% (N=11) of low and 22.41% (N=91) of high engagement responses. The *Not-E* code was applied in 4.65% (N=5) of low engagement responses and 9.56% (N=39) of high engagement responses. Fewer responses were observed to

include the *Clarity* domains across low (10.08%; N=13) and high (3.69%; N=15) engagement descriptions. The *Expectancy* domain was the least frequently applied code across low (0%) and high (1.72%; N=7) engagement responses.

We created subcodes to further examine responses that received the *E-NOS* code. The *Engagement-Other (E-Other)* subcode could be applied when an indicator was clearly related to engagement, but not captured by the REACH domains (i.e., “mental health stigma”). The *E-Other* subcode was applied in 5.71% (N=2) of low engagement responses and 4.91% (N=11) of high engagement responses that were initially coded as *E-NOS*. The *E-Cannot Be Determined (E-CBD)* subcode could be applied when the description was too ambiguous to classify as a REACH domain, but was clearly related to engagement (i.e., “consistency in treatment”). The *E-CBD* subcode was applied in 88.57% (N=31) of low engagement descriptions and 83.93% (N=188) of high engagement descriptions that were initially coded as *E-NOS*. We were unable to establish reliability for the *E-Other* subcode and the kappa for the *E-CBD* codes were moderate (Low Engagement Kappa= .58, High Engagement Kappa= .61).

Descriptions of both low and high *Attendance* indicators included discussions of the frequency of attending therapy sessions (e.g., frequently misses session, attends weekly sessions, consistently or inconsistently), punctuality (e.g., arrives late, always punctual), caregiver availability, and communication about scheduling. Level of participation, application or lack thereof of skills and techniques discussed in therapy, level of focus or distractibility, and willingness or lack thereof to keep camera on during videoconferencing sessions were common descriptions that received credit for the *Homework* code. Common examples of the *Relationship* domain included direct reference to the quality of the relationship (i.e., “little rapport due to case recently opened”), or providers’ perceptions of client behavior, such as receptiveness to

providers' feedback, and openness or lack thereof to share information with the provider (i.e., "client and mother appeared guarded"). The results also revealed variability within what earned credit for each code, such that some responses were valanced labels, (i.e., "poor attendance"). Many responses described overt behaviors (i.e., "always calls to reschedule appointments") and others included interpretations of behavior without describing the behavior itself (i.e., "willingness to participate"). Additional examples are presented in Table 1.

Aim 2: Correspondence between Client Self-Reports of Engagement with Providers

Reports of Low Engagement

Provider Reports of Low Engagement. Table 2 (Models 0 – Model 2) displays the multilevel logistic regression models examining the correspondence between client reports of engagement based on the MTT Total score and provider reports of engagement based on the "yes/no" TMH Detection survey question about indication of poor engagement. MTT Total scores ranged from 7.66 to 105 (*Mean*=80.28, *SD*=17.46). Of the 139 cases with both completed surveys, 31.38% (N=28) were reported by providers to have indication of low engagement on the TMH Detection survey. Results suggest that there was not a significant association between MTT total ratings and provider reports of engagement challenges (OR: 0.98, $p>0.05$). A likelihood ratio test revealed that including the MTT Total ratings did not significantly improve the model fit when compared to the null model ($\chi^2(1)=2.57, p>0.05$). Similarly, controlling for client demographic variables (youth age and gender) did not change the relationship between MTT Total ratings and provider reports of low engagement nor did the addition of these variables improve the model fit ($\chi^2(2)=2.22, p>0.05$). To examine this further, we plotted the distribution of MTT total scores grouped by whether a provider indicated there was or was not evidence of low engagement indicators for each case (see Figure 3). The plot revealed that the

distribution of MTT total scores for cases reported to have indication of low engagement did not differ from those who were not reported to have indication of low engagement and that although rare, when caregiver engagement was extremely low, providers were roughly as likely to perceive that problem as not.

Provider Classification of Low Engagement. We could not perform the planned follow-up analyses investigating providers' abilities to classify low engagement indicators by REACH dimensions due to the low frequency of cases reported to have indication of poor engagement within this subset of cases. Of the 28 cases reported as having indication of low engagement, 2 cases had low engagement descriptions that included a *Relationship* indicator, 0 cases had low engagement descriptions that included an *Expectancy* indicator, 15 cases had low engagement descriptions that included an *Attendance* indicator, 1 case had low engagement descriptions that included a *Clarity* indicator, and 15 cases had low engagement descriptions that included a *Homework* indicator. In an effort to examine provider classification accuracy, we plotted the distribution of MTT scale ratings grouped by whether a low engagement description was coded for each of the five REACH domains or not (See Figure 4). The plots revealed that there were not substantial differences in the distribution of MTT scores for cases coded or not coded for the *Attendance* and *Homework* domains in low engagement descriptions. Figure 4 also shows that the distribution of MTT *Relationship* scores for cases that did not receive credit for a *Relationship* indicator covered the full range of possible scores (Range: 0-21). A similar pattern was observed across all scales (range: *Expectancy*: 2-21; *Attendance*: 2-21; *Clarity*: 0-21; *Homework*: 0-21).

Aim 3: Factors Influencing Provider Reports of Low Engagement

Influences of Provider Reports of Engagement. The multilevel logistic regression model that examined the influence of the TMH delivery mode is displayed in Table 2 (Model 3). The likelihood ratio test revealed that relative to the model with just the client-level factors, adding the TMH delivery mode significantly improved the model fit ($\chi^2(2)=9.54, p<0.01$). The variable representing the use of audio only calls relative to videoconferencing calls was significant and suggests that the odds of a provider reporting indication of low engagement was 16.14 times higher for cases who received services via audio only calls relative to cases who received services via videoconferencing calls when all other predictors in the model were held constant (e.g., a female client, with the mean age and mean MTT score). Though not significant, a similar pattern was observed for the dummy variable representing use of both delivery modes relative to videoconferencing services only (OR: 4.80, $p<0.10$). Including the TMH delivery mode in the model also revealed a significant association between youth age and provider reports of low engagement, such that the odds of a provider reporting indication of low engagement decreased by 21% for every one unit increase in age (OR=0.78, $p<0.05$) when all other variables are held constant. Further, the full model explained a substantial portion of variability in providers reports of low engagement (conditional $R^2=0.63$).

Discussion

The current study aimed to examine providers' impressions of youth treatment engagement based on descriptions of cases that recently initiated services during the lockdown period of the pandemic. We first adapted and applied a coding system to describe providers' impressions of low and high engagement indicators using the REACH framework. Next, we used multilevel logistic regression to examine whether client reports of engagement were associated

with provider reports of low engagement. Finally, we investigated whether TMH circumstances during the pandemic influenced provider reports of low engagement.

Provider Impressions of Engagement. The results of the TMH Detection survey illustrate that providers' impressions of engagement at the case level were significantly more positive than what the literature on youth treatment engagement suggests. In the current study, providers reported high engagement indicators for 92% of the cases in the sample, while only 30% of cases were described as having low engagement indicators. Interestingly, the majority of cases that were identified as having low engagement indicators also had high engagement indicators which was in contrast to the 67% of cases that were described as only having high engagement indicators (Figure 1). These findings are noteworthy considering that this study focused on providers embedded in a community with well documented logistical, cognitive, and structural barriers to child mental health services (Lu et al., 2021; Marrast et al., 2016; Rodgers et al., 2022). Moreover, our research from Chapter 1 highlighted that most families in the current sample encountered logistical barriers related to the mid-pandemic lockdown context. Relatedly, Figures 3 and 4 show a wide distribution of MTT scores that were not as positive as providers inferred. Aligned with research conducted in the pre-pandemic context, these results suggest that providers appeared to under-detect engagement challenges for their cases during the early stages of treatment within the mid-pandemic lockdown period (Hunsley et al., 1999; Westmacott et al., 2010).

The results from coding the REACH dimensions in descriptions of low and high engagement revealed that the codes of REACH domains associated with overt behaviors (i.e., *Attendance, Homework*) were applied more frequently than the REACH domains associated with subtle or undetectable cues of engagement (i.e., *Relationship, Expectancy, Clarity*). Consistent

with the present study, Becker and colleagues also found that providers more frequently described *Attendance* and *Homework* indicators than the other three domains in their descriptions of engagement. Considering that the prior research occurred in a pre-pandemic context, the current findings indicate that the most commonly reported assessment strategies for engagement do not appear to be enhanced or degraded by this novel context.

Another notable qualitative coding finding was that the engagement code with the second highest frequency after the *Attendance* code among high engagement descriptions was *E-NOS*. This code was the third most frequent for low engagement descriptions after the *Attendance* and *Homework* codes. The coding team further classified the *E-NOS* code into two subcodes (*E-Other*, *E-CBD*) to understand this finding further. The subcodes revealed that the majority of the *E-NOS* codes could be re-classified as the *E-CBD* subcode across high and low engagement descriptions. This suggests that providers may not have discernible vocabulary to clearly describe all engagement indicators. Yet, the coding team was unable to establish reliability for the *E-Other* code and the Kappa's for the *E-CBD* code revealed moderate reliability. Thus, it appears that even for doctorate-level researchers with training on youth treatment engagement, there are challenges to systematically defining all engagement indicators without structured supports or assessment tools.

Client and Provider Correspondence of Engagement Reports. The ICC for the empty model was 0.19, meaning that about 19% of the variability in whether a case was reported to have low engagement indicators was explained by differences between provider reports. Descriptions of low engagement further supports this evidence, as there was substantial variability in the extensiveness of descriptions of engagement. Many descriptions consisted of valanced labels (i.e., “poor attendance”), others included descriptions of overt behavior, (i.e.,

“will not turn on video camera”), and others still included interpretations of behavior (i.e., “difficulty establishing trust”). Taken together, it is possible that there are differences in the ways providers conceptualize engagement. This may explain why the majority of cases with low engagement indicators also had high engagement indicators, but the majority of case with high engagement indicators did not. In other words, providers who detected both low and high engagement indicators may perceive engagement as consisting of multiple dimensions whereas those who perceived indication of only high engagement may conceptualize engagement through a less granular and/or unidimensional lens.

The results of the multilevel logistic regression model revealed that there was no association between client ratings of engagement based on the MTT survey and provider reports of low engagement based on the TMH Detection survey. The graph depicted in Figure 3 further highlights this point by showing that there are no differences in the ranges of MTT Total ratings when comparing cases reported to have low engagement indicators with cases that were not reported to have low engagement indicators. Although the planned follow-up analyses examining provider classification abilities were unable to be conducted, Figure 4 illustrates that providers struggled with both the detection and classification of engagement indicators. As such, providers will benefit from tools that enhance both the detection of engagement challenges and the discernment between multiple concerns.

Factors Influencing Reports of Low Engagement. Examining the influence of the TMH delivery mode on provider reports of low engagement revealed a significant association between the telehealth delivery mode and whether providers reported indication of low engagement for each case. Specifically, we observed that cases who received services primarily by audio only calls were more likely to be reported as having indication of low engagement

relative to those who received services primarily by videoconferencing. Though not significant, the same pattern was observed when comparing cases whose delivery mode varied by session to those who received services primarily by videoconferencing. This finding suggests that providers may over rely on the delivery mode as an indicator of poor engagement within the mid-pandemic lockdown context wherein all services were remote. Interestingly, there is evidence from Chapter 1 that youth self-reports of engagement were lower for those who received services primarily by audio only calls as compared with those who received services by videoconferencing for the domains of *Expectancy*, *Attendance*, and *Clarity* (See Chapter 1, Table 6). Yet, the influence of the delivery mode was not consistent across all engagement domains for all treatment participants. As such, using this behavioral observation to broadly infer levels of engagement may partially explain why detection within the mid-pandemic context continues to be challenging.

Additionally, the results of the final multilevel logistic regression analysis revealed that youth age was significant when the TMH delivery mode variable was added to the model. The results suggest that providers were less likely to report indication of an engagement challenge for older youth. This finding is consistent with studies showing that providers perceive more challenges working with younger youth during the lockdown period of the pandemic (Copson et al., 2022; Moorman, 2022). However, pre-pandemic research shows that the telehealth delivery mode is a viable option for younger aged children when using evidence-based treatments, most notably for parent-child interaction therapy (Chavira et al., 2022). This may be in part because the focus of treatment is on the family unit, not just the child. Moreover, a study examining attendance prior to and during the pandemic in foster and recently adopted youth found that when examining youth between the ages of 3-17 years old, children between the ages of 6-12

years old benefitted most from the transition to telehealth (Perez et al., 2023). At the same time, there is some research from the in-person setting that suggests that older youth have lower levels of engagement than younger youth when engagement is measured by attendance indicators (Block & Greeno, 2011). Given that this association was only significant when adding in the mid-pandemic factors and this finding is not aligned with in-person literature, one might conclude that this context changes the influence of age on engagement.

Significance. This study was the first study to our knowledge to examine mental health providers' early impressions of engagement indicators during the lockdown period of the pandemic for multiple active cases. These findings are therefore important in several ways. First and foremost, this study provided substantial evidence that providers under-detect and can misperceive levels of engagement as positive at the case-level in the early stages of treatment. The results lend support to the notion that detection and classification challenges may contribute to premature attrition in children's mental health treatment. The study findings additionally underscore a clear need to develop additional resources and supports that enhance provider detection and classification of engagement challenges in the early stages of treatment. In particular, providers may benefit from employing progress monitoring tools that measure multiple aspects of engagement for multiple treatment participants, such as the MTT survey. This tool could be helpful for increasing early detection of engagement concerns and discerning between subtle cues. Moreover, use of this tool may enable families who do not feel comfortable expressing concerns about engagement directly to their providers to share in a nonconfrontational manner. If administering the MTT survey is not feasible, developing a list of possible questions that cover multiple aspects of engagement as part of the intake process could be useful. Though some families may still feel discomfort with self-disclosure, asking these

questions at the start of treatment could simultaneously normalize discussions of sensitive engagement topics while assessing engagement through a multidimensional approach.

In addition to developing and/or training providers to utilize direct assessment tools, our results highlight that adopting a shared taxonomy of engagement terms could be beneficial (Becker & Chorpita, 2023). First, the results show that there were provider-level differences in the reports of low engagement indicators and substantial variability in the extensiveness of descriptions of engagement. Further, we observed that a high frequency of cases included ambiguous language. Some descriptions were difficult even for trained graduate student researchers to reliably discern and led to below threshold reliability ratings for three codes. Taken together, it appears that providers and researchers alike may not have the shared vocabulary for defining engagement problems. This not only makes it challenging for providers to label problems when they are detected, but also makes it difficult to consult the evidence base or their colleagues to identify solutions which address the engagement problem. Establishing a shared taxonomy could therefore serve to help providers improve their abilities to leverage the available knowledge on solutions to engagement challenges and further, help researchers understand challenges with detection and classification more precisely.

Along those lines, the current study findings highlight the benefits of adopting a taxonomy of engagement dimensions, such as the multidimensional REACH framework. The study design did not allow us to directly compare providers' pre- and mid-pandemic impressions of engagement or detection of engagement challenges. Yet, using the REACH framework allowed us to compare our findings to past work focused on retrospective impressions of engagement and those within pre-pandemic settings (Becker et al., 2021; O'Keeffe et al., 2020). Despite reports that the TMH context was perceived as being associated with increased

opportunities for gathering clinically relevant information, the similarities between pre- and mid-pandemic findings suggests that this context may not facilitate providers' abilities to detect focal engagement challenges (Connolly et al., 2020; Sklar et al., 2020; Sugarman et al., 2021). There have been several reports about perceived barriers to clinical assessment via TMH prior to and at the onset of the pandemic (Connolly et al., 2020; MacMullin et al., 2020; Racine et al., 2020; Ramtekkar et al., 2020; Grondin et al., 2021; Guinart et al., 2021). Yet, the current results do not clearly imply that this context degrades providers' abilities to detect multiple focal engagement concerns either.

At the same time, the evidence that provider impressions of low engagement were influenced by the delivery mode should not be overlooked. These findings highlight that providers misperceived the degree of influence the delivery mode has on client levels of engagement during the lockdown period of the pandemic. Given there are not known risks to employing engagement interventions when a client is already engaged, there may be fewer consequences to false positive errors or misperceiving engagement as low due to a client's request for audio only services. However, making a false negative error or misperceiving engagement to be high due to a client's request for videoconferencing services could have greater consequences because unaddressed low engagement could lead to attrition or lack of participation in important aspects of care (Harpaz-Rotem et al., 2004). It is also worth noting that Chapter 1 results suggested that the TMH delivery mode was not significantly associated with caregiver ratings of engagement for any engagement domains. Thus, a provider may miss caregiver risks for low engagement if overly reliant on the delivery mode as an indicator of engagement despite knowing the importance of caregiver involvement in services.

Limitations and Future Directions. There were several methodological constraints in the current study. First, the tool we used to assess providers' impressions of engagement took approximately three minutes on average to complete, suggesting that providers did not spend substantial time reflecting on or crafting responses about levels of engagement for each of their cases. Therefore, it is possible that the descriptions of ambiguous indicators or those consisting of just one indicator could reflect the limitations of our assessment tool. On the other hand, results suggests that provider-level factors influenced impressions at the case level. Thus, revisiting the current coding system to examine not just the presence of engagement indicators, but the extensiveness of the indicators may provide additional insights into the results despite the limitations of the chosen measure.

We must also bring attention to the limitations of the coding system, as two codes based on the high engagement descriptions (*Expectancy, Clarity*) yielded kappa's below published standards (.40) and one code based on low engagement descriptions (*Expectancy*) could not be calculated. Though this likely reflects low base rates of the codes, the inability to reliably code these two cognitive dimensions emphasizes the benefits of creating and disseminating a shared taxonomy of engagement indicators. Further, these limitations suggest that revisiting the coding system could also be valuable (Landis & Koch, 1977).

Given the limitations of the TMH Detection survey, developing assessment tools that allow providers to share more nuanced reflections of client levels of engagement could be beneficial. For example, conducting short interviews with providers about each of their cases after their first few sessions could provide opportunity to gather additional understanding of cases. This may also allow opportunity to clarify whether ambiguous descriptors are short hands for focal engagement indicators, the result of not having a shared vocabulary of engagement

indicators, and or due to inability to distinguish between focal indicators. Researchers could also develop a questionnaire that prompts providers to reflect on whether there was indication of focal engagement concerns of interest (e.g., “Are there indications that this student/family have clarity about the current approach to treatment? If yes, how so?”). Yet, this may lead providers to over-report what they typically might reason about or detect. Alternatively, researchers could ask youth, caregivers, and their providers to complete the MTT survey wherein the provider could be instructed to answer items based on how they hypothesize their cases will respond. This would allow a direct comparison between client and providers’ perceptions of multiple domains of engagement. That being said, the majority of these strategies may be too demanding for current providers and the current strategies still provided many helpful insights that can be used to guide future research.

Additionally, it is important to note only 139 of the 443 cases or 31.37% completed the TMH Detection and MTT survey. Within that sample of 139, only 20% (N=28) were reported to have indication of low engagement. As such, our interpretations of the multilevel logistic regression analyses warrant caution for a few reasons. Guidelines on conducting logistic regression models suggest that between 5-10 events are required for the least frequent binary outcome to reduce over or under fitting a model (Vittinghoff & McCullough, 2007). Moreover, statisticians caution that data sparseness in either the binary outcome or independent categorical variables within logistic regression can create inaccurate coefficients (Greenland et al., 2016). To optimize power, we chose to limit the number of child-level characteristics included in the model and collapsed across youth and caregiver reports of engagement when examining the correspondence between client and provider reports of engagement. We also chose to include the MTT total score instead of each REACH scale. Any of these choices could have introduced noise

into our logistic regression results. That being said, the lack of correspondence between provider and client reports was corroborated by multiple other forms of data in the current study.

Moreover, we did re-run the logistic regression models with the inclusion of child-level characteristics, such as diagnosis type and case composition. Yet, doing so did not change the logistic regression results presented in the study nor did it change the fit for the intermediate or final models.

Another limitation that warrants discussion is that asking families to fill out demographic information as opposed to collecting it from providers or extracting it from student records prevented us from examining the influence of child-level characteristics on provider impressions for the entire sample of cases with TMH Detection survey data. This design choice was based on the assumption that we would be able to obtain both types of data for the majority of cases. This choice was also informed by our desire to reduce the administrative burden of this work as much as possible since we were aware that providers experienced heightened stress during this time in part due to navigating several work-related administrative changes. Nevertheless, we were able to examine how youth age and gender related to provider reports of engagement for the subset of cases with both data types.

It is worth noting that the majority of youth and providers in this sample identified as Hispanic/Latinx. The bulk of the research examining racial and ethnicity matching is based on adult mental health services, but there is some research showing that matched ethnicity between providers and youth is associated with reduced reported dropout for minority youth who identify as Black, Latinx/Hispanic, or Asian (Ryan et al., 2023). However, it should be noted that the literature on racial and ethnicity-matching for youth is not straightforward. For example, one study found that shared ethnicity primarily impacts adolescents but has little effect on younger

children's levels of engagement or treatment outcomes (Yeh et al., 1994). Another study found that racial and ethnicity-matching is associated with a greater number of therapy visits for Hispanic/Latinx children with specific diagnoses (e.g., schizophrenia; Gamst et al., 2004). Further, another study revealed that although racial matching itself was not a significant predictor, client ratings of the extent to which their therapist understood their culture and values was a significant predictor across multiple dimensions of youth treatment engagement (Chu et al., 2023). Therefore, one possibility is that this sample of providers may have under-detected low engagement concerns due in part to assumptions about shared aspects of their identities. As such, it is possible that our findings may not generalize to setting with greater diversity between family and provider race and ethnicity. Future work should examine whether our findings are corroborated for more diverse samples of families and providers. Additionally, it may be helpful to examine whether and how racial and ethnicity-matching influences perceptions or detection of engagement more broadly.

Lastly, two years have passed since the data for this study were collected. There is a growing body of literature examining mental health professionals experience working during the pandemic, as well as some guidance on TMH clinical practice (Freitag et al., 2022; Frye et al., 2021; Gentry et al., 2021; Pierce et al., 2020; Tolou-Shams et al., 2022). Past work has suggested that acceptability and confidence increase as providers gain experience with the delivery mode and surveys on providers' perceptions of delivering TMH services have corroborated this positive shift (Connolly et al., 2020; Doran & Lawson, 2021; Owen, 2020). Because provider attitudes are thought to influence service delivery, the current findings may not generalize to present-day school-based mental health settings that have continued to offer TMH services.

Concluding Remarks. Altogether, this study utilized a multidimensional approach to examine providers' perceptions of early engagement indicators within the mid-pandemic lockdown context. These findings highlight that providers appear to under-detect and misperceive levels of engagement at the case level and are over-reliant on the delivery mode as an indicator of engagement. Despite perceptions that the TMH context may uniquely influence providers' detection abilities, these findings are aligned with the limited pre-pandemic research on provider inferences of engagement indicators. This study therefore illustrates that the mid-pandemic context neither facilitates nor degrades providers' abilities to detect and specify focal engagement challenges. Accordingly, providers will benefit from receiving training on a shared taxonomy of engagement indicators and resources for direct assessment of engagement. These supports may help to reduce the over-reliance on the delivery mode or other overt behavioral cues to infer levels of engagement in the early stages of treatment. Such strategies could serve to enhance clinical decision-making and reduce premature termination within school-based settings that continue to offer TMH services.

Table 1
Coding System for Provider Impressions of Low and High Engagement Indicators

Code	Definition	Example	Kappa
Relationship	Quality or aspects of the therapeutic alliance or the relationship between therapist and client	Low: Both mother and client seem to be guarded and avoidant High: Strong Rapport with the family; ...Has built a level of trust with this clinician	Low=.802 High=.759
Expectancy	Client's expectations about possible treatment outcomes or the eventual outcome of the current treatment or beliefs based on previous experiences with treatment	Low: - High: Client has expressed the helpfulness of services	Low= . ^a High=.297
Attendance	Presence and timeliness of expected participants at a therapeutic session or any therapy event (e.g., phone calls)	Low: They have family health issues that have impacted mother's availability High: Client does not miss session; Consistent attendance; Client logs into the zoom session on time on her own	Low=.849 High=.868
Clarity	Client's understanding of the treatment approach and rationale, the structure and goals of treatment, the roles of each person involved in treatment, or the client's presenting problem	Low: Student does not feel that she needs treatment; [Mother] appears to consider that therapy should help client mostly High: The family appears to understand the importance of staying consistent in treatment; Client has a good understanding of the purpose of treatment	Low=.574 High=.328
Homework	Active participation in collaboratively determined therapy activities occurring in or outside of session	Low: Needs constant redirection and prompting to participate; Student doesn't want to be on camera High: Student is attentive and answers questions appropriately; [Student] stays within camera frame and is focused; Actively participates	Low=.751 High=.694
Engagement-Not Otherwise Specified	Topics that relate to engagement that are labeled or operationally defined but do not fit into any REACH code, too vague to be labelled as a REACH code	Low: Client is not engaged in treatment; Poor engagement with mother; Inconsistency in sessions; Resistant to treatment at this time High: Client enjoys therapy; Client is consistent; Appears motivated; Treatment engagement is good with this student	Low= .540 High=.591
Not-Engagement	An indicator that does not fit into a REACH code nor is it clearly related to engagement but may relate to other aspects of the treatment or client	Low: Client is very depressed; Mother is sometimes negative about her daughter High: Client has decreased SI; His symptoms have improved since starting treatment	Low=.549 High=.594

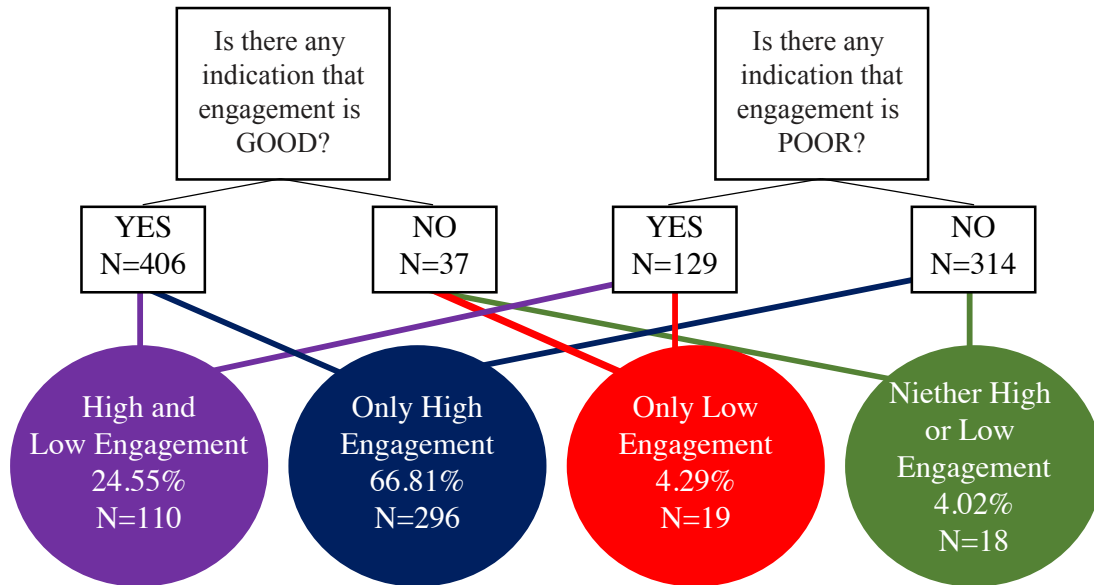
Note: Low refers to provider descriptions of low engagement and High refers to provider descriptions of high engagement. ^aKappa could not be calculated due to low occurrence of the code.

Table 2
Multilevel Binary Logistic Regression for Provider Reports of Engagement

		Provider Reports of Low Engagement			
		Model 0	Model 1	Model 2	Model 3
	ICC	0.19	0.24	0.29	0.54
	AIC/BIC	142.2/148.1	141.7/150.5	143.4/158.1	139.2/162.6
	Log Likelihood	-69.1	-67.8	-66.7	-61.6
		Odds Ratios (95% CI)	Odds Ratios (95% CI)	Odds Ratios (95% CI)	Odds Ratios (95% CI)
Fixed Effects					
	Intercept	0.21(0.11-0.40)***	0.20(0.10-0.40)***	0.21(0.09-0.50)***	0.06(0.01-0.32)***
Client Factors					
	MTT Total	-0.29	0.98(0.95-1.01)	0.98(0.95-1.01)	0.97(0.94-1.01)
	Male (Female)	-	-	0.75(0.27-2.06)	0.56(0.17-1.93)
	Youth Age	-	-	0.89(0.76-1.05)	0.79(0.62-0.98)*
Aim 3 Factors					
	Audio only (Vide Conferencing)	-	-	-	16.14 (1.85-141.10)**
	Varies by Session (Video Conferencing)	-	-	-	4.80 (0.85-27.07)-
Random Effects					
	Provider Intercept (SD)	0.76(0.86)	1.04(1.02)	1.36(1.65)	3.91(1.98)
	Marginal R ² /Conditional R ²	0/0.19	0.03/0.27	0.07/0.34	0.20/0.63
	Likelihood Ratio	-	χ^2 (1)=2.57	χ^2 (2)=2.22	χ^2 (2)=9.54**

Note: The reference groups for categorical variables are in parentheses. Results of the likelihood tests represent the comparison of the reduced model to the current model (Model 1 v. Model 0; Model 2 v Model 1; Model 3 v Model 2). $-p < 0.10$, $*p < 0.05$, $**p < 0.01$, $***p < 0.005$

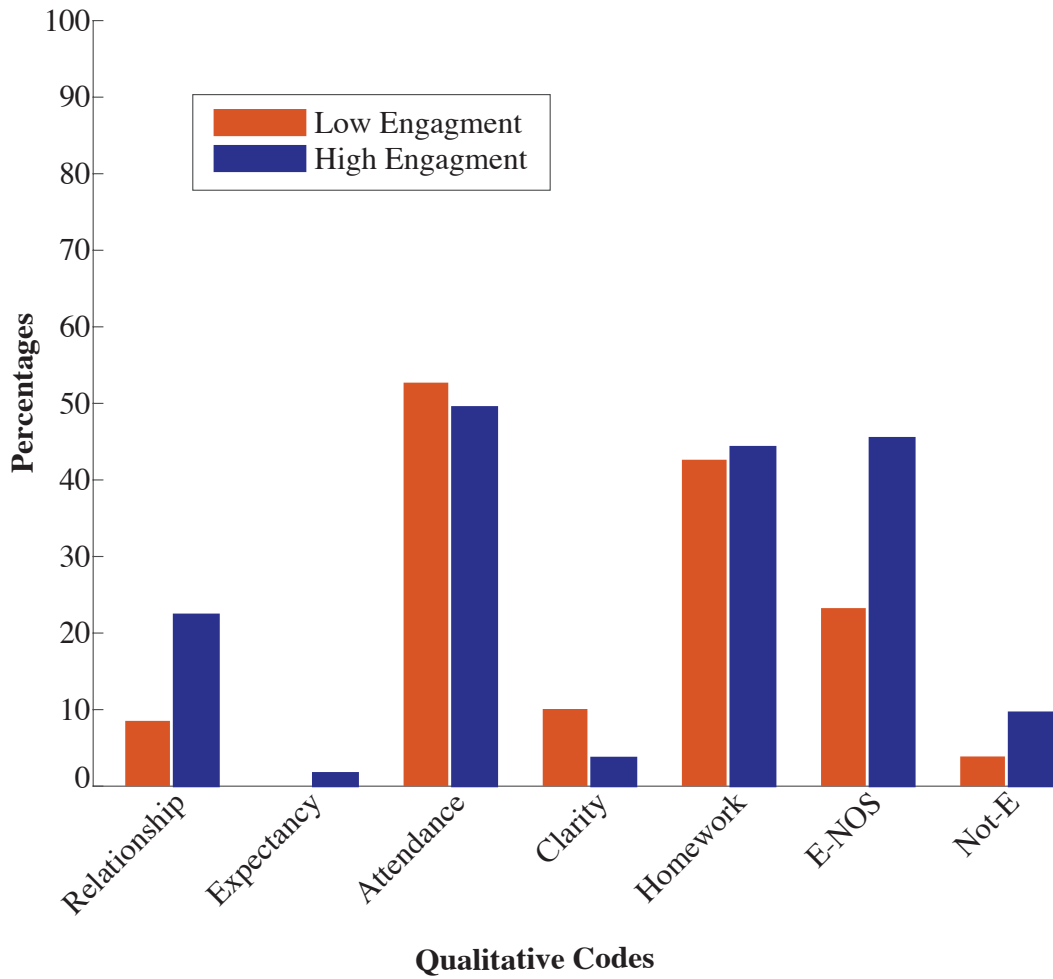
Figure 1
Diagram of Provider Reports of Engagement



Note: Diagram shows the combination of yes/no responses to questions about low and high engagement on the TMH Detection survey for 443 cases.

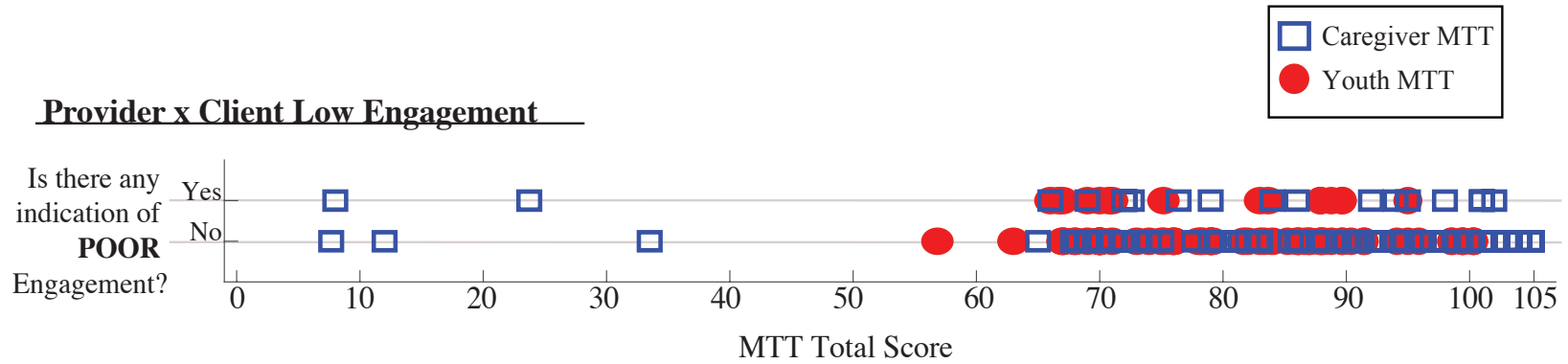
Figure 2

Engagement Codes Applied in Provider Descriptions of Low and High Engagement



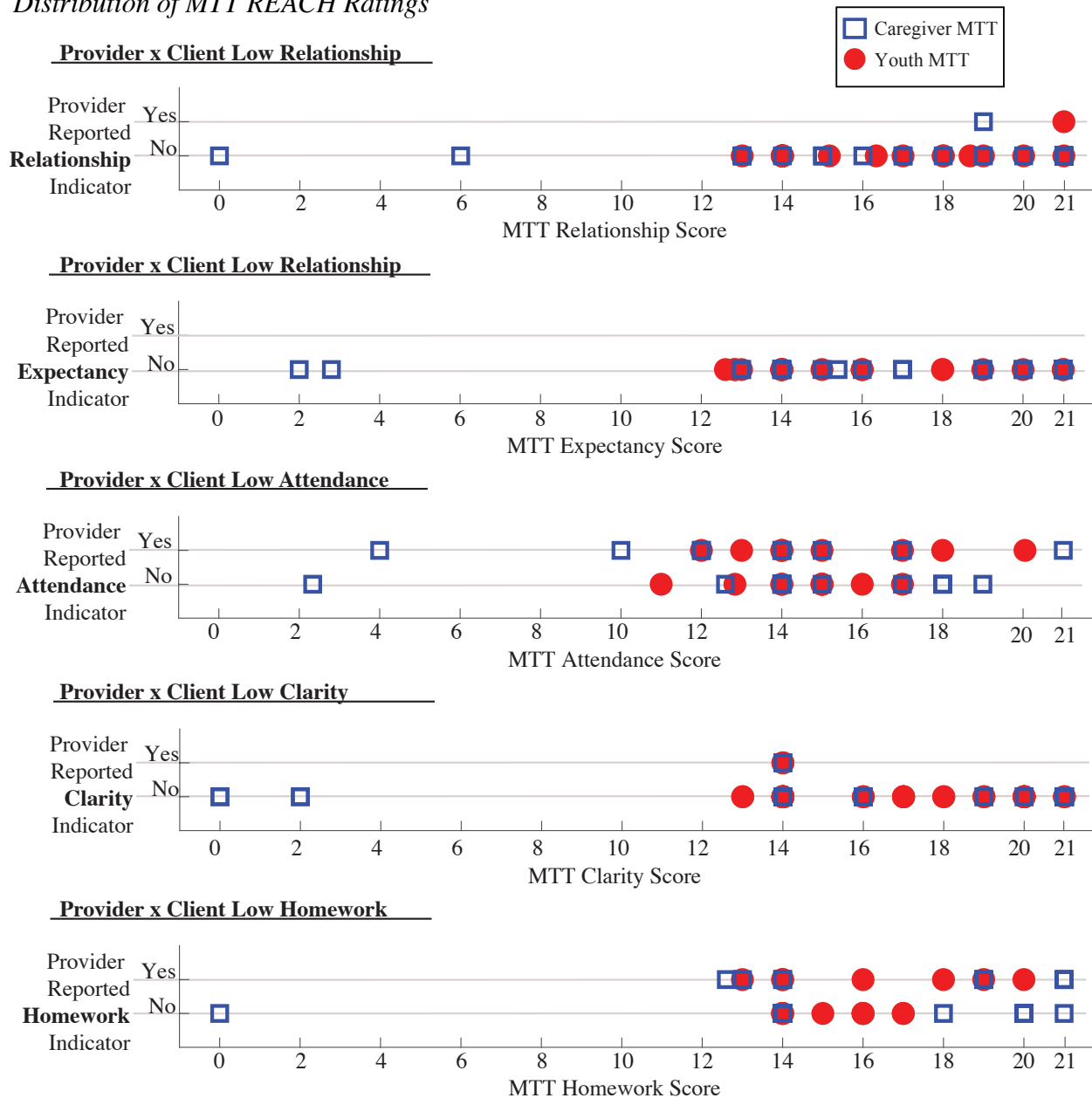
Note: The sum of percentages exceeds 100% because each description could receive credit for multiple codes. E-NOS refers to Engagement-Not Otherwise Specified and Not-E refers to Not-Engagement.

Figure 3
Distribution of MTT Total Ratings



Note: The y-axis represents cases grouped by whether the providers answered yes or no to the question about poor engagement indication on the TMH Detection survey.

Figure 4
Distribution of MTT REACH Ratings



Note: The x-axis represents the youth and caregiver MTT scale ratings. The y-axis represents cases grouped by whether a description of low engagement was coded for the presence of each REACH domain.

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GENERAL DISCUSSION

The findings from this two-study dissertation provide valuable insights that should guide future research efforts. First, the results of Chapter 1 demonstrate that telehealth represents an option for families that does not appear to have deleterious influence on all aspects of engagement in mental health services. The sustained utilization of telehealth two years since stay-at-home mandates have been lifted showcases its high acceptability among stakeholders. However, it is important to note that Chapter 1 did not find clear evidence of telehealth enhancing engagement as initially hypothesized and in fact, there may be some families that are better suited for telehealth than others (e.g., older cases, cases in which youth and caregivers are involved, cases willing to do videoconferencing). Moreover, the post-pandemic landscape looks different than the mid-pandemic period of the present studies, such that mental health services are now available in a hybrid format that better incorporates in-person, video, and telephone options. Therefore, future investigations should focus on understanding how hybrid delivery formats can optimize youth treatment engagement for all participants, including both treatment recipients and mental health providers.

Second, the results of Chapter 2 highlight a critical issue regarding providers' detection of engagement concerns. The study reveals that current strategies for detecting engagement issues lead to the under-detection and misperception of family's treatment engagement levels. Though this finding does not appear to be due to the mid-pandemic lockdown context, the results presented in Chapter 2 suggest that provider over rely on the delivery mode as an indicator of engagement. To effectively harness the existing evidence-base of engagement strategies, it is imperative to identify feasible supports for direct and accurate assessment of engagement,

particularly in early stages of treatment. In doing so, mental health providers can potentially reduce the alarmingly high rates of unmet mental health needs of youth.

Lastly, the multidimensional and multi-perspective approach employed in both studies unveiled the nuanced influence of telehealth on youth treatment engagement within the mid-pandemic lockdown context. The results of both studies underscore the importance of adopting an evidence-informed and theoretically grounded model of youth treatment engagement that can serve as a valuable model for future research and clinical practice. By embracing such a framework, we can ensure that engagement is comprehensively understood and effectively addressed in all youth treatment contexts.

Appendix A: My Thoughts About Therapy – Youth

Directions. This form is about your thoughts and experiences with your child’s counseling. Circle the answer that best tells how true each sentence is about how you usually feel. There are no right or wrong answers. Just circle what you think describes you best.

What is your gender?

Male Female Transgender Other: _____

What is the month/year that you were born? _____ / _____
Month Year

What is your race/ethnicity?

Black/African-American White, Caucasian, or European-American Asian/Asian-American
 Spanish/Hispanic/Latino Other: _____

What is the problem for which you are receiving services? _____

or Not Sure

Please complete the next 7 items below.

1. I like meeting with my counselor.	Strongly Disagree	Disagree	Agree	Strongly Agree
2. I feel like I can tell my counselor anything.	Strongly Disagree	Disagree	Agree	Strongly Agree
3. My counselor understands my culture and values.	Strongly Disagree	Disagree	Agree	Strongly Agree
4. I feel like I am part of a team with my counselor.	Strongly Disagree	Disagree	Agree	Strongly Agree
5. I feel comfortable asking my counselor questions or raising concerns about counseling.	Strongly Disagree	Disagree	Agree	Strongly Agree
6. My counselor respects my opinions.	Strongly Disagree	Disagree	Agree	Strongly Agree
7. I help decide what we work on together.	Strongly Disagree	Disagree	Agree	Strongly Agree

Please complete the next 7 items below.

1. The effort I put into counseling will pay off for me.	Strongly Disagree	Disagree	Agree	Strongly Agree
2. I believe my counselor knows how to help other people who are like me.	Strongly Disagree	Disagree	Agree	Strongly Agree
3. I’ve never have a bad experience with counseling in the past.	Strongly Disagree	Disagree	Agree	Strongly Agree
4. It’s OK if family or friends know I meet with a counselor.	Strongly Disagree	Disagree	Agree	Strongly Agree
5. I believe counseling is necessary to solve my problems.	Strongly Disagree	Disagree	Agree	Strongly Agree
6. I believe the work I do with my counselor will help me.	Strongly Disagree	Disagree	Agree	Strongly Agree

7. I think my counselor can help me.	Strongly Disagree	Disagree	Agree	Strongly Agree
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Please complete the next 7 items below.

1. If I skip a counseling appointment, I might fall behind.	Strongly Disagree	Disagree	Agree	Strongly Agree
2. I am on time for appointments with my counselor.	Strongly Disagree	Disagree	Agree	Strongly Agree
3. I make sure I get to my appointments with my counselor.	Strongly Disagree	Disagree	Agree	Strongly Agree
4. Counseling is convenient for me.	Strongly Disagree	Disagree	Agree	Strongly Agree
5. I tell my counselor about things that get in the way of me coming to counseling.	Strongly Disagree	Disagree	Agree	Strongly Agree
6. I am able to attend appointments even when there are other important things going on in my life.	Strongly Disagree	Disagree	Agree	Strongly Agree
7. Things do not get in the way of me attending appointments.	Strongly Disagree	Disagree	Agree	Strongly Agree

Please complete the next 7 items below.

1. I know what we are working on in counseling.	Strongly Disagree	Disagree	Agree	Strongly Agree
2. What we are doing in counseling makes sense to me.	Strongly Disagree	Disagree	Agree	Strongly Agree
3. There is a clear purpose to each counseling session.	Strongly Disagree	Disagree	Agree	Strongly Agree
4. The work I do with my counselor fits my goals.	Strongly Disagree	Disagree	Agree	Strongly Agree
5. My counselor measures if I am getting better.	Strongly Disagree	Disagree	Agree	Strongly Agree
6. I understand what I am supposed to do in counseling.	Strongly Disagree	Disagree	Agree	Strongly Agree
7. The counseling I receive is right for me.	Strongly Disagree	Disagree	Agree	Strongly Agree

Please complete the next 7 items below.

1. I actively participate during appointments with my counselor.	Strongly Disagree	Disagree	Agree	Strongly Agree
2. I enjoy practicing new things with my counselor.	Strongly Disagree	Disagree	Agree	Strongly Agree
3. Counseling requires a manageable amount of work.	Strongly Disagree	Disagree	Agree	Strongly Agree
4. When I learn something new in counseling, I try to use it right away at home or at school.	Strongly Disagree	Disagree	Agree	Strongly Agree
5. My counselor shows me how to do a skill and then helps me try it out.	Strongly Disagree	Disagree	Agree	Strongly Agree
6. If I try a new skill and it doesn't go well, I make sure to try it again.	Strongly Disagree	Disagree	Agree	Strongly Agree

7. I follow my counselor's suggestions.	Strongly Disagree	Disagree	Agree	Strongly Agree
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Appendix B: Mis Pensamientos Acerca de Terapia – Versión Juvenil

Direcciones. Este formulario es acerca de sus pensamientos y experiencias con la consejería. Favor de completar solamente las secciones que están marcadas. Circula la respuesta que mejor indica cómo se siente generalmente. Recuerda que no hay respuestas correctas o incorrectas, simplemente circula lo que cree que le describe mejor.

Favor de completar los 7 artículos abajo.

1. Me gusta reunirme con mi consejero/a.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
2. Siento que le puedo decir cualquier cosa a mi consejero/a.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
3. Mi consejero/a entiende mi cultura y lo que más valoro.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
4. Siento que formo parte de un equipo junto con mi consejero/a.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
5. Me siento cómodo/a haciéndole preguntas a mi consejero/a y compartiendo mis preocupaciones acerca de la consejería.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
6. Mi consejero/a respeta mis opiniones.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
7. Ayudo a decidir las metas en consejería.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo

Favor de completar los 7 artículos abajo.

1. El esfuerzo que pongo en la consejería me traerá buenos resultados.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
2. Creo que mi consejero/a sabe cómo ayudar a otras personas como yo.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
3. Nunca he tenido una mala experiencias con la consejería en el pasado.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
4. No pasa nada si mis familiares o amistades saben que me reúno con un consejero/a.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
5. Creo que la consejería es necesaria para resolver mis problemas.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
6. Creo que el trabajo que hago con mi consejero/a me va a ayudar.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
7. Pienso que mi consejero/a me puede ayudar.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo

Favor de completar los 7 artículos abajo.

1. Si faltó a una cita de consejería, podría atrasarme.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
2. Llego a tiempo a las citas con mi consejero/a.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
3. Me aseguré de llegar a las citas con mi consejero/a.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo

4. La consejería es conveniente para mí.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
5. Le digo a mi consejero/a sobre las cosas que me impiden ir a consejería.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
6. Puedo asistir a mis citas, incluso cuando hay otras cosas importantes ocurriendo en mi vida.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
7. No hay cosas que me impidan asistir a las citas con mi consejero/a.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo

Favor de completar los 7 artículos abajo.

1. Entiendo las metas de consejería.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
2. Lo que estamos haciendo en consejería tiene sentido.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
3. Hay una meta clara en cada sesión de consejería.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
4. El trabajo que hago con mi consejero/a se corresponde con mis metas.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
5. Mi consejero/a mide si me estoy mejorando.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
6. Entiendo lo que debo hacer en consejería.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
7. La consejería que recibo esta buena para mí.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo

Favor de completar los 7 artículos abajo.

1. Participo activamente durante las citas con mi consejero/a.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
2. Me gusta practicar cosas nuevas con mi consejero/a.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
3. El tratamiento requiere una cantidad de trabajo razonable.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
4. Cuando aprendo algo nuevo en consejería, trato de practicarlo enseguida en casa o en la escuela.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
5. Mi consejero/a me ayuda a aprender algo y cómo ponerlo en práctica.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
6. Si intento algo nuevo y no me sale a la primera, lo intento otra vez.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
7. Sigo las sugerencias de mi consejero/a.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo

6. I believe the work I do with my child's counselor will help my child.	Strongly Disagree	Disagree	Agree	Strongly Agree
7. I think my child's counselor can help my child.	Strongly Disagree	Disagree	Agree	Strongly Agree

Please complete the next 7 items below.

1. If I skip an appointment with my child's counselor, I might fall behind.	Strongly Disagree	Disagree	Agree	Strongly Agree
2. I am on time for appointments with my child's counselor.	Strongly Disagree	Disagree	Agree	Strongly Agree
3. I show up for appointments with my child's counselor or else cancel them at least a day ahead of time.	Strongly Disagree	Disagree	Agree	Strongly Agree
4. My child's counseling is convenient for me.	Strongly Disagree	Disagree	Agree	Strongly Agree
5. I tell my child's counselor about things that get in the way of me coming to counseling.	Strongly Disagree	Disagree	Agree	Strongly Agree
6. I am able to attend appointments even when there are other important things going on in my life.	Strongly Disagree	Disagree	Agree	Strongly Agree
7. Things do not get in the way of me attending appointments with my child's counselor.	Strongly Disagree	Disagree	Agree	Strongly Agree

Please complete the next 7 items below.

1. The goals of my child's counseling are clear.	Strongly Disagree	Disagree	Agree	Strongly Agree
2. What we are doing in my child's counseling makes sense to me.	Strongly Disagree	Disagree	Agree	Strongly Agree
3. There is a clear purpose to each counseling session.	Strongly Disagree	Disagree	Agree	Strongly Agree
4. The work I do with my child's counselor fits our goals.	Strongly Disagree	Disagree	Agree	Strongly Agree
5. My child's counselor measures if my child is getting better.	Strongly Disagree	Disagree	Agree	Strongly Agree
6. I understand my role in my child's counseling.	Strongly Disagree	Disagree	Agree	Strongly Agree
7. The counseling we receive is right for us.	Strongly Disagree	Disagree	Agree	Strongly Agree

Please complete the next 7 items below.

1. I actively participate during appointments with my child's counselor.	Strongly Disagree	Disagree	Agree	Strongly Agree
2. I enjoy practicing new things with my child's counselor.	Strongly Disagree	Disagree	Agree	Strongly Agree
3. Counseling requires a manageable amount of work.	Strongly Disagree	Disagree	Agree	Strongly Agree
4. When I learn something new in my child's counseling, I try to use it right away at home.	Strongly Disagree	Disagree	Agree	Strongly Agree
5. My child's counselor shows us how to do a skill and then helps us try it out.	Strongly Disagree	Disagree	Agree	Strongly Agree

6. If I try a new skill and it doesn't go well, I make sure to try again.	Strongly Disagree	Disagree	Agree	Strongly Agree
7. I follow my child's counselor's recommendations.	Strongly Disagree	Disagree	Agree	Strongly Agree

Appendix D: Mis Pensamientos Acerca de Terapia – Versión de Guardian

Direcciones. Este formulario es acerca de sus pensamientos y experiencias con la consejería. Favor de completar solamente las secciones que están marcadas. Circula la respuesta que mejor indica cómo se siente generalmente. Recuerda que no hay respuestas correctas o incorrectas, simplemente circula lo que cree que le describe mejor.

¿Cual es su relación con el estudiante que está recibiendo servicios?

Madre Padre Abuela Abuelo Otro: _____

Favor de completar los 7 artículos abajo.

1. Si falto a una cita de consejería con la/el consejero/a de mi hijo/a, podría atrasarme.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
2. Llego a tiempo a las citas con la/el consejero/a de mi hijo/a.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
3. Me aseguré de llegar a las citas con la/el consejero/a de mi hijo/a o por lo menos cancelo un día antes.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
4. La consejería de mi hijo/a es conveniente para mí.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
5. Le digo al consejero/a de mi hijo/a sobre las cosas que me impiden ir a consejería.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
6. Puedo asistir a citas, incluso cuando hay otras cosas importantes ocurriendo en mi vida.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
7. No hay cosas que me impidan asistir a las citas con la/el consejero/a de mi hijo/a.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo

Favor de completar los 7 artículos abajo.

1. Entiendo las metas de la consejería de mi hijo/a.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
2. Lo que estamos haciendo en la consejería de mi hijo/a tiene sentido.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
3. Hay una meta clara en cada sesión de consejería.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
4. El trabajo que hago con la/el consejero/a de mi hijo/a se corresponde con nuestras metas.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
5. La/El consejero/a de mi hijo/a mide si mi hijo/a se está mejorando.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
6. Entiendo lo que debo de hacer en la consejería de mi hijo/a.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
7. La consejería que recibimos esta buena para nosotros.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo

Favor de completar los 7 artículos abajo.

1. Si falto a una cita de consejería con la/el consejero/a de mi hijo/a, podría atrasarme.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
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2. Llego a tiempo a las citas con la/el consejero/a de mi hijo/a.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
3. Me aseguré de llegar a las citas con la/el consejero/a de mi hijo/a o por lo menos cancelo un día antes.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
4. La consejería de mi hijo/a es conveniente para mí.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
5. Le digo al consejero/a de mi hijo/a sobre las cosas que me impiden ir a consejería.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
6. Puedo asistir a citas, incluso cuando hay otras cosas importantes ocurriendo en mi vida.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
7. No hay cosas que me impidan asistir a las citas con la/el consejero/a de mi hijo/a.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo

Favor de completar los 7 artículos abajo.

1. Entiendo las metas de la consejería de mi hijo/a.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
2. Lo que estamos haciendo en la consejería de mi hijo/a tiene sentido.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
3. Hay una meta clara en cada sesión de consejería.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
4. El trabajo que hago con la/el consejero/a de mi hijo/a se corresponde con nuestras metas.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
5. La/El consejero/a de mi hijo/a mide si mi hijo/a se está mejorando.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
6. Entiendo lo que debo de hacer en la consejería de mi hijo/a.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
7. La consejería que recibimos esta buena para nosotros.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo

Favor de completar los 7 artículos abajo.

1. Participo activamente durante las citas con la/el consejero/a de mi hijo/a.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
2. Me gusta practicar cosas nuevas con la/el consejero/a de mi hijo/a.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
3. El tratamiento requiere una cantidad de trabajo razonable.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
4. Cuando aprendo algo nuevo en la consejería de mi hijo/a, trato de practicarlo enseguida en casa.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
5. La/el consejero/a de mi hijo/a nos ayuda a aprender algo y cómo ponerlo en práctica.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
6 Si intento algo nuevo y no me sale a la primera, lo intento otra vez.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo
7. Sigo las sugerencias del/a consejero/a de mi hijo/a.	Muy en Desacuerdo	Desacuerdo	De Acuerdo	Muy de Acuerdo

Appendix E: Telemental Health Detection Survey

1. How do you deliver remote treatment for this student or family?
 - A. Audio only
 - B. Both audio and video
 - C. Varies by session
 - D. Other _____

2. Are any challenges present with this student or family? *Check all that apply.*
 - A. Internet (poor or inadequate service at their location)
 - B. Equipment (student or family lacks a camera, laptop, headphones, other)
 - C. Privacy (student or family lacks a private space to deliver services)
 - D. Distractions (noise, surroundings, other people at my location)
 - E. Other

3. Are there any indications that treatment engagement is POOR with this student or family?
 - A. Yes
 - B. No

4. If yes, can you please describe in what ways engagement is poor? *Short Answer.*

5. Are there any indications that treatment engagement is GOOD with this student or family?
 - A. Yes
 - B. No

6. If yes, can you please describe in what ways engagement is GOOD? *Short Answer.*

Appendix F: Provider Background Survey

1. What is your age in years? _____

2. What is your gender?
 - A. Female
 - B. Male
 - C. Transgender
 - D. Nonbinary
 - E. Other: _____
 - F. Prefer not to answer

3. What is your racial/ethnic background? *Check all that Apply*
 - A. White, Caucasian, or European American
 - B. Spanish/Hispanic/Latino
 - C. Black/African American
 - D. Asian/ Asian American
 - E. Middle Eastern/ North African
 - F. Native American /Alaska Native
 - G. Native Hawaiian / Pacific Islander
 - H. Other: _____

4. What is your professional specialty?
 - A. Social Work
 - B. MFT
 - C. Rehab counseling
 - D. Clinical or counseling psychology
 - E. School psychology
 - F. Psychiatry
 - G. Other: _____

5. Are you CA Stated Licensed? (Y/N)

6. What is your highest level of education?
 - A. High school/ GED
 - B. BA /BS
 - C. MA / MS
 - D. MSW
 - E. MEd
 - F. MD
 - G. PhD
 - H. PsyD
 - I. EdD

7. Year Degree Earned: _____
8. How many active cases do you typically carry at one time? _____
9. If it is possible and safe...
- A. I prefer counseling to be in person
 - B. I prefer counseling to be remote (phone or online)
 - C. I have no preference if counseling is in person or remote
10. Are you facing any of these challenges with remote service delivery this school year? *Check all that apply.*
- A. Internet (poor or inadequate service at my location)
 - B. Equipment (I lack a camera, laptop, headphones, other)
 - C. Privacy (I lack a private space to deliver services)
 - D. Distractions (noise, surroundings, other people at my location)
 - E. Other: _____
11. How often, if ever, have you experience a feeling of professional burnout this school year?
- A. Never
 - B. Rarely
 - C. Frequently
 - D. Most of the time
 - E. All the time