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Client attitudes toward virtual treatment court

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ABSTRACT

Introduction: As a response to the COVID-19 pandemic, many treatment courts shifted to offering teleservices. We sought to examine the barriers that clients faced when transitioning to virtual court and treatment, and how this transition impacted their perceptions of the treatment court experience.

Methods: The National Center for State Courts administered an online survey between January 1, 2021, and July 31, 2021, deployed to state and local court administrators, which resulted in 1356 unique client responses from 121 courts. The survey measured attitudes about the treatment court process, including interactions with the judge, the behavioral health treatment staff, and treatment groups, as well as barriers to virtual and in-person court. We hypothesized that clients with fewer technological barriers to virtual service, who shifted to virtual court or treatment, would report more positive attitudes to this service delivery.

Results: Clients felt more comfortable participating in virtual court sessions than in-person sessions but were less likely to feel like the judge was familiar with their case during virtual court sessions. From the treatment perspective, clients felt more connected with other group members and reported greater benefit from treatment staff when treatment services were delivered in-person, but clients felt less anxious when treatment groups were virtual.

Conclusions: Even though virtual experiences were more comfortable than in-person experiences for clients, the results are nuanced and show preference for some in-person connections as they transitioned to virtual connections. Future research should examine how to improve client connections with staff/group members during virtual court or treatment sessions, particularly as courts and treatment providers are likely to continue some services virtually into the future.

1. Introduction

Treatment courts, also known as problem-solving or specialty courts, continue to proliferate across the United States, both in the number of jurisdictions in which they are established and in the social concerns they address (Ahlin & Douds, 2019). Unlike traditional criminal courts, treatment courts are based on the concept of therapeutic jurisprudence, which suggests that law is a sociocultural power working to shape and potentially improve lives (Lurigio, 2008). To realize these

improvements, treatment courts aim to equip defendants with community-based resources, such as treatments and services, that promote stabilization and reduce recidivism (Rottman & Bowman, 2014). While no two treatment courts are the same, they generally operate via a collaborative decision-making framework in which courtroom and community-based social service personnel work to promote treatment and service utilization (Berman & Feinblatt, 2002). The defendants in treatment courts are often referred to as clients or participants, a reference to the *treatment* focus of the court. Defendants typically “opt-

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in” to the program, agreeing to ongoing status hearings, often bimonthly for more than a year, mandated treatment services, and monitoring, in exchange for a reduced sentence (Berman & Feinblatt, 2002; Casey & Rottman, 2005; Porter et al., 2010; Ray & Dollar, 2013).

The treatment court model was developed from a drug court in Dade County, Florida, in 1989 (Nolan, 2001) but has been replicated to focus on a range of complex issues such as individuals reentering the community post-incarceration (Maruna & LeBel, 2003), individuals with mental illness (Snedker, 2018), veterans (Cartwright, 2011), and parents with substance use disorders (Pach, 2008). Although most studies on the effectiveness of treatment courts have been conducted on adult criminal drug courts, they generally find reduced rates of recidivism and improved treatment outcomes, especially among those who successfully complete the program, relative to traditional court processing (Kearley & Gottfredson, 2020; Lowenkamp et al., 2005; Mitchell et al., 2012; Seigny et al., 2013; Shaffer, 2011; Trood et al., 2021); and emerging evidence points to comparable benefits for other types of treatment court models (Lowder et al., 2017; Zhang et al., 2019). One of the key dimensions of the treatment court process, often noted as essential to treatment court success (MacKenzie, 2016; Miller et al., 2020), is “procedural justice”, which refers to the perception that the processes is just and persons are treated with respect and fairly, and given a voice and validation (Berman & Gold, 2012; Tyler & Huo, 2002; Tyler & Smith, 1998). The judge often demonstrates procedural justice but research has also linked it to the overall treatment court process (Dollar et al., 2018; Wales et al., 2010). However, the treatment court model has not been without criticism, specifically its reproduction of punitive measures as is evident through the use of coercive or mandated treatment (Ahlin & Douds, 2019; Collins, 2019), restrictive eligibility requirements (Marlowe et al., 2016), due process violations (Quinn, 2000), and a lack of evidence-based medicine (Andraka-Christou, 2017). Clients who do not successfully complete treatment (i.e., “graduate”) are typically returned to the court for sentencing, sometimes with longer durations than had the client never entered the treatment court (Gottfredson & Exum, 2002; Rempel et al., 2004).

COVID-19 served as an exogenous shock to treatment courts, forcing them to adapt longstanding practices, including how staff and clients interact during key components of the treatment court model (i.e., hearings and monitoring of clients). The need to utilize teleservices (i.e., audio and video services) became essential as the COVID-19 pandemic persisted. Almost no treatment courts offered virtual court options prior to the pandemic so most programs and their clients transitioned to using these services nearly overnight with little assistance or guidance (Kunkel et al., 2021). In this study, we examined the barriers that clients have faced transitioning to virtual court and treatment services and how this impacted their perceptions of the treatment court experience. Specifically, we examined clients' attitudes toward court and treatment when conducted virtually. Results suggest strong support for the continued use of virtual services, and although our analysis cannot not speak to the effectiveness of treatment courts, we discuss the potential for these findings to address broader treatment court critiques and limitations.

2. Materials and methods

The National Center for State Courts is a nonprofit that provides consulting and education to courts across the United States. To understand the impact of teleservices on treatment court clients, they administered an online survey between January 1, 2021, and July 31, 2021. The National Center provided the survey link to state court administrators, some of whom disseminated it to all treatment courts in the state (Kentucky and Michigan), as well as directly to courts that engaged in technical assistance. Each treatment court had a survey administrator who provided information about the treatment court and distributed the survey link to clients, with an explanation of anonymity and the purpose of improving court programming. Online surveys were exclusively utilized given the timing of data collection during the COVID-19 pandemic

in which many brick and motor courthouses were closed to the public. The survey collected a convenience sample of 1356 client responses from 121 courts across 27 states. Surveys were administered in English and clients were not provided an incentive to participate. The survey measured attitudes about the treatment court process, including interactions with the judge, the behavioral health treatment staff, and treatment groups, as well as barriers to virtual and in-person court. Researchers obtained IRB approval (Protocol# 21-02-3193) to acquire and analyze the survey data with the goal of determining whether clients' attitudes toward the treatment court varied by these virtual experiences.

2.1. Measures and survey respondent groups

See Appendix A for client survey measures. The client survey collected data from clients using categorical measures of age, race, ethnicity, and gender, which was supplemented by data obtained from administrators regarding court type (adult drug, mental health, co-occurring, domestic violence, DUI, family dependency drug, hybrid, juvenile drug, veterans, young adult, other) and geographic location (rural, suburban, urban). The survey asked about court experiences (e.g., hearings) separately from treatment experiences (e.g., counseling.) Since clients may have joined the court at different times, categorical measures assessed whether respondents had experienced in-person court services prior to virtual services (i.e., *the virtual court transition group*) or whether they had experienced virtual court services only (i.e., *the virtual court only group*.) Likewise, measures assessed whether respondents had experienced in-person treatment services prior to virtual treatment services (i.e., *the virtual treatment transition group*) or whether they had experienced virtual treatment services only (i.e., *the virtual treatment only group*.)

Participants responded to 5-point Likert-items, with responses that ranged from strongly disagree to strongly agree, regarding attitudes about their experiences with the judge and at the treatment group. The survey asked about four *court attitude* items: “I can be open and honest with the judge”; “Based on my experience, I am comfortable participating in court sessions”; “I find it helpful to watch the judge talk with other participants”; and “I feel like the judge knows me and my case.” The survey also had four *treatment attitude* items: “I feel like the treatment staff can help me when I participate in treatment groups”; “I am able to be open and honest in treatment groups”; “I am not anxious talking in group”; and “I feel connected to other members of my group.” Only the virtual transition group saw both item types (e.g., “when in-person” and “when virtual”). Those in the virtual transition group were asked each of these eight items separately about the virtual and in-person experiences; for example, “I can be open and honest with the judge when in-person” and “I can be open and honest with the judge when virtual.” The virtual only group only answered each of these items about the virtual experiences.

Finally, the survey had seven Likert scale items that measured access *barriers* that ranged from strongly agree to strongly disagree, with four of those items about technological barriers: “I have the necessary equipment to participate in services virtually”; “I have access to reliable WI-FI/internet to participate in services virtually”; “I have a private space to participate in court or treatment virtually”; and “I am comfortable using technology to participate in services virtually”; and three on social barriers: “I have transportation issues that make it difficult to attend court and treatment in person”; “I have childcare issues or family responsibility that make it difficult to attend in person”; and “Working at my job makes it difficult to attend in person.” The survey asked all respondents the barrier items.

2.2. Analytic procedure

We performed descriptive statistics on responses to the barrier items and used paired *t*-tests to compare the in-person and virtual experiences

first by the court attitude items and then by the treatment attitude items for those in the virtual transition group. The research team conducted independent samples t-tests to compare the virtual transition group and virtual only group responses. We combined the court attitude and treatment attitude items each into their own summative scales (Cronbach's alpha value of $\alpha = 0.70$ and $\alpha = 0.69$ respectively) and used them as dependent variables in two linear regression models that included individual and court-level covariates. The study treated the categorical measure of age as continuous and dichotomized both race-ethnicity (1 = Black, Indigenous, Person of Color [BIPOC], 0 = Non-Hispanic White) and gender (1 = female, 0 = other). We also included an indicator of whether the respondent was in a drug court program (1 = yes, 0 = no), in a rural area (1 = predominantly or entirely rural, 0 = other), and in a virtual only group (1 = yes, 0 = no, which varied based on whether the model was predicting court attitudes or treatment attitudes). For our last covariate in the models, we combined the barrier items into a summation scale ($M = 6.35$; Range 4–20; $SD = 2.69$; Cronbach's alpha value of $\alpha = 0.89$), recoding items as needed, so that higher values indicated more barriers. The team conducted all analyses using IBM SPSS Statistics Version 27.0.1.0 (IBM Corp., Armonk, NY, United States).

3. Results

After listwise deletion of cases missing demographic measures and responses to key measures, 1000 unique survey respondents from 114 courts (73.7 % of the initial respondents) remained. Most respondents were between 26 and 34 years of age (34.8 %, $n = 348$), identified as white (78.5 %, $n = 785$) and as male (58.5 %, $n = 585$), were in adult drug court (62.9 %, $n = 626$), and were in a location categorized as both rural and suburban (33.0 %, $n = 330$). As Table 1 shows, for measures about court services 69.8 % ($n = 698$) belonged to the *virtual court transition* group, with the remaining respondents (30.2 %, $n = 302$) belonging to the *virtual court only* group. For measures about treatment services, 74.4 % ($n = 744$) of respondents were in the *virtual treatment transition* group and 25.6 % ($n = 256$) were in the *virtual treatment only* group.

Table 1 shows that respondents across the *virtual transition group* and *virtual only group* reported few technological barriers, with 94.1 % ($n = 941$) reporting that they have the necessary equipment to participate in virtual services and 91.8 % ($n = 918$) with access to a private space. Similarly, having access to reliable WI-FI/Internet and comfort with using technology were low barriers as well. Among the virtual transition group, 38.6 % ($n = 306$) of respondents indicated that it was difficult to attend court in-person because of their job, 27.7 % ($n = 229$) said it was difficult to attend because of transportation, and 23.2 % ($n = 192$) because of childcare or family responsibilities. Among the virtual only group, 47.7 % ($n = 144$) found it difficult to attend virtual court and treatment groups because of their job, 38.4 % ($n = 116$) said it was difficult to attend because of transportation, and 28.2 % ($n = 85$) found it difficult because of childcare or family responsibilities.

Table 2 provides results for the court attitude items, for both the *virtual court transition* group and the *virtual court only* group. First, among respondents in the virtual court transition group, we compared measures regarding participation in virtual court and in-person court. Respondents indicated higher levels of comfort participating in virtual court ($M = 4.06$, $SD = 0.949$; $t(697) = 3.673$, $p < .001$) than in-person court ($M = 3.88$, $SD = 1.127$). However, respondents were more likely to endorse feeling like the judge knows them and their case for in-person court ($M = 4.15$, $SD = 0.966$; $t(697) = 3.048$, $p = .002$) than for virtual court ($M = 4.05$, $SD = 0.979$). Being open and honest with the judge and finding it helpful to watch the judge talk with other participants was not significantly different between in-person measures and virtual measures.

Next, we compared responses between the *virtual court only* group and the *virtual court transition* group. We found that the virtual court only group reported stronger agreement that they can be open and honest

Table 1
Participant characteristics (N = 1000).

Demographics	N	Percent
Age categories		
25 and younger	126	12.6 %
26–34 years old	348	34.8 %
35–44 years old	315	31.5 %
45–54 years old	134	13.4 %
55–64 years old	66	6.6 %
65–74 years old	10	1.0 %
75+ years old	1	0.1 %
Race-ethnicity categories		
American Indian/Alaska Native	54	5.4 %
Asian	5	0.5 %
Black/African American	75	7.5 %
Hispanic/Latino	50	5.0 %
White	785	78.5 %
Other	31	3.1 %
Gender		
Male	585	58.5 %
Female	415	41.5 %
Court type		
Adult drug court	629	62.9 %
Mental health court	20	2.0 %
DUI court	121	12.1 %
Veterans court	108	10.8 %
Other problem-solving court	122	12.2 %
Court location		
Predominantly or entirely rural	276	27.6 %
Mixed rural and suburban	330	33.0 %
Predominantly or entirely suburban	96	9.6 %
Mixed suburban and urban	144	14.4 %
Predominantly or entirely urban	70	7.0 %
Other	84	8.4 %
Virtual court experience		
Transitioned from in-person court	698	69.8 %
Virtual court only	302	30.2 %
Virtual treatment experience		
Transitioned from in-person treatment	744	74.4 %
Virtual treatment only	256	25.6 %
Court and treatment experience		
Combination of virtual and in-person	827	82.7 %
Virtual only	173	17.3 %

with the judge ($M = 4.41$, $SD = 0.754$; $t(998) = 2.615$, $p = .009$) compared to the virtual transition group ($M = 4.26$, $SD = 0.867$). The virtual court only group was also more likely to strongly agree that they are comfortable participating in court sessions ($M = 4.37$, $SD = 0.807$; $t(998) = 4.957$, $p < .001$) and find it helpful to watch the judge talk with other participants ($M = 4.01$, $SD = 0.933$; $t(998) = 2.903$, $p = .004$) compared to the virtual court transition group ($M = 4.06$, $SD = 0.949$; $M = 3.83$, $SD = 0.944$, respectively). Feeling like the judge knows me and my case was not significant between the virtual court only and virtual court transition group.

We used a similar approach to examine the four treatment attitude items in Table 3. Among the virtual treatment transition group, feeling like the treatment staff can help was more positively endorsed for in-person treatment ($M = 4.01$, $SD = 0.914$; $t(743) = 3.749$, $p < .001$) than for virtual treatment ($M = 3.86$, $SD = 0.877$), while not being anxious talking in treatment group was more likely to be endorsed for virtual ($M = 3.58$, $SD = 1.032$; $t(743) = 10.224$, $p < .001$) than for in-person ($M = 3.15$, $SD = 1.212$). Feeling connected to other members of the treatment group was also more likely to be endorsed for in-person ($M = 3.84$, $SD = 0.964$; $t(743) = 6.993$, $p < .001$) than for virtual ($M = 3.52$, $SD = 0.972$).

Comparing between the *virtual treatment only* group and *virtual treatment transition* group, we found the virtual treatment only group was more likely to feel as if the treatment staff can help ($M = 4.32$, $SD = 0.751$; $t(998) = 7.566$, $p < .001$) compared to the virtual treatment transition group ($M = 3.86$, $SD = 0.877$). The virtual treatment only group also felt they could be more open and honest in treatment groups ($M = 4.30$, $SD = 0.894$; $t(998) = 2.589$, $p = .010$), reported less anxiety

Table 2
Attitudes about treatment court by client virtual court experience (N = 1000).

	In-person (n = 698)		Virtual transition ^a (n = 698)			Virtual only ^b (n = 302)		
	Mean	SD	Mean	SD	t	Mean	SD	t
I can be open and honest with the judge	4.24	0.913	4.26	0.867	0.682	4.41	0.754	2.615**
Based on my experience, I am comfortable participating in court sessions	3.88	1.127	4.06	0.949	3.673***	4.37	0.807	4.957***
I find it helpful to watch the judge talk with other participants	3.88	0.989	3.83	0.944	1.559	4.01	0.933	2.903**
I feel like the judge knows me and my case	4.15	0.966	4.05	0.979	3.048**	4.17	0.905	1.779

Note: Responses ranged from strongly disagree (1) to strongly agree (5).

* $p < .05$.

^a Test compares items that end with “when in-person” to those that ended “when virtual” completed among the same person.

^b Test compares items that ended “when virtual” between those who were always virtual and those who transitioned.

** $p < .01$.

*** $p < .001$.

Table 3
Attitudes about treatment by client virtual treatment experience (N = 1000).

	In-person (n = 744)		Virtual transition ^a (n = 744)			Virtual only ^b (n = 256)		
	Mean	SD	Mean	SD	t	Mean	SD	t
I feel like the treatment staff can help me when I participate in treatment groups...	4.01	0.914	3.86	0.877	3.749***	4.32	0.751	7.566***
I am able to be open and honest in treatment groups...	4.10	0.861	4.14	0.807	1.211	4.30	0.894	2.589**
I am NOT anxious talking in group...	3.15	1.212	3.58	1.032	10.224***	4.05	0.953	6.628***
I feel connected to other members of my group...	3.84	0.964	3.52	0.972	6.993***	4.00	0.856	7.586***

Note: Responses ranged from strongly disagree (1) to strongly agree (5).

* $p < .05$.

^a Test compares items that end with “when in-person” to those that ended “when virtual” completed among the same person.

^b Test compares items that ended “when virtual” between those who were always virtual and those who transitioned.

** $p < .01$.

*** $p < .001$.

talking in treatment groups ($M = 4.05$, $SD = 0.953$; $t(998) = 6.628$, $p < .001$), and was more likely to endorse feeling connected to other members of their group ($M = 4.00$, $SD = 0.856$; $t(998) = 7.596$, $p < .001$) than the virtual treatment transition group ($M = 3.52$, $SD = 0.972$; $t(998) = 6.993$, $p < .001$) (Table 4).

The team performed linear regression models to assess court attitudes and treatment attitudes among those who had a virtual experience while controlling for other relevant measures. In Table 5, model 1 predicts court attitudes and suggests that age is positively associated with virtual court attitudes ($AOR = 0.080$, $p < .01$, 95 % CI = [0.051, 0.319]) while barriers was negatively associated with attitudes toward virtual court services ($AOR = 0.363$, $p < .001$, CI = 0.302–0.416). Even after controlling for these factors, respondents in the virtual court only group had significantly better court attitudes ($AOR = 0.093$, $p < .01$, 95 % CI = [0.195, 0.889]) that those in the virtual court transition group. Model 2 in Table 5 shows a similar association between endorsement of barriers and negative attitudes toward virtual treatment services ($AOR = 0.398$, $p < .001$, 95 % CI = [0.342, 0.452]) but also that the virtual treatment only group has better treatment attitudes ($AOR = 0.219$, $p < .001$, 95 %

Table 4
Barriers to virtual services among treatment court clients (N = 1000).

	Mean	SD	Strongly agree & agree	
			n	Percent
I have the necessary equipment to participate in services virtually.	1.53	0.729	941	94.1 %
I have access to reliable WI-FI/internet to participate in services virtually.	1.61	0.817	911	91.1 %
I have a private space to participate in court or treatment virtually.	1.59	0.781	918	91.8 %
I am comfortable using technology to participate in services virtually.	1.62	0.792	905	90.5 %

Note: Responses ranged from strongly agree (1) to strongly disagree (5)

CI = [0.994, 1.703]) than those in the virtual treatment transition group.

4. Discussion

To our knowledge, ours is the first study to examine court clients' perceptions of virtual versus in-person court services and treatment services. Additionally, we compared attitudes between those clients who had experienced a transition from in-person to virtual services versus those clients who had only ever experienced virtual services during their time as a court client. Importantly, we found that clients felt more comfortable participating in virtual court sessions than in-person sessions, but clients were less likely to feel like the judge was familiar with their case during virtual court sessions. From the treatment perspective, clients felt more connected with other group members and reported greater benefit from treatment staff when treatment services were delivered in-person, but clients felt less anxious when treatment groups were virtual. These mixed results for virtual experiences reflect the difficulty in developing human connections using remote technologies, even though virtual experiences may feel more comfortable (e.g., less anxiety-inducing) than in-person experiences. Although more research is needed, these results suggest a potential technological trade-off between increased comfort in attending services and the ability to formulate connections with staff/group members.

Our study findings are useful to consider in the context of telehealth studies involving the general population. Systematic reviews of behavioral health treatment have found comparable efficacy and client satisfaction when this treatment is delivered virtually versus in-person (Hilty et al., 2013; La et al., 2019; Turgoose et al., 2018). Nevertheless, the authors of one systematic review were more confident about the effectiveness of telehealth delivery for individual SUD counseling than for group SUD counseling (Mark et al., 2021). Telehealth group counseling concerns included lower participant engagement, concentration problems, and difficulty forming relationships between group members (Mark et al., 2021). Therefore, courts should encourage partnering treatment providers to actively address engagement, concentration, and

Table 5

Linear regression predicting attitudes toward virtual court and treatment among clients (N = 1000).

Variable	Model 1: Court			Model 2: Treatment				
	B	SE B	β	B	SE B	β		
Age	0.185	0.068	0.080**	–	0.015	0.066	–	0.006
Race (non-White)	–	0.089	0.192	–	0.110	0.186	–	0.018
Gender (female)	–	0.296	0.163	–	0.223	0.157	–	0.041
Barriers (continuous)	–	0.359	0.029	–	0.397	0.028	–	0.398***
Drug treatment court (yes)	–	0.357	0.183	–	0.064	0.398	–	0.071*
Geographic area (rural)	–	0.230	0.186	–	0.082	0.179	–	0.014
Virtual only (yes)	–	0.542	0.177	–	1.349	0.181	–	0.219***
R ²		0.165			0.233			

NOTE: Reference group as indicated in parenthesis.

* *p* < .05.

** *p* < .01.

*** *p* < .001.

relationship problems that may arise in virtual group counseling sessions.

Interestingly, we found that clients who had only ever experienced virtual services (i.e., never experienced in-person services) consistently had more positive attitudes toward virtual services compared to those who had experienced in-person services. This finding held for both court services and treatment services. Our results suggest that the recollection of positive in-person services taints the perception of virtual services; however, our analysis is based on retrospective cross-sectional data requiring clients to answer questions based on recollections, which may not accurately reflect how they felt about in-person services at the time they were delivered. Research has found procedural justice, and in particular impartiality, to be improved with the use of virtual courts by reducing face-to-face interactions, thereby reducing implicit judicial bias from potentially influencing the decision-making process (Mentovich et al., 2019), which might explain some of the results from our study. For clients using virtual treatment courts, reduced judicial bias could have influenced their experiences, and we suggest future research consider this unmeasured but important outcome for virtual treatment courts.

Although our study results suggest positive perceptions of virtual services, we want to stress the digital divide in accessing digital resources and knowledge (Bronzino et al., 2021). Access barriers to court and treatment services are critical to examine and address, particularly as research has previously noted inequalities for marginalized groups, which could be exacerbated by technology requirements (e.g., if certain populations are less likely to have WI-FI access) (Roberts & Mehrotra, 2020). From rescheduling responsibilities, transportation to the court, security procedures to enter, and court etiquette, various forms of social control are produced by the judicial system. As Feeley (1979) famously noted, “the punishment is in the process”. In other words, these forms of social control and invasion are a non-legal extension of clients’ legal sanctions.

To some extent, virtual courts remove some of these punishments. Anecdotal evidence even suggests some courts have started using virtual court as an incentive to reward compliance with court requirements. This study found relatively few technological barriers among respondents, but this might reflect the online nature of the survey. Given that all respondents participated in our study via an online survey, which suggests a certain level of comfort with technology, our sample likely undercounts the level of technology barriers among clients. While the digital divide has precipitously decreased in recent years between those with low and high incomes, persons earning under \$30,000 are less likely to have broadband services in their home, to own a smartphone, or to have multiple devices available to access the Internet—for instance, to readily access virtual services if one device malfunctions or is not charged—relative to their higher earning peers (Vogels, 2021). Thus, more research should seek to understand barriers to these virtual services and whether sociocultural considerations might require tailored

solutions.

To address existing technological barriers, courts and treatment providers could offer tablets with prepaid WI-FI (Wootton et al., 2019), as well as create kiosks in courthouses at which individuals can access the Internet and make video calls. Of note, at least one-quarter of respondents in our study reported a barrier related to family, work, or transportation, and prior research has demonstrated the value of virtual courts overcoming barriers, especially among vulnerable populations (O’Neil & Prescott, 2019). Regression models revealed that these barriers are important predictors of both court and treatment attitudes among virtual clients. Our results suggest that court administrators and staff may be more likely to improve client attitudes toward court and treatment services by decreasing family, work, and transportation barriers than by decreasing technological barriers (e.g., Wi-Fi access). Research should examine how court administrators and staff could decrease family, work, and transportation barriers, but options could include greater flexibility in scheduling appointments, defraying the cost of childcare, and providing bus passes.

Despite timely and novel findings, this study has several limitations that should be noted when considering its results. The survey that we examined was not designed as part of a research study and reflects questions that treatment court practitioners and technical assistance providers had during the time it was administered. This discrepancy is reflected in the sampling procedure, lack of validated survey items, and potential bias in favor of virtual services for those who are already engaged in digital technology (i.e., responding to an online survey). The survey instrument was offered exclusively in English, perhaps limiting our sample to persons who were comfortable reading and writing in English and undercounting clients who may have benefited from the use of translator services in brick-and-mortar court proceedings.

The survey instrument was also not intended to collect information over time nor was it designed specifically for causal inferencing, but rather to collect a cross-section of data on perceptions and attitudes that treatment court clients held about virtual and in-person service delivery. Memories of in-person services may be less accurate due to their chronological distance compared to more recent memories of virtual experiences. Moreover, the virtual only group provides insight into virtual treatment court, which appears to be incredibly well received. Additionally, relative to the national distribution of specialty court participants, respondents in our study were more likely to be white (79 % versus 67 % nationally) and female (42 % versus 32 % nationally) (Strong, 2012). Also, while 33 % of our respondents were from a rural/suburban county and 63 % were from an adult drug court, only 24 % of treatment courts are in a rural county and only 44 % of treatment courts are adult drug courts (Strong, 2012). However, our respondents were similar in age to typical drug court participants (Brown, 2010). Despite these limitations, the survey results give voice to treatment court clients experiencing this new virtual modality.

5. Conclusion

Treatment courts are likely to retain the use of virtual court hearings and virtual treatment in some capacity. The current study suggests that treatment courts can generate positive perceptions among clients when services are held virtually, perhaps due to the reduction in the daily struggles involved in the court system. Virtual services have the potential to increase program accessibility (McGee, 2017), while raising concerns about impacts on client and staff/group engagement, with interaction between client and staff being foundational to the treatment court model (Burns & Peyrot, 2003). Further research should seek to understand how the integration of virtual services among treatment courts impacts clients' outcomes with respect to health and criminal-legal outcomes. Furthermore, our study highlights that although technological barriers are not common among treatment court clients, other barriers, such as childcare, work, and transportation, can negatively impact successful completion of the program. These barriers will require creative, novel solutions with input from court clients. Finally, our study suggests that clients' memories of in-person services may impact their

perceptions of virtual services.

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CRedit authorship contribution statement

TK and KB developed and administered survey and BR conceived and drafted the current study. PH led analysis with BR. BH BAC and MO reviewed analysis and provided writing and edits. All authors provided feedback on writing the final manuscript.

Declaration of competing interest

None.

Appendix A. Participant survey

1. How long have you been in your current court program? For purposes of this question, "court program" means a treatment court (drug court, mental health court, veterans treatment court, DWI court, etc.)
 - a. Less than 3 months
 - b. 3–6 months
 - c. 7–9 months
 - d. 10–11 months
 - e. A year or more
 - f. Prefer not to answer

Court hearings

2. How do you **currently** participate in **court hearings**? For purposes of this question, "virtually" means participating either by phone or by video.
 - a. In person only
 - b. Virtually only [Go to Q4]
 - c. Sometimes in person, and sometimes virtually [go to Q5]
 - d. My court program does not currently hold court hearings
3. [Show this question only if a or d is selected for Q2] Have you attended court hearings **virtually** at any time during your current court program? For purposes of this question, "virtually" means participating either by phone or by video.
 - a. Yes [go to Q5]
 - b. No [skip to treatment section]
4. [Show this question only if b selected for Q2] Have you attended court hearings **in person** at any time during your current court program?
 - a. Yes [go to Q5]
 - b. No [go to Q6]
5. [Asked of participants who have experience with both conditions (in-person and virtual)].
Please indicate your rating for each of the following statements.

Strongly disagree Disagree Neutral Agree Strongly agree

I feel like the judge knows me and my case when court sessions are **IN PERSON**.
 I feel like the judge knows me and my case when court sessions are **VIRTUAL**.
 I can be open and honest with the judge when court sessions are **IN PERSON**.
 I can be open and honest with the judge when court sessions are **VIRTUAL**.
 Based on my experience, I am **NOT** comfortable participating in court sessions when they are **IN PERSON**.
 Based on my experience, I am **NOT** comfortable participating in court sessions when they are **VIRTUAL**.
 I find it helpful to watch the judge talk with other participants when I attend court **IN PERSON**.
 I find it helpful to watch the judge talk with other participants when I attend court **VIRTUALLY**.

6. [Asked participants who only have experience with virtual] . Please indicate your rating for each of the following statements.

Strongly disagree Disagree Neutral Agree Strongly agree

I feel like the judge knows me and my case when court sessions are **VIRTUAL**.
 It is easy for me to connect to **VIRTUAL** court sessions online.
 I can be open and honest with the judge when court sessions are **VIRTUAL**.
 Based on my experience, I am **NOT** comfortable participating in court sessions when they are **VIRTUAL**.
 I find it helpful to watch the judge talk with other participants when I attend court **VIRTUALLY**.

7. Please indicate **how you would like to attend court sessions** in your court program in the future.
 - a. I prefer to attend court **VIRTUALLY** 100 % of the time.
 - b. I prefer to attend court **IN PERSON** 100 % of the time.
 - c. **I prefer a mix of attending court IN PERSON and VIRTUALLY.**
 - d. No preference
 - e. Other (please explain)
8. **[If 7a is selected]** Please select the **top three reasons** why you prefer to attend court **VIRTUALLY**.
 - a. I am more comfortable talking in a virtual setting.
 - b. I am less anxious when I attend virtually.
 - c. It saves me or my loved ones time.
 - d. It saves me or my loved one gas money/transportation costs.
 - e. It makes it easier to work at my job.
 - f. It saves me or my loved ones childcare costs.
 - g. It is easier for my family/loved ones to attend court with me virtually.
 - h. I feel safer being at home during the pandemic.
 - i. Other (please explain)
9. **[If 7b is selected]** Please select the **top three reasons** why you prefer to attend court **IN PERSON**.
 - a. I am more comfortable talking in person.
 - b. I am less anxious when I attend in person.
 - c. I like seeing my peers in person.
 - d. I like seeing the judge in person.
 - e. I like seeing the other court or treatment staff in person.
 - f. I don't feel comfortable with technology.
 - g. I don't have the technology to participate virtually.
 - h. I can't afford the minutes to participate virtually.
 - i. I don't have privacy where I live.
 - j. My Wi-Fi connection is not great.
 - k. I feel disconnected from court when I am participating virtually.
 - l. Other (please explain)

Treatment services

10. How do you **currently** participate in **treatment**? For purposes of this question, "virtually" means participating either by phone or by video.
 - a. In person only
 - b. Virtually only
 - c. Sometimes in person, and sometimes virtually **[go to Q13]**
 - d. My court program does not currently hold treatment groups
11. **[Show this question only if a or d is selected for Q10]** Have you attended treatment groups **virtually** at any time during your current court program? *For purposes of this question, "virtually" means participating either by phone or by video.*
 - a. Yes **[go to Q13]**
 - b. No **[skip to next section]**
12. **[Show this question only if b selected for Q10]** Have you attended treatment groups **in-person** at any time during your current court program?
 - a. Yes **[go to Q13]**
 - b. No **[go to Q14]**
13. **[Asked of participants who have experience with both conditions (in-person and virtual)].**
 Please indicate your rating for each of the following statements.

Strongly disagree Disagree Neutral Agree Strongly agree

I feel like the treatment staff can help me when I participate in treatment groups **IN PERSON**.
 I feel like the treatment staff can help me when I participate in treatment groups **VIRTUALLY**.
 I am **NOT** able to be open and honest in treatment groups when groups are **IN PERSON**.
 I am **NOT** able to be open and honest in treatment groups when groups are **VIRTUAL**.
 I am anxious talking in group when I participate in groups **IN PERSON**.

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(continued)

Strongly disagree Disagree Neutral Agree Strongly agree

- I am anxious talking in group when I participate in groups **VIRTUALLY**.
- I feel connected to other members of my group when treatment is held **IN PERSON**.
- I feel connected to other members of my group when treatment is held **VIRTUALLY**.
- Based on my experience, I believe my privacy is protected when treatment groups are held **IN PERSON**.
- Based on my experience, I believe my privacy is protected when treatment groups are held **VIRTUALLY**.
- I am embarrassed to attend treatment groups when they are held **IN PERSON**.
- I am embarrassed to attend treatment groups when they are held **VIRTUALLY**.

14. [Asked of participants who only have experience with virtual treatment groups].
Please indicate your rating for each of the following statements.

Strongly disagree Disagree Neutral Agree Strongly agree

- I feel like the treatment staff can help me when I participate in treatment groups **VIRTUALLY**.
- I am **NOT** able to be open and honest in treatment groups when groups are **VIRTUAL**.
- I am anxious talking in group when I participate in groups **VIRTUALLY**.
- I feel connected to other members of my group when treatment is held **VIRTUALLY**.
- Based on my experience, I believe my privacy is protected when treatment groups are held **VIRTUALLY**.
- I am embarrassed to attend treatment groups when they are held **VIRTUALLY**.

15. Please indicate **how you would like to attend treatment groups** in your court program in the future.
- a. I prefer to attend treatment **VIRTUALLY** 100 % of the time.
 - b. I prefer to attend treatment **IN PERSON** 100 % of the time.
 - c. **I prefer a mix of attending treatment IN PERSON and VIRTUALLY.**
 - d. No preference
 - e. Other (please explain)
16. If you were attending treatment **one-on-one** and not in group, please indication how you would prefer to attend treatment. (this was added after the fact)
- a. I prefer to attend treatment **VIRTUALLY** 100 % of the time.
 - b. I prefer to attend treatment **IN PERSON** 100 % of the time.
 - c. **I prefer a mix of attending treatment IN PERSON and VIRTUALLY.**
 - d. No preference
 - e. Other (please explain)
17. **[If 15a is selected]** Please select the **top three reasons** why you prefer to attend treatment groups **VIRTUALLY**.
- a. I am more comfortable talking in a virtual setting.
 - b. I am less anxious when I attend virtually.
 - c. It saves me or my loved ones time.
 - d. It saves me or my loved one gas money/transportation costs.
 - e. It makes it easier to work at my job.
 - f. It saves me or my loved ones childcare costs.
 - g. I feel safer being at home during the pandemic.
 - h. Other (please explain)
18. **[If 15b is selected]** Please select the **top three reasons** why you prefer to attend treatment groups **IN-PERSON**.
- a. I am more comfortable talking in-person.
 - b. I am less anxious when I attend in-person.
 - c. I like seeing my peers in-person.
 - d. Online treatment groups are boring.
 - e. I don't feel comfortable with technology.
 - f. I don't have the technology to participate virtually.
 - g. I can't afford the minutes to participate virtually.
 - h. I don't have privacy where I live.
 - i. My Wi-Fi connection is not great.
 - j. I feel disconnected from the program when I am participating virtually.
 - k. Other (please explain)

Community supervision

19. Do you have a **community supervision officer/probation officer** assigned to you **as part of your court program**? Please do not include a probation officer you may for another case in this answer.
- a. Yes

- b. No [skip to next section]
- c. Don't know [skip to next section]
- 20. Where do you **currently** meet with your **community supervision officer/probation officer**? *Please select all that apply.*
 - a. Virtually (phone or video)
 - b. In the community supervision/probation office
 - c. At my home
 - d. At my job
 - e. In court
 - f. I don't have any contact with my community supervision officer/probation officer
 - g. Other (please describe)
- 21. Were you in your current court program **before March 2020**? *For purposes of this question, "court program" means a treatment court (drug court, mental health court, veterans treatment court, DWI court, etc.)*
 - a. Yes [Go to Q21]
 - b. No [Go to Q22]
- 22. **[If Yes to Q20]** Please indicate your rating for each of the following statements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
The contact I had with my probation officer before March 2020 DID NOT help me.					
The contact I currently have with my probation officer DOES NOT help me.					
I felt like I could be open and honest with my probation officer before March 2020 .					
I currently feel like I can be open and honest with my probation officer.					

- 23. **[If No to Q20]** Please indicate your rating for each of the following statements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
The contact I currently have with my probation officer DOES NOT help me.					
I currently feel like I can be open and honest with my probation officer.					

Support from court staff

- 24. Please indicate your rating for each of the following statements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	This is not done in our court
It is helpful when the court staff send text messages to check on me/It would be helpful if the court staff sent text messages to check on me						
It is helpful when the court staff call to check on me/It would be helpful if the court staff called to check on me						
It is helpful when the court staff conduct home visits/It would be helpful if the court staff conducted home visits						

Resources

- 25. How do you connect virtually to court or treatment services in the court program? *Please select all that apply.*
 - a. Phone with audio only (no video)
 - b. Phone with audio and video
 - c. Computer or tablet with audio only (no video)
 - d. Computer or tablet audio and video
- 26. Please indicate your rating for each of the following statements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	N/A
I have the necessary equipment to participate in services virtually .						
I have access to reliable WIFI/internet to participate in services virtually .						
I have a private space to participate in court or treatment virtually .						
I am comfortable using technology to participate in services virtually .						

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	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	N/A
I have transportation issues that make it difficult to attend court and treatment in person .						
I have childcare issues or family responsibility that make it difficult to attend court and treatment in person .						
Working at my job makes it difficult to attend court and treatment in person .						

Pandemic experiences

27. Have you experienced any of the following since the COVID-19 pandemic started (March 2020)? *Please select all that apply.*

-
- Loss of housing
 - Loss of a job or income
 - Increased mental health symptoms (depression/anxiety)
 - Relapse in sobriety
 - Drug overdose
 - Close friend or loved one who experienced a fatal or non-fatal overdose
 - Diagnosed as having COVID-19
 - I have not experienced any of these.
-

28. **[If yes to “relapse in your sobriety” or “overdose” is selected for question above]** In your opinion, were any of the following factors in your relapse? *Please select all that apply.*

- a. Stress due to COVID-19
 - b. Changes in your treatment program
 - c. Changes in community supervision
 - d. Changes in how court is held
 - e. Decreased drug and alcohol testing
 - f. Boredom
 - g. Feeling isolated
 - h. Increased financial stress
 - i. Increased family stress
 - j. Increased cravings for substances
 - k. Other (please explain)
29. If the COVID-19 vaccine was available to you right now at no cost, would you agree to be vaccinated?
- a. Yes
 - b. No
 - c. Don't know
 - d. Prefer not to answer
30. **[Only if “no” to Q28]** What is the main reason that you would not agree to receive a coronavirus/COVID-19 vaccine? *Please select all that apply.*
- a. I am concerned about the rushed timeline
 - b. I don't trust vaccines generally
 - c. I am concerned about whether the vaccine is safe.
 - d. I worry I could get COVID-19 by getting vaccinated for it.
 - e. I had COVID-19 already so I don't feel like I need to get the vaccine
 - f. Other (please describe)
31. Thinking about the COVID-19 vaccine, how much do you agree or disagree with each of the following statements?

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The COVID-19 vaccine ingredients are safe to put into my body.					
The COVID-19 vaccines are coming out so fast because they have not been carefully tested .					
I agree with the message that vaccines are important for people like me who are in the justice system.					
I can relate to the need for a vaccine.					

32. This survey is designed to understand the experience court participants have had during the pandemic. Is there anything else you would like us to know?

Demographics

Finally, we would like to understand a little bit more about you.

33. Please indicate your current age category
- 16 or under
 - 17–18 years old
 - 19–25 years old
 - 26–34 years old
 - 35–44 years old
 - 45–54 years old
 - 55–64 years old
 - 65–74 years old
 - 75+ years old
 - Prefer not to answer
34. Which of the following best identifies your race? *Please check all that apply.*
- American Indian/Alaska Native
 - Asian
 - Black/African American
 - Native Hawaiian/Pacific Islander
 - White/Caucasian
 - Some other race (Specify: TEXT BOX)
 - Prefer not to answer
35. Are you Hispanic or Latino?
- a. Yes
 - b. No
36. What is your gender identity?
- a. Woman
 - b. Man
 - c. Transgender
 - d. Non-binary/non-conforming
 - e. Prefer not to answer

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