

4-2022

## Preferences, Expectations, and Experiences of Online Therapy among College Students during the COVID-19 Pandemic

Emma Armstrong

Follow this and additional works at: [https://repository.lsu.edu/honors\\_etd](https://repository.lsu.edu/honors_etd)



Part of the [Psychology Commons](#)

---

### Recommended Citation

Armstrong, Emma, "Preferences, Expectations, and Experiences of Online Therapy among College Students during the COVID-19 Pandemic" (2022). *Honors Theses*. 108.

[https://repository.lsu.edu/honors\\_etd/108](https://repository.lsu.edu/honors_etd/108)

This Thesis is brought to you for free and open access by the Ogden Honors College at LSU Scholarly Repository. It has been accepted for inclusion in Honors Theses by an authorized administrator of LSU Scholarly Repository. For more information, please contact [ir@lsu.edu](mailto:ir@lsu.edu).

Preferences, Expectations, and Experiences of Online Therapy among College Students during  
the COVID-19 Pandemic

by

Emma Armstrong

Undergraduate honors thesis under the direction of

Dr. Julia Buckner

Department of Psychology

Submitted to the LSU Roger Hadfield Ogden Honors College in partial fulfillment of  
the Upper Division Honors Program.

April, 2022

Louisiana State University  
& Agricultural and Mechanical College  
Baton Rouge, Louisiana

**Preferences, Expectations, and Experiences of Online Therapy among College Students  
during the COVID-19 Pandemic**

Emma K. Armstrong

Louisiana State University

Department of Psychology

### **Abstract**

Anxiety, depression, and suicide have a strong prevalence among college students, and these rates have been increasing for over a decade. Although online therapeutic treatments seem to be as useful as in-person therapy and may be more accessible, college students have traditionally preferred face-to-face therapy. As online therapy became a necessity during the COVID-19 pandemic, therapists reported that their clients had positive experiences with the new modality. The present study aimed to understand college students' preferences and opinions regarding online therapy in the wake of the COVID-19 pandemic. We recruited 300 undergraduate students at Louisiana State University with elevated anxiety, depression, and/or stress to complete a survey assessing their preferences, expectations, and experiences of online therapy. Results indicated that face-to-face therapy was preferred over synchronous and asynchronous online therapy and prescription medication. Synchronous online therapy was the second most preferred treatment type and was superior to asynchronous online therapy across multiple domains. This study is one of the first to statistically compare attitudes towards synchronous and asynchronous online therapy. The credibility, motivation, and helpfulness of a treatment type appear to be especially important qualities to college students and may have influenced these preferences. In addition, experience in weekly online activities or in online therapy predicted greater likelihood of using online therapy in the future. Also, students with experience of both in-person and online therapy did not differ from those with just online therapy experience on ratings of therapeutic alliance or symptom improvement regarding online therapy.

*Keywords:* online therapy, teletherapy, telehealth, college students, anxiety, depression

### **Preferences, Expectations, and Experiences of Online Therapy among College Students during the COVID-19 Pandemic**

College is a time often associated with stress, anxiety, and the prevalence of diagnosable mental disorders. In a survey of almost 14,000 university students from eight different countries, the World Health Organization found a 12-month prevalence of any mental disorder at 31.4% (Auerbach et al., 2018). Major depressive episode had a 12-month prevalence of 18.5%, followed by generalized anxiety disorder (GAD) at 16.7%. The median age of onset for GAD was found to be 14.6 years of age. Other smaller-scale studies have found similar results. A survey of over 2,000 Spanish university students reported a 12-month prevalence of any mental disorder at 35.7% and of any anxiety disorder at 16.6% (Ballester et al., 2020). The median age of onset for anxiety disorders was 16.

Comparisons of mental health among college students with non-student peers or with the wider adult population indicate that college students are not less vulnerable to experiencing mental health problems than other populations. To illustrate, Wiens et al. (2020) found no significant difference between the mental health status of college students and non-student peers. Stallman (2010), however, reported that college students had greater rates of mental health problems than the general population. Regardless of the comparisons, rates of anxiety, depression, and suicidality have been increasing among college students for more than a decade (Duffy et al., 2019). Thus, the number of college students facing mental health issues demands available treatment options.

Due to the rapid increase in availability of technology, online psychotherapy methods have provided new ways to reach clients. Online psychotherapy may be more accessible to students who do not live on campus, have less flexible jobs, or are more frightened of going to

in-person psychotherapy due to fear of stigma. Many studies have been done to test if online methods of psychotherapy are as effective as traditional counseling. Novella et al. (2020) used Solution-Focused Brief Therapy on college students with mild to moderate anxiety and found that synchronous video counseling was just as useful as in-person therapy, although this was not compared to a control condition. Similarly, Stubbings et al. (2013) found no significant difference between in-person and videoconferencing cognitive behavioral therapy (CBT) regarding depression, anxiety, stress, quality of life, working alliance, and client satisfaction. Other studies have examined the effectiveness of asynchronous teletherapy, such as ter Huurne et al. (2015) and Viskovich and Pakenham (2020), who both found asynchronous methods of therapy to produce greater improvement in symptoms than waitlist control conditions (though not compared to in-person treatment). Suranata et al. (2020) compared asynchronous Internet-based CBT with both in-person group CBT and a waitlist control condition and found that both treatment groups experienced improved resilience at post-treatment and follow-up compared to the control condition. The asynchronous treatment, delivered through a module-completion program and involving optional email communication with a therapist, did not differ from the in-person group treatment. Meta-analyses (Barak et al., 2008; Lin et al., 2021) have also shown various forms of teletherapy to be as effective as traditional in-person therapy.

These promising results bring into question whether online therapy affects the relationship between the therapist and the client, which can greatly affect the therapeutic outcome (Cameron et al., 2018; Friedlander et al., 2018; Murphy & Hutton, 2018). Reese et al. (2016) previously tested how empathic accuracy and therapeutic alliance differed among videoconferencing, telephone, and face-to-face methods of counseling. They found no significant difference in empathic accuracy or ratings of the therapeutic alliance between the therapy

methods, suggesting that the therapist and client can have as strong of a therapeutic relationship using online delivery as using traditional delivery. Interestingly, the therapeutic alliance was predicted by the mindset of the clients towards telepsychology, as in positive attitudes towards telepsychology, measured by the Telehealth Attitude Questionnaire, correlated with higher ratings of the therapeutic alliance in the video and phone conditions. This may suggest that some clients may have a harder time beginning online counseling if they have negative beliefs about it, which has implications both for clients beginning therapy in a completely online setting as well as clients who may need to switch to online methods from in-person therapy.

Although online psychotherapy appears to be just as useful as in-person psychotherapy, many college students still have reservations about this delivery method. Students have reported greater levels of discomfort towards online methods, as well as greater levels of self-stigma, which is the individual's negative view upon him- or herself for seeking help (Bird et al., 2020). A study examining treatment preferences among postsecondary students found that students preferred to receive medication as a treatment for anxiety or depression over the use of Internet-delivered cognitive behavior therapy (iCBT), with face-to-face psychotherapy as the most-preferred treatment (Peynenburg et al., 2020). Wong et al. (2018) also found a slight preference for face-to-face counseling over online counseling among university students.

College students are similar to other populations in this regard. Both Dorow et al. (2018) and Soucy and Hadjistavropoulos (2017) reported a preference for traditional psychotherapy over online methods among primary care patients. Musiat et al. (2014) found that a non-clinical sample of adults expected face-to-face treatment to be the most helpful, and helpfulness was rated as the most important aspect of treatment when rank ordering 12 aspects. Unsurprisingly, then, participants were almost twice as likely to use face-to-face therapy as they were to use

web-based intervention. They reported high levels of daily computer and Internet use, but this familiarity did not lead them to prefer web-based treatment. Similarly, Paslakis et al. (2019) reported that few adults of the general population had experience with video-psychotherapy, and few expressed they would use it. Examining the viewpoint of current and future psychologists, Perle et al. (2013) found that 67.4% of these current and future psychologists were accepting of teletherapy, yet the vast majority rejected the idea that it could be as effective as face-to-face methods. Thus, despite the promising qualities of online psychotherapy, it was not the preferred method of treatment pre-pandemic.

Despite preferences for in-person therapy, however, the COVID-19 pandemic has caused a massive shift in how therapy is administered. In response to Stay-At-Home Orders, social distancing, and other mitigation measures, many clients had to switch to online therapy, whether that was their preference or not. This transition from one delivery method of therapy to another has not been studied as rigorously as comparisons between the delivery methods. Although the literature suggests that online therapy may be just as useful as in-person therapy (Barak et al., 2008; Lin et al., 2021), making the transition from one delivery method to another could pose problems for the client's progress, comfort, and relationship with their therapist. Békés and Aafjes-van Doorn (2020) conducted a survey of 145 therapists from North America and Europe on their attitudes about online therapy in the wake of the COVID-19 pandemic. Results indicated that 64.8% discussed with their client the transition to online therapy during the first online session, and 57.2% reported discussing the transition before it occurred. Further, 62.8% perceived their clients had either a somewhat positive or extremely positive experience of online therapy, even though these were clients who transitioned from in-person to online therapy. None reported believing that their clients had an extremely negative experience of online therapy.



Although these results only represent the perceptions of the therapists, these results are promising, suggesting that the transition from one therapy method to another might not pose extreme risks for the client's progress. In addition, discussions between therapists and their clients before or during the first session after the switch to online therapy could soften the potential negative effects of transitioning therapy methods, especially since Reese et al. (2016) found that the client's mindset towards online therapy was predictive of their relationship with the therapist.

This present study aimed to understand how college students with moderate or greater levels of anxiety, depression, or stress perceived therapeutic treatment in light of the COVID-19 pandemic. First, we asked participants to rate the importance of 12 aspects of mental health treatment (e.g., appeal, support, helpfulness) and the likelihood that each treatment modality would meet their expectations of these 12 aspects. We hypothesized that students would rate helpfulness as the most important aspect of therapy, replicating the findings of Musiat et al. (2014); however, in addition to rank ordering the 12 aspects, we extended this work by statistically comparing helpfulness to the other aspects. Also consistent with their findings, we hypothesized that face-to-face treatment would be most likely to meet participants' expectations for the 12 aspects, and we extended prior work by statistically comparing face-to-face therapy with the other treatment modalities. Second, we identified which mode of treatment students preferred, hypothesizing that they would prefer in-person therapy over Internet-based therapy and medication to replicate the results of Peynenburg et al. (2020). We extended this work by distinguishing between synchronous and asynchronous therapy options instead of just Internet-based therapy. Third, we examined students' comfort and experience with telehealth and teletherapy, as well as how many hours per week students spent in online activities. We

predicted that higher numbers of hours spent in online activities would correlate with a greater likelihood to use online therapy in the future and with a greater comfort towards telehealth/teletherapy. We also predicted that students who had received online therapy in the past would report greater comfort with telehealth/teletherapy and greater likelihood to use it. Finally, we proposed two exploratory aims of this study. For the first, we compared ratings of the therapeutic alliance and symptom improvement among students who had previously received either online therapy only or both online and in-person therapy to test whether those with in-person therapy experience rated their alliance or improvement during online therapy as less than those without in-person experience. For the second exploratory aim, we asked participants who switched to online therapy due to the COVID-19 pandemic to answer questions about their attitudes and experiences of online therapy.

## Methods

### Participants and Procedures

Based on the examples of previous surveys of college students regarding various mental health topics (Cleofas, 2020; Peynenburg et al., 2020; Son et al., 2020), we recruited 440 students at Louisiana State University. Participants were recruited through the psychology department's SONA system and received research credit in their psychology courses for participating in the study. Although 440 started the survey, 140 were ineligible due to the following factors: unfinished responses ( $n = 32$ ), possible random responding ( $n = 2$ ), and lack of at least moderate anxiety/depression/stress ( $n = 106$ ). Our final sample included 300 participants aged 18 to 27 ( $M = 19.50$ ,  $SD = 1.61$ ), with 89.3% female participants. First years comprised 43.0% of the sample, second years 18.3%, third years 15.3%, fourth years 18.7%, and other 4.6%. Regarding our inclusion criteria, participants were required to be at least 18 years of age

and to exhibit at least moderate levels of depression, anxiety, or stress according to the Depression Anxiety Stress Scales (DASS-21; Lovibond & Lovibond, 1995). Per these criteria, 71.7% of participants scored at least moderate on the depression scale, 89.0% scored at least moderate on the anxiety scale, and 69.0% scored at least moderate on the stress scale. In addition, 66.3% endorsed a history of psychotherapy ( $n = 199$ ) and 29.0% endorsed a history of online therapy ( $n = 87$ ). Of the 64 who endorsed a history of both online and in-person therapy, 9.4% reported receiving therapy prior to the start of the COVID-19 pandemic, 26.6% after the start of the pandemic, and 64.1% both before and after the start of the pandemic. At the time of completing the survey, 23.3% of the sample was currently in therapy and 31.7% of the sample was currently taking medication for anxiety or other emotional problems.

The survey was delivered electronically using Qualtrics. Prior to beginning the survey, participants provided informed consent. Participants then completed the online survey regarding their preferences, expectations, and experiences of therapy across different treatment modalities, and measures were presented in the same order for all participants. Prior to any data collection, the study received Institutional Review Board approval.

## **Measures**

### ***Demographics Questionnaire***

Participants received a demographics questionnaire to fill out basic demographic information, as well as their current status of receiving therapy or medication.

### ***Infrequency Scale***

To identify responders who provided random or grossly invalid responses, we used an Infrequency Scale (Chapman & Chapman, 1983). This scale uses four true/false questions, which

we scattered throughout the survey. Endorsement of three or more of the items identified the responder as random.

### ***Depression Anxiety Stress Scales (DASS-21)***

The DASS-21 (Lovibond & Lovibond, 1995) was used to screen for moderate levels of depression, anxiety, and/or stress. Each of the 21 items uses a 4-point Likert scale, asking participants to state the extent that each statement applied to them over the past week, such as “I found it hard to wind down.” Ratings may range from 0 “Did not apply to me at all” to 3 “Applied to me very much, or most of the time.” Students scoring 14 or above on the depression scale, 10 or above on the anxiety scale, or 19 or above on the stress scale were coded as having moderate levels of depression, anxiety, or stress, respectively. Each participant only needed to reach a moderate level in one of the three domains to proceed to the rest of the survey. The internal consistency of each subscale of the DASS-21 is high in prior studies (Antony et al., 1998). In addition, each subscale correlated strongly with other measures of depression, anxiety, and stress respectively, such as the Beck Depression Inventory, Beck Anxiety Inventory, and Trait Version of the State Trait Anxiety Inventory.

### ***Mental Health Treatment Expectations***

Using this questionnaire, developed by Musiat et al. (2014), we asked participants to rate 12 aspects of general mental health treatment (e.g., helpfulness, credibility, lack of waiting time, etc.) on a 7-point Likert scale of their importance. Responses could be marked from 0 “not important at all” to 6 “very important.” Next, participants rated four treatment types (i.e., face-to-face therapy, synchronous online therapy, asynchronous online therapy, and prescription medication) according to the level they would meet participants' expectations of the 12 aspects.

This rating used another 7-point scale ranging from 0 “Would not meet my expectations at all” to 6 “Would fully meet my expectations.” These four treatment types were presented in the same order to all participants. Finally, we asked participants to rate the likelihood they would use each of the four treatment types on a 5-point Likert scale, from 0 “Very unlikely” to 3 “Very likely.”

### ***Treatment Preference***

Similar to the preference ranking done by Peynenburg et al. (2020), we asked participants to choose one type of treatment option that they would prefer to receive: face-to-face therapy, synchronous online therapy, asynchronous online therapy, prescription medication, or none of the above.

### ***Telehealth Attitude Questionnaire (TAQ)***

The TAQ (Grubaugh et al., 2008) includes 23 items that assess the participant’s attitudes towards telehealth and telepsychology. For the current study, we changed “telepsychiatry” to “teletherapy” and defined the new term. Participants rated their comfort/confidence in these treatment formats and identified their concerns about them. A total comfort score was calculated to include both telehealth and teletherapy questions (15 items). For Reese et al. (2016), the internal consistency of the TAQ was good.

### ***Online Experience Questionnaire***

Students reported the number of hours per week they spent in online activities, e.g. class, meetings, events, etc., since March 2020, with responses ranging from 0 to 100+ on a sliding scale. Next, they reported how likely they were to use online therapy in the future, using a 5-point Likert scale ranging from 1 (“Very unlikely”) to 5 (“Very likely”). Finally, we asked if their experience with online activities during the pandemic made them more or less likely to use

online therapy in the future, using a 5-point Likert scale with responses ranging from 1 (“Much less likely”) to 5 (“Much more likely”).

### ***Therapy Experience Questionnaire***

This questionnaire asked students to report if they have ever been in therapy, as well as the duration, presenting problem, treatment format, and relation in time to the COVID-19 pandemic. Next, we asked if they transitioned from in-person to online therapy and asked them to rate how well they and their therapists handled the transition, along with an overall transition rating, on a 5-point Likert scale ranging from 1 (“Very poorly”) to 5 (“Very well”).

### ***Unified Theory of Acceptance and Use of Technology (UTAUT), Therapist Version, revised (Modified Client Version)***

These questions have been adapted from the Therapist Version of the UTAUT for client use (Békés et al., 2021; Békés & Aafjes-van Doorn, 2020). Students who endorsed online therapy experience received this questionnaire to rate their agreement with a list of statements, such as “I find online therapy works well for me” and “The quality of online psychotherapy is the same as in-person therapy.” The five rating options ranged from “Strongly Disagree” to “Strongly Agree.” These data were collected for descriptive purposes, to understand students’ experiences of and attitudes towards online therapy.

### ***Working Alliance Inventory – Short Revised (WAI-SR)***

The WAI-SR (Hatcher & Gillaspay, 2006) assesses three aspects of the working alliance as perceived by the therapy client: the therapeutic goal, session tasks, and relational bond with the therapist. The inventory includes 12 items using a 5-point Likert scale from “Seldom” to

“Always.” Internal consistencies for each of the subscales and for the total were high (Hatcher & Gillaspay, 2006).

### *Symptom Improvement*

Using the Clinical Global Impressions Scale (CGI) (Guy, 1976), participants rated how much they believed their symptoms improved overall as a result of online therapy treatment. This scale includes 7 points, ranging from 1 “very much improved” to 7 “very much worse.”

### **Analyses**

Based on the process done by Musiat et al. (2014), to test whether students rated helpfulness as the most important aspect of therapy, we conducted a repeated measures Analysis of Variance (ANOVA) test, with therapeutic qualities as the independent variable (IV) and importance rating as the dependent variable (DV). To test whether face-to-face treatment was most likely to meet their expectations of the 12 therapy aspects, we used a second repeated measures ANOVA, with 4 levels of treatment type as the IV and expectation ratings as the DV. To test if participants rated face-to-face therapy with the highest likelihood of use, we used a third repeated measures ANOVA, with 4 levels of treatment type as the IV and likelihood ratings as the DV. To test our hypothesis that participants would prefer in-person therapy over Internet-based therapy and medication, we compared the frequencies of responses for each treatment type. To explore a possible relationship between the number of hours spent weekly in online activities and (1) the likelihood of using online therapy in the future and (2) greater comfort towards telehealth/teletherapy, we conducted two bivariate correlations. Next, two one-way between subjects ANOVAs were used to examine a possible relationship between endorsement of receiving online therapy (past or present; coded 0 for no online therapy experience or 1 for

online therapy experience) and the following DVs: (1) likelihood of using online therapy in the future and (2) telehealth/teletherapy comfort. For our first exploratory aim, we conducted another one-way between subjects ANOVA to determine if one group of participants (those who received online therapy only, or both online and in-person) reported significantly higher ratings of their therapeutic alliance. We used another one-way between subjects ANOVA to determine if one group reported significantly higher ratings of symptom improvement. Finally, for our second exploratory aim, we used a paired samples t-test to compare how well participants believed they transitioned into online therapy with how well they believed their therapists transitioned.

## **Results**

### **Expectations and Preferences**

Means, standard deviations, and ANOVA comparisons of importance ratings for the 12 aspects of mental health treatment are listed in rank order in Table 1. Counter to our hypothesis, we found that helpfulness was not rated first most important, but instead was rated third most important according to rank ordering. However, when statistically comparing helpfulness to the other aspects, we found that participants rated helpfulness as significantly more important than convenient time, convenient location, feedback, wait, personal support, learning style, appeal, being free of charge, and anonymity, as hypothesized. Counter to hypothesis, helpfulness was not statistically greater than motivation or credibility (Table 1).

Means and standard deviations for expectations by treatment type are presented in Table 2. As predicted, face-to-face therapy was rated as significantly greater than all other treatment types to meet participants' expectations regarding feedback, learning style, appeal, helpfulness, credibility, and motivation (Table 2). Counter to prediction, synchronous online therapy was



rated higher than face-to-face therapy to meet expectations regarding convenient location, wait, being free of charge, convenient time, and anonymity. Through exploratory analyses, we discovered that asynchronous online therapy was rated significantly lower than synchronous online therapy regarding convenient location, feedback, learning style, appeal, helpfulness, wait, personal support, convenient time, credibility, and motivation (Table 3).

Supporting our hypothesis, face-to-face therapy ( $M = 4.15$ ,  $SD = 1.13$ ) was rated with the greatest likelihood of use compared to synchronous online therapy ( $M = 3.53$ ,  $SD = 1.20$ ),  $F(1, 299) = 50.81$ ,  $p < .001$ , asynchronous online therapy ( $M = 2.56$ ,  $SD = 1.31$ ),  $F(1, 299) = 208.08$ ,  $p < .001$ , and prescription medication ( $M = 3.37$ ,  $SD = 1.37$ ),  $F(1, 299) = 67.25$ ,  $p < .001$ . Also as hypothesized, in choosing which type of treatment they would prefer to receive, the majority (65% of participants) chose in-person therapy, followed by synchronous online therapy (16%), prescription medicine (13%), and asynchronous online therapy (6%).

### **Online Experience and Teletherapy**

Participants reported a mean of 24.67 ( $SD = 18.34$ ) hours spent weekly in online activities. As hypothesized, the number of hours spent weekly in online activities was significantly correlated with participants' likelihood to use online therapy in the future,  $r = .14$ ,  $p = .013$ . However, contrary to hypothesis, the number of hours spent weekly in online activities was not correlated with comfort ratings of telehealth/teletherapy,  $r = .09$ ,  $p = .138$ . As predicted, endorsement of online therapy experience was significantly related to self-reported likelihood to use online therapy in the future,  $F(1, 197) = 8.06$ ,  $p = .005$ , such that those with a history of online therapy ( $n = 87$ , 43.72%;  $M = 3.54$ ,  $SD = 1.25$ ) reported that they were significantly more likely to use online therapy in the future than those without ( $n = 112$ , 56.28%;  $M = 3.05$ ,  $SD = 1.16$ ). However, endorsement of online therapy experience was not significantly related to

comfort ratings towards telehealth/teletherapy,  $F(1,197) = .99, p = .320$ , such that the comfort scores of those who had online therapy experience ( $M = 33.51, SD = 10.60$ ) did not differ from those who did not ( $M = 32.03, SD = 10.23$ ).

### **Alliance and Perceived Improvement**

Regarding our first exploratory aim, we identified 87 participants who had previously received either online therapy only ( $n = 23$ ) or both online and in-person therapy ( $n = 64$ ). the type of treatment participants received did not correlate with ratings of the therapeutic alliance regarding their online therapy,  $F(1,85) = .18, p = .674$ , such that those who had received online therapy only ( $M = 44.43, SD = 10.35$ ) did not differ from those who had received both online and in-person therapy ( $M = 45.58, SD = 11.41$ ). Similarly, the type of treatment participants had received (online therapy only or both online and in-person therapy) was not related to their perceived symptom improvement,  $F(1, 85) = .02, p = .904$ , such that those who had received online only ( $M = 5.35, SD = 1.23$ ) did not rate their symptom improvement differently than those who had received both online and in-person ( $M = 5.31, SD = 1.19$ ).

### **Attitudes Towards Experiences of Online Therapy**

For our second exploratory aim, the 87 participants with experience in online therapy (either online only or both online and in-person therapy) rated their agreement with statements about their experience in online therapy. Percentages of responses for all questions are located in Table 4. Noteworthy findings include that 52.8% agreed or strongly agreed that online therapy works well for them. However, 45.9% disagreed or strongly disagreed that the quality of online psychotherapy is the same as in-person therapy, compared to the 27.6% who agreed or strongly agreed that the quality is the same. In addition, 33.3% agreed or strongly agreed that they

intended to use online therapy after the pandemic, while 44.8% disagreed or strongly disagreed. Results were mixed regarding their concern of a weakened relationship with the therapist in online therapy, with 39.1% agreeing to concern and 43.7% disagreeing that this was a concern. Also regarding the online relationship, 58.6% agreed or strongly agreed that they had concerns about communicating their emotions online, but 80.4% believed that their therapist had the professional and technical knowledge necessary for online therapy.

In addition, we identified 32 participants who switched from in-person therapy to online therapy due to the COVID-19 pandemic. These participants rated their therapists' transition into online therapy ( $M = 3.66$ ,  $SD = 1.26$ ) better than their own transition ( $M = 3.16$ ,  $SD = 1.19$ ),  $t(31) = 2.875$ ,  $p = .007$ . They rated their overall experience of transitioning from in-person to online therapy in the neutral range ( $M = 3.19$ ,  $SD = 1.15$ ).

### **Discussion**

Even during and after increases in online/virtual communication use as a result of the COVID-19 pandemic, face-to-face therapy remains the preferred method of mental health treatment, as shown by the 65% of our participants who marked it as such. While many clinicians are transitioning to offer online options of mental health treatment, these results show that, even if the different deliveries are equally as effective (Barak et al., 2008; Lin et al., 2021; Suranata et al., 2020), the majority of clients still prefer face-to-face therapy. These results replicate the findings of previous studies (Dorow et al., 2018; Peynenburg et al., 2020), and thus provide important insight for clinicians considering offering online forms of therapy. After face-to-face therapy, synchronous online therapy was the next most preferred option, with 16% of our participants marking it as such, followed by the 13% who preferred medication and 6% who preferred asynchronous online therapy. Compared to the results of Peynenburg et al. (2020), who

surveyed university students before the COVID-19 pandemic, more of our participants preferred the face-to-face option and less preferred medication or Internet-based treatment. Just as in their study, we found that medication was preferred over asynchronous online therapy, but we extended their work by including synchronous online therapy and found that it was preferred over medication.

Previous research has compared asynchronous online therapy and waitlist control conditions to determine the effectiveness of asynchronous treatments (ter Huurne et al., 2015; Viskovich & Pakenham, 2020), and others have examined participants' preferences for online or face-to-face therapy (Peynenburg et al., 2020; Wong et al., 2018). The current study extends prior investigation by comparing synchronous and asynchronous delivery methods and is one of the first to do so. We have extended the work of Musiat et al. (2014) by statistically comparing participants' expectations of synchronous and asynchronous online therapy. Particularly of note, we found that participants rated asynchronous online therapy as significantly less likely than synchronous online therapy to meet their expectations of convenient location, feedback, learning style, appeal, helpfulness, wait, personal support, convenient time, credibility, and motivation—ten of the twelve aspects we asked about. On no aspects was asynchronous therapy rated superior to synchronous therapy. The beliefs that synchronous online therapy could be more likely than asynchronous to meet these expectations may account for the preference for synchronous therapy to asynchronous therapy in our sample.

Considering the ratings of importance and expectations for the twelve treatment qualities may shed light on why participants have these preferences. In statistically comparing the twelve qualities to expand the research of Musiat et al. (2014), we have found that, consistent with their results, helpfulness was rated as more important than convenient time, convenient location,

feedback, wait, personal support, learning style, appeal, being free of charge, and anonymity. Inconsistent with their findings, however, credibility and motivation were not significantly different from helpfulness. Thus, credibility, motivation, and helpfulness may be especially important aspects of mental health treatment for those potentially in need of it. For all three of these aspects, face-to-face therapy was rated as significantly more likely to meet participants' expectations than synchronous online therapy, asynchronous online therapy, and prescription medication. If participants viewed face-to-face therapy as most likely to meet their expectations of these three most important qualities, then this could have contributed to their overall preference for face-to-face therapy. These findings are in agreement with the research of Soucy and Hadjistavropoulos (2017), who found that participants rated in-person CBT as more credible than both iCBT (asynchronous CBT) and medication. In addition, their sample cited "difficulties adhering due to less accountability" and "lack of confidence in therapist" as reasons for ranking iCBT lower in preference, and these issues may be comparable to motivation and credibility in our study. In addition to helpfulness, credibility, and motivation, we also found that face-to-face therapy was rated superior to all other treatments regarding feedback, learning style, and appeal. Soucy and Hadjistavropoulos (2017) did not examine synchronous online therapy, so we extended their research by examining it in comparison with in-person and asynchronous modalities. We found that synchronous online therapy was superior to face-to-face therapy regarding convenient time, convenient location, wait, being free of charge, and anonymity, and these factors may have contributed to this modality's being the second most preferred option.

Experience in online activities may also affect clients' attitudes towards online therapy. As hypothesized, we found that the number of hours spent weekly in online activities and the endorsement of previous experience in online therapy were both significantly related to greater

likelihood of using online therapy in the future. Previous research has similarly shown that computer literacy had a positive relationship with likelihood to use smartphone apps as a form of mental health treatment (Musiat et al., 2014), and lower computer anxiety was a significant predictor of greater acceptability towards iCBT (Soucy & Hadjistavropoulos, 2017). Contrary to hypotheses, however, we did not find a relationship between weekly online hours and telehealth/teletherapy comfort, nor between online therapy experience and comfort. Although these results could have been impacted by a ceiling effect for comfort scores (i.e., all participants were sufficiently comfortable with telehealth/teletherapy), this explanation does not seem likely since participants' comfort scores ( $M = 32.82$ ,  $SD = 10.44$ ) fell almost exactly near the middle of the questionnaire's range (0-60). Thus, online experience was related to the likelihood of using online therapy in the future but not to telehealth/teletherapy comfort.

Counter to hypotheses, we found that participants who had previously received both online therapy and in-person therapy did not rate their online therapeutic alliance differently than participants who had only received online therapy prior. The same was found for their ratings of perceived symptom improvement. These results may suggest that having in-person therapy experience as a reference point did not lead participants to rate their alliance or improvement in online therapy worse than participants who did not have this reference point. When asking participants with online therapy experience about their concern for a weakened relationship with their therapist in online modalities, we found mixed results. Similarly, 58.6% of this same group endorsed concern with communicating emotions online. Thus, the previously mentioned finding that our participants did not rate their therapeutic alliance differently, along with previous research showing that the therapeutic alliance is equally strong in online therapy (Reese et al., 2016) and that both modalities seem to be equally effective treatments (Barak et al., 2008; Lin et

al., 2021), may help ease some of clients' fears and hesitations about engaging in online treatment.

When comparing therapists' perceptions and clients' perceptions of online therapy in the wake of the COVID-19 pandemic, several notable comparisons exist. Both expressed a concern with connecting emotionally via online therapy, as reported by 40.0% of therapists who endorsed difficulty connecting with their patients (Békés & Aafjes-van Doorn, 2020) and the 58.6% of online therapy experienced participants in our study who endorsed concern about communicating emotions online. Békés and Aafjes-van Doorn (2020) also found that the most frequently endorsed challenge of online therapy for therapists was technical/Internet problems, yet we found that 80.4% of our participants with online therapy experience agreed that their therapist had the professional and technical knowledge necessary for online therapy. Similarly, 77.0% of our sample agreed that the technology needed for online therapy is clear and understandable. Thus, college students seem to view both themselves and their therapists as capable of navigating the technology needed in online therapy. In the research of Békés and Aafjes-van Doorn (2020), 62.8% of the therapists believed their clients had a somewhat positive or extremely positive experience of online therapy, and comparably 52.8% of our online therapy experienced sample agreed or strongly agreed that online therapy works well for them. However, our participants who specifically switched from in-person to online therapy due to the COVID-19 pandemic rated their therapists' transition into online therapy better than their own transition. Perhaps participants' lower self-transition ratings could have been affected by negative attitudes towards online therapy, consistent with Reese et al. (2016)'s finding that more positive attitudes of online therapy predicted a greater therapeutic alliance. Negative attitudes towards online therapy and negative experiences transitioning into it could also have influenced participants' willingness to

use online therapy in the future, since almost half of our online therapy experienced sample disagreed that they intended to use online therapy again in the future. Finally, 45.9% disagreed that the quality of online psychotherapy is the same as in-person therapy, compared to the 27.6% who agreed that the quality is the same. Future research should assess if clients view the quality of online psychotherapy as better or worse than in-person therapy, although our other findings seem to indicate that clients prefer in-person therapy and thus may view its quality as better than that of online therapy.

This study should be considered in light of its limitations. For example, the sample of university students who participated in this study is not representative of the general population, as 89.3% of the sample was female and 77.7% was White. Future research can examine the preferences, attitudes, and expectations of online therapy among older age groups and other racial/ethnic groups. In addition, the population of young adults not attending universities should be examined regarding their attitudes of online therapy. Finally, our sample was not a treatment seeking sample, so these results may not generalize to those actually seeking treatment.

In the wake of the COVID-19 pandemic, college students seem to prefer face-to-face therapy over synchronous and asynchronous online therapy and prescription medication. Synchronous online therapy was the second most preferred treatment type and was superior to asynchronous online therapy across multiple domains of participants' expectations when statistically comparing the two modalities. This study is one of the first to statistically compare perceptions of synchronous and asynchronous online therapy. Although we have found that college students continue to prefer face-to-face therapy in the wake of the COVID-19 pandemic, experience with online therapy or weekly online activities may increase the likelihood of students' using online therapy in the future.



## References

- Antony, M. M., Bieling, P. J., Cox, B. J., Enns, M. W., & Swinson, R. P. (1998). Psychometric properties of the 42-item and 21-item versions of the Depression Anxiety Stress Scales in clinical groups and a community sample. *Psychological Assessment, 10*(2), 176–181. <https://doi-org.libezp.lib.lsu.edu/10.1037/1040-3590.10.2.176>
- Auerbach, R. P., Mortier, P., Bruffaerts, R., Alonso, J., Benjet, C., Cuijpers, P., Demyttenaere, K., Ebert, D. D., Green, J. G., Hasking, P., Murray, E., Nock, M. K., Pinder-Amaker, S., Sampson, N. A., Stein, D. J., Vilagut, G., Zaslavsky, A. M., & Kessler, R. C. (2018). WHO World Mental Health Surveys International College Student Project: Prevalence and distribution of mental disorders. *Journal of Abnormal Psychology, 127*(7), 623–638. <https://doi-org.libezp.lib.lsu.edu/10.1037/abn0000362.supp> (Supplemental)
- Ballester, L., Alayo, I., Vilagut, G., Almenara, J., Cebrià, A. I., Echeburúa, E., Gabilondo, A., Gili, M., Lagares, C., Piqueras, J. A., Roca, M., Soto-Sanz, V., Blasco, M. J., Castellví, P., Mortier, P., Bruffaerts, R., Auerbach, R. P., Nock, M. K., Kessler, R. C., & Jordi, A. (2020). Mental disorders in Spanish university students: Prevalence, age-of-onset, severe role impairment and mental health treatment. *Journal of Affective Disorders, 273*, 604–613. <https://doi-org.libezp.lib.lsu.edu/10.1016/j.jad.2020.04.050>
- Barak, A., Hen, L., Boniel-Nissim, M., & Shapira, N. (2008). A comprehensive review and a meta-analysis of the effectiveness of Internet-based psychotherapeutic interventions. *Journal of Technology in Human Services, 26*(2–4), 109–160. <https://doi-org.libezp.lib.lsu.edu/10.1080/15228830802094429>

- Békés, V., & Aafjes-van Doorn, K. (2020). Psychotherapists' attitudes toward online therapy during the COVID-19 pandemic. *Journal of Psychotherapy Integration, 30*(2), 238–247. <https://doi-org.libezp.lib.lsu.edu/10.1037/int0000214>
- Békés, V., Aafjes, van D. K., McCollum, J., Prout, T. R., & Hoffman, L. (2021). The development of a self-report scale to assess therapists' acceptance of telepsychotherapy. *Journal of Clinical Psychology*. <https://doi-org.libezp.lib.lsu.edu/10.1002/jclp.23289>
- Bird, M. D., Chow, G. M., & Yang, Y. (2020). College students' attitudes, stigma, and intentions toward seeking online and face-to-face counseling. *Journal of Clinical Psychology, 76*(9), 1775–1790. <https://doi-org.libezp.lib.lsu.edu/10.1002/jclp.22956>
- Cameron, S. K., Rodgers, J., & Dagnan, D. (2018). The relationship between the therapeutic alliance and clinical outcomes in cognitive behaviour therapy for adults with depression: A meta-analytic review. *Clinical Psychology & Psychotherapy, 25*(3), 446–456. <https://doi-org.libezp.lib.lsu.edu/10.1002/cpp.2180>
- Chapman, L.J., & Chapman, J.P. (1983). *Infrequency scale*. Madison, WI: Unpublished test
- Cleofas, J. V. (2020). Student involvement, mental health and quality of life of college students in a selected university in Manila, Philippines. *International Journal of Adolescence and Youth, 25*(1), 435–447. <https://doi-org.libezp.lib.lsu.edu/10.1080/02673843.2019.1670683>
- Dorow, M., Löbner, M., Pabst, A., Stein, J., & Riedel-Heller, S. G. (2018). Preferences for depression treatment including internet-based interventions: Results from a large sample

- of primary care patients. *Frontiers in Psychiatry*, 9. <https://doi-org.libezp.lib.lsu.edu/10.3389/fpsyt.2018.00181>
- Duffy, M. E., Twenge, J. M., & Joiner, T. E. (2019). Trends in mood and anxiety symptoms and suicide-related outcomes among US undergraduates, 2007–2018: Evidence from two national surveys. *Journal of Adolescent Health*, 65(5), 590–598. <https://doi-org.libezp.lib.lsu.edu/10.1016/j.jadohealth.2019.04.033>
- Friedlander, M. L., Escudero, V., Welmers-van de Poll, M. J., & Heatherington, L. (2018). Meta-analysis of the alliance–outcome relation in couple and family therapy. *Psychotherapy*, 55(4), 356–371. <https://doi-org.libezp.lib.lsu.edu/10.1037/pst0000161>
- Grubaugh, A. L., Cain, G. D., Elhai, J. D., Patrick, S. L., & Frueh, B. C. (2008). Attitudes toward medical and mental health care delivered via telehealth applications among rural and urban primary care patients. *Journal of Nervous and Mental Disease*, 196(2), 166–170. <https://doi-org.libezp.lib.lsu.edu/10.1097/NMD.0b013e318162aa2d>
- Guy, W. (Ed.). (1976) *ECDEU Assessment Manual for Psychopharmacology*. US Department of Health, Education, and Welfare Public Health Service: Alcohol, Drug Abuse, and Mental Health Administration. [https://scholar.google.com/scholar\\_lookup?title=ECDEU+Assessment+Manual+for+Psychopharmacology&publication\\_year=1976&](https://scholar.google.com/scholar_lookup?title=ECDEU+Assessment+Manual+for+Psychopharmacology&publication_year=1976&)
- Hatcher, R. L., & Gillaspay, J. A. (2006). Development and validation of a revised short version of the Working Alliance Inventory. *Psychotherapy Research*, 16(1), 12–25. <https://doi-org.libezp.lib.lsu.edu/10.1080/10503300500352500>

- Lin, T., Heckman, T. G., & Anderson, T. (2021). The efficacy of synchronous teletherapy versus in-person therapy: A meta-analysis of randomized clinical trials. *Clinical Psychology: Science and Practice*. <https://doi-org.libezp.lib.lsu.edu/10.1037/cps0000056.supp> (Supplemental)
- Lovibond, S.H. & Lovibond, P.F. (1995). *Manual for the Depression Anxiety Stress Scales*. (2nd. Ed.) Sydney: Psychology Foundation of Australia.
- Murphy, R., & Hutton, P. (2018). Practitioner review: Therapist variability, patient-reported therapeutic alliance, and clinical outcomes in adolescents undergoing mental health treatment – A systematic review and meta-analysis. *Journal of Child Psychology and Psychiatry*, 59(1), 5–19. <https://doi-org.libezp.lib.lsu.edu/10.1111/jcpp.12767>
- Musiat, P., Goldstone, P., & Tarriner, N. (2014). Understanding the acceptability of e-mental health - attitudes and expectations towards computerised self-help treatments for mental health problems. *BMC Psychiatry*, 14. <https://doi-org.libezp.lib.lsu.edu/10.1186/1471-244X-14-109>
- Novella, J. K., Ng, K.-M., & Samuolis, J. (2020). A comparison of online and in-person counseling outcomes using solution-focused brief therapy for college students with anxiety. *Journal of American College Health*. <https://doi-org.libezp.lib.lsu.edu/10.1080/07448481.2020.1786101>
- Paslakis, G., Fischer-Jacobs, J., Pape, L., Schiffer, M., Gertges, R., Tegtbur, U., Zimmermann, T., Nöhre, M., & de Zwaan, M. (2019). Assessment of use and preferences regarding internet-based health care delivery: Cross-sectional questionnaire study. *Journal of Medical Internet Research*, 21(5). <https://doi-org.libezp.lib.lsu.edu/10.2196/12416>

- Perle, J. G., Langsam, L. C., Randel, A., Lutchman, S., Levine, A. B., Odland, A. P., Nierenberg, B., & Marker, C. D. (2013). Attitudes toward psychological telehealth: Current and future clinical psychologists' opinions of Internet-based interventions. *Journal of Clinical Psychology, 69*(1), 100–113. <https://doi-org.libezp.lib.lsu.edu/10.1002/jclp.21912>
- Peynenburg, V. A., Mehta, S., & Hadjistavropoulos, H. D. (2020). Postsecondary student perceptions and preferences for the treatment of depression and anxiety: Comparison of internet-delivered cognitive behaviour therapy to face-to-face cognitive behaviour therapy and medication. *Canadian Journal of Behavioural Science / Revue Canadienne Des Sciences Du Comportement, 52*(3), 220–230. <https://doi-org.libezp.lib.lsu.edu/10.1037/cbs0000165.supp> (Supplemental)
- Reese, R. J., Mecham, M. R., Vasilj, I., Lengerich, A. J., Brown, H. M., Simpson, N. B., & Newsome, B. D. (2016). The effects of telepsychology format on empathic accuracy and the therapeutic alliance: An analogue counselling session. *Counselling and Psychotherapy Research, 16*(4), 256-265. doi:10.1002/capr.12092
- Son, C., Hegde, S., Smith, A., Wang, X., & Sasangohar, F. (2020). Effects of COVID-19 on college students' mental health in the United States: Interview survey study. *Journal of Medical Internet Research, 22*(9). <https://doi-org.libezp.lib.lsu.edu/10.2196/21279>
- Soucy, J. N., & Hadjistavropoulos, H. D. (2017). Treatment acceptability and preferences for managing severe health anxiety: Perceptions of internet-delivered cognitive behaviour therapy among primary care patients. *Journal of Behavior Therapy and Experimental Psychiatry, 57*, 14–24. <https://doi-org.libezp.lib.lsu.edu/10.1016/j.jbtep.2017.02.002>

- Stallman, H. M. (2010). Psychological distress in university students: A comparison with general population data. *Australian Psychologist, 45*(4), 249–257. <https://doi-org.libezp.lib.lsu.edu/10.1080/00050067.2010.482109>
- Stubbings, D. R., Rees, C. S., Roberts, L. D., & Kane, R. T. (2013). Comparing in-person to videoconference-based cognitive behavioral therapy for mood and anxiety disorders: Randomized controlled trial. *Journal of Medical Internet Research, 15*(11), 169–184. <https://doi-org.libezp.lib.lsu.edu/10.2196/jmir.2564>
- Suranata, K., Rangka, I. B., & Permana, A. A. J. (2020). The comparative effect of Internet-based cognitive behavioral counseling versus face to face cognitive behavioral counseling in terms of student's resilience. *Cogent Psychology, 7*(1). <https://doi-org.libezp.lib.lsu.edu/10.1080/23311908.2020.1751022>
- ter Huurne, E. D., de Haan, H. A., Postel, M. G., van der Palen, J., VanDerNagel, J. E. L., & DeJong, C. A. J. (2015). Web-based cognitive behavioral therapy for female patients with eating disorders: Randomized controlled trial. *Journal of Medical Internet Research, 17*(6). <https://doi-org.libezp.lib.lsu.edu/10.2196/jmir.3946>
- Viskovich, S., & Pakenham, K. I. (2020). Randomized controlled trial of a web-based acceptance and commitment therapy (ACT) program to promote mental health in university students. *Journal of Clinical Psychology, 76*(6), 929–951. <https://doi-org.libezp.lib.lsu.edu/10.1002/jclp.22848>
- Wiens, K., Bhattarai, A., Dores, A., Pedram, P., Williams, J. V. A., Bulloch, A. G. M., & Patten, S. B. (2020). Mental health among Canadian postsecondary students: A mental health

crisis? *The Canadian Journal of Psychiatry / La Revue Canadienne de Psychiatrie*, 65(1), 30–35. <https://doi-org.libezp.lib.lsu.edu/10.1177/0706743719874178>

Wong, K. P., Bonn, G., Tam, C. L., & Wong, C. P. (2018). Preferences for online and/or face-to-face counseling among university students in Malaysia. *Frontiers in Psychology*, 9. <https://doi-org.libezp.lib.lsu.edu/10.3389/fpsyg.2018.00064>

Table 1

*Importance ratings of twelve aspects of mental health treatment, listed in rank order, and statistically compared to helpfulness.*

Treatment Aspect	Importance	Comparison to Helpfulness	
	<i>M (SD)</i>	<i>F(1,299)</i>	<i>p</i>
Credibility	5.41 (1.13)	.54	.464
Motivation	5.38 (1.18)	.09	.767
Helpfulness	5.37 (1.12)	-	-
Convenient time	<b>5.07 (1.20)</b>	<b>23.32</b>	<b>&lt;.001</b>
Convenient location	<b>5.07 (1.22)</b>	<b>19.61</b>	<b>&lt;.001</b>
Feedback	<b>5.07 (1.22)</b>	<b>23.45</b>	<b>&lt;.001</b>
Wait	<b>4.95 (1.36)</b>	<b>31.10</b>	<b>&lt;.001</b>
Personal support	<b>4.70 (1.46)</b>	<b>83.09</b>	<b>&lt;.001</b>
Learning style	<b>4.61 (1.41)</b>	<b>123.04</b>	<b>&lt;.001</b>
Appeal	<b>4.50 (1.57)</b>	<b>119.52</b>	<b>&lt;.001</b>
Free of charge	<b>4.12 (1.72)</b>	<b>130.81</b>	<b>&lt;.001</b>
Anonymity	<b>3.78 (1.80)</b>	<b>210.6</b>	<b>&lt;.001</b>

*Note.* Scores significantly different from helpfulness are presented in bold.



Table 2

*Comparisons of face-to-face therapy with other treatment types on whether each type would meet expectations for 12 therapeutic qualities.*

	Face-to-face <i>M (SD)</i>	Other treatment type <i>M (SD)</i>	<i>F</i> (1,299)	<i>p</i>	Partial $\eta^2$
Helpfulness					
Face-to-face therapy vs synchronous online therapy	<b>5.25 (1.11)</b>	<b>4.77 (1.58)</b>	<b>31.96</b>	<b>&lt;.001</b>	<b>.097</b>
Face-to-face therapy vs asynchronous online therapy	<b>5.25 (1.11)</b>	<b>3.44 (2.16)</b>	<b>207.53</b>	<b>&lt;.001</b>	<b>.410</b>
Face-to-face therapy vs medication	<b>5.25 (1.11)</b>	<b>4.48 (1.84)</b>	<b>55.71</b>	<b>&lt;.001</b>	<b>.157</b>
Convenient location					
Face-to-face therapy vs synchronous online therapy	<b>4.64 (1.51)</b>	<b>4.92 (1.52)</b>	<b>7.31</b>	<b>.007</b>	<b>.024</b>
Face-to-face therapy vs asynchronous online therapy	<b>4.64 (1.51)</b>	<b>4.29 (1.96)</b>	<b>7.55</b>	<b>.006</b>	<b>.025</b>
Face-to-face therapy vs medication	<b>4.64 (1.51)</b>	<b>4.32 (1.81)</b>	<b>7.93</b>	<b>.005</b>	<b>.026</b>
Feedback					
Face-to-face therapy vs synchronous online therapy	<b>5.04 (1.25)</b>	<b>4.87 (1.44)</b>	<b>5.67</b>	<b>.018</b>	<b>.019</b>

Face-to-face therapy vs asynchronous online therapy	<b>5.04 (1.25)</b>	<b>3.86 (2.03)</b>	<b>92.29</b>	<b>&lt;.001</b>	<b>.236</b>
Face-to-face therapy vs medication	<b>5.04 (1.25)</b>	<b>3.35 (2.21)</b>	<b>157.16</b>	<b>&lt;.001</b>	<b>.345</b>
Learning style					
Face-to-face therapy vs synchronous online therapy	<b>4.83 (1.36)</b>	<b>4.03 (1.80)</b>	<b>65.09</b>	<b>&lt;.001</b>	<b>.179</b>
Face-to-face therapy vs asynchronous online therapy	<b>4.83 (1.36)</b>	<b>3.15 (2.15)</b>	<b>158.97</b>	<b>&lt;.001</b>	<b>.347</b>
Face-to-face therapy vs medication	<b>4.83 (1.36)</b>	<b>3.29 (2.12)</b>	<b>144.71</b>	<b>&lt;.001</b>	<b>.326</b>
Appeal					
Face-to-face therapy vs synchronous online therapy	<b>4.84 (1.40)</b>	<b>4.01 (1.88)</b>	<b>47.56</b>	<b>&lt;.001</b>	<b>.137</b>
Face-to-face therapy vs asynchronous online therapy	<b>4.84 (1.40)</b>	<b>3.01 (2.15)</b>	<b>165.82</b>	<b>&lt;.001</b>	<b>.357</b>
Face-to-face therapy vs medication	<b>4.84 (1.40)</b>	<b>3.99 (2.04)</b>	<b>51.53</b>	<b>&lt;.001</b>	<b>.147</b>
Wait					
Face-to-face therapy vs synchronous online therapy	<b>4.55 (1.63)</b>	<b>4.82 (1.47)</b>	<b>8.50</b>	<b>.004</b>	<b>.028</b>

Face-to-face therapy vs asynchronous online therapy	<b>4.55 (1.63)</b>	<b>4.06 (2.02)</b>	<b>13.14</b>	<b>&lt;.001</b>	<b>.042</b>
Face-to-face therapy vs medication	<b>4.55 (1.63)</b>	<b>4.19 (1.93)</b>	<b>9.39</b>	<b>.002</b>	<b>.030</b>
Free of charge					
Face-to-face therapy vs synchronous online therapy	<b>3.77 (1.99)</b>	<b>4.05 (1.95)</b>	<b>9.45</b>	<b>.002</b>	<b>.031</b>
Face-to-face therapy vs asynchronous online therapy	3.77 (1.99)	3.94 (2.04)	2.18	.141	.007
Face-to-face therapy vs medication	<b>3.77 (1.99)</b>	<b>3.33 (2.25)</b>	<b>14.21</b>	<b>&lt;.001</b>	<b>.045</b>
Personal support					
Face-to-face therapy vs synchronous online therapy	4.89 (1.44)	4.90 (1.45)	.01	.908	.000
Face-to-face therapy vs asynchronous online therapy	<b>4.89 (1.44)</b>	<b>3.53 (2.14)</b>	<b>109.86</b>	<b>&lt;.001</b>	<b>.269</b>
Face-to-face therapy vs medication	<b>4.89 (1.44)</b>	<b>3.27 (2.27)</b>	<b>134.98</b>	<b>&lt;.001</b>	<b>.311</b>
Convenient time					
Face-to-face therapy vs synchronous online therapy	<b>4.72 (1.48)</b>	<b>4.98 (1.41)</b>	<b>8.43</b>	<b>.004</b>	<b>.027</b>

Face-to-face therapy vs asynchronous online therapy	<b>4.72 (1.48)</b>	<b>4.29 (1.94)</b>	<b>10.87</b>	<b>.001</b>	<b>.035</b>
Face-to-face therapy vs medication	<b>4.72 (1.48)</b>	<b>4.34 (1.83)</b>	<b>11.08</b>	<b>&lt;.001</b>	<b>.036</b>
<hr/> Credibility <hr/>					
Face-to-face therapy vs synchronous online therapy	<b>5.30 (1.20)</b>	<b>4.45 (1.69)</b>	<b>97.88</b>	<b>&lt;.001</b>	<b>.247</b>
Face-to-face therapy vs asynchronous online therapy	<b>5.30 (1.20)</b>	<b>3.48 (2.10)</b>	<b>204.59</b>	<b>&lt;.001</b>	<b>.406</b>
Face-to-face therapy vs medication	<b>5.30 (1.20)</b>	<b>4.69 (1.72)</b>	<b>41.14</b>	<b>&lt;.001</b>	<b>.121</b>
<hr/> Anonymity <hr/>					
Face-to-face therapy vs synchronous online therapy	<b>3.61 (2.07)</b>	<b>3.93 (1.91)</b>	<b>7.95</b>	<b>.005</b>	<b>.026</b>
Face-to-face therapy vs asynchronous online therapy	3.61 (2.07)	3.91 (2.03)	3.72	.055	.012
Face-to-face therapy vs medication	<b>3.61 (2.07)</b>	<b>3.07 (2.16)</b>	<b>18.36</b>	<b>&lt;.001</b>	<b>.058</b>
<hr/> Motivation <hr/>					
Face-to-face therapy vs synchronous online therapy	<b>5.30 (1.12)</b>	<b>4.68 (1.58)</b>	<b>51.57</b>	<b>&lt;.001</b>	<b>.147</b>

Face-to-face therapy vs asynchronous online therapy	<b>5.30 (1.12)</b>	<b>3.66 (2.19)</b>	<b>165.57</b>	<b>&lt;.001</b>	<b>.356</b>
Face-to-face therapy vs medication	<b>5.30 (1.12)</b>	<b>4.04 (2.01)</b>	<b>115.81</b>	<b>&lt;.001</b>	<b>.279</b>

---

*Note.* Significant differences in which face-to-face therapy was higher are presented in bold.

Significant differences in which synchronous online therapy was higher than face-to-face therapy are presented in bold italics.

Table 3

*Synchronous and asynchronous online therapy compared on whether each type met participants' expectations of 12 therapeutic qualities.*

	Synchronous online therapy <i>M (SD)</i>	Asynchronous online therapy <i>M (SD)</i>	<i>F</i> (1,299)	<i>p</i>	Partial <i>eta</i> <sup>2</sup>
Helpfulness	<b>4.77 (1.58)</b>	<b>3.44 (2.16)</b>	<b>152.94</b>	<b>&lt; .001</b>	<b>.338</b>
Location	<b>4.92 (1.52)</b>	<b>4.29 (1.96)</b>	<b>42.39</b>	<b>&lt;.001</b>	<b>.124</b>
Feedback	<b>4.87 (1.44)</b>	<b>3.86 (2.03)</b>	<b>91.304</b>	<b>&lt;.001</b>	<b>.234</b>
Learning Style	<b>4.03 (1.80)</b>	<b>3.15 (2.15)</b>	<b>60.84</b>	<b>&lt;.001</b>	<b>.169</b>
Appeal	<b>4.01 (1.88)</b>	<b>3.01 (2.15)</b>	<b>76.80</b>	<b>&lt;.001</b>	<b>.204</b>
Wait	<b>4.82 (1.47)</b>	<b>4.06 (2.02)</b>	<b>51.36</b>	<b>&lt;.001</b>	<b>.147</b>
Free of Charge	4.05 (1.95)	3.94 (2.04)	1.41	.235	.005
Support	<b>4.90 (1.45)</b>	<b>3.53 (2.14)</b>	<b>136.25</b>	<b>&lt;.001</b>	<b>.313</b>
Convenient Time	<b>4.98 (1.41)</b>	<b>4.29 (1.94)</b>	<b>45.57</b>	<b>&lt;.001</b>	<b>.132</b>
Credibility	<b>4.45 (1.69)</b>	<b>3.48 (2.10)</b>	<b>81.73</b>	<b>&lt;.001</b>	<b>.215</b>
Anonymity	3.93 (1.91)	3.91 (2.03)	.03	.871	.000
Motivation	<b>4.68 (1.58)</b>	<b>3.66 (2.19)</b>	<b>92.41</b>	<b>&lt;.001</b>	<b>.236</b>

*Note.* Significant differences are presented in bold.

Table 4

*Responses to the Unified Theory of Acceptance and Use of Technology (UTAUT) (Modified Client Version, adapted from the Revised Therapist Version) by participants with online therapy experience, listed as percentages endorsed for each item.*

	Strongly			Strongly	
	Disagree	Disagree	Neutral	Agree	Agree
I find that online therapy works well for me.	9.2	16.1	21.8	35.6	17.2
The quality of online psychotherapy is the same as in-person therapy.	12.6	33.3	26.4	16.1	11.5
Using online therapy saves me time and/or money.	3.4	9.2	18.4	43.7	25.3
People who influence me think that I should use online therapy.	18.4	24.1	39.1	13.8	4.6
I am concerned that online therapy will weaken my relationship with my therapist.	13.8	29.9	17.2	29.9	9.2
I find using online therapy easy.	0	11.5	14.9	41.4	32.2
I intend to use online therapy after the end of the pandemic.	21.8	23.0	21.8	14.9	18.4
My family is supportive of online therapy.	2.3	4.6	25.3	43.7	24.1

I am concerned whether we can communicate emotions online.	5.7	23.0	12.6	37.9	20.7
A specific person/group is available to help me if I have difficulties with online therapy.	4.6	21.8	33.3	23.0	17.2
I plan to use online therapy after the end of the pandemic.	18.4	21.8	28.7	12.6	18.4
I feel apprehensive about using online therapy.	17.2	24.1	28.7	21.8	8.0
Using the technology needed for online therapy is clear and understandable.	1.1	4.6	17.2	41.4	35.6
Attending appointments online is more convenient.	0.0	8.0	20.7	41.4	29.9
It is easy to learn how to engage in online therapy.	4.6	18.4	21.8	32.2	23.0
I enjoy doing online therapy.	12.6	18.4	28.7	23.0	17.2
People who are important to me think that I should do online therapy.	10.3	17.2	41.4	21.8	9.2
Using online therapy is a good idea.	3.4	8.0	37.9	33.3	17.2
I hesitate to use online therapy due to concerns about my safety.	32.2	48.3	10.3	6.9	2.3



My therapist has the professional and technical knowledge necessary to do online therapy.	2.3	2.3	14.9	44.8	35.6
Online therapy is not compatible with the way I generally receive treatment.	12.6	32.2	23.0	19.5	12.6
My peers and friends are supportive of online therapy.	0.0	1.1	28.7	43.7	26.4
It scares me that I cannot receive as much confidentiality in online as in in-person therapies.	18.4	31.0	20.7	21.8	8.0
Online therapy is somewhat intimidating for me.	16.1	33.3	18.4	20.7	11.5

---