“Venciendo la Depresión:” A Feasibility Study of Telehealth-Delivered Behavioral Activation for Depressed Spanish-Speaking Latinxs

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

by

Francisco A. Reinosa Segovia

Lorraine T. Benuto, Ph.D./Dissertation Advisor

May 2023
THE GRADUATE SCHOOL

We recommend that the dissertation prepared under our supervision by

FRANCISCO A. REINOSA SEGOVIA

entitled

“Venciendo la Depresión:” A Feasibility Study of Telehealth-Delivered Behavioral Activation for Depressed Spanish-Speaking Latinxs

be accepted in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Lorraine T. Benuto, Ph.D., Advisor

Melanie Duckworth, Ph.D., Committee Member

Jane Fisher, Ph.D., Committee Member

William O’Donohue, Ph.D., Committee Member

Julie Lucero, Ph.D., Committee Member

Gideon Caplovitz, Ph.D., Committee Member

Marian Berryhill, Graduate School Representative

Markus Kemmelmeier, Ph.D., Dean, Graduate School

May 2023
Abstract

Although Latinxs are substantially impacted by depression, they tend to underutilize behavioral health services. The research literature has documented barriers (e.g., stigma, limited English proficiency, and lack of transportation) contributing to the underutilization of behavioral health services among Spanish-speaking Latinxs (SSLs). Telehealth can be broadly defined as the provision of healthcare information and services through the use of telecommunications technology. Behavioral Activation (BA) has well established empirical support for reducing symptoms of depression among ethnic minority groups. The unprecedented challenges associated with accessing in-person behavioral health services during the COVID-19 pandemic have underscored the need to examine alternate methods for treatment delivery. Thus, the proposed study aimed to conduct a feasibility study to determine the viability of telehealth-delivered BA for SSLs. Twenty-five SSL participants met eligibility criteria and were enrolled in the intervention and 17 participants completed treatment; the majority of participants experienced significant improvements in depressive symptoms, and positive affect. These treatment gains were sustained at one-month follow-up. Our data indicated that the majority of participants had never used telehealth-delivered services in the past, yet they viewed the intervention as acceptable and easy to use. Qualitative data highlighted positive and negative experiences while receiving the intervention via telehealth that can be used to inform future research. The present study offers promising preliminary data to support the acceptability, feasibility, and efficacy of telehealth-delivered BA, with the potential to lessen barriers to care by offering readily accessible behavioral health services for depressed individuals in underserved communities.
Acknowledgments

I am grateful to each one of the members in my dissertation committee for having provided guidance in the development and refinement of this project. I am particularly grateful for all the support, guidance, and encouragement from my primary advisor and chair of this project, Dr. Lorraine T. Benuto. She has been continuously kind, attentive, compassionate, and indispensable throughout my journey in graduate school, as well as the completion of this project.

This work would not have been possible without the dedicated efforts of all the community members in the Washoe County area. More specifically, the assistance of community leaders within the Latinx communities was essential for the completion of this project. I will be forever grateful for the opportunities to meet and work collaboratively with all of these members.

Additionally, I wish to thank my partner and son, as well as my family for their continued patience, love, and support over the years. Everlyn and Gael, thank you for all of your unconditional love and support. I am truly grateful for having had you by my side through the good and challenging times.

Finally, I would like to dedicate this project to all the hardworking and determined Latinxs who continue being resilient despite adversities; you were the main source of inspiration and motivation for this project. ¡Siempre para adelante!
Table of Contents

Abstract ......................................................................................................................... i

Acknowledgements ...................................................................................................... ii

Table of Contents ........................................................................................................ iii

List of Tables ................................................................................................................ iv

List of Figures ............................................................................................................... v

Chapter 1: Introduction .............................................................................................. 1

Chapter 2: Review of the Literature ........................................................................... 10

Chapter 3: Methodology ............................................................................................ 23

Chapter 4: Results ....................................................................................................... 36

Chapter 5: Discussion ................................................................................................. 51

References ..................................................................................................................... 69
### List of Tables

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Participant Characteristics</td>
<td>26</td>
</tr>
<tr>
<td>2. Schedule of Assessment Measures</td>
<td>31</td>
</tr>
<tr>
<td>3. BATD-R Manual Overview</td>
<td>32</td>
</tr>
<tr>
<td>4. Usefulness and Previous Usage of Telehealth Services</td>
<td>37</td>
</tr>
<tr>
<td>5. Perceived Ease of Use of Telehealth Services</td>
<td>37</td>
</tr>
<tr>
<td>6. Acceptability of Telehealth Services</td>
<td>40</td>
</tr>
<tr>
<td>7. PUEQ Descriptive Statistics</td>
<td>40</td>
</tr>
<tr>
<td>8. General Qualitative Results</td>
<td>43</td>
</tr>
</tbody>
</table>
## List of Figures

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Technology Acceptance Model (TAM)</td>
<td>6</td>
</tr>
<tr>
<td>2.</td>
<td>Study Recruitment Flowchart</td>
<td>28</td>
</tr>
<tr>
<td>3.</td>
<td>Perceived Ease of Use of Telehealth Services (Total Sample)</td>
<td>38</td>
</tr>
<tr>
<td>4.</td>
<td>Perceived Ease of Use of Telehealth Services (Tx-Completers)</td>
<td>39</td>
</tr>
<tr>
<td>5.</td>
<td>Perceived Ease of Use of Telehealth Services (Drop-Outs)</td>
<td>39</td>
</tr>
<tr>
<td>6.</td>
<td>Conceptualization of Treatment Acceptability</td>
<td>41</td>
</tr>
<tr>
<td>7.</td>
<td>Pre, Post and Follow-Up PHQ-9 Scores</td>
<td>46</td>
</tr>
<tr>
<td>8.</td>
<td>Pre, Post and Follow-Up PANAS Scores</td>
<td>49</td>
</tr>
</tbody>
</table>
Chapter 1: Introduction

Latinxs are substantially impacted by depression (Collado et al., 2014) and despite that behavioral health interventions (e.g., behavioral activation [BA]) have achieved empirically supported treatment status for the treatment of depression (e.g., Chartier & Provencher, 2013; Kanter et al., 2015; American Psychological Association [APA] Presidential Task Force on Evidence-Based Practice, 2006), Latinxs underutilize behavioral health services (Cabassa et al., 2006; Collado et al., 2014; Collado et al., 2016). This is problematic as depression impacts quality of life and increases risk of death by suicide (Chesney et al., 2014; Jia et al., 2015).

Barriers to treatment

The research literature has documented a myriad of barriers contributing to the underutilization of behavioral health services among Spanish-speaking Latinxs (SSLs). The majority of barriers in service utilization that Latinxs encounter can be collapsed into internal and external barriers. Internal barriers, such as stigma and limited English proficiency may partially drive disparities in behavioral health service utilization (Benuto et al., 2019; Garcia et al., 2018). Conversely, external barriers are barriers that exist outside of the individual realm and include geographical location and lack of transportation (Benuto & Leany, 2017; Benuto & O’Donohue, 2016) among others. Altogether, these barriers account for observed ethnic differences in treatment utilization.

Mitigation to Barriers to Treatment: Can Telehealth solve the problem?

Telehealth, also called telemedicine, can be broadly defined as the provision of healthcare information and services through the use of telecommunications technology (Zundel, 1996) and it has been recognized for increasing efficiency and outcomes of health care services, as well as reducing costs in the healthcare system (Baker-Ericzén et al., 2012; George et al., 2009). Several
Metanalyses and systematic reviews have demonstrated that telehealth modalities can improve health-related outcomes, reduce costs and burdens associated with external barriers (e.g., busy schedule transportation), and result in acceptable patient satisfaction. (Larson et al., 2018; Rasekaba et al., 2015; Speyer et al., 2018). With regard to depression, meta-analyses and systematic reviews of the literature have demonstrated that telehealth-delivered psychotherapy (e.g., cognitive behavioral therapy [CBT] and supportive counseling) has the potential for reducing depressive symptoms as comparable rates as non-telehealth modalities (i.e., face-to-face psychotherapy and usual care; Osenbach et al., 2013; Sloan et al., 2011).

However, only few research studies (see Baker-Ericzén et al., 2012; Dwight-Johnson et al., 2011; Uebelacker al., 2011) have examined the feasibility and efficacy of treatment modalities for depressed SSLs via telehealth. Baker-Ericzén and colleagues (2012) conducted a feasibility and acceptability study of a short telehealth-delivered culturally sensitive intervention (i.e., Perinatal Mental Health Model) which included cognitive-behavioral strategies (e.g., BA and cognitive restructuring) among depressed Latina women with perinatal depression and found that their intervention allowed low-income women to identify and reduce depressive symptoms during the perinatal and postpartum periods. Similarly, Dwight-Johnson and colleagues (2011) conducted a randomized clinical trial (RCT) with 101 depressed low-income, SSL patients. The authors found that participants who received telephone-based CBT were more likely to have improvements in their depressive symptoms at six-month follow-up when compared to enhanced usual care (e.g., anti-depressants or referrals).

Overall, the results reviewed previously suggest that telehealth modalities can mitigate barriers to care. More specifically, the results from the telehealth-delivered interventions discussed above may have addressed barriers to care (language, cultural beliefs [e.g., stigma], as
well as low mental health literacy) and contributed to therapeutic gains. Thus, telehealth may effectively engage underserved populations by offering flexibility in accessing care, particularly during a crisis like the COVID-19 pandemic.

**Intersecting Treatment for Depression and Telehealth**

BA emerged from learning theory which specifically draws from reinforcement theory of depression to postulate that (Fester, 1973; Lewinson, 1974): a) reinforcement of depressive behaviors is contingent upon positive reinforcement of response experiences (e.g., absence of healthy and/or positive behaviors), and b) avoidance of positive and/or health behaviors is common and may be positively reinforced to maintain depressive mood. In addition, Jacobson and colleagues (1996) examined the contribution of BA within CBT framework (see Beck et al., 1979) and ultimately found that BA as a stand-alone treatment was as effective as CBT to alter negative thinking, as well as dysfunctional attributional styles.

Behavioral activation treatment for depression (BATD) is an evidence-based treatment (EBT) that aims to increase the availability and exposure to reinforcers associated with healthy behaviors, while similarly reducing exposure to reinforcers associated with depressed behaviors (Lejuez et al., 2001, 2002). The BATD protocol includes self-monitoring as a means to allow clients to engage in baseline assessment of the quality and quantity of daily activities and to generate ideas with regard to target activities throughout treatment. In addition, the therapist and the client work collaboratively to establish treatment goals, select and rate activities in a hierarchical manner, monitor progress, and determine the frequency and duration of each activity.

BATD is rooted in *behavioral matching theory*. Per behavioral matching theory (Herrnstein, 1970; Lejuez et al., 2001, 2002; Hopko et al., 2003), “time and effort allocated to
exhibiting depressed relative to nondepressed (or healthy) behavior is directly proportional to the relative value of reinforcement obtained for depressed versus nondepressed behavior” (Hopko et al., 2003, p. 705). More specifically, this theory posits that the cycle of depression persists due to two main premises: 1) the availability of reinforcement for nondepressed behavior is low or non/existent; and 2) depressed behaviors contribute to high rates of reinforcement. Thus, based on this paradigm, BATD aims to increase the availability and exposure to reinforcers associated with healthy behaviors, while similarly reducing exposure to reinforcers associated with depressed behaviors.

Overall, BA has well established empirical support for reducing symptoms of depression among ethnic minority groups (i.e., Latinxs and African Americans; APA Presidential Task Force on Evidence-Based Practice, 2006). With regard to BATD-R, researchers (see Collado et al., 2014; Collado et al., 2016; and Kanter et al., 2015) have found that BATD-R is acceptable and efficacious in reducing depressive symptoms among SSLs, suggesting that this treatment may be an appropriate intervention for this population.

Broadly speaking, the data support the effectiveness of BATD delivered telehealth (i.e., Egede et al., 2016; Luxton et al., 2016). In examining the literature on BATD delivered via telehealth, only one study was identified that focused specifically on SSLs and employed a self-help mobile application called ¡Aptívate! Dahne and colleagues (2019) conducted an RCT with two arms: 1) ¡Aptívate! and 2) an active control Spanish-language app (“iCouch CBT”). The authors found that nearly all participants used ¡Aptívate! on average at least once per week and led to significantly lower symptoms of depression over time compared to the active control group.

Limitations and Advancements of Existing Research
The research support for BATD delivered via telehealth is strong (Collado et al., 2016; Egede et al., 2016; Kanter et al., 2015; Luxton et al., 2016). Additionally, the literature generally supports that BATD delivered in person is an effective way of targeting depression when working with the Latinx population. While the research on the use of telehealth with Latinx delivered via an app is promising, additional research is needed to demonstrate the effectiveness of BATD delivered via telehealth with Latinxs as telehealth may mitigate some of the barriers that prevent SSLs from accessing behavioral health services including barriers associated with stigma (De Silva et al., 2020), transportation (Aguilar-Gaxiola et al., 2002), and geographical location (Casey et al., 2004). BATD is rooted in behavioral matching theory and the premise of behavioral matching theory appears easily translatable to the telehealth platform. Additionally, research has indicated that Latinxs identify BATD as having characteristics that are congruent with Latinx cultural characteristics (Benuto & Reinosa-Segovia, 2022).

**Theoretical Framework**

In addition to the theory that governs behavioral activation as a treatment modality, it is important to also consider technology acceptance. According to the Theory of Reasoned Action (TRA), a person’s behavior intention depends on their attitudes about the behavior as well as subjective norms (Park, 2000). This theory led to the development of the Technology Acceptance Model (TAM; Davis 1989) which has been applied to the adoption of healthcare technology (Holden & Karsh, 2010). Per TAM (see Figure 1), the perceptions regarding the usefulness and ease of use of technology will impact both the attitudes towards and actual use of technology.
To date, only one study has investigated the TAM among Latinxs. Ghaddar and colleagues (2020) conducted a cross-sectional to examine the factors that shape behavioral intentions to use telehealth services among both English speaking Latinxs and SSL adults living in underserved communities. The authors found that the majority of participants (90%) had never heard of telehealth services and that there was a positive association between participants perceived usefulness and ease of use of telehealth services and intention to use telehealth services after participants had gained a better understanding of what telehealth services entitled. In addition, the high rates of use of technology among Latinxs indicate that acceptance rates of technology may also be high. Latinxs tend to access technology from different platforms (e.g., mobile and tablet devices and desktop computers) and their internet usage has increased over the past few years (Atske & Perrin, 2021), suggesting that a larger number of Latinxs may have access to the internet and other technologies, which may facilitate access to telehealth interventions. Indeed, 72% of Latinxs are connected to the internet (Goldberg et al., 2019) and tend to use technologies (e.g., smartphone, computer, and tablet) with internet access at the same rate as African Americans and non-Latinx Whites (NLWs; Lopez & Grant, 2012; Lopez et al., 2013; Victorson et al., 2014). These statistics combined with the literature (albeit limited) that

*Figure 1. Technology Acceptance Model (TAM)*

![Image of Technology Acceptance Model (TAM)]
support the use of telehealth with Latinx suggest that they may perceive telehealth platforms as useful. The TAM would suggest that if Latinxs perceive the telehealth platform as useful and easy to use, they would have positive attitudes towards the telehealth platform and be inclined to utilize telehealth.

**Rationale and Current Study**

Because telehealth has been promoted as an innovative approach to lessen barriers to treatment (e.g., stigma, limited English proficiency, geographical location, and lack of transportation) in underserved communities (Ramos & Alegria, 2014), the proposed study aimed to conduct a feasibility study to determine the viability of telehealth-delivered BATD for depressed SSLs.

**Proposed Methodology**

The primary aims of the current study was to assess the feasibility and acceptability of BATD delivered via telehealth and to test preliminary efficacy of the intervention with SSLs. The four research questions that sought to be answered by the current study were:

1) **Research Question 1:** Do SSLs who are depressed perceive that treatment delivered via telehealth (i.e., ZOOM video call) will be useful (prior to engaging in treatment)?
   
   a. Hypothesis: *SSLs who are depressed will rate treatment delivered via telehealth (i.e., ZOOM video call) as useful prior to engaging in treatment.*

2) **Research Question 2:** Do SSLs who are depressed perceive the use of the treatment platform (i.e., ZOOM video call) as easy to use at the outset and at the conclusion of treatment?

   a. Hypothesis: *Latinxs who are depressed will rate treatment delivered via telehealth (i.e., ZOOM video call) as easy to use.*
3) **Research Question 3:** Do SSLs who are depressed rate BATD delivered via telehealth (i.e., ZOOM video call) as acceptable?
   a. Hypothesis: *Latinxs who are depressed will rate BATD delivered via telehealth (i.e., ZOOM video call) as acceptable.*

4) **Research Question 4:** What is the feasibility of delivering BATD via telehealth (i.e., Zoom video call) to SSL who are depressed?
   a. Hypothesis: *Delivery of BATD via telehealth (i.e., Zoom video call) to SSL who are depressed will be feasible as demonstrated by low drop-out rates and high enrollment rates.*

5) **Research Question 5:** Will SSLs who receive BATD (delivered via telehealth i.e., ZOOM video call) experience a reduction in depression symptoms from pre- to post-treatment?
   a. Hypothesis: *Latinxs who receive behavioral activation delivered via telehealth (i.e., ZOOM video call) will experience a clinically significant reduction in depression symptoms from pre- to post- treatment as assessed by the PHQ-9. We also hypothesized that these treatment gains will be maintained at a one-month follow-up.*

6) **Research Question 6:** Will SSLs who receive BATD delivered via telehealth (i.e., ZOOM video call) experience a reduction in negative affect and an increase in positive affect from pre- to post- treatment?
   a. Hypothesis: *Latinxs who receive behavioral activation delivered via telehealth (i.e., ZOOM video call) will experience a clinically significant reduction in negative affect and an increase in positive affect from pre- to post- treatment as*
assessed by the Positive and Negative Affect Schedule (PANAS)? We also hypothesized that these treatment gains will be maintained at a one-month follow-up.

Study Design and Procedures

The current study is a pretest-posttest design feasibility study. Participants were recruited via direct referral from La Clinica. La Clinica is an outpatient mental health clinic located at the University of Nevada, Reno (UNR), that provides culturally specific services to SSLs. Participants were eligible to participate if they 1) self-identified as Latinx; 2) indicated that their preferred language is Spanish; 3) possessed the technology necessary (e.g., smart phone, tablet, or computer) to receive services via ZOOM; and 4) and met DSM-5 criteria for major depressive disorder (MDD) and/or adjustment disorder with depressed mood. Latinx clients completed self-report measures pertaining to levels of depression (PHQ-9) and affect (PANAS) at three timepoints: a) pre-treatment, b) post-treatment, and c) one-month follow-up. Latinx clients were also invited to participate in an exit interview at post-treatment to assess treatment acceptability and satisfaction. Quantitative data on satisfaction with the intervention were also collected at post-treatment. Participants’ data were analyzed with: 1) paired sample t-tests across timepoints to examine the mean differences (if any) in depressive symptoms and affect; 2) descriptive statistics for ease of use and usefulness as well as satisfaction data; and 3) qualitative thematic coding of exit interviews.
Chapter 2: Literature Review

Disparities in access to quality behavioral health services for Latinxs are well documented in the literature (Guzman et al., 2015; Cook et al., 2014; Delphin-Rittmon et al., 2015). Although there are several evidence-based treatments (EBTs) available to treat mental health disorders (e.g., Escobar & Gorey, 2018; Kanter et al., 2015), Latinxs tend to underutilize these services (Delphin-Rittmon et al., 2015; Cabassa et al., 2006; Villatoro et al., 2014). Previous research has attributed these disparities to multiple barriers such as language, cultural beliefs (e.g., machismo and stigma), and low mental health literacy (Atdjian & Vega, 2005; Benuto et al., 2019; Dueweke & Bridges, 2017; Guzman et al., 2015). The current study is focused on examining the degree to which telehealth may mitigate some of these barriers by investigating clinical outcomes among SSLs who receive BATD via a telehealth platform (i.e., ZOOM video call).

Latinxs and Depression

Depression is a mood disorder characterized by changes in weight, reduction of physical thought and/or movement, fatigue, feelings of worthlessness or inappropriate guilt, cognitive challenges, and thoughts death and/or suicide (American Psychiatric Association, 2013). In the case of the Latinx population, lifetime prevalence rates of major depression disorder (MDD) range from 3% to 18% (Collado et al., 2014). Additionally, a study by Njeru et al. (2016) reported that immigrants and refugees in the U.S. had a higher prevalence of depression compared to the general population, and that individuals with limited English language proficiency are at an even higher risk of inadequate behavioral health care. Because Latinxs in the United States (U.S.) may face numerous stressors (e.g., unemployment, poverty and exposure to community violence) and barriers to treatment (e.g., limited English proficiency and stigma;
Benuto et al., 2019), it is critical to underscore the need for the field to engage in efforts to make EBTs more accessible for this population.

In the case of SSLs, the experiences and barriers to service utilization that this group encounters are unique and complex, and it remains unknown whether this population would benefit to the same extent as other minority groups and the non-Latinx white majority from telehealth-delivered specialized care for depression. Given that SSLs experience several stress-evoking experiences, such as few social supports, poverty, discrimination, and exposure to community violence (Atdjian & Vega, 2005; Derose et al., 2007; Bridges et al., 2012), this population may be at an increased risk for experiencing depression and suicidal ideation (Hovey & Magaña, 2003).

**Barriers to Treatment among Latinx Immigrants**

SSL immigrants face a myriad of stressors and barriers throughout the immigration process. The research literature has documented several barriers contributing to the underutilization of behavioral health services among SSLs. The majority of barriers in service utilization that Latinxs encounter can be collapsed into internal and external barriers. Internal barriers, such as stigma, may partially drive disparities in behavioral health service utilization (Benuto et al., 2019; Garcia et al., 2018). Conversely, external barriers are barriers that exist outside of the individual realm and include geographical location and lack of transportation (Benuto & Leany, 2017; Benuto & O’Donohue, 2016; Cabassa et al., 2012) Altogether, these barriers account for observed ethnic differences in treatment utilization.

**Personal Stigma**

Personal stigma or self-stigma can be defined as an individual’s negative attitudes and beliefs toward behavioral health services. Research studies have found that stigma may deter
Latinxs from seeking behavioral health services (De Silva et al., 2020). Also, Latinxs may attribute depressive symptoms to non-medical causes (e.g., sign of weakness and religious beliefs) and may not be easily inclined to talk about and/or share their emotions (Caplan et al., 2011; Cabassa et al., 2012). More recently, Benuto et al., (2019) found that Latinxs had higher levels of depression-related personal stigma, and lower lifetime prevalence rates of behavioral health service utilization as compared to non-Latinx Whites (NLWs).

**Transportation**

Lack of reliable transportation is another barrier that has been documented to hamper Latinxs efforts when attempting to access behavioral health services. An epidemiological study by Aguilar-Gaxiola and colleagues (2002) revealed that 19% of adult Mexican Americans residing in Fresno, California lacked transportation to access behavioral health services. More specifically, the lack of reliable transportation is particularly relevant for newly arrived immigrants, as well as their lack of knowledge on how to get around in a foreign country (Turner et al., 2016). Additionally, transportation problems may be exacerbated for Latinx women who do not know how to drive (Aguilar-Gaxiola et al., 2002).

**Geographical Location**

Nearly one in five U.S. residents live in a rural area. A rural area is defined as a geographic area not located adjacent to an urban area (e.g., town and cities; Ratcliffe et al., 2016). Individuals living in rural areas have limited access to specialized behavioral health services and face additional barriers such as limited English language proficiency and the need to travel long distances (Casey et al., 2004). This is particularly important as northern Nevada has an estimated rural population of 208,808 and is the second largest populated area in the State of Nevada (Kerwin, 2018). More specifically, from 2012 to 2014, the percentage of adults with
MDD in Washoe County was 6.36%. and for those attempting to access treatment in locations that provide inpatient behavioral health services, they may encounter long waiting lists. (Kerwin, 2018). This is highly relevant to the Latinx population as 9.3% of Latinxs in the U.S. live in rural America. This translates to approximately six million individuals (Housing Assistance Council, 2012); this is concerning as this statistic suggests that of those six million Latinxs who reside in rural America up to one million may experience depression. Note: This is an extrapolation based on lifetime prevalence rates of depression among Latinxs (Collado et al., 2014).

**Other Barriers to Treatment**

Other barriers to service utilization that SSLs may encounter include cost associated with behavioral health services, lack of bilingual providers, and difficulties in finding childcare (Dwight-Johnson et al., 2011; Uebelacker et al., 2011). While telehealth may not reduce the cost of services, it does have the potential to increase accessibility of low-cost services for Latinxs who otherwise may not be able to access those services. For example, if a free or sliding scale clinic exists in an inaccessible location for SSLs who have depression, telehealth could increase accessibility to that location. The same is true for bilingual providers. While telehealth will not increase the number of bilingual providers per se, it may increase accessibility for clients who live in regions where bilingual providers are not available.

**Telehealth**

Telehealth, also called telemedicine, can be broadly defined as the provision of healthcare information and services through the use of telecommunications technology (Zundel, 1996). The earliest uses of telemedicine consisted primarily of remote medical care consultations, which also included specialty care applications such as cardiology (Finley et al., 1989), radiology (Batnitzky et al., 1990), and psychiatry (Solow et al., 1971). Results from early studies suggest
that telehealth modalities have the potential to improve the availability of quality medical care services and cost-effectiveness associated with healthcare (Murphy and Bird, 1974; Zundel 1996). With the pass of time and technological advancement, modern communications methods have been developed to bring behavioral health services to an increasing number of patients in a wide variety of settings. In the wake of COVID-19, this has become particularly relevant.

**Behavioral Health Services via Telehealth**

In terms of telehealth as a modality for delivering behavioral health services, several meta-analyses have found evidence to support the efficacy of telehealth-delivered interventions for individuals with anxiety, depression, and PTSD. For example, findings from meta-analyses and systematic reviews by Richards et al., (2015), Spijkerman et al., (2016) and Vallury et al., (2015) indicated that computer-based treatments (e.g., CBT, Mindfulness-based stress reduction [MBSR], and Acceptance and commitment therapy [ACT]) for anxiety and depression disorders were superior to non-computer-based treatments (e.g., wait-list comparison condition and usual care). Based on the outcomes of these studies, telehealth-delivered behavioral health services seem to represent a clinically effective pathway to provide specialized behavioral health care.

In regard to patient perceptions about telemedicine, the literature indicates comparable perceptions to in-person treatment delivery. More specifically, a systematic review of patient perceptions found no significant differences on ratings of satisfaction and therapeutic alliance between telehealth and in-person treatment delivery (Jenkins-Guarnieri et al., 2015). Although these results seem promising, it is important to note that the majority of research studies examining the delivery of behavioral health services via telehealth tend to have small sample sizes and other limitations (e.g., differences in provider expertise and technological factors; Dorstyn et al., 2013; Jenkins-Guarnieri et al., 2015; Mair & Whitten, 2000). Thus, more research
is needed to better optimize telehealth service delivery in the context of individual psychotherapy.

Broadly speaking, there are preliminary data to support the effectiveness of BATD delivered via telehealth (i.e., Egede et al., 2016; Luxton et al., 2016). In examining the literature on BATD delivered via telehealth, only one study was identified that focused specifically on SSLs and employed a mobile application called ¡Aptivate! Dahne and colleagues (2019) conducted a randomized controlled trial (RCT) with two arms: 1) ¡Aptivate! and 2) an active control Spanish-language app (“iCouch CBT”). The authors found that nearly all participants used ¡Aptivate! on average at least once per week and led to significantly lower symptoms of depression over time compared to the active control group.

**Addressing Barriers to Care with Telehealth**

Telehealth-delivered modalities have the potential to address the barriers to service utilization described above, such as stigma and geographic-related barriers (e.g., transportation, travel time, and cost). With the increased popularity and functionality of telehealth technologies, telehealth can undertake an innovative approach towards bridging the delivery gap of behavioral health services, particularly for underserved communities (Price et al., 2014; George et al., 2009). Furthermore, research studies have provided data to support the acceptability of telehealth among Latinxs (George et al., 2009; Victorson et al., 2014). By addressing treatment barriers among Latinxs, behavioral health treatment can become more readily accessible and equitable, which can further contribute to Latinxs’ quality of care and reduce behavioral health disparities.

Telehealth modalities pertaining to behavioral health services have the potential to address stigma (Yuen et al., 2015). For example, rather than having to attend in-person treatment session in public locations, telehealth offers an alternative to privacy by allowing the clients to
receive behavioral health services from the privacy of their home. Thus, telehealth treatment modalities could lessen privacy and stigma concerns among individuals living in small communities (e.g., Washoe County). This is particularly important as SSLs may avoid accessing behavioral health services as a means to avoid being the subject of gossip or being exposed by other members of their communities (Bryant et al., 2013).

In terms of geographic-related barriers to treatment barriers (e.g., transportation and geographical location), telehealth-delivered modalities have the potential to enable clients, who otherwise would not receive behavioral, to receive remote treatment while being physically located in a place of their choosing without the need to have in-person or face-to-face interactions (Price et al., 2014). Additionally, research indicates that telehealth may be suitable for Latinxs, as this group has been identified to be at the forefront of emerging technology use in the U.S. (Victorson et al., 2014). Notably, Latinxs tend to access technology from different platforms (e.g., mobile and tablet devices and desktop computers) and their internet usage has increased over the past few years (Goldberg et al., 2019), suggesting that a larger number of Latinxs may have access to the internet and other technologies, which may facilitate access to telehealth interventions.

Research has found that other barriers to service utilization (e.g., cost and lack of bilingual providers) among SSLs can be lessened through telehealth-delivered modalities. In terms of cost-effectiveness for the client, one of the benefits of telemedicine is cost savings, because it is less expensive to transport information than it is to transport people (Zundel et al. 2016; Uebelacker et al., 2011). Further, Simon and Rutter (2009) found that a phone-based, short-term psychotherapy intervention was both beneficial and cost-effective compared to in-person care services for individuals with depression. Similarly, Dwight-Johnson and colleagues
(2011) conducted an RCT with 101 depressed low-income, Spanish-speaking Latinx patients; the authors concluded that it is possible to expand the geographical outreach of bilingual therapists through their telehealth-delivered modality (e.g., telephone-based CBT).

**Latinxs and Telehealth**

The literature on feasibility and efficacy of telehealth-delivered modalities for SSLs is limited. A systematic review of the efficacy of depression treatments for immigrant patients (see Antoniades et al., 2014) found that only two studies (e.g., Dwight-Johnson et al., 2011 and Uebelacker et al., 2011) that utilized telehealth-delivered modalities (i.e., telephone-based) for SSLs. Though both of these studies reported promising preliminary data, these studies had noteworthy limitations such as relatively small sample sizes and underrepresentation of Latinx subgroups.

Another study by Baker-Ericzén and colleagues (2012) examined the feasibility and acceptability of a short telehealth-delivered culturally sensitive intervention (i.e., Perinatal Mental Health Model) which included cognitive-behavioral strategies (e.g., behavioral activation and cognitive restructuring) among depressed Latina women with perinatal depression and found that their intervention allowed low-income women to identify and reduce depressive symptoms during the perinatal and postpartum periods. Further, Dwight-Johnson and colleagues (2011) conducted an RCT with 101 depressed low-income, Spanish-speaking Latinx patients. The authors found that participants assigned to receive telephone-based CBT were more likely to have improvements in their depressive symptoms at 6-month follow-up as compared to enhanced usual care (e.g., anti-depressants or referrals).

In regard to SSLs’ perceptions about telemedicine, there is little research on perceptions about telemedicine (e.g., before and after receiving telehealth-delivered services). Most recently,
George and colleagues (2009) examined the perceptions of telehealth for health-related conditions via semi-structured interviews among Latinxs and African Americans in South Central Los Angeles. Qualitative data from this study revealed that Latinx participants (N = 44) perceived telehealth as having advantages (e.g., reduced waiting time and increase access to medical options) as compared to their current mode of care. Latinx participants also reported concerns regarding telehealth services such as whether telemedicine would be available to uninsured/undocumented individuals.

Only a few studies have been conducted with telehealth-delivered BATD and preliminary data suggest that more empirical data are needed to establish the efficacy and generalization of treatment outcomes of BATD telehealth modalities (Dahne et al., 2019). To date, only one RCT study has examined the efficacy of BATD delivered via telehealth (i.e., self-help mobile application called ¡Aptívate!) to treat depressive symptoms among SSLs. The authors found that nearly all participants used ¡Aptívate! on average at least once per week and led to significantly lower symptoms of depression over time compared to treatment as usual (TAU).

**Behavioral Activation for Depression (BATD) Research with Latinxs**

BA (Lewinsohn, & Shaffer, 1971) is an EBT that aims to increase the number of pleasurable activities and promote physical activity as a means to reduce depressive symptomatology (Chartier & Provencher, 2013). BA is currently listed as an empirically supported treatment with strong research support according to APA’s Division 12 (APA Presidential Task Force on Evidence-Based Practice, 2006).

BA has gained empirical support for reducing symptoms of depression among SSLs (see Collado et al., 2014 & Collado et al., 2016). An RCT by Collado and colleagues (2016) used a Spanish translated version of BATD with 46 Spanish-speaking Latinxs with depression. The
authors concluded that BATD was efficacious in reducing depressive symptoms and increasing activity levels among this population.

Another RCT by Kanter et al., (2015) compared the efficacy of BAL (BA for Latinos, n = 21) and TAU (n = 22) among SSLs. Results from this study indicated that participants assigned to BAL performed well with respect to treatment engagement and retention. Further, BAL participants who were engaged in treatment and attended more sessions demonstrated reductions in depression and improvements in quality of life and mental health functioning after 12 sessions of treatment. Overall, the data of these two RCTs provide evidence to support that BA is efficacious in reducing depressive symptoms by increasing activity levels, as well as promoting treatment engagement among this population.

More recently, a systematic review of ethnoracial minorities participation in RCTs of BA found that across 39 studies, Latinx participants were adequately represented in only four studies. Notably, three (i.e., Collado et al., 2016; Dahne et al., 2019; and Kanter et al., 2015) of these four studies had samples that were made up entirely of SSL participants. Given the current underrepresentation of SSLs in BA research literature, more research is needed to establish the generalizability of these findings to SSLs.

**Theoretical Framework: Behavioral Activation & the Technology Acceptance Model**

BA emerged from learning theory which specifically draws from reinforcement theory of depression to postulate that (Fester, 1973; Lewinson, 1974): a) reinforcement of depressive behaviors is contingent upon positive reinforcement of response experiences (e.g., absence of healthy and/or positive behaviors), and b) avoidance of positive and/or health behaviors is common and may be positively reinforced to maintain depressive mood. In addition, Jacobson and colleagues (1996) examined the contribution of BA within CBT framework (see Beck et al.,
1979) and ultimately found that BA as a stand-alone treatment was as effective as CBT to alter negative thinking, as well as dysfunctional attributional styles.

BATD is rooted in *behavioral matching theory*. Per behavioral matching theory (Herrnstein, 1970; Lejuez et al., 2001, 2002; Hopko et al., 2003), “time and effort allocated to exhibiting depressed relative to nondepressed (or healthy) behavior is directly proportional to the relative value of reinforcement obtained for depressed versus nondepressed behavior” (Hopko et al., 2003, p. 705). More specifically, this theory posits that the cycle of depression persists due to two main premises: 1) the availability of reinforcement for nondepressed behavior is low or non/existent; and 2) depressed behaviors contribute to high rates of reinforcement. Thus, based on this paradigm, BATD aims to increase the availability and exposure to reinforcers associated with healthy behaviors, while similarly reducing exposure to reinforcers associated with depressed behaviors.

In addition to the theory that governs behavioral activation as a treatment modality, it is important to also consider technology acceptance. According to the Theory of Reasoned Action (TRA), a person’s behavior intention depends on their attitudes about the behavior as well as subjective norms (Park, 2000). This theory led to the development of the Technology Acceptance Model (TAM; Davis 1989) which has been applied to the adoption of healthcare technology (Holden & Karsh, 2010). Per TAM (see Figure 1), the perceptions regarding the usefulness and ease of use of technology will impact both the attitudes towards and actual use of technology.
Figure 1. Technology Acceptance Model (TAM)

To date, only one study has investigated the TAM among Latinxs. Ghaddar and colleagues (2020) conducted a cross-sectional to examine the factors that shape behavioral intentions to use telehealth services among both English speaking Latinxs and SSL adults living in underserved communities. The authors found that the majority of participants (90%) had never heard of telehealth services and that there was a positive association between participants perceived usefulness and ease of use of telehealth services and intention to use telehealth services after participants had gained a better understanding of what telehealth services entitled. In addition, the high rates of use of technology among Latinxs indicate that acceptance rates of technology may also be high. Latinxs tend to access technology from different platforms (e.g., mobile and tablet devices and desktop computers) and their internet usage has increased over the past few years (Atske & Perrin, 2021), suggesting that a larger number of Latinxs may have access to the internet and other technologies, which may facilitate access to telehealth interventions. Indeed, 72% of Latinxs are connected to the internet (Goldberg et al., 2019) and tend to use technologies (e.g., smartphone, computer, and tablet) with internet access at the same rate as African Americans and NLWs (Lopez & Grant, 2012; Lopez et al., 2013; Victorson et al., 2014). These statistics combined with the literature (albeit limited) that support the use of
telehealth with Latinx suggest that they may perceive telehealth platforms as useful. The TAM would suggest that if Latinx perceive the telehealth platform as useful and easy to use, they would have positive attitudes towards the telehealth platform and be inclined to utilize telehealth.

**Summary & Conclusions**

Though barriers to service utilization among SSLs are complex, several researchers have undertaken novel approaches to lessen these barriers (see Bridges et al., 2014; Cabassa et al., 2012; Collado et al., 2016; Villalobos et al., 2016). According to existing research and TAM, telehealth represents a feasible pathway for the delivery of behavioral health services among SSLs. BATD is an EBT with empirical support (see Collado et al., 2014; Collado et al., 2016; and Kanter et al., 2015) in regard to acceptability and efficacy among SSLs. However, only few studies have examined the effectiveness of BATD delivered via telehealth (i.e., Egede et al., 2016; Luxton et al., 2016). Additional research is needed to demonstrate whether telehealth-delivered BATD is acceptable and efficacious among depressed SSLs, particularly during the COVID-19 pandemic.
**Chapter 3: Methodology**

The primary aims of the current study are to assess the feasibility and acceptability of telehealth-delivered BATD-R and to test the preliminary efficacy of the intervention with SSLs. The proposed feasibility study will build on the preliminary evidence in regard to the generalization of treatment outcomes of BATD-R via telehealth modalities by answering the following research questions:

1) **Research Question 1:** Do SSL who are depressed perceive that treatment delivered via telehealth (i.e., ZOOM video call) will be useful (prior to engaging in treatment)?

   b. *Data Analysis:* When participants were screened on the phone, they were asked to rate to what extent they believe treatment delivered via telehealth (i.e., ZOOM video call) was useful. Descriptive statistics were analyzed to provide frequency counts, means, and standard deviations of participants’ perceived usefulness.

2) **Research Question 2:** Do SSLs who are depressed perceive the use of the treatment platform (i.e., ZOOM video call) as easy to use at the outset and at the conclusion of treatment?

   c. *Data Analysis:* After completing treatment, participants were asked to what degree the treatment platform (i.e., ZOOM video call) was easy to use. Descriptive statistics were analyzed to provide frequency counts, means, and standard deviations of participant usefulness.

3) **Research Question 3:** Do SSLs who are depressed rate behavioral activation delivered via telehealth (i.e., ZOOM video call) as acceptable?

   c. *Data Analysis:* Descriptive statistics were analyzed to provide frequency counts, means, and standard deviations of participant acceptability. Additionally, exit
interviews were conducted at post-treatment. These interviews were audio recorded, transcribed, and coded in QSR International’s NVivo 12 Software, a qualitative data management software (QSR International, 2020). See Data Analysis Plan below for more detailed information about exit interviews.

4) **Research Question 4:** What is the feasibility of delivering BATD-R via telehealth (i.e., Zoom video call) to SSLs who are depressed?
   
   d. **Data Analysis:** Descriptive statistics were analyzed to provide frequency counts, means, and standard deviations of participant enrollment, retention, and dropout rates from pre-treatment to post-treatment.

5) **Research Question 5:** Will Spanish-speaking Latinxs who receive BATD-R delivered via telehealth (i.e., ZOOM video call) experience a reduction in depression symptoms from pre- to post-treatment?
   
   c. **Data Analysis:** Matched pairs t-tests were conducted to evaluate the effects of BATD-R on depressive symptomatology as measured by PHQ-9 total score from pre-treatment to post-treatment and from post-treatment to one-month follow-up.

6) **Research Question 6:** Will Spanish-speaking Latinxs who receive BATD-R via telehealth (i.e., ZOOM video call) experience a reduction in negative affect and an increase in positive affect from pre- to post-treatment?
   
   d. **Data Analysis:** Matched pairs t-tests were conducted to evaluate the effects of BATD-R on negative and positive affect as measured by PANAS positive and negative affect scores from pre-treatment to post-treatment and from post-treatment to one-month follow-up.

**Study Design**
The proposed research was a pre-post study to assess the feasibility of delivering BATD-R via telehealth. Thus, our analyses focused on examining differences in pre and post scores from the PHQ-9, PANAS, and PUEQ. Our general analytic strategy was a paired t-test to examine the mean differences (if any) in depressive symptoms, positive and negative affect, and perceived usefulness and ease of use of telehealth services following treatment completion. The present study considered using an RCT since it would allow us to reduce threats to internal validity (e.g., history, maturation, and selection bias). However, due to the limited number of resources allocated to the present study and pressing need for services for underserved SSLs, it would not have been optimal to conduct an RCT with a comparison group (e.g., wait-list control group).

**Participants**

Participants were 25 adult SSLs (age range 18-58, $M = 41.16$, $SD = 11.32$, n = 18 females) who were recruited via direct referral from La Clinica between January 2021 and February 2022. Of these 25, 17 participants (age range 18-58, $M = 38.59$, $SD = 12.19$, n = 15 females) successfully completed treatment and eight participants dropped out (i.e., six participants did not commence treatment and two dropped out throughout the course of treatment). The majority of participants reported that their immigration status was undocumented (60%), followed by U.S. citizens (24%), and permanent residents (16%). Length of residence in the U.S. ranged from 1-36 years ($M = 19.32$, $SD = 10.44$); all participants reported that Spanish was their preferred language. Twenty-two participants reported being of Mexican origin while three reported being of Central American origin (two from Guatemala and one from El Salvador). Fourteen participants (56%) reported that they had previously received behavioral health services in the past. See Table 1 for participant characteristics.
<table>
<thead>
<tr>
<th>Table 1</th>
<th>Participant Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Sample</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td>N (N = 25)</td>
</tr>
<tr>
<td>Male</td>
<td>7</td>
</tr>
<tr>
<td>Female</td>
<td>18</td>
</tr>
<tr>
<td><strong>Subethnicity</strong></td>
<td></td>
</tr>
<tr>
<td>Mexican</td>
<td>22</td>
</tr>
<tr>
<td>Central American</td>
<td>3</td>
</tr>
<tr>
<td><strong>Income</strong></td>
<td></td>
</tr>
<tr>
<td>Less than $10,000</td>
<td>3</td>
</tr>
<tr>
<td>$10,001 - $20,000</td>
<td>0</td>
</tr>
<tr>
<td>$20,001 - $29,000</td>
<td>5</td>
</tr>
<tr>
<td>$30,001 - $39,000</td>
<td>5</td>
</tr>
<tr>
<td>$40,001 - $50,000</td>
<td>3</td>
</tr>
<tr>
<td>More than $50,000</td>
<td>9</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
</tr>
<tr>
<td>6th grade or under</td>
<td>2</td>
</tr>
<tr>
<td>Middle school</td>
<td>13</td>
</tr>
<tr>
<td>Some High School or Graduated</td>
<td>8</td>
</tr>
<tr>
<td>Some college or Graduated</td>
<td>2</td>
</tr>
<tr>
<td><strong>Citizenship Status</strong></td>
<td></td>
</tr>
<tr>
<td>Undocumented</td>
<td>15</td>
</tr>
<tr>
<td>Permanent Resident</td>
<td>4</td>
</tr>
<tr>
<td>Citizen</td>
<td>6</td>
</tr>
<tr>
<td><strong>Past Behavioral Health</strong></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>14</td>
</tr>
<tr>
<td>No</td>
<td>11</td>
</tr>
<tr>
<td><strong>DSM-5 Diagnosis</strong></td>
<td></td>
</tr>
<tr>
<td>MDD</td>
<td>2</td>
</tr>
<tr>
<td>PDD (dysthymia)</td>
<td>2</td>
</tr>
<tr>
<td>Comorbidity (MDD and GAD)</td>
<td>21</td>
</tr>
</tbody>
</table>

**Procedure**
The present study was approved by the University of Nevada, Reno Institutional Review Board (IRB). The first author of the study is a native Spanish-speaker who had previously established meaningful relationship with the community (e.g., church, advocacy group, and medical clinics) and had volunteer numerous times in several community events that took place in a wide variety of settings. In doing so, the author was able to better understand the needs of SSLs and earn their trust by interacting with community members in informal settings. The study was advertised via a Spanish recruitment flyer and in-person with health providers and community members in the greater area of Northern Nevada. Interested participants who called the clinic were screened using the PHQ-2, which is a standard clinical procedure at La Clinica. Participants who screened positive were invited to participate in a baseline intake via telehealth (i.e., ZOOM video call) where they were further screened to ensure they met the eligibility criteria for the study. When a participant screened positive and agreed to participate in the study, he or she was asked: 1) how useful they believe treatment delivered via telehealth was and 2) if they have received services via telehealth in the past. Next, an intake session via telehealth (i.e., ZOOM video call) was scheduled with a clinician. At the conclusion of the intake, participants were also asked about their perceived ease of the treatment platform (i.e., ZOOM video call). Provided that the intake indicated that the participant fully met inclusion criteria, and they consented to participate in the study, they completed the baseline measures (see Table 2), and they were then administered the treatment.

Participants completed measures again at the conclusion of treatment and at one-month follow-up in the following manner: a) participants were invited to participate in an exit interview during their last treatment session, b) participants who agreed to participate in the exit interview were contacted by graduate research assistants to complete the exit interview, c) participants
were notified that they were going to be contacted after one month to complete follow-up measures. Interviews were conducted in Spanish by bilingual graduate students with previous training and experience in conducting qualitative interviews. Except for one participant who was assigned to a doctoral level clinician, all intake and treatment sessions were conducted by the first author of the present study (pre-doctoral level clinician). Both clinicians received weekly supervision in a hybrid format (e.g., in-person and via telehealth) by the Director of La Clinica. See Figure 2 for a recruitment flowchart.

### Figure 2. Study Recruitment Flowchart

#### Measures

**Demographics Form.** A general demographic questionnaire that includes items to ascertain participant age, ethnicity, gender, income, immigration status, and education level.
**PHQ-2 (Kroenke et al., 2003).** The PHQ-2 is a two-item, self-report assessment tool, which measures DSM-IV depressive symptoms over a 2-week period. Items are rated on a four-point Likert scale as 0 (not at all), 1 (several days), 2 (more than half the days), and 3 (nearly every day) with a total score ranging 0 to 6. A total score of 3 or greater indicates that major depressive disorder is likely (Kroenke et al., 2003). The PHQ-2 is available in both English and Spanish.

**PHQ-9 (Kroenke et al., 2002).** The PHQ-9 is a nine-item, self-report depression assessment tool developed specifically for primary care settings. Items in the PHQ-9 measure DSM-IV depressive symptoms over a 2-week period. Items are rated on a Likert scale as 0 (not at all), 1 (several days), 2 (more than half the days), and 3 (nearly every day) with a total score ranging from 0 to 27. PHQ-9 scores of 4 or less indicate minimal disorder. PHQ-9 scores of 5 to 14 indicate moderately severe depression, and scores of 15 or higher indicate severe depression. The PHQ-9 has strong internal consistency among both English and SSLs (Huang et al., 2006; Killian et al., 2020).

**Positive and Negative Affect Scale (PANAS; Watson et al., 1988).** The PANAS is a 20-item self-report measure used to examine positive and negative affect. Participants rate their satisfaction with the treatment on a 5-point Likert scale and items are scored from 1 (very slightly or not at all) to 5 (extremely) with higher scores indicating higher levels of affect. The PANAS has two subscales: half of the items are representative of positive affect (e.g., interested, excited, and determined), whereas the other half of the items are indicative of negative affect (e.g., hostile, scared, and ashamed).

**The Client Satisfaction Questionnaire (CSQ-8; Larsen et al., 1979).** This eight-item measure is used to examine satisfaction with the treatment. Items are rated on a 4-point Likert
scale and higher scores are indicative of higher levels of satisfaction. Psychometric properties of the CSQ-8 indicate high internal consistency (i.e., $\alpha$ between 0.92 and 0.93) (Attkisson, & Zwick, 1982; Larsen et al., 1979). Participants were also asked: 1) How acceptable is the treatment that you received? Answers were rated on a 4-point Likert scale as 1 (not acceptable at all) and 4 (very acceptable).

**Perceived Usefulness and Ease of Use Questionnaire (PUEQ).** The PUEQ is a 20-item questionnaire adapted from Davis (1989) by the research team. The PUEQ has two sub-scales to assess participants’ perceived usefulness and ease of use of telehealth services (e.g., telehealth will allow me to receive the care that I need, and it will be hard to understand how to use telehealth services). Items are scored in a 5-point Likert scale as 1 (disagree), 2 (party disagree), 3 (unsure), 4 (party agree), 5 (agree). Participants were also asked two questions prior to commencing treatment: 1) How useful do you think it was to receive services via telehealth? 2) How easy do you think it was to receive services via telehealth? Perceived usefulness answers were coded on a 4-point Likert scale as 1 (not useful) and 4 (very useful) during the screening stage and perceived ease of use answers were coded on a 5-point Likert scale as 1 (not easy at all) and 4 (very easy) at pre-treatment.

**Exit Interview.** The exit interview consisted of 11 open-ended interview questions aimed to assess BATD-R treatment acceptability and attitudes towards using telehealth services (i.e., ZOOM video call). All interviews were conducted in Spanish by trained bilingual graduate students. Interviews were audiotaped and transcribed by a professional transcription company. Follow-up questions were asked as appropriate (e.g., asking for examples and clarification). Participants were asked the following questions:

- What were your thoughts about telehealth prior to receiving treatment?
What are your thoughts about technology (e.g., mobile phone, tablet, and computer)?

Has your perception about technology changed after receiving this treatment?

What are your thoughts about the treatment that you received?

What are your thoughts about receiving services via telehealth (i.e., ZOOM video call)?

Did you encounter any technical difficulties during treatment? If so, what happened?

What are your thoughts about your therapist?

Do you think that your therapist was qualified to deliver the treatment?

Did the treatment meet your expectations? If yes, how so?

Was the treatment content easy to understand? If not, what parts were not understood?

Would you refer your family or friends to receive this treatment if they were feeling depressed? Why or why not?

Table 2

<table>
<thead>
<tr>
<th>Measure</th>
<th>Pre-tx</th>
<th>Post-tx</th>
<th>One-month follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographic Form</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHQ-9</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>PANAS</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>PUEQ</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Exit interview</td>
<td></td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>

Research Site, Data Collection, and Management

La Clinica provides behavioral health services in the greater area of Northern Nevada to ethnic minorities and victims of domestic violence. Due to the ongoing COVID-19 pandemic, all services at La Clinica transitioned to telehealth as of March 2020 in accordance with CDC guidelines. With the closure of La Clinica, the clinic has access to telehealth devices (e.g., desktop computers, laptops, and tablets) and software (i.e., Zoom). All BATD-R sessions took
place remotely. Given the existing client flow of Latinx clients, we were able to recruit the required number of participants.

**Intervention**

Lejuez et al., (2011) published a revised manual (i.e., BATD-R) with modifications from the previous BATD treatment manual as a means to simplify and clarify key elements, procedures, and forms. The BATD-R manual consists of a total of 10 sessions (five unique sessions and five additional sessions to review key concepts and forms, as well as termination planning) with designated topics including: psychoeducation about depression, discussion of treatment rationale, daily monitoring of activities, focus on clients’ life areas and values, assignment review, and troubleshooting of treatment challenges. The authors of the present study reached out via email to Dr. Carl Lejuez to obtain a Spanish version of the BATD-R manual. BATD-R was conducted on a weekly-basis via telehealth (e.g., Zoom video call) with a duration of one hour. Participants were given the option to complete assignments online or via hard copies. See Table 3 for a breakdown of the BATD-R manual.

**Table 3**

*BATD-R manual overview (Lejuez et al., 2011)*

<table>
<thead>
<tr>
<th>Session number</th>
<th>Key Elements</th>
<th>Assignments</th>
</tr>
</thead>
</table>
| Session 1      | • Discussion of Depression  
                • Introduction to Treatment Rationale  
                • Introduction to Daily Monitoring | • Daily Monitoring Form |
| Session 2      | • Daily Monitoring: Review  
                o Troubleshooting  
                • Treatment Rationale: Review  
                • Life Areas, Values, and Activities | • Daily Monitoring Form  
                                                                 | • Review and Edit Life Areas, Values, and Activities Inventory |
| Session 3      | • Daily Monitoring: Review  
                o Troubleshooting  
                • Life Areas, Values, and Activities: Review  
                • Activity Selection and Ranking | • Daily Monitoring Form  
                                                                 | • Review and Edit Life Areas, Values, and Activities Inventory |
### Power analysis

We conducted a power analysis using G*Power (Faul et al., 2007) software for a paired sample t-test across two timepoints (i.e., baseline and post-treatment) to determine a standardized effect size of 0.25. The paired sample t-test analysis will have a power of 0.80 to detect an

<table>
<thead>
<tr>
<th>Session</th>
<th>Daily Monitoring with Activity Planning</th>
<th>Review and Edit Activity Selection and Ranking</th>
<th>Daily Monitoring with Activity Planning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session 4</td>
<td>Daily Monitoring: Review</td>
<td></td>
<td>Daily Monitoring with Activity Planning</td>
</tr>
<tr>
<td></td>
<td>o Troubleshooting</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Daily Monitoring with Activity Planning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Session 5</td>
<td>Daily Monitoring with Activity Planning</td>
<td>Daily Monitoring with Activity Planning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Planning: Review</td>
<td>Daily Monitoring with Activity Planning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Contracts</td>
<td>Add/Edit Contracts</td>
<td></td>
</tr>
<tr>
<td>Session 6</td>
<td>Daily Monitoring with Activity Planning</td>
<td>Daily Monitoring with Activity Planning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Planning: Review</td>
<td>Daily Monitoring with Activity Planning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Contracts: Review</td>
<td>Add/Edit Contracts</td>
<td></td>
</tr>
<tr>
<td>Session 7</td>
<td>Daily Monitoring with Activity Planning</td>
<td>Daily Monitoring with Activity Planning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Planning: Review</td>
<td>Daily Monitoring with Activity Planning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Life Areas, Values, and Activities:</td>
<td>Add/Edit Contracts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Review and Edit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Session 8</td>
<td>Daily Monitoring with Activity Planning</td>
<td>Daily Monitoring with Activity Planning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Planning: Review</td>
<td>Daily Monitoring with Activity Planning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Life Areas, Values, and Activities:</td>
<td>Add/Edit Contracts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Review and Edit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Session 9</td>
<td>Daily Monitoring with Activity Planning</td>
<td>Daily Monitoring with Activity Planning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Planning: Review</td>
<td>Daily Monitoring with Activity Planning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Contracts: Review</td>
<td>Add/Edit Contracts</td>
<td></td>
</tr>
<tr>
<td>Session 10</td>
<td>Daily Monitoring with Activity Planning</td>
<td>Daily Monitoring with Activity Planning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Planning: Review</td>
<td>Daily Monitoring with Activity Planning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prepare for the End of Treatment</td>
<td>Add/Edit Contracts</td>
<td></td>
</tr>
</tbody>
</table>
overall effect using the nominal alpha level of 0.05. A sample size ranging from 25-35 participants is acceptable for pilot studies (Rounsaville et al., 2001).

**Data Analysis Plan**

In order to examine the six research questions outlined above, a mixed methods design was used to analyze the data. With regard to quantitative data, we utilized Statistical Package for Social Sciences (SPSS) version 20 to conduct statistical analyses. Assumptions of normality and homogeneity of variance for paired sample t-tests were confirmed via a visual inspection of boxplots and results of Shapiro-Wilk test across all time points. In terms of descriptive statistics, we calculated frequency counts, means, and standard deviations for all relevant demographic variables and outcome variables.

Since the use of both quantitative and qualitative methods can provide a better understanding of research problems than either approach alone (Zhang & Watanabe-Galloway, 2014), the authors opted to collect both quantitative and qualitative data for Research Question 3. Quantitative data regarding treatment acceptability were analyzed via descriptive statistics (frequency counts, means, and standard deviations).

All interview data were entered into QSR International’s NVivo 12 Software (QSR International, 2020) to facilitate data management. Qualitative data were analyzed following Braun and Clarke, (2006) principles of thematic analysis with no predetermined framework guiding our coding scheme. Instead, two bilingual/bicultural coders open coded all interview transcripts to elicit major themes. Coder 1 was the first author of the present study who is a male doctoral student with previous experience in thematic coding. Coder 2 was an undergraduate female with no prior experience in coding who was trained by Coder 1. The coders along with
senior members of the research team met on a weekly basis to compare codes and discuss coding discrepancies in order to develop and redefine a codebook with major themes and subthemes. Coding discrepancies were resolved via consensus through the modification and/or merging of existing codes. Following guidelines by Braun and Clarke (2021), data saturation was reached when the data became redundant, and no new themes emerged throughout group consensus meetings. A finalized version of the codebook was consolidated once data saturation was reached, and no major themes and subthemes emerged. Qualitative data were coded using the finalized version of the codebook and frequency counts were calculated for each sub-theme (see Table 9).
Chapter 4: Results

As noted in Chapter 3, this study aimed to answer the following research questions:

1) **Research Question 1**: Do SSLs who are depressed perceive that treatment delivered via telehealth (i.e., ZOOM video call) will be useful (prior to engaging in treatment)?

2) **Research Question 2**: Do SSLs who are depressed perceive the use of the treatment platform (i.e., ZOOM video call) as easy to use at the outset and at the conclusion of treatment?

3) **Research Question 3**: Do SSLs who are depressed rate behavioral activation delivered via telehealth (i.e., ZOOM video call) as acceptable?

4) **Research Question 4**: What is the feasibility of delivering BATD-R via telehealth (i.e., Zoom video call) to SSLs who are depressed?

5) **Research Question 5**: Will Spanish-speaking Latinxs who receive BATD-R delivered via telehealth (i.e., ZOOM video call) experience a reduction in depression symptoms from pre- to post- treatment?

6) **Research Question 6**: Will Spanish-speaking Latinxs who receive BATD-R via telehealth (i.e., ZOOM video call) experience a reduction in negative affect and an increase in positive affect from pre- to post-treatment?

**Participant Perception of Telehealth Before and After Treatment**

To determine whether SSLs who are depressed perceive that treatment delivered via telehealth (i.e., ZOOM video call) would be useful (Research Question 1) prior to engaging in treatment, we ran descriptive statistics including frequency counts, means, and standard deviations of participants’ perceived usefulness. As it can be observed in Table 4, the majority of participants (36%) reported that it would be useful; a minority of participants (20%) reported it
would not be useful at all \((M = 2.76; SD = 1.16)\). In addition, 21 participants (84%) reported that they had never received services via telehealth while four participants (16%) reported that they had previously received services (i.e., medical and mental health services) via telehealth.

**Table 4**  
*Usefulness and Previous Usage of Telehealth Services \((n = 25)\)*

<table>
<thead>
<tr>
<th>Usefulness of telehealth services</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Will be very useful</td>
<td>6</td>
<td>24%</td>
</tr>
<tr>
<td>Will be useful</td>
<td>9</td>
<td>36%</td>
</tr>
<tr>
<td>May be useful</td>
<td>5</td>
<td>20%</td>
</tr>
<tr>
<td>Will not be useful at all</td>
<td>5</td>
<td>20%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Previous Usage of telehealth services</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>21</td>
<td>84%</td>
</tr>
<tr>
<td>Yes</td>
<td>4</td>
<td>16%</td>
</tr>
</tbody>
</table>

Note. Participants were asked about perceived usefulness and previous usage of telehealth services during the phone screen stage and prior to commencing treatment.

We also asked participants to what degree the treatment platform (i.e., ZOOM video call) was easy to use (Research Question 2) at the beginning and at the conclusion of treatment. At pre-treatment, the majority of participants (40%) reported that it would be easy to use; three participants (12%) reported it would not be easy at all \((M = 3.36; SD = 1.35)\). See Table 5 for full details.

**Table 5**  
*Perceived Ease of Use of Telehealth Services*

<table>
<thead>
<tr>
<th>Total sample ((n = 25))</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>How easy is it to use telehealth services?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very easy</td>
<td>5</td>
<td>20%</td>
</tr>
<tr>
<td>Easy</td>
<td>10</td>
<td>40%</td>
</tr>
<tr>
<td>Unsure</td>
<td>2</td>
<td>8%</td>
</tr>
<tr>
<td>Somewhat easy</td>
<td>5</td>
<td>20%</td>
</tr>
<tr>
<td>Not easy at all</td>
<td>3</td>
<td>12%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Treatment Completers ((n = 17))</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>How easy is it to use telehealth services?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very easy</td>
<td>5</td>
<td>29.41%</td>
</tr>
<tr>
<td>Easy</td>
<td>7</td>
<td>41.18%</td>
</tr>
<tr>
<td>Unsure</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Somewhat easy</td>
<td>5</td>
<td>29.41%</td>
</tr>
</tbody>
</table>
How easy is it to use telehealth services?

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very easy</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Easy</td>
<td>3</td>
<td>37.50%</td>
</tr>
<tr>
<td>Unsure</td>
<td>2</td>
<td>25%</td>
</tr>
<tr>
<td>Somewhat easy</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Not easy at all</td>
<td>3</td>
<td>37.50%</td>
</tr>
</tbody>
</table>

**Drop-outs (n = 8)**

Note. Participants were asked about perceived ease of telehealth services at pre-treatment.

When comparing pre-treatment percentage scores of perceived ease of use of telehealth services, the data indicated that of the eight participants who dropped out, two participants (25%) reported being unsure and three participants (37%) reported that it was not easy at all to use telehealth services respectively \((M = 2.62; SD = 1.50; \text{See Figure 4})\). In terms of treatment completers, the majority of participants (41.18%) reported that it was easy to use with five participant (29.41%) reporting it was somewhat easy to use and no participants (0%) reporting that it was not easy at all \((M = 3.70; SD = 1.21; \text{See Figure 5})\).

![Bar graph](image_url)

*Figure 3*. Bar graph depicts percentage scores of perceived ease of use of telehealth services for the total sample \((n = 25)\).
Acceptability of BA Delivered via Telehealth

To determine the degree to which participants found BATD-R delivered via telehealth acceptable (Research Question 3), we collected both quantitative and qualitative data.

Quantitative Data

To determine whether SSLs rated BATD-R via telehealth (i.e., ZOOM video call) as acceptable, we ran descriptive statistics including frequency counts, means, and standard
deviations of participants’ ratings. As it can be observed in Table 6, the majority of participants (88.23%) rated BATD-R via telehealth as very acceptable ($M = 3.88; SD = 0.33$), and only two participants (11.76%) rated it as acceptable.

**Table 6**

*Acceptability of Telehealth Services (n = 17)*

<table>
<thead>
<tr>
<th>How acceptable is the treatment received?</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very acceptable</td>
<td>15</td>
<td>88.23%</td>
</tr>
<tr>
<td>Acceptable</td>
<td>2</td>
<td>11.76%</td>
</tr>
</tbody>
</table>

*Note.* Participants’ acceptability responses were rated on a 4-point Likert scale as 1 (not acceptable at all) and 4 (very acceptable).

**Perceived Usefulness and Ease of Use of Telehealth Services**

Participants completed the Perceived Usefulness and Ease of Use Questionnaire (PUEQ) at pre- and post-treatment to determine perceived usefulness and ease of use of telehealth services (e.g., telehealth will allow me to receive the care that I need, and it will be hard to understand how to use telehealth services). Overall, participants’ PUEQ scores at post-treatment were higher as compared to pre-treatment scores, which indicated that participants perceived the telehealth service they received throughout the course of treatment as useful and easy to use. Means and standard deviations can be found in Table 7.

**Table 7**

*Perceived Usefulness and Ease of Use Questionnaire (PUEQ) Descriptive Statistics*

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUEQ pre-tx score</td>
<td>25</td>
<td>74.76</td>
<td>11.01</td>
<td>56-93</td>
</tr>
<tr>
<td>PUEQ post-tx score</td>
<td>17</td>
<td>89.12</td>
<td>11.18</td>
<td>66-99</td>
</tr>
</tbody>
</table>

*Note.* PUEQ perceived usefulness and ease of use scores are calculated on a 5-point Likert-style scale. Scores range from 1 “disagree” to 5 “agree”. Total scores range from 0 to 100.

**Satisfaction**

Participant acceptability of the intervention was also examined via the Client Satisfaction Questionnaire (CSQ-8). The CSQ-8 was completed by participants at post-treatment to
determine levels of satisfaction with the care they received. Total scores ranged from 28 to 32 with an average score of 31.37 ($SD = 1.30$). The average scores indicated that participants endorsed a high level of satisfaction with the treatment, including that they endorsed the services they received as high quality, helpful, and recommendable to family and friends.

**Qualitative Data**

As part of the third research question of the present study, we collected and analyzed qualitative data via telephone interviews upon completion of treatment to determine if participants rated BATD-R via telehealth (i.e., ZOOM video call) as acceptable. Interviews were conducted by two bilingual/bicultural doctoral students with previous training in conducting qualitative interviews. A total of 10 participants completed the exit interview and ranged in duration approximately from five minutes to 11 minutes. Participants were asked a total of 11 open-ended questions (see the Measures section) to obtain qualitative data regarding: 1) BATD-R acceptability, 2) perceived ease of use and challenges of technology throughout the course of treatment, and 3) overall satisfaction with the quality of treatment as delivered by the therapist. See Table 8 for general qualitative results.
Note. This figure illustrates the contributing factors to treatment acceptability that emerged from thematic analysis.

As it can be seen in Figure 6, treatment acceptability presented as a process. Specifically, participants reported that they had some trepidation about BATD delivered via telehealth initially (n = 6), yet as treatment progressed those trepidations began to fade away (n = 4). The arrow on the left represents the factors that emerged in the thematic analysis that contributed to the resolution of trepidations and ultimately contributed to treatment acceptability of BATD delivered via telehealth.

**Technology as a Double-Edged Sword.** First, while (n = 6) participants acknowledged and discussed the barriers associated with technology (see Table 9), they ultimately recognized the benefits associated with technology. Overall, our results indicated that at least for those participants who participated in the exit interview, the benefits outweighed the barriers as evidenced by participants successfully completing treatment (n = 10), as well as becoming more knowledgeable and confident with technology use throughout the course of treatment (n = 6). Overall, these results led the authors to conceptualize technology as a double-edged sword.

**Therapist Qualifications.** Next, results from the thematic analysis revealed that the qualifications of the therapist served as additional factors contributing to participants’ treatment acceptability. All participants (n = 10) highlighted that the therapist’s qualifications greatly contributed to their progress and satisfaction throughout the course of treatment. More specifically, participants underscored the therapist’s professionalism (n = 6), and that he was easy to understand and diligent throughout the course of treatment (n = 4). Participants (n = 7) also pointed out that the therapist’s fluency in Spanish facilitated treatment engagement and understanding of BATD-R content (see Table 8).
**Feelings of uncertainty.** Lastly, the majority of participants (n = 8) reported not having received behavioral health services in the past and shared having feelings of uncertainty regarding outcomes at the beginning of treatment. Our thematic analysis revealed that participants’ (n = 6) gains (e.g., feeling less depressed and being able to engage in meaningful activities) throughout the course of treatment contributed to resolving their feelings of uncertainty (n = 5) and that they were willing (n = 8) to recommend this treatment to friends and/or family members.

Since only 10 participants completed exit interviews in the present study, the authors acknowledge that the validity of data saturation and the results presented above may be questionable. For example, some researchers (see Fugard & Potts, 2014; Guest et al., 2006) have suggested a sample size of at least 12 participants to achieve data saturation, particularly when then qualitative research undertakes a positivist paradigm. However, previous research studies (see Boddy, 2016; Sandelowski, 1995) have argued that sample sizes in qualitative research are contextual and that small sample sizes (e.g., 10 or less participants) may be adequate for sampling homogenous populations (e.g., Spanish-speaking Latinxs) in qualitative research since these data may provide relevant findings and/or implications in the research literature.

**Table 8**
*General Qualitative Results (n=10)*

<table>
<thead>
<tr>
<th>Treatment Acceptability</th>
<th>%</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial treatment expectations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Not having received behavioral health services in the past</td>
<td>80%</td>
<td>8</td>
</tr>
<tr>
<td>- Uncertain about treatment outcomes</td>
<td>60%</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Use of Technology</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Preferred device</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Mobile device (cellphone)</td>
<td>70%</td>
<td>7</td>
</tr>
<tr>
<td>- Tablet</td>
<td>10%</td>
<td>1</td>
</tr>
<tr>
<td>- Computer</td>
<td>10%</td>
<td>1</td>
</tr>
<tr>
<td>- Mobile device and computer</td>
<td>10%</td>
<td>1</td>
</tr>
</tbody>
</table>

Benefits of technology use
Convenience amid COVID-19 pandemic 50% 5
Privacy at home 40% 4

Barriers of technology use
-Technical difficulties 60% 6
-Not being able to access assignments 40% 4
-Not the same as in-person 20% 2

Becoming more experienced
-Gaining more confidence and skills 60% 6

Therapist Qualifications

Therapist’s Language
-Spanish fluency 70% 7

Therapist’s skills
-Professionalism 60% 6
-Easy to understand 40% 4
-Kind and diligent 40% 4

Feasibility of BA Delivered via Telehealth

The fourth research question of the present study aimed to determine the feasibility of delivering BATD-R via telehealth (i.e., Zoom video call) to depressed SSLs as measured by frequency counts, means, and standard deviations of participant enrollment, retention, and dropout rates from pre-treatment to post-treatment. A total of 28 participants met the inclusion criteria described above. Of these, seven (25%) participants did not commence treatment and three (10.71%) dropped out throughout the course of treatment. Participants who completed treatment attended a mean of 8.70 sessions (SD = 1.60; range 5-10 sessions). The three participants who dropped out completed a mean number of 3.33 sessions (SD = 1.53; range 2-5 sessions). The participants who dropped out had PHQ-9 scores at pre-treatment baseline scores ranging from 10-13 (M = 11.67; SD = 1.53) while the 19 participants who completed treatment had PHQ-9 scores at pre-treatment baseline scores ranging from 10-27 (M = 13.19; SD = 4.23). Lastly, a total of 21 (85%) participants met DSM-5 diagnostic criteria for comorbid generalized anxiety disorder (GAD); two of these participants dropped out of treatment.
Preliminary Efficacy

**Depressive Symptoms.** A paired sample t-test was conducted to examine differences in depressive symptoms as measured by the PHQ-9 from pre-treatment to post-treatment. It is important to note that participants who did not complete treatment (i.e., dropped out) were excluded from our analysis. The analysis included data from treatment completers (i.e., 17 participants from pre-treatment and post-treatment). The data were examined and met all assumptions. PHQ-9 score differences had a skewness of -0.63 (SE = 0.55) and a kurtosis of -0.28 (SE = 1.06). PHQ-9 score differences were normally distributed as assessed by Shapiro-Wilk's test ($p = .15$). There were no significant outliers as assessed by visual inspection of boxplots. Results indicated that participants had lower depressive symptoms as measured by the PHQ-9 at post-treatment ($M = 1.35$; $SD = 1.00$) when compared to pre-treatment ($M = 12.18$; $SD = 2.04$). BATD-R delivered via telehealth elicited a mean decrease in PHQ-9 scores of -10.82 (SE = 0.60), 95% CI [-12.09, -9.56] from pre-treatment to post-treatment. Further, BATD-R delivered via telehealth elicited a statistically significant decrease in depressive symptoms as measured by the PHQ-9 from pre-treatment to post-treatment, $t(16) = -18.17$, $p < .001$, $d = 2.46$.

Next, an additional paired sample t-test was conducted to examine differences in depressive symptoms as measured by the PHQ-9 from post-treatment to one-month follow-up. The analysis included data from the 17 treatment completers (i.e., 17 participants post-treatment and one-month follow-up). The data were examined, and two outliers were removed from the data set. After this, there were no outliers in the data, as assessed by inspection of boxplots. The data met the remaining assumptions. PHQ-9 score differences had a skewness of 0.27 (SE = 0.58) and a kurtosis of -0.65 (SE = 1.12). PHQ-9 score differences were normally distributed as assessed by Shapiro-Wilk's test ($p = .07$). Results indicated that there were no significant mean
differences in depressive symptoms as measured by the PHQ-9 at one-month follow-up (M = 1.60; SD = 0.99) when compared to post-treatment (M = 1.27; SD = 1.03). More specifically, there were no statistically significant changes in depressive symptoms as measured by the PHQ-9 from post-treatment to one-month follow-up, t(15) = 1.32, p = 0.34. See Figure 7 for PHQ-9 mean differences at pre-treatment, post-treatment, and one-month follow-up.

Figure 7. Bar graph depicts participants’ mean PHQ-9 scores across three time points: pre-treatment, post-treatment, and one-month follow-up. Error bars represent standard errors above the mean.

**Positive and Negative Affect.** Because the PANAS has two subscales (e.g., positive and negative affect), Two paired sample t-test were conducted to examine differences in positive and negative affect scores from pre-treatment to post-treatment. Consistent with our previous analyses, participants who did not complete treatment (i.e., dropped out) were excluded from analysis. Both paired sample t-tests analyses included data from 17 participants (i.e., treatment completers from pre-treatment and post-treatment). The data were examined and met all assumptions. PANAS positive affect score differences had a skewness of 0.16 (SE = 0.55) and a
kurtosis of -0.30 ($SE = 1.06$). PANAS positive score differences were normally distributed as assessed by Shapiro-Wilk's test ($p = 0.90$). There were no significant outliers as assessed by visual inspection of boxplots. In a similar way, PANAS negative affect score differences had a skewness of 0.08 ($SE = 0.55$) and a kurtosis of -0.74 ($SE = 1.06$). PANAS negative score differences were normally distributed as assessed by Shapiro-Wilk's test ($p = 0.78$).

Results indicated that participants had higher positive affect scores as measured by the PANAS at post-treatment ($M = 36.71; SD = 8.22$) when compared to pre-treatment ($M = 15.88; SD = 5.47$). BATD-R delivered via telehealth elicited a mean increase in positive affect scores of 20.82 ($SE = 2.83$), 95% CI [14.73, 26.91] from pre-treatment to post-treatment. Conversely, participants had lower negative affect scores as measured by the PANAS at post-treatment ($M = 12.88; SD = 2.42$) when compared to pre-treatment ($M = 25.65; SD = 5.95$). BATD-R delivered via telehealth elicited a mean decrease in negative affect scores of -11.77 ($SE = 1.77$), 95% CI [-15.52, -8.01] from pre-treatment to post-treatment. Further, BATD-R elicited a statistically significant increase in positive after scores as measures by the PANAS from pre-treatment to post-treatment, $t(16) = 7.24, p < .001, d = 1.75$ and a statistically significant decrease in negative affect scores as measures by the PANAS from pre-treatment to post-treatment, $t(16) = -6.81, p < .001, d = 1.61$.

Next, two more paired sample t-test were conducted to examine differences in positive and negative affect scores as measured by the PANAS from post-treatment to one-month follow-up. Both paired sample t-tests analyses included data from 17 participants. Three outliers were removed from the dataset. After this, there were no outliers in the data, as assessed by inspection of boxplots and the data were examined and met all assumptions. PANAS positive affect score differences had a skewness of -0.08 ($SE = 0.58$) and a kurtosis of -1.47 ($SE = 1.12$). Data
pertaining to PANAS negative score differences were examined and two outliers in the data set was removed. After this, there were no outliers in the data, as assessed by inspection of boxplots. The data met the remaining assumptions. PANAS negative score differences had a skewness of 0.86 ($SE = 0.60$) and a kurtosis of 0.29 ($SE = 1.15$). PANAS negative score differences were normally distributed as assessed by Shapiro-Wilk's test ($p = .11$).

Results indicated that there were no significant mean differences in PANAS positive affect at one-month follow-up ($M = 36.57; SD = 6.16$) when compared to post-treatment ($M = 36.00; SD = 8.83$), $t(13) = 0.43, p = 0.68$. However, our resulted indicated that participants had higher negative affect scores as measured by the PANAS at one-month follow-up ($M = 15.13; SD = 2.18$) when compared to post-treatment ($M = 12.81; SD = 2.48$). There was a mean increase in negative affect scores of 2.31 ($SE = 0.48$), 95% CI [1.31, 3.32] from post-treatment to one-month follow-up. More specifically, there was a statistically significant increase in negative affect scores from post-treatment to one-month follow-up, $t(14) = 4.90, p < .001, d = 1.23$. See Figure 8 for PANAS positive and negative scores at pre-treatment, post-treatment, and one-month follow-up.
Figure 8. Bar graph depicts participants’ mean PANAS positive and negative scores across three time points: pre-treatment, post-treatment, and one-month follow-up. Error bars represent standard errors above the mean.

**Clinical Significance Change.** In order to examine the relevance of clinical significance in the present study, we calculated the clinically significant change (CSC) of participants’ functioning from pre-treatment. Following with Jacobson and Traux (1992) methodology, we calculated CSC, which utilizes a formula in which $M_1$ refers to the mean of a normal population and $M_2$ is the mean of the pretest scores. After reviewing the literature on the PHQ-9, we obtained the mean score from a predominantly SSL adult sample ($M = 4.70, SD = 5.00$; Huan et al., 2006), which was used as $M_1$ in the formula. The CSC cutoff score was determined as follows:

$$CSC \text{ Cut off} = \frac{M_1 + M_2}{2} \quad PHQ - 9 = \frac{4.70 + 13.24}{2} = 8.97$$
In addition to determining CSC, we calculated the percentage of participants that had subclinical symptoms of depression at post-treatment, as well as identifying participants that achieved high-end state functioning (HESF) at the completion of treatment. Following Farchione and colleagues’ (2012) methodology, we established which participants achieved HESF with the following criteria: 1) did not meet diagnostic criteria after treatment was completed; and 2) achieved a 30% or greater improvement on the PHQ-9. With regard to CSC, sixteen participants (94.12%) experienced clinically significant change according to calculated cutoff criteria. Notably, all but one participant (5.88%) had minimal symptoms of depression at post-treatment. Lastly, a 30% reduction rate (3.97) of initial PHQ-9 scores ($M = 13.24; SD = 3.73$) were calculated for each participant who completed treatment. Results indicated that all but one participant (94.12%) experienced at least a 30% reduction in scores on the PHQ-9 at post-treatment.
Chapter 5: Discussion

The present study sought to examine the acceptability and feasibility of delivering BATD-R via telehealth (i.e., ZOOM video call) to depressed SSLs. Using both quantitative and qualitative methodologies, this study examined SSLs’ perceived usefulness of telehealth services prior to commencing treatment, perceived ease of use telehealth services at the conclusion of treatment, and overall acceptability of BATD-R delivered via telehealth (i.e., ZOOM video call). In addition, this study examined the efficacy of delivering BATD-R delivered via telehealth (i.e., ZOOM video call) with respect to depressive symptoms, as well as positive and negative affect across three time points: pre-treatment, post-treatment, and one-month follow-up. Overall, our results provided promising preliminary data to support the acceptability, feasibility, and efficacy of BATD-R delivered via telehealth (i.e., ZOOM video call) for depressed SSLs.

Feasibility of BATD-R via Telehealth

BATD-R (Lejuez et al., 2011) was developed to improve treatment delivery and patient acceptability by providing treatment elements, procedures, and forms in a manner that would be more simplified and easier to understand while retaining key theoretical underpinnings. While BATD-R can be modified to reduce the number of sessions whenever necessary, previous BATD-R studies have found significant reductions in depressive symptoms after six to eight sessions (Collado et al., 2016; Daughters, 2008; MacPherson et al., 2010). In a similar way, the research literature has documented evidence (see Richards et al., 2015; Spijkerman et al., 2016; Vallury et al., 2015) to support the efficacy of telehealth as a modality for delivering behavioral health services. More specifically, the literature indicates comparable patient perceptions of telehealth services to in-person treatment delivery (Jenkins-Guarnieri et al., 2015). Thus, our expectations were that BATD-R via telehealth (e.g., ZOOM video call) would mitigate barriers
to treatment (e.g., stigma, limited availability of bilingual therapists, lack of transportation, and geographical location) that could have not otherwise been addressed via BATD-R delivered in-person amid the COVID-19 pandemic. It is worth noting that the examination of the treatment effects was exploratory in nature given the relatively small sample size of the present study.

Perceived Usefulness and Ease of Use of Telehealth

Although the majority of participants (84%) indicated that they had never received telehealth services prior to commencing treatment, our results suggest that most participants perceived it would be useful to use telehealth services prior to initiating telehealth services. It is worth noting that during the phone screen stage, five participants reported that they would prefer to receive in-person services rather than via telehealth. Of these five participants, all reported that they have never received telehealth services and two dropped out after having completed their intake sessions. Our data indicated that these two participants had an undocumented status, were over the age of 50 (i.e., 52 and 55 years of age) at the time of drop out and had middle school educational levels. While there are no sufficient data to investigate this, these results suggest that individuals who do not perceive the use of technology as useful prior to initiating treatment (BATD-R delivered via telehealth) may be at risk of dropout.

Next, the majority of the participants who commenced treatment reported that it would be easy to use telehealth services while three (12%) participants reported that it would not be easy at all, and two participants (8%) reported that they were unsure. Notably, the three participants who reported that it would not be easy at all to use telehealth services also reported that they have not received telehealth services in the past. Similarly, this was also the case for participants who reported feeling unsure about using telehealth services. Overall, our data did not seem to indicate that participants’ age (ages ranging from 33 to 55 years of age) was associated with perceived
ease of use; however, our data revealed that participants with lower perceptions of ease of telehealth use was associated with lower levels of education (i.e., middles school or below). Recent statistics indicate that a quarter of Latinx adults living in the U.S. use solely smartphones to access the internet (Atske and Perrin, 2021) and that the adoption of internet services varies substantially by educational levels, with individuals with lower levels of education (high school or below) having less access to internet services at home (Perrin, 2021). Because 70% of our sample reported having used mobile phones when receiving BATD-R via telehealth, they may have been more likely to perceive the use of technology (e.g., mobile phone) as easy given they prior experiences with mobile devices. Similarly, participants with lower educational levels may have experienced limited access to internet services, which may have limited their ability to attend treatment. Overall, our results indicate that most participants (with or without prior exposure to telehealth services and who completed treatment) perceived the use of telehealth services to be easy.

**Technology Acceptance Model (TAM).** According to TAM (Davis, 1989), individuals’ perceptions regarding to the usefulness and ease of use of technology will influence their attitudes and actual use of technology. This study examined the perceived usefulness of telehealth prior to commencing treatment, and perceived ease of use at the outset and at the conclusion of treatment. Though the research on perceived usefulness of behavioral health services via telehealth among SSLs is limited, some studies have examined the positive association between attitudes toward technology and intention to use telehealth services. For example, Ghaddar and colleagues (2020) that even though participants were not familiar with telehealth services, they perceived these services as useful and easy to use and expressed intentions to use these services after they had gained a better understanding of telehealth
services. Similarly, another study (see Kamal et al., 2020) investigated factors influencing the intention to use technology among rural Pakistani patients and found that intention to use technology was a function of perceived usefulness and ease of use of telehealth services.

These results are consistent with our findings. More specifically, although we did not perform statistical analyses between participants’ perceived usefulness and ease of use of telehealth services and intention to use telehealth services, descriptive data from the present study found that even though the majority of participants had not used telehealth services in the past, they still reported that these would be useful. Moreover, the data from the present study found that participants’ perceived ease of use of telehealth services slightly increased from pre-treatment to post-treatment. We also observed that in some cases demographic variables (e.g., age, immigration status, educational level, and no prior exposure to telehealth services) may have influenced SSLs’ perceived usefulness and ease of use prior to engaging in treatment. Overall, our findings are in line with the TAM’s casual pathway in which perceived usefulness and ease of use of telehealth services can shape attitudes and behavioral intention to use technology, and that attitudes and behavioral intention to use telehealth may be further amplified after having been exposed to technology (e.g., ZOOM video call).

**Treatment Acceptability**

Descriptive data from the present study revealed that the majority of participants rated BATD-R delivered via telehealth as acceptable. Notably, 14 or 56% of our sample reported that they had previously received behavioral health services in the past. The research literature has documented that ethnic and cultural differences may influence patient’s acceptability of treatments for depression (see Cooper et al., 2003). For example, people of color (POC; e.g., Latinxs and African Americans) may be less likely to find certain treatments for depression (e.g.,
antidepressants) as acceptable. Further, personal beliefs (e.g., stigma, lack of knowledge, and misconceptions) may deter individuals from accessing mental health services (Benuto et al., 2019). Because approximately half of our sample had previously received behavioral health services in the past, it is likely that they were more amenable to seek out services to treat their symptoms of depression and accepting of the treatment (i.e., BATD-R) they received.

**Exit Interviews.** Qualitative data from the exit interviews provided further evidence to support the acceptability of BATD-R delivered via telehealth (i.e., ZOOM video call). As discussed previously, participants’ treatment acceptability consisted of a multi-faceted process influenced by different factors throughout the course of treatment. In terms of technology, data from the thematic analysis revealed that participants encountered both challenges and benefits; however, the benefits of technology use were of greater importance to participants as compared to the technology-related challenges that they encountered. These findings have significant implication for clinical practices in the delivery telehealth-based services. It is important to highlight that clinicians should be aware of potential technology-related barriers that SSL clients may encounter throughout the course of treatment. Moreover, the clinician should be ready to provide guidance and/or resources on how to troubleshoot these, as well as utilize effective time management strategies (e.g., starting session on time and/or outlining treatment structure) as a means to maximize the time allocated to treatment sessions and establish strong therapeutic alliances.

Similarly, our results suggested that SSL clients may be uncertain about the treatment and/or outcomes during the early stages of treatment; thus, it is critical that clinicians remain aware of this and perhaps query their clients about possible uncertainties (e.g., unsure about treatment structure and/or benefits) and address these early in the course of treatment, rather than
later. Indeed, previous research has documented that clinicians who consistently acknowledge clients’ feelings of uncertainty during clinical care and engage in patient-centered behaviors (e.g., being responsive of client’s needs and values) can reduce the stressful effects associated with uncertainty (Politi et al., 2013).

Overall, participants reported that they perceived BATD-R to be acceptable and shared positive experiences regarding BATD-R structure and assignments (e.g., remaining engaged and active). In contrast, some of the negative experiences that participants shared regarding BATD-R were that assignments (e.g., Daily Monitoring Form and Life Areas, Values, and Activities Inventory and Activity Planning) were laborious and seemed to conflict with their busy schedules at times.

In response to these challenges, one participant expressed that it would be helpful to reduce the amount of Daily Monitoring Form assignments and another participant shared that it would be helpful to receive treatment session and assignment reminders. In addition, participants reported some experiences of technological problems (e.g., not being able to access treatment session and/or assignments), but with the exposure and practice they eventually felt more comfortable with the use of technology. Of the few participants who reported being unable to access their assignments, they reported that they used a paper notebook to complete their assignments.

Conversely, participants also noted advantages to using telehealth services such as perceived convenience and privacy in their homes amid the COVID-19 pandemic. Lastly, most participants highlighted the therapist’s qualifications (e.g., professionalism, ease of understanding, kindness, and diligence) to deliver the treatment and contributing to their treatment outcomes.
To date, few studies have examined the acceptability of BATD in clinical trials. For example, Benuto and Reinoso-Segovia (2022) conducted a mixed methods study to examine BA acceptability among Latina women and found that Latinas had generally positive attitudes towards BA. In addition, Myhre et al., (2018) examine the acceptability of BATD among patients admitted to psychiatric intensive care in Norway. The authors found high acceptability rating as measured by the Treatment Evaluation Inventory—Short Form (TEI-SF) and attributed these results to the individualistic nature of BATD.

Similarly, Collado et al., (2014) examined treatment acceptability of a Spanish version of BATD among Latinxs with limited English proficiency at 1-month follow-up via in-depth qualitative interviews. The authors found that BATD was highly acceptable and easy to understand, the therapeutic alliance was very important, and that homework completion was easy. Overall, these results are consistent with our findings, with the exception of perceived ease of homework completion due to busy schedules. Thus, our results add to the acceptability literature towards BATD-R, particularly regarding the use of telehealth for the delivery of behavioral health services.

**Treatment Satisfaction.** Participants reported high levels of satisfaction with the treatment they received (i.e., scores ranging from 28 to 32) and indicated that they would “highly recommend” the treatment to friends or family members. These findings are consistent with existing BATD studies that has demonstrated that participants endorse high levels of treatment satisfaction among depressed cancer patients (see Hopko et al., 2011), and with depressed SSLs (see Collado et al., 2014; Collado et al., 2016). Our results extend to include client satisfaction with BATD-R as delivered via telehealth.
Dropout Rates. A total of ten participants (37.04%) dropped out of treatment. Six participants (22.22%) did not commence treatment and two participants (7.41%) dropped out during the course of treatment. Of these three participants who dropped out, two participants stopped attending sessions after having completed their intake sessions and one participant stopped attending session after BATD-R session three. All of these participants reported having busy schedules and limited availability to attend treatment sessions. A meta-analysis by Fernandez and colleagues (2015) found that a 26.2% drop out rate during treatment across 115 studies with 20,995 participants receiving in-person Cognitive Behavior Therapy (CBT). In the case of internet-based CBT for depression, dropout rates are estimated to range from 0 to 72% with a mean of 32% (Schmidt et al., 2019). In terms of BATD, it is estimated that dropout rates range from 0 to 50% (Cooper and Conklin, 2015). Specific to Latinxs, Collado and colleagues, (2016) conducted a systematic review and found dropout rates that ranged from 0 to 64% for CBT, 13 to 30% for Interpersonal Therapy (IPT), 14 to 56% for Problem Solving Therapy (PST), and 20 to 48% for BA. Taken all together, the dropout rates in the present study were within the dropout ranges of existing in-person BATD and CBT studies in general, within dropout rates of other in-person treatment modalities (e.g., CBT, IPT, and PST) with Latinxs, and dropout ranges of existing in-person BA studies with Latinxs.

Preliminary Efficacy

The present study conducted an exploratory examination of the treatment effects of telehealth-delivered BATD-R for SSLs. Results from this study could be used to inform the design future studies with a larger sample size to assess the efficacy and effectiveness of telehealth-delivered BATD-R for SSLs. Thus, even though the sample size of the present study
was relatively small, our results provide promising preliminary data that can be used to inform future efficacy studies on telehealth-delivered BATD-R with SSLs.

**Treatment Outcomes**

**Depressive Symptoms.** In line with Research Question 5, results from the present study indicated a significant decrease in depressive symptoms from pre-treatment to post-treatment. This is consistent with previous in-person randomized control trials (RCTs) with BA as an active treatment have found significant reductions in depressive symptoms (see Crits-Christoph et al., 2021; Dimidjian et al., 2006; Hopko et al., 2003; Gros & Allan, 2019).

Additionally, results from our study also found that decreased depressive symptoms were sustained at one-month follow-up. These results are also consistent with previous in-person studies of BA in which treatment gains were maintained at follow-up (see McIndoo et al., 2016), and specifically with SSLs (Kanter et al., 2016; Collado et al., 2014; Collado et al., 2016).

Only a few studies of BA have examined reductions of depressive symptoms using different modalities of telehealth such as videoconference (Choi et al., 2020), videophone (Egede et al., 2016) and text messages (Pfeiffer et al., 2017). Only a couple of telehealth-delivered BA studies have examined treatment gains sustained at follow-up via a self-help app (Dahne et al., 2019) and mobile web app (Birney et al., 2019). Needless to say, the results from the present study add to the scant literature of BA delivered via telehealth and sustained gains at follow-up.

**Positive and Negative Affect.** In line with Research Question 6, results from the present study indicated a significant increase in positive affect and decrease in negative affect. However, results at one-month follow-up indicated that only positive affect outcomes were maintained while negative affect scores slightly increased from post-treatment. Depression is characterized by high and dysregulated negative affect in addition to diminished positive affect (Boumparis et
The PANAS was originally developed as an instrument capable of distinguishing between depression and anxiety symptomatology (Watson et al., 1988). More specifically, the positive affect scale of the PANAS has been found to be consistently associated solely to symptoms and diagnoses of depression while the negative affect scale of the PANAS has been generally associated with symptoms and diagnoses of both anxiety and depression (Sandín et al., 1999; Watson et al., 1988). For example, positive affect is related to positive mood, with feelings such as joy, interest, enthusiasm, and alertness (Watson et al., 1988). Negative affect reflects emotional distress, and includes moods like fear, sadness, anger and guilt (Watson et al., 1988). Notably, 21 or 84% of the participants from the present study had a comorbid diagnosis of MDD and GAD. This may explain the reason for negative affect being slightly elevated at one-month follow-up when compared to post-treatment (see Figure 3). Given that BATD-R has been specifically designed to treat depression (and not anxiety), anxiety remained untreated and related anxiety symptomatology continued to exist.

**MDD and GAD amid the COVID-19 Pandemic.** One of the most common comorbidities in behavioral health is MDD and GAD. Prevalence data indicates that approximately 60% of individuals with an anxiety disorder may have one or more anxiety or depression diagnoses (Goldstein-Piekarski et al., 2016). Given the relatively high prevalence rate of comorbidities between anxiety and depression, it is critical to consider a multiple comorbid profile as early as in the intake process. In the case of the present study, participants were assessed for both anxiety and depression symptoms at both pre-treatment and post-treatment per clinic policies. Because the authors did not observe a significant reduction in anxiety symptoms at post-treatment, it would be important to adopt transdiagnostic interventions for the treatment of multiple comorbid disorders.
Recent research has found that the COVID-19 pandemic has contributed to negative behavioral health outcomes (i.e., anxiety and depression) due to many factors, such as social isolation, financial stressors, financial instability, and loss of close family members. More specifically, among U.S. individuals with no previous behavioral health history, COVID-19 was associated with increased incidence of a first psychological diagnosis within a period of 14 to 90 days after having been diagnosed with the COVID-19 virus (Taquet et al., 2021). Notably, Traquet and colleagues analyzed data from 62,356 patients who had been diagnosed with COVID-19 between January and August of 2020 and found that the most frequent psychological diagnosis after having had COVID-19 was an anxiety disorder (e.g., adjustment disorder and GAD). Though data regarding a COVID-19 diagnosis was only obtained from four participants in the present study, it is possible that their symptoms of anxiety and/or depression may be due to a diagnosis of COVID-19 and/or the stressors associated the COVID-19 pandemic. Similarly, it is possible that participants’ increase in negative affect scores at follow-up may be due to a recent diagnosis of COVID-19 (or health problems sequelae of COVID-19), as well as encountering stressors associated the COVID-19 pandemic.

**Impact of COVID-19 on SSLs**

Unlike traditional efficacy studies, the present study took place during the COVID-19 pandemic, which has led to unprecedented effects on the lives of millions of people around the world. In the case of Latinxs, this population has been at a higher risk for hospitalization or death due to COVID-19 when compared to NLWs (Noe-Bustamante et al., 2021). In addition, data indicate that undocumented Latinx immigrants and/or their relatives were at a higher risk of losing their jobs or wages since February 2020 when compared to immigrants who were U.S. citizens (Noe-Bustamante et al., 2021). Overall, these data indicate that Latinos are at a higher
risk to experience disproportionate health and economic challenges when compared to other racial/ethnic groups, which in turn can have negative effects in their behavioral health.

**BATD amid COVID-19 Pandemic.** Throughout the course of treatment, the present study documented that at least four participants reported having had COVID-19 prior to commencing treatment and that their current presenting problems (e.g., lack of energy and fatigue) could be attributed to the sequalae of this disease. Of these participants, the majority reported that they had fully recovered and were able to engage in regular activities throughout their daily routines. However, one male participant reported that he had not been vaccinated and reported having difficulties breathing while performing his daily activities. The present study did not inquiry about vaccination status, so it remains unclear if participants were vaccinated at the time of the study (and if this may have contributed to their recovery process). As of April of 2022, vaccination data suggests that 65% of the total Latinx population in the U.S. had received at least one COVID-19 vaccine, which indicates a slightly higher rate of vaccination when compared with NLWs and Blacks (63% and 57% respectively; Ndugga et al., 2022). Lastly, some participants reported feeling afraid or uneasy due to becoming infected with the COVID-19 virus, losing a family member to COVID-19, and the uncertainty of the future related to the pandemic (e.g., going back to normality).

As part of this study, the therapist also documented throughout the course of treatment if (any) challenges associated with the COVID-19 pandemic arose while participants attempted to complete their weekly assignments (e.g., Activity Planning). None of the participants reported that the COVID-19 pandemic interfered with their weekly completion of assignments. A few participants, however, reported that they were not able to physically visit or spend time with some of their family members (e.g., adult children and grandchildren) and friends out of caution.
for not becoming infected (or getting their family members infected) with the COVID-19 virus. Whenever this was the case and the participant had previously indicated in the Life Areas, Values, and Activities Inventory that he or she wanted to improve their relationships with family members or friends, the therapist suggested alternatives that did not involve physical contact, such as video calls and telephone calls. If this was not available/possible at the time, the therapist then encouraged the participant to focus on other values and/or activities that were included in the Life Areas, Values, and Activities Inventory. It is important to note that most participants had difficulties completing the Daily Monitoring Form assignments. However, this was attributed mainly to busy schedules (e.g., work and/or family duties) rather than issues related to the COVID-19 pandemic per se.

**Cultural Tailoring of the Intervention**

Because the purpose of the present study was not culturally tailoring the intervention the therapists did their best to adhere to the BATD-R protocol throughout treatment sessions. However, there were a few instances in which the male therapist provided the clients with support and guidance when reporting feeling confused and uncertain on how to complete the Life Areas, Values, and Activities Form. More specifically, the therapist referenced values (e.g., respeto and familismo) of the Hispanic/Latinx culture and provided relevant examples when reviewing values during Session 2 of the BARD-R protocol. Aside from this deviation from the BATD-R protocol, the therapists did not report engaging in additional cultural tailoring efforts of the intervention.

**Treatment Implications**

The results from this study have crucial implications for the provision of BATD-R amid the COVID-19 pandemic. Further, the unprecedent challenges associated with accessing in-
person behavioral health services during the COVID-19 pandemic have underscore the need to examine alternate methods for treatment delivery. The provision of behavioral health services via telehealth (e.g., ZOOM video call) is one promising alternative to overcome both existing and emerging barriers to care. Since the present study identified potential factors (e.g., perceived technology usefulness and low educational levels) that may be associated with risk of drop out when delivering telehealth-based services, we recommend considering utilizing alternate methods of telehealth (e.g., text- or telephone-based services), as well as engaging in collaborative conversations (e.g., motivational interviewing strategies) to increase client buy-in, and providing information and guidance on how to use technological devices effectively before commencing treatment. Our results provide promising preliminary data to suggest that BATD-R delivered via telehealth is feasible and highly acceptable among depressed SSLs without previous usage of telehealth services. Moreover, that BATD-R delivered via telehealth can elicit significant reductions in depressive symptoms and negative affect, as well as an increases in positive affect. To the best of the authors’ knowledge, this is the first study to examine the feasibility and acceptability of delivering BATD-R via telehealth (i.e., ZOOM video call) to SSLs.

**Community Engagement for Recruitment Efforts.** It is important to note that the participation of Latinxs in clinical trials in the U.S. remains low (Byrne et al., 2021). In the case of SSLs, they may be less likely to be included and retained in clinical trials due to several factors, such as language barriers, lack of availability, distrust and/or fears associated with immigration status (Byrne et al., 2021). Thus, it is critical to consider recruitment efforts that can successfully lessen barriers to successful recruitment and retention of SSLs in clinical trials. To begin with, the recruitment of SSLs in the present study was made possible mainly due to
community engagement efforts. As described in the methodology, community engagement efforts allowed for the successful recruitment of SSLs for the present study within a period of approximately 12 months. Indeed, previous research has documented that establishing community parentships may increase the recruitment of traditionally underserved populations in clinical trials (Cyril et al., 2015). Notably, the use of a community health workers (CHW) model has been found to enhance the recruitment and retention of underserved population in clinical trials (Cyril et al., 2015). Lastly, participants in the present study frequently interacted with trained bilingual/bicultural staff throughout the course of the study (e.g., phone screen, treatment, and exit interviews), which may have contributed to the retention of participants.

Therapist’s Experiences and Allegiance Effect. As mentioned previously, except for one participant, all intake and treatment sessions were conducted by the first author of the present study (pre-doctoral level clinician). The therapist’s experiences while delivering the intervention mainly consisted of getting used to using the telehealth platform (e.g., ZOOM video call), troubleshooting participants’ technological difficulties, and building rapport with participants throughout the course of treatment. To begin with, the therapist did not receive any formal training on how to use the telehealth platform (e.g., ZOOM video call) prior to the COVID-19 pandemic. Instead, the therapist used a flexible approach to translate his previous clinical training and skills, which were learned previously while in-person therapy, to the telehealth platform. In doing so, the therapist incorporated active listening, empathy, and appropriate display of body language (e.g., facial expressions). In addition, the therapist also used some of the tools available to increase participant engagement throughout the course of treatment, such as using his whiteboard and sharing his screen to illustrate how to complete assignments and review key concepts (e.g., values and activity planning).
Next, a few participants encountered technological difficulties while attempting to access the telehealth platform (e.g., ZOOM video call) for the first few sessions. Technological difficulties included not being able to find the video call login information (e.g., meeting ID and passcode), activate the audio and/or video feature, low volume in the audio feed, and not being able to access weekly assignments in their electronic device. Although these technological decreased throughout sessions, the therapist (as well as family members) played a key role in guiding and helping the participants on how to solve these. For example, a participant reported that she was not able to access her session via the telehealth platform; the therapist called her and guided her on how to download the application, access her session, and activate her audio and video features. Overall, the resolution of these technological difficulties took anywhere from a couple of minutes to more than 15 minutes. In cases where technological difficulties took longer to troubleshoot, the therapist attempted to be flexible and complete the corresponding session within the given time frame, sometimes exceeding the allocated time for session (60 minutes) by a few minutes.

Lastly, regardless of the scenario that the client would encounter during the course of treatment, he tried his best to remain optimistic and positive in order to build and maintain rapport with participants. In some instances, participants reported having forgotten and/or running late to their scheduled sessions. In these cases, the therapist attempted his best to accommodate them at a later time within the same day, and if this was not possible, they would be rescheduled for session within the same week. In addition, a few participants attempted to attend their session via ZOOM video call while driving their vehicles and the therapist kindly explained that doing so would be both dangerous (i.e., getting involved in a car accident) and illegal (i.e., using a mobile device while operating a motor vehicle). In these instances, the
therapist offered to wait for them to safely park and attend their sessions and/or reschedule session for another day/time. Overall, participants seemed to be comfortable and responsive to the therapist’s requests and strategies when delivering the intervention via ZOOM video call. The clinical experiences and strategies outlined previously (as well as the therapist’s background) may have positively contributed to the allegiance (e.g., trust and respect) that the therapist developed with the participants of the present study.

**Limitations and Future Directions**

There were several limitations to our study, mainly the small sample size, which may influence the generalizability of our qualitative and quantitative results. Since that the present study did not have a control group, determinations of causality are limited and remain a future research direction. Additionally, due to the changing nature of the COVID-19 pandemic, there is significant potential for historical threats to internal validity. Thus, there is a need to determine whether outcomes for BATD-R delivered via telehealth resulted from the intervention components or were due to our sample characteristics or historical factors.

Future research may address these limitations by recruiting a larger sample size and conducting an RCT. Moreover, adding a control group, qualitative interviews with participants and clinicians, assessment of treatment fidelity, treatment expectancy measures at pre-treatment, and utilization of measures that do not rely on self-report to investigate mechanisms of action are some potential directions for further inquiry. These efforts to address study limitations and refine treatment components should lessen the problems encountered in the present study.

**Alpha Inflation Rate**

Alpha inflation rate may contribute to the inflation of statistical results in which Type I error rate (alpha) or false positive may occur (Ranganathan et al., 2016). The authors of the
The present study acknowledges that conducting several paired sample t-tests from the same data pool, the present results may be susceptible to Type I errors, particularly our results from the follow-up paired sample t-tests. While this is a feasibility study, it is critical to take different approaches to adjust for multiple testing. For example, several approaches can help correct alpha inflation rates, such as the Bonferroni method (Ranganathan et al., 2016). Although the Bonferroni method is a relatively simple test and ideal for multiple comparisons, it has also been criticized for being overly conservative and increasing the probability of obtaining Type II errors (e.g., false negatives (Perneger, 1998; Rothman, 1990).
References


Benuto, L. T., Gonzalez, F., Reinosa-Segovia, F., & Duckworth, M. (2019). Mental Health Literacy, Stigma, and Behavioral Health Service Use: The Case of Latinx and Non-


https://doi.org/10.1037/lat0000009

https://doi.org/10.1037/a0019021


Hovey, J. D., & Magaña, C. G. (2003). Suicide risk factors among Mexican migrant farmworker women in the Midwest United States. *Archives of Suicide Research, 7*(2), 107-121. https://doi.org/10.1080/13811110301579


Kroenke, K., Spitzer, R. L., & Williams, J. B. (2003). The Patient Health Questionnaire-2: validity of a two-item depression screener. Medical Care, 1284-1292. https://doi.org/10.1097/01.MLR.000093487.78664.3C


https://doi.org/10.1177/0145445510390929


https://doi.org/10.1177/193229681200600121


depression: A randomized controlled trial. *Journal of Consulting and Clinical Psychology*, 84(11), 923. [https://doi.org/10.1037/ccp0000135](https://doi.org/10.1037/ccp0000135)


https://doi.org/10.1080/10510970009388516


https://doi.org/10.1177/1357633X16659955

Politi, M. C., Dizon, D. S., Frosch, D. L., Kuzemchak, M. D., & Stiggelbout, A. M. (2013). Importance of clarifying patients’ desired role in shared decision making to match their level of engagement with their preferences. *BMJ, 347.* https://doi.org/10.1136/bmj.f7066


https://doi.org/10.1002/cpp.1855


https://doi.org/10.1016/j.diabres.2015.07.007


https://www.census.gov/content/dam/Census/library/publications/2016/acs/acsgeo-1.pdf


https://doi.org/10.1016/j.beth.2022.03.003


status populations: a systematic review and meta-analysis. *Clinical Psychology Review*, 38, 65-78. [https://doi.org/10.1016/j.cpr.2015.03.001](https://doi.org/10.1016/j.cpr.2015.03.001)


https://doi.org/10.1080/16506073.2010.550058


https://doi.org/10.1176/ajp.127.12.1684


https://doi.org/10.1016/j.cpr.2016.03.009


https://doi.org/10.2174/1573400512666160216234524

members: a pilot randomized controlled trial. *The Journal of Nervous and Mental Disease, 199*(9), 678-683. [https://doi.org/10.1097/NMD.0b013e318229d100](https://doi.org/10.1097/NMD.0b013e318229d100)

Vallury, K. D., Jones, M., & Oosterbroek, C. (2015). Computerized cognitive behavior therapy for anxiety and depression in rural areas: a systematic review. *Journal of Medical Internet Research, 17*(6), e139. [https://doi.org/10.2196/jmir.4145](https://doi.org/10.2196/jmir.4145)


