

Treatment Format as a Moderator of Client Outcomes During
In-Person versus Telehealth Counseling with Trainees

by

Jessica Gerton

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Graduate Supervisory Committee:

Lisa Spanierman, Co-Chair
James Bludworth, Co-Chair
Frank Dillon

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ABSTRACT

The onset of the COVID-19 pandemic during the spring of 2020 necessitated a sudden and national transition from in-person to telehealth mental health services. Burgeoning literature has supported the use of telehealth services generally, though there is little research related to its use among graduate-level trainees. The present study utilized data collected from a university counseling training center to compare client outcomes, namely ratings of depression and anxiety, between in-person (pre-pandemic; $n = 86$) and telehealth (intra-pandemic; $n = 102$) groups. Additionally, I examined treatment format (in-person vs. telehealth) as moderator of the association between client-reported working alliance and client-reported outcomes. Results showed a significant and negative effect of the working alliance on symptoms of depression and anxiety regardless treatment format. Implications for research and practice are discussed.

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CHAPTER 1

INTRODUCTION

The onset of the COVID-19 pandemic necessitated a rapid transition of mental health services from in-person to telehealth counseling globally (D'Agostino et al., 2020; Goldschmidt et al., 2021; Liu et al., 2020; Situmorang, 2020). According to a national survey among 2,169 licensed psychologists in the United States, approximately 7% of services were provided via telehealth prior to the pandemic, compared to more than 85% during the pandemic (Pierce et al., 2021). These psychologists anticipated that over 30% of their work would utilize telehealth services after the pandemic, indicating a trend towards telehealth.

Empirical research has consistently supported the effectiveness of telehealth counseling generally (Andrews et al., 2018; Barak et al., 2007; Wagner et al., 2014), though, to my knowledge, no empirical study has been published related to its use among graduate trainees. Monitoring client outcomes within graduate training programs utilizing telehealth services is an imperative step in ensuring comparable outcomes between in-person and telehealth services, as well as to inform clinician training. Thus, the goal of the present study was to assess client outcomes, namely symptoms of depression and anxiety, among clients who attended telehealth counseling with graduate counselor trainees. This study will address treatment format (in-person vs. telehealth) as a potential moderator of the effects of the working alliance on client outcomes. Utilizing a year of telehealth data produced by the unprecedented circumstances of COVID-19, I compare client outcomes with data gathered from clients who attended in-person counseling services prior to the pandemic.

Trending Towards Telehealth Counseling

The American Psychological Association (2014) defined telehealth as services delivered using technological tools such as telephones and online platforms either in place of or in addition to in-person services. Prior to the COVID-19 pandemic, telehealth counseling had been a budding practice within the field (Pierce et al., 2021; Situmorang, 2020). Telephones have been a useful tool for delivering counseling since the 1950s, and most recently, HIPAA-compliant internet-based platforms such as Zoom, Doxy.ME, and TheraPlatform have been popular among clinicians offering telehealth services (Allerman, 2002; Situmorang, 2020; Wootton et al., 2020). Telehealth advocates emphasize its accessibility, as telehealth counseling allows clinicians to reach a wider pool of clients without the need for commuting or a local office (Situmorang, 2020). Critics of telehealth counseling note its unique set of challenges, including client access to compatible devices and stable internet, privacy and security concerns, jurisdictional licensing, and limited telehealth training and ethical standards (Situmorang, 2020; Wootton et al., 2020). Regardless of these challenges, telehealth counseling was the best option for many during the COVID-19 outbreak (Situmorang, 2020).

Client Outcomes within Telehealth Counseling

Though debated since its inception, existing literature suggests that telehealth counseling is an effective format of service (Barak et al., 2007; Pierce et al., 2021; Varker et al., 2019). For example, Varker and colleagues (2019) conducted a rapid evidence assessment of 24 randomized controlled studies considering the effect of telehealth counseling on depression, anxiety, post-traumatic stress disorder, and adjustment disorder. They found sufficient evidence in support of both telephone- and video-

delivered services for treating these conditions. Similarly, Wagner et al. (2014) compared internet versus in-person cognitive behavioral treatment (CBT) for clients experiencing depression. The formats were comparably effective. Interestingly, the researchers found that the internet group maintained positive gains three months later, but the in-person group did not. In an additional meta-analysis of 64 studies, Andrews et al. (2018) found that CBT delivered virtually was effective in treating both depression and anxiety disorders. Though the aforementioned literature is compelling, an important factor to consider when understanding the efficacy of counseling services is the working alliance, a common factor of effective counseling and a key predictor related to client outcomes (Horvath et al., 2011). However, some researchers have questioned the relevance of the working alliance to telehealth approaches, suggesting that it may be a less relevant predictor of outcomes in telehealth services compared to in-person services (Andersson et al., 2012; Knaevelsrud & Maerker, 2006; Preschl et al., 2011).

The Working Alliance within Telehealth Counseling

Although there is variation in the literature, the working alliance is generally characterized by collaboration and consensus between the client and counselor (Horvath et al., 2011). Measurement tends to focus on three processes: agreement on therapeutic goals, consensus on therapy tasks, and the bond between the client and their counselor. The working alliance is an important common factor and predictor of outcomes, including symptoms of depression and anxiety, in psychotherapy (Horvath et al., 2011). Enhancing the vast literature related to the working alliance, several meta-analyses identified the moderate yet consistent effect size of working alliance on therapy outcomes ($r_s = .22-.28$; Horvath et al., 2011; Horvath & Symonds, 1991; Martin et al., 2000).

Research suggests that clients and counselors can still develop a working alliance through telehealth services (Cook & Doyle, 2004; Kiluk et al., 2014; Lingely-Pottie & McGrath, 2006; Preschl et al., 2011). A meta-analysis by Flückiger et al. (2018) found the correlations between working alliance and treatment outcome were positive for both in-person (.278) and telehealth counseling (.275), suggesting that the working alliance is positively related to client outcomes via telehealth and may have a similar effect when compared to in-person services. Notably, the correlation for in-person counseling employed 295 independent alliance-outcome relations, whereas the correlation for telehealth assessed only 58 alliance-outcome relations from 23 independent samples. Furthermore, Flückiger et al. (2018) included studies of therapy offered via Internet, e-mail, videoconferencing, or phone in this telehealth estimate. Thus, we must be cautious in generalizing this correlation to telehealth counseling as it is used today.

Although many agree that clients and counselors utilizing telehealth counseling services can develop a working alliance comparable to that of in-person counseling, many question the strength of the association between the working alliance and therapeutic outcomes via telehealth. Several empirical studies suggest that the working alliance may be a less relevant predictor of therapeutic outcomes in virtual settings (Andersson et al., 2012; Knaevelsrud & Maerker, 2006; Preschl et al., 2011). These studies have focused on asynchronous internet communications, such as e-mail, and did not examine the effect of the working alliance on client outcomes utilizing video communication. In the present study, I assessed if and how treatment format (in-person vs. telehealth via video) affects the association between the working alliance and therapeutic outcomes.

Telehealth Counseling among Counselor Trainees

Despite the ample literature offering support of telehealth counseling, little research focuses on telehealth services provided by counselor trainees. Professionals have long been calling for an integration of telehealth and in-person training (Colbow, 2013), though the gaps in the research seem to suggest that many academic programs had not considered telehealth training to be necessary prior to the COVID-19 pandemic. A possible explanation for this gap in could be related to logistic constraints within training programs, such as supervision requirements and access to secure telehealth platforms. The COVID-19 pandemic and subsequent closure of in-person training clinics required programs to adapt quickly to employ telehealth counseling (Pierce et al., 2020). These unprecedented circumstances provided researchers with unexpected opportunities to investigate the use of telehealth services.

Some researchers have begun to explore the impacts of COVID-19 on telehealth and counselor trainees. Schneider and colleagues (2021) for example, utilized both qualitative and quantitative methods to examine the mental health symptoms, sense of safety, and actual versus desired support among counselor trainees themselves. Assessed during April 2020, trainees reported elevated anxiety and depressive symptoms, as well as an expressed desire for more support, better communication, and flexible training requirements. More than 85% of these trainees reported working via telehealth at least part time (Schneider et al., 2021). Also using a mixed methods approach, Dopp et al. (2021) explored trainee perspectives of telehealth training. The 19 doctoral trainees in their sample included 10 students from counseling psychology program and 9 students from a clinical psychology program. Dopp and colleagues (2021) reported that doctoral

trainees developed a sense of competence providing telehealth services and were interested in pursuing future telehealth experiences. It is conceivable that this sense of competence, in addition to elevated anxiety or depressive symptoms, could influence the efficacy of telehealth counseling delivered by trainees. As such, it is important to monitor client outcomes within graduate training programs utilizing telehealth services.

In a recent pilot study, Gerton et al. (2022) considered the impact of the transition to telehealth services provided by counselor trainees on client outcomes. Their sample included clients who attended in-person services during the spring of 2020, then returned for telehealth treatment during summer 2020 after a 10-week transitional period. Due to the sudden COVID-19 pandemic, many clients receiving in-person services during the spring were unable or unwilling to continue with telehealth (74.20%) in the summer, thus resulting in a small sample size ($N = 15$). The researchers examined the influence of treatment format (in-person vs. telehealth) on three measured outcomes: client-perceived working alliance, symptoms of depression, and symptoms of anxiety. Results showed no significant differences between the in-person and telehealth sessions on any of the outcomes, strengthening the claim that the working alliance develops similarly between in-person and telehealth counseling. Additionally, there was a significant decrease in depressive and anxiety symptoms and significant increase in working alliance during the telehealth semester, suggesting that the telehealth services provided by counselor trainees were effective. The trends observed during the in-person semester were similar, although not significant, likely related to the small dataset.

The Present Study

In the present study, I assessed both telehealth and in-person services provided by counselor trainees, a previously understudied group in telehealth literature. I extended preliminary findings from Gerton et al. (2022), who examined the working alliance among a small sample and only as an outcome variable. More specifically, I conducted two separate hierarchical linear mixed effect models to assess treatment format as a potential moderator of the association between the client-rated working alliance and client-reported symptoms of depression and anxiety. Hypotheses are:

1. Consistent with the extant literature (see Flückiger and colleagues, 2018), I hypothesized that client-rated measures of working alliance would predict client symptoms reported at the final session for both the in-person and telehealth groups. Specifically, I hypothesized that higher working alliance scores would predict lower symptoms of depression and anxiety.
2. I addressed an unsettled debate in the literature as to whether the effect of working alliance on client outcomes will be similar or different between in person-counseling and telehealth counseling. In other words, I assessed whether treatment format moderated the association between working alliance and client outcomes. Noted above, Flückiger and colleagues (2018) suggest similar effects based on reported correlations between working alliance and outcomes that are comparable for both in-person and telehealth groups, but others suggest the working alliance may be a less meaningful predictor of therapeutic outcomes in virtual settings (Andersson et al., 2012; Knaevelsrud & Maerker, 2006; Preschl et al., 2011).

CHAPTER 2

METHOD

Participants

I utilized existing data from a larger longitudinal research project examining associations among process and outcome variables at the university's training clinic (Aoyagi, Holzapfel, & Bludworth, 2019; Aoyagi, Holzapfel, Bludworth, & Tracey, 2019; Cheung, 2019; Gerton et al., 2022). Among the studies utilizing data from this larger project, only one study to date explored telehealth counseling (Gerton et al., 2022). In the present study, I utilized a different sample than the aforementioned research. Specifically, the current data included clients ($N = 188$) who received in-person therapy during the fall 2018, spring 2019, and fall 2019 semesters ($n = 86$), as well as clients who received telehealth therapy during the fall 2020, spring 2021, and fall 2021 semesters ($n = 102$). Clients must have attended four sessions to be included in the present study. For clients who attended counseling over multiple semesters, I only included data from their first attended semester. Clients attended 4 to 14 total sessions ($M = 10.14$, $SD = 2.91$).

Participants ages ranged from 18 to 61 years ($M = 25.97$, $SD = 8.33$). A total of 128 (68.08%) were cisgender women, and 47 (25.00%) were cisgender men. Thirteen clients identified as transgender or non-binary (6.91%). In terms of sexual orientation, 123 (65.43%) identified as heterosexual/straight, 27 (14.36%) as bisexual, 18 (9.57%) as gay/lesbian, 8 (4.26%) identified as queer, 3 (1.60%) identified as asexual, 6 (3.19%) identified as questioning, and 3 (1.60%) preferred not to answer. In terms of racial/ethnic backgrounds, 110 (58.51%) were White, 29 (15.43%) were Latinx, 18 (9.57%) identified as biracial or multiracial, 16 (8.51%) were Asian American, 6 (3.19%) were Black or

African American, 5 (2.66%) were Middle Eastern or North African, and 4 (2.13%) preferred not to answer. In terms of university affiliation, 114 (60.64%) of the clients were students, 19 (10.11%) were staff or faculty, and 55 (29.26%) were community members not affiliated with the university. See Table 1 for demographic information.

Although the present analysis does not include any counselor trainee data, I provide the available counselor trainee demographic information as context for the nested design of this study. This analysis includes 62 counselor trainees (hereafter referred to as counselors). Counselors saw 2-7 clients ($M = 3.03$; $SD = 1.34$). Eight of the 62 counselors (12.90%) were enrolled in a Counseling Psychology PhD program; the remaining 54 counselors (87.10%) were enrolled in a Master of Counseling program. Thirteen (20.97%) counselors did not provide any demographic information. Of the 49 counselors who provided demographic data, ages ranged from 21-39 ($M = 25.33$; $SD = 4.04$). A total of 42 (67.74%) counselors identified as cisgender women and 7 (11.29%) as cisgender men. In terms of sexual orientation, 40 (64.52%) identified as heterosexual/straight, 5 (8.06%) as bisexual, 3 (4.84%) as gay/lesbian, and 1 (1.16%) identified as queer. In terms of race and ethnicity, 28 (45.16%) were White, 6 (9.68%) were Hispanic or Latinx, 6 (9.68%) identified as multiracial or biracial, 5 (8.06%) were Asian or Asian American, and 3 (4.84%) were Black or African American. See Table 2.

Instruments

Depressive Symptoms

The Patient Health Questionnaire (PHQ-9; Kroenke et al., 2001) was utilized as a measure of depressive symptoms experienced over the previous two weeks. The scale consists of 9 items rated on a 4-point Likert-type scale ranging from 0 (*not at all*) to 3

(*nearly every day*). Participants respond to the question, “Over the last 2 weeks, how often have you been bothered by any of the following problems?” Example items include “Little interest or pleasure in doing things” and “Trouble concentrating on things, such as reading the newspaper or watching television.” The PHQ-9 total score is the sum of the individual item scores. Total scores can be interpreted based on the following depression diagnostic statuses: Minimal (0 – 4), Mild (5 – 9), Moderate (10 – 14), Moderately Severe (15 – 19), and Severe (20 – 27). Internal consistency ($\alpha = .79 - .89$; Kroenke et al., 2001; Richardson et al., 2017) and criterion validity (.77 – .94; Kroenke et al., 2010) of the PHQ-9 has been supported in medical settings with both primary and secondary care. In the present study, Cronbach’s alpha for the total sample was .87 ($\alpha = .86$ and .89 for in-person and telehealth groups, respectively).

Anxiety Symptoms

The Generalized Anxiety Disorder Assessment (GAD-7; Spitzer et al., 2006) was utilized as a measure of anxiety symptoms experienced over the previous two weeks. The scale consists of 7 items rated on a 4-point Likert-type scale ranging from 0 (*not at all*) to 3 (*nearly every day*). Participants respond to the question, “Over the last 2 weeks, how often have you been bothered by any of the following problems?” Example items include, “Feeling nervous, anxious or on edge” and “Feeling afraid as if something awful might happen.” The GAD-7 total score is the sum of the individual item scores. The total scores can be interpreted based on the following anxiety diagnostic statuses: Minimal (0 – 4), Mild (5 – 9), Moderate (10 – 14), or Severe (15 – 21). Research has provided estimates for the GAD-7’s internal consistency ($\alpha = .84 - .92$; Löwe et al., 2008; Richardson et al., 2017; Spitzer et al., 2006) and criterion validity (.66 – .89; Kroenke et al., 2010) in both

primary and secondary care settings. In the present study, Cronbach's alpha for the total sample was .89 ($\alpha = .89$ and $.90$ for in-person and telehealth groups, respectively).

Working Alliance

The shortened version of the Working Alliance Inventory (WAI; Horvath & Greenberg, 1989; Tracey & Kokotovic, 1989) was used to measure working alliance. The WAI-C measures specifically the client's perception of the working alliance. The WAI-C consists of 12 items and has three subscales to assess the following components: bond (i.e., the personal attachment between the counselor and client), goals (i.e., the targets of counseling/intervention), and tasks (i.e., the in-counseling behaviors and cognitions that make up the counseling process). Items are rated on a 7-point Likert-type scale ranging from 1 (*Seldom*) to 7 (*Always*). Example items include, "I believe my therapist likes me," "My therapist and I agree on what is important for me to work on," and "I believe the way we are working with my problem is correct." The highest average WAI-C score a client can report is 7. Consistent with prior research (Constantino et al., 2002; Horvath & Symonds, 1991), I utilized WAI-C average scores reported at the start of the fourth session. The WAI-C has been a widely validated (see Horvath, 1994) and reliable measure of the working alliance ($\alpha = .85 - .97$; Hanson et al., 2002; Horvath & Symonds, 1991; Tracey & Kokotovic, 1989). In the present study, Cronbach's alpha for the total sample was .95 ($\alpha = .95$ and $.96$ for in-person and telehealth groups, respectively).

Procedures

At intake, clients were asked to provide their consent to participate in an ongoing research project from which the present data are drawn. This larger longitudinal project was approved by the university's Institutional Review Board (IRB). Participation was

voluntary and independent of services. No compensation for participation was provided. Before each session, clients were asked to complete the PHQ-9 and GAD-7 based on their symptoms over the past two weeks, and the WAI-C based on their perception of their relationship with their therapist at the start of the fourth session. During the in-person sessions, clients completed measures administered weekly via electronic tablets. During the telehealth sessions, clients completed measures electronically through their personal devices. All client responses were stored and managed in an electronic medical record system.

Drawing from existing literature that analyzes working alliance as a predictor of client outcomes (Constantino et al., 2002; Horvath & Symonds, 1991), I utilized WAI-C average scores reported at the start of the fourth session. This is supported by previous research suggesting that alliance measures reported earlier in treatment are better predictors of client outcomes than measures reported later in treatment or averaged across several time points (Constantino et al., 2002; Horvath & Symonds, 1991). For depressive and anxiety symptoms, I used data from two sessions. Client's PHQ-9 and GAD-7 scores reported at their first attended sessions were used as baseline scores, and PHQ-9 and GAD-7 scores reported at their last attended sessions were used as outcome scores.

Analytic Approach

I employed a between-subjects design. Specifically, I utilized a hierarchical linear mixed-effect model to test my hypotheses (Arnou et al, 2013). This method of analysis allows the model to account for group differences that are present in repeated-measure designs but not of specific interest, such as differences between individual clients (Laird & Ware, 1982; Magezi, 2015; Meteyard & Davies, 2020). For each hypothesis, I

examined two separate models: one with total PHQ-9 scores reported at the last attended session as the outcome variable, and the other with total GAD-7 scores reported at the last attended sessions as the outcome.

To test my first hypothesis that higher client-rated measures of working alliance will significantly predict a decrease in client symptoms reported at the last attended sessions for both the in-person and telehealth groups, I assessed WAI-C scores as a predictor of client outcomes as a fixed effect.

To test my second hypothesis that the effect of working alliance on client outcomes will be similar via in-person counseling and telehealth counseling, I assessed the interaction between WAI-C scores and treatment format as a fixed effect. To account for client's baseline symptoms, I included PHQ-9 or GAD-7 total scores reported at the first session as a random effect. Additionally, I included individual counselor as a random effect to address the nesting of clients under counselors.

CHAPTER 3

RESULTS

Preliminary Analysis

At clients' first attended sessions and last attended sessions, total PHQ-9 and GAD-7 scores were normally distributed. Clients' WAI-C scores were negatively skewed, indicating that most WAI-C scores were above the mean. To assess model fit, I assessed normality of residuals by plotting residuals following guidance from Winter (2013) and Meteyarda and Davies (2020). Data did not violate the assumption that residual errors and random effects deviations are normally distributed, so data transformations were not necessary. For each group (in-person and telehealth), I considered descriptive statistics for PHQ-9 and GAD-7 scores assessed at intake and at the last session, as well as WAI-C scores reported at the start of the fourth session.

Missing Data

There were no missing data for PHQ-9 and GAD-7 because the clinic requires clients to complete all items related to depression and anxiety. Clients with greater than 20% of items on the WAI-C missing were not included in the study. Of the 188 participants, only six participants had one missing item on the WAI-C, which did not meet the 20% threshold for missing data. I utilized Little's Missing Completely at Random (MCAR) test (Little, 1988) to assess the pattern and frequency of missing data; analysis showed that data were missing completely at random. I followed imputation guidelines suggested by Schlomer and colleagues (2010) for the six missing items. Specifically, I utilized expectation maximization, a maximum likelihood approach similar to regression-based imputation.

Statistical Power

Determined with methods proposed by Snijders (2005) and effect size reported by Flückiger et al. (2018), a sample size greater than 105 participants should be sufficiently powered. Furthermore, Fang et al. (2008) reported that hierarchical linear models have higher power than traditional repeated measure models for interaction effects, such as the moderating effect presented in this study.

Descriptive Statistics

Prior to analysis, I computed descriptive statistics for client's PHQ-9, GAD-7, and WAI-C scores for each time point used. At the first attended session, average PHQ-9 total scores were 12.37 ($SD = 6.08$) for the in-person group and 11.20 ($SD = 6.65$) for the telehealth group. At the last attended session, average PHQ-9 total scores were 6.78 ($SD = 5.27$) for the in-person group and 6.49 ($SD = 5.80$) for the telehealth group. At the first attended session, average GAD-7 total scores assessed were 11.77 ($SD = 5.34$) for the in-person group and 9.86 ($SD = 5.81$) for the telehealth group. At the last attended session, average GAD-7 total scores were 5.67 ($SD = 4.93$) for the in-person group and 5.97 ($SD = 5.14$) for the telehealth group. Utilized in both models, average WAI-C scores reported at the start of the fourth session were 5.85 ($SD = 1.09$) for the in-person group and 6.14 ($SD = 0.92$) for the telehealth group.

Primary Analysis

I analyzed data using linear mixed-effects regression in R (version 4.1.2; packages lme4 and MuMIn). Consistent with suggestions by Nakagawa and Schielzeth (2012), I assessed model fit using both marginal and conditional R^2 . Marginal R^2 is interpreted as the amount of variance explained by only the fixed effects of a model,

while conditional R^2 is interpreted as the amount of variance explained by both fixed and random effects (Nakagawa & Schielzeth, 2012).

Random Effects

The first hierarchical linear mixed-effects model explained 46% of variance in PHQ-9 total scores assessed at the last session (conditional $R^2 = .46$, marginal $R^2 = 0.02$). For the random effect of PHQ-9 total scores assessed at the first session, the standard deviation ($SD = 3.26$) was smaller than the standard deviation of the residual ($SD = 4.07$). For the nested random effect of counselor, the standard deviation ($SD = 1.68$) was also smaller than the standard deviation of the residual ($SD = 4.07$).

The second hierarchical linear mixed-effects model explained 50% of variance in GAD-7 total scores assessed at the last session (conditional $R^2 = .50$; marginal $R^2 = 0.04$). For the random effect of GAD-7 total scores assessed at the first session, the standard deviation ($SD = 3.46$) was smaller than the standard deviation of the residual ($SD = 3.77$). For the nested random effect of counselor, the standard deviation ($SD = 0.96$) was also smaller than the standard deviation of the residual ($SD = 3.77$). Table 3 provides the results from the mixed effects analysis.

The Effect of the Working Alliance on Client Symptoms

For the fixed effect of working alliance, results indicated that WAI-C scores reported at the start of the fourth session had a significant and negative effect on final PHQ-9 total scores ($\beta = -0.60$, $p = 0.04$) and on final GAD-7 total scores ($\beta = -1.04$, $p < 0.01$), indicating that clients reported lesser symptoms of depression and anxiety as WAI-C scores increased.

The Effect of the Working Alliance in Telehealth and In-Person Counseling

Neither format of treatment nor the interaction of WAI-C scores and format had a significant effect on clients' final PHQ-9 total scores nor final GAD-7 total scores, indicating that the effect of WAI-C scores on client depression and anxiety was present and comparable regardless of format. Regardless of treatment format, clients reported lesser symptoms of depression and anxiety as WAI-C scores increased.

CHAPTER 4

DISCUSSION

Since the onset of the COVID-19 pandemic during the spring of 2020, counselors and practicing psychologists globally transitioned from in-person to telehealth counseling services (D'Agostino et al., 2020; Situmorang, 2020). This transition also impacted graduate trainees, a previously understudied group, particularly related to telehealth outcomes. Thus, the purpose of the present study was to assess client outcomes (i.e., symptoms of depression and anxiety), among clients who attended telehealth counseling compared to those who attended in-person counseling provided by counselor trainees. Furthermore, this study addressed the effect of the working alliance on outcomes within both groups, as well as treatment format (in-person vs. telehealth) as a potential moderator of this effect.

Results supported my first hypothesis that client-rated measures of working alliance would significantly predict a decrease in client symptoms for both the in-person and telehealth groups. Specifically, WAI-C scores reported at the start of the fourth session had a significant and negative effect on both final PHQ-9 and GAD-7 total scores, indicating that clients reported lesser symptoms of depression and anxiety as WAI-C scores increased. This is consistent with existing literature for in-person counseling, which identified the working alliance as an important predictor of client outcomes (Horvath et al., 2011). Related to telehealth, this finding that the working alliance is significantly related to outcomes regardless of format supports and extends Flückiger et al.'s (2018) meta-analysis. Flückiger and colleagues (2018) reported a positive correlation between working alliance and treatment outcomes via telehealth

counseling ($r = .275$), suggesting that the working alliance is positively associated with client outcomes in virtual settings. The present study found a significant effect of working alliance on client outcomes via telehealth counseling utilizing regression, providing evidence for a causal relationship.

Results provide evidence for the theory that the effect of working alliance on client outcomes will be similar via in-person counseling and via telehealth counseling, such that treatment format will not moderate the effect of working alliance on client outcomes. Analyses showed no significant effect of format on PHQ-9 nor GAD-7 total scores assessed at the last session. Additionally, analyses did not identify a significant moderation effect of format. These findings challenge suggestions that the working alliance may be a less meaningful predictor of therapeutic outcomes in virtual settings (Andersson et al., 2012; Knaevelsrud & Maerker, 2006; Preschl et al., 2011). Rather, the working alliance may be just as important in telehealth as in in-person counseling settings. One likely factor in this finding is that previous studies considering the working alliance in online contexts have utilized asynchronous text communication (e.g., e-mail), rather than synchronous video communication (Andersson et al., 2012; Knaevelsrud & Maerker, 2006; Preschl et al., 2011). Since these studies were published, advancements in technology have allowed video conferencing to be a widely utilized method of telehealth counseling (Allerman, 2002; Situmorang, 2020; Wootton et al., 2020). It is possible that the synchronous video method utilized in the present study operates more similarly to in-person synchronous methods, thus suggesting that the working alliance is a meaningful predictor of outcomes.

This study is among the first to consider outcomes among clients attending telehealth services with counselor trainees. While this is a unique strength of this study, it is worth noting that counselors' technical skills may be less advanced than non-trainee counselors. As reported in this study, however, the working alliance was still a significant predictor of client-reported symptomology. Previous research has suggested that counselor experience level is not predictive of client's working alliance ratings (Dunkle & Friedlander, 1996; Hersoug et al., 2001). My findings expand this idea, suggesting that counselor experience is not only not predictive of working alliance ratings, but also that the working alliance is a relevant predictor of client outcomes even among less experienced counselors.

Limitations

Although the present results support the use of telehealth services among counselor trainees, I recognize several potential limitations. First, this study utilized naturalistic data obtained from clients electing to receive services provided by counselor trainees. This method yielded data that may be more generalizable than data from a randomized trial given the authenticity of the clients' experiences. However, there are extraneous variables that were not accounted for in the present study. One consideration is clients' openness to telehealth. As clients elected to participate in services provided via telehealth rather than being randomly assigned to a treatment format, it is possible that participants in the telehealth group already held positive beliefs about telehealth, thus resulting in a sample of clients that may have been more receptive to treatment. This idea is supported by a recent review by Hadler and colleagues (2021), who reported that college students tend to view telehealth as convenient, accessible, easy to use, and

helpful. In the present sample, more than half of the clients (60.64%) were college students who may have held this positive attitude towards telehealth services. Client's initial attitudes towards telehealth may have in some ways contributed to the strength of the working alliance developed as well as the effect of the working alliance on outcomes.

Another possible limitation of the present study is the limited attention to client and counselor demographic considerations. In the present study, 68.09% of clients identified as cisgender women, 65.43% identified as straight or heterosexual, 58.51% identified as White, and 60.64% identified as university students. This is a reasonable representation of the clients who attend services at the university counselor training center from which these data were drawn, and thus may be generalizable to clients seen by counselor trainees nationally. Additionally, the present sample is more racially diverse sample than the U.S. population generally (U.S. Census Bureau, 2021). In the present study, however, I do not control for or assess differences based on demographic characteristics due to limited sample across various groups.

This study considered outcomes among clients attending telehealth services with counselor trainees. While this attention to counselor trainees is a unique strength, this study did not address differences that may be present related to a counselor's level of experience. The counselors in this study are all first-time trainees (primarily in their first or second semester of supervised practice), and it is possible that outcomes may have been different if this study was conducted with trainees on pre-doctoral internship, for example. This study does not address possible differences that may be presented related to a counselor's level of experience with either in-person or telehealth services.

A final limitation of the present study is related to the results of the second hypothesis, which explored whether the effect of working alliance on client outcomes is similar or different between in person-counseling and telehealth counseling. Results supported that there was no significant effect or moderation of format on counseling outcomes. Note that this represents the statistical null hypothesis (i.e., that there is no significant difference between groups). Results cannot be interpreted as accepting the null, but rather as failure to reject the null. Thus, a more statistically accurate conclusion of the results presented is that the present study fails to reject the idea that there is no significant effect or moderation of format on counseling outcomes.

Implications for Research and Practice

Despite the limitations, the present findings suggest several implications for research and practice. The present study was possible because of continued assessment of the working alliance and client outcomes by the university counselor training center from which the data were obtained, allowing for comparisons utilizing data dating back to 2018. Clinicians invested in the most ethical and competent counseling should track counseling outcomes for all clients in naturalistic settings. Meier (2014) suggested that progress monitoring and outcome assessments in counseling can indicate when a client may not be making progress and when the counselor should consider alternative interventions to benefit the client. Consistently, Muir and colleagues (2019) reported that routinely monitoring outcomes improved treatment outcomes on average when compared to cases in which outcomes were not tracked. Tracking client outcomes would also allow for more research to be published that will strengthen our understanding phenomena like telehealth services and the working alliance. Additionally, continuously tracking

outcomes would provide data surrounding unique and uncontrollable circumstances, such as the COVID-19 pandemic.

Though the present study included a more racially diverse sample than the general U.S. population, I did not control for or assess differences based on client demographics. To ensure continued attention to multicultural competence and ethical care, future research should consider the effectiveness of telehealth counseling, including potential barriers, among historically marginalized groups. For example, some LGBTQ youth reported difficulties related to being isolated at home with unsupportive families during the COVID-19 pandemic (Fish et al., 2020). Asking LGBTQ clients to attend telehealth sessions from their homes may create distress related to being in an unsupportive space. With this consideration in mind, work by Swenson and colleagues (2022) identified strengths and challenges related to strengths-based behavioral telehealth with sexual and gender diverse clients. This team reported that while some clients felt concerns regarding confidentiality and safety during telehealth sessions, others felt that telehealth provided security in allowing them to attend from their private spaces. Future research should continue to explore unique considerations for historically marginalized groups regarding the use of telehealth counseling.

Future research on the use of telehealth counseling should also use dyadic models to assess counselor factors that may be contributing to the effectiveness of this format. This study assessed client outcomes with counselor trainees but did not assess counselor training level as a contributing factor, for example. Counselor factors may also contribute to the development of the working alliance and the effect of this alliance on outcomes via telehealth formats. There may be counselor factors unique to telehealth, such as the

counselor's video background or quality of video image, that could change the client's experience.

Results of this study support the use of telehealth counseling among graduate trainees, validating the work many counselor trainees and their supervisors have been doing since the onset of COVID-19. Constantino and colleagues (2018) reported that therapists who demonstrate comfort and competence while providing telehealth services build clients' perceptions of treatment efficacy, which tends to translate to better client outcomes. Because the demand for telehealth services is likely to persist in the field of counseling psychology (Dopp et al, 2021; Pierce et al., 2021), graduate trainees and their clients will benefit from training which directly integrates telehealth into their programs to increase their comfort and competence beyond in-person settings.

Furthermore, this study highlights the importance of the working alliance as a predictor of counseling outcomes for both in-person and telehealth services. Counselor trainees, as well as licensed counselors and psychologists, should continue to attend to the working alliance with their clients, even if they are providing services via telehealth. Lopez and colleagues (Lopez, et al., 2019; Lopez & Shwenk, 2021) have provided some guidance for establishing the therapeutic alliance via telehealth counseling, including considerations unique to the COVID-19 pandemic. Suggestions include "acknowledging the awkward" (e.g., a barking dog or a doorbell ring), setting and modeling expectations regarding presence and professionalism (e.g., dressing appropriately), and adapting non-verbal cues to show engagement (e.g., looking into the camera rather than at the screen, and disclose what you are looking at if you are looking away).

Because telehealth increases accessibility of services and is becoming more popular among clients, it is likely to be a permanent addition to the field of counseling psychology, even after social distance protocols remit (Dopp et al, 2021; Hadler et al, 2022; Pierce et al., 2021). Given the anticipated future of this field, counselor trainees, practicing counselors, and their clients will benefit from continued attention to the mechanisms operating behind telehealth counseling, a viable method of delivering counseling services in even a post-pandemic world.

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APPENDIX A

TABLES

Table 1.*Client Demographic Information Reported at Intake*

Characteristics	In-person		Telehealth		Full sample	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Gender						
Cisgender woman	56	65.12	72	70.59	128	68.09
Cisgender man	25	29.07	22	21.57	47	25.00
Transgender/nonbinary	5	5.81	8	7.84	13	6.91
Sexual Orientation						
Straight	57	66.28	66	64.71	123	65.43
Bisexual	11	12.79	16	15.69	27	14.36
Lesbian/gay	10	11.63	8	7.84	18	9.57
Queer	3	3.49	5	4.90	8	4.26
Asexual	1	1.16	2	1.96	3	1.60
Questioning	3	3.49	3	2.94	6	3.19
No response	1	1.16	2	1.96	3	1.60
Race						
White	47	54.65	63	61.76	110	58.51
Latinx	15	17.44	14	13.73	29	15.43
Biracial/Multiracial	9	10.47	9	8.82	18	9.57
Asian/Asian American	8	9.30	8	7.84	16	8.51
Black or African American	5	5.81	1	0.98	6	3.19
Middle Eastern or North African	0	0.00	5	4.90	5	2.66
No response	2	2.33	2	1.96	4	2.13
University Affiliation						
Student	44	51.16	70	68.63	114	60.64
Faculty or Staff	10	11.63	9	8.82	19	10.11
Community Member	32	37.21	23	22.55	55	29.26

Table 2.*Counselor Demographic Information*

Characteristics	n	%
Gender		
Cisgender woman	42	67.77
Cisgender man	7	11.29
No response	13	20.17
Sexual Orientation		
Straight	40	64.52
Bisexual	5	8.06
Lesbian/gay	3	4.84
Queer	1	1.61
No response	13	20.17
Race		
White	28	45.16
Latinx	6	9.68
Biracial/Multiracial	6	9.68
Asian/Asian American	5	8.06
Black or African American	3	4.84
No response	14	22.58

Table 3.*Linear Mixed Effects Regression of WAI-C and Format on Fixed Effects*

Fixed Effect	X^2	Estimate	SE	p
PHQ-9				
Intercept	6.26	10.12	2.85	0.09
WAI-C	6.25	-0.60	0.46	0.04*
Format	0.51	2.99	4.17	0.77
Interaction	0.48	-0.47	0.68	0.48
GAD-7				
Intercept	13.55	11.58	2.54	0.004*
WAI-C	12.00	-1.04	0.41	0.002*
Format	2.94	1.20	3.70	0.29
Interaction	0.00	-0.01	0.61	0.98

Note. PHQ-9: Patient Health Questionnaire (PHQ-9; Kroenke et al., 2001); GAD-7: Generalized Anxiety Disorder Assessment (GAD-7; Spitzer et al., 2006); WAI-C: Working Alliance Inventory, client ratings (WAI; Horvath & Greenberg, 1989; Tracey & Kokotovic, 1989)

APPENDIX B
INSTRUMENTS

THE PATIENT HEALTH QUESTIONNAIRE (PHQ-9)

Over the last 2 weeks, how often have you been bothered by any of the following problems? Please select one of the following responses:

(0) Not at all (1) Several days (2) More than half the days (3) Nearly every day.

1. Little interest or pleasure in doing things.
2. Feeling down, depressed, or hopeless.
3. Trouble falling or staying asleep, or sleeping too much.
4. Feeling tired or having little energy.
5. Poor appetite or overeating.
6. Feeling bad about yourself, or that you are a failure or let yourself or your family down.
7. Trouble concentrating on things, such as reading the newspaper or watching television.
8. Moving or speaking so slowly that other people could have noticed; or the opposite, being so fidgety or restless that you have been moving around a lot more than usual.
9. Thoughts that you would be better off dead or of hurting yourself in some way.

GENERALIZED ANXIETY DISORDER ASSESSMENT (GAD-7)

Over the last 2 weeks, how often have you been bothered by any of the following problems? Please select one of the following responses:

(0) Not at all (1) Several days (2) More than half the days (3) Nearly every day

1. Feeling nervous, anxious, or on edge.
2. Not being able to stop or control worrying.
3. Worrying too much about different things.
4. Trouble relaxing.
5. Being so restless that it is hard to sit still.
6. Becoming easily annoyed or irritable.
7. Feeling afraid as if something awful might happen.

WORKING ALLIANCE INVENTORY (WAI-C)

The following are sentences that describe some of the different ways a person might think or feel about their therapist. Using the following seven-point scale, please respond to every item with your first impression of your therapist:

(1) Never (2) Rarely (3) Occasionally (4) Sometimes

(5) Often (6) Very Often (7) Always

1. My counselor and I agree about the things that I need to do in therapy to help me improve my situation.
2. What I am doing in therapy gives me a new way of looking at my problem.
3. I believe my therapist likes me.
4. My therapist does not understand what I am trying to accomplish in therapy.
5. I am confident in my therapist's ability to help me.
6. My therapist and I are working towards mutually agreed upon goals.
7. I feel that my therapist appreciates me.
8. We agree on what is important for me to work on.
9. My therapist and I trust one another.
10. My therapist and I have different ideas about what my real problems are.
11. We have established a good understanding of the kind of changes that would be good for me.
12. I believe the way we are working with my problem is correct.