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Telemental Health and the Client-Therapist Relationship

Shelby H. Bohn Frantz
Indiana University of Pennsylvania

TELEMENTAL HEALTH AND THE CLIENT-THERAPIST RELATIONSHIP

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Shelby H. Bohn Frantz

Indiana University of Pennsylvania

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Indiana University of Pennsylvania
School of Graduate Studies and Research
Department of Psychology

We hereby approve the dissertation of

Shelby H. Bohn Frantz

Candidate for the degree of Doctor of Psychology

June 13, 2012 — Signature on File
Derek R. Hatfield, Ph.D.
Associate Professor of Psychology, Chair

June 13, 2012 — Signature on File
Laurie Roehrich, Ph.D.
Associate Professor of Psychology

June 13, 2012 — Signature on File
John A. Mills, Ph.D.
Professor of Psychology

ACCEPTED

Timothy P. Mack, Ph.D.
Dean
School of Graduate Studies and Research

Title: Telemental Health and the Client-Therapist Relationship

Author: Shelby H. Bohn Frantz

Dissertation Chair: Dr. Derek R. Hatfield

Dissertation Committee Members: Dr. Laurie Roehrich
Dr. John A. Mills

The use of internet-mediated technology to provide mental health services is a burgeoning area of service delivery, with an increasing number of organizations and clinicians offering psychotherapy via videoconferencing technology. Research to date, however, has produced mixed results as to whether an effective therapeutic alliance can be established in these technology-mediated settings. The current study utilized a sample of 64 college students to examine the potential impact of the provision of telemental health services (i.e., an interview conducted through videoconferencing) on several aspects of the therapeutic alliance. Primary results indicated that completing an interview using videoconferencing, rather than meeting face-to-face, did not significantly impact participants' overall ratings of the session, as measured by the Session Evaluation Questionnaire, or participants' ratings of the interviewer's level of empathy and warmth, as measured by the Empathy and Warmth Subscales of the Truax Relationship Questionnaire. No statistically significant differences were found between conditions on the combined dependent variables, nor did a separate examination of the impact of videoconferencing on each of the dependent measures reveal significant differences. Participants' comfort with technology and videoconferencing, as well as time spent using videoconferencing and social media sites, also did not significantly influence overall ratings of the session. These results suggest that conducting an initial interview through videoconferencing does not impact the overall session ratings or the specific alliance

factors examined in this study. In addition, these results contradict research suggesting that increased experience with videoconferencing subsequently increases participant willingness to use this technology in the future; participants across conditions overwhelmingly endorsed a preference to receive future therapy services face-to-face rather than via videoconferencing. Findings suggest the need to further evaluate participant beliefs about what constitutes the "best" therapy, as well as beliefs contributing to this hesitancy to receive therapy services through videoconferencing technology. The need for future research is discussed.

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CHAPTER I

INTRODUCTION

Telehealth has been used for more than 50 years, with the first documented use of technology to provide health services taking place in 1959, when a closed-circuit television link was used by the University of Nebraska to provide psychiatric and other health services between the Nebraska Psychiatric Institute and the Norfolk State Hospital (Rees & Haythornthwaite, 2004). In October of 1972, the International Conference on Computer Communication conducted a simulated psychotherapy session between computers at Stanford and the University of California at Los Angeles (Ainsworth, 2002). Interest in telehealth grew in the late 1980s and early 1990s, a growth that corresponded to increased public interest in the internet (Rees & Haythornthwaite, 2004). Jerry Feist, the Director of Psychological Services for Cornell University, and Steve Worona created the earliest known mental health advice website, called "Ask Uncle Ezra," in September, 1986 (Ainsworth, 2002). Use of the website was free for Cornell students and it has been in continuous use since its creation (Ainsworth, 2002). Following the growing popularity of free, online advice websites was interest in online fee-based mental health services, which began to be offered to the public around 1995 (Ainsworth, 2002). Like their earlier counterparts, these websites were primarily advice-focused and offered answers to individual questions for a small fee (Ainsworth, 2002). The earliest of these for-profit websites was "Shareware Psychological Consultation," created by Leonard Holmes, Ph.D., who answered questions on a "pay if it helps" basis (Ainsworth, 2002).

According to Martha Ainsworth, one of the leading experts on the history of technology use in the field of mental health, the first clinician to establish an internet-

only, fee-based practice with the goal of establishing longer-term, ongoing help rather than answering single questions was David Sommers, Ph.D. Sommers was a pioneer in the field of teletherapy, and from 1995 until 1998, he worked with more than 300 clients from around the world, relying primarily on the use of encrypted email, but also using real-time chat and videoconferencing (Ainsworth, 2002). At the same time as Sommers' work, Ed Needham, M.S., was focusing on providing therapy exclusively through real-time chat; he was the first clinician to do so (Ainsworth, 2002).

Individual therapists are not the only people to have used the internet for the provision of mental health services. In 1994, the Samaritans, a group of trained volunteer crisis counselors in the United Kingdom, began responding to emails sent by suicidal clients (Ainsworth, 2002). The Samaritans do not charge for their services, and they respond daily to emails and work to ensure their clients' anonymity (Ainsworth, 2002). Data from 2001 indicate that in that year alone, the Samaritans responded to emails from approximately 64,000 people and had 68 branches around the world (Ainsworth, 2002).

As shown by the previous examples, the field of telemental health has grown considerably over the last 50 years. As further evidence of this, in the fall of 1995, Martha Ainsworth began tracking how many therapists were practicing via the internet. At that time, Ainsworth found 12 therapists using this technology; as of 2002, her database of internet therapists had grown to around 300 (Ainsworth, 2002). When she included "e-clinics," which allow independent internet therapists to join with other internet therapists in a clinic-like environment for a monthly fee, Ainsworth's database jumped to approximately 500 clinicians (Ainsworth, 2002). With this growth in the use of the internet in the provision of mental health services came the formation of the

International Society for Mental Health Online (ISMHO). The ISMHO is a nonprofit group that was formed in 1997 "to promote the understanding, use and development of online communication, information and technology for the international mental health community" (Ainsworth, 2002). As a result of the group's focus, the ISMHO has become the "unofficial professional organization for e-therapists, providing peer support and insightful discussion as mental health professionals seek responsible ways to use the internet to provide mental health help" (Ainsworth, 2002).

Despite a long history of evolving services, there is little consensus about what is meant by the term "telehealth." The literature does not provide a single definition for telehealth, and, in fact, there are a variety of terms used to refer to the use of technology in the fields of medicine and psychology. There is overlap between the definitions of telehealth in general and telemedicine specifically. Both are considered to use "electronic and communications technology" in order to "provide or support clinical care at a distance," with the telephone, Internet, email, virtual reality simulators, and videoconferencing all considered viable service modalities (Hilty, Marks, Urness, Yellowlees, & Nesbitt, 2004; Jerome et al., 2000; Richardson, Frueh, Grubaugh, Egede, & Elhai, 2009). Telemental health, or TMH, focuses on the use of these same technologies to "eliminate or reduce geographic barriers to receiving psychiatric and other mental health services" (Hailey, Roine, & Ohinmaa, 2008). Falling under the umbrella of TMH are telepsychiatry and telepsychology, the latter of which is also referred to as teletherapy, e-therapy, or e-counseling.

Related to the terminology used in the field of telemental health are the ways in which these services can be provided. Four types of interaction are believed to take place

between mental health professionals and internet clients. The first of these is mental health advice, in which therapists use the internet to respond to a single question in-depth. The second type of interaction is the provision of adjunct services, or the use of the internet as a supplement to face-to-face treatment. E-therapy is the third type of service and involves the formation of an ongoing therapy relationship that relies solely on internet communication. Finally, the fourth type of interaction is behavioral telehealth and telepsychiatry. In this modality, "mental health professionals (typically psychiatrists) use sophisticated videoconferencing systems to work with patients in remote locations, as an extension of traditional clinic or hospital care" (Ainsworth, 2002). The latter two types of interaction (i.e., e-therapy and behavioral telehealth/telepsychiatry) have typically been the focus of research on telemental health, due in large part to the increase of their use in recent years.

One area of growing concern is the ethical implications of telemental health use; namely, efforts have focused on the most ethically appropriate ways to provide services through this modality. In 1997, the American Psychological Association's Ethics Committee published a statement on the provision of services via telephone, teleconferencing, and the internet. In their statement, the APA made note of the ethical standards most pertinent when considering whether or not to provide TMH services (e.g., Standard 1.04c, Boundaries of Competence) but did not outline guidelines specific to the use of these modalities. In addition, this statement was based on the 1992 code; when the 2003 APA Ethics Code was released, this statement was considered to be inactive. No further statements have been released by the APA regarding ethical provision of TMH services, leaving clinicians to navigate these concerns largely on their own. Although the

APA has not issued a definitive set of requirements outlining ethical TMH practice for therapists, both the American Telemedicine Association and the Telemental Health Institute have published their own sets of guidelines for the ethical provision of TMH services.

Ethical concerns related to TMH have tended to center on competence, privacy and confidentiality, and informed consent. It is generally agreed that "competence" as it relates to TMH encompasses not only competence with therapeutic interventions and patient populations, but also with the use of the technology itself. Understanding internet speed and connectivity, encryption and security, and being able to troubleshoot computer problems are all necessary for the effective use of technology to provide therapy. These issues relate directly to concerns about privacy and confidentiality, as the security of information transmitted electronically cannot be 100% guaranteed (Yuen, Goetter, Herbert, & Forman, 2012). Password protection of documents, as well as encryption software, may help protect against breeches of security, but the risk of hacking remains. Clients must be aware that this is a possibility, making it clear thorough informed consent imperative to ethical practice. Because TMH is an ever-evolving field, it is unclear how informed clinicians are about its ethical practice, making this a very promising area of future inquiry and research.

With the growing interest in, and use of, the internet for the provision of mental health services, questions have been raised by researchers and clinicians as to whether this is a viable and effective modality. As the following review of the literature will show, there is conflicting evidence as to whether technology-mediated treatment is as effective as treatment provided face-to-face. Although patients appear generally satisfied

with medical, psychiatric, and therapy services conducted via videoconferencing, questions about whether or not a strong working alliance can be established through videoconferencing still remain. Before discussing the methodology of the current study, a review of relevant literature is necessary in order to place this study in an appropriate context.

Telemedicine

Telemedicine has a variety of applications and has been used to provide a range of services, including consultation, which accounts for approximately 35% of all telemedicine applications, case management, decision support, disease prevention and management, legal hearings, forensic evaluation, transplant evaluation, neuropsychological evaluation, individual/family/group therapy, home/outpatient/nursing home/inpatient care, and personal and social support (Hilty et al., 2004; Norris, 2001).

One potential benefit of using telemedicine is its ability to overcome barriers to starting and continuing treatment, such as cost of the appointment or multiple appointments, transportation, time constraints, stigma, and negative attitudes toward therapy (Mohr, 2009). In 2008, the American Telemedicine Association published guidelines for reimbursement of telemedical services, including which insurance organizations offered reimbursement, what services qualified, and what types of providers were able to receive reimbursement, which, in turn, helped decrease the cost of receiving telemedical services (American Telemedicine Association, 2008). Overcoming these barriers (i.e., cost, transportation, time) may, in turn, increase access to care by making appointments easier and less expensive to attend, reducing patients' anxiety about people seeing them enter clinics, and helping treatment fit more conveniently into

patients' lives. Increasing patients' ability to access services may in turn result in reduced transfers for emergencies, appointment waiting times, use of psychiatric intensive care units, and hospital admissions (Hilty et al., 2004).

High overall patient satisfaction has been found across multiple studies comparing face-to-face treatment and treatment delivered through telemedicine. Patients have identified reduced travel time, reduced absence from work, reduced waiting time, and more patient choice and control as contributing to overall satisfaction levels (Hilty et al, 2004). The use of telemedicine may also decrease cost for patients by reducing the amount spent in traveling to appointments and missing paid work hours. In a study conducted by Johnston, Wheeler, Deuser, and Sousa (2000) comparing the cost of home health care visits in a face-to-face and telephone group and a group receiving consultations via videoconferencing in addition to face-to-face and telephone care, mean costs of care paid by the insurance company per patient (excluding home care costs) were $2,674 in the face-to-face group, compared to $1,948 in the telemedicine group. In addition, this same study found no differences in medication compliance, knowledge of disease, ability to care for self, or rate of use (Johnston et al., 2000).

The most common results reported in studies of telemedicine are patient satisfaction and acceptance, with results generally being high. A study by Dimmick, Mustaleski, Burgiss, and Welsh (2000) examined patient satisfaction with a federally funded program that used the telephone to provide in-home medical consultations to residents of a rural Tennessee town. This study found that approximately 98% of patients reported being satisfied with the use of telemedicine. In a separate study conducted by Chae and colleagues (2001), 50 elderly patients participated in a pilot study examining

whether telemedicine provided effective services compared to traditional, in-person care. Results indicated fewer clinic visits in the group receiving telemedical consultations, as well as 72% patient satisfaction with telemedical services in this group. Unfortunately, this study failed to make comparisons between telemedicine patients and those receiving face-to-face care, making it difficult to draw definitive conclusions about the effectiveness of telemedicine.

In a study by Marcin and colleagues (2004), the parents of children with special health needs also reported being highly satisfied with the use of telemedicine services. The Center for Health and Technology at the University of California Davis Medical Center and the University of California Davis Children's Hospital (UCDCH) created a telemedicine program in 1999 which aimed to provide pediatric subspecialty consultation services via telemedicine to those in rural and medically underserved communities. Over a 36-month period, 55 pediatric patients received a total of 130 telemedical consultations from subspecialists and completed a survey for each consultation. Results found very high satisfaction, with 90% of respondents rating telemedicine as either "excellent" or "very good." All but one respondent (98%) said they wanted to continue to use telemedicine for consultations as opposed to traveling to USDCH for a face-to-face appointment. Although this study found high user satisfaction with telemedical services, it failed to collect data on patient satisfaction with traditional, face-to-face medical services. Failing to include a control group makes it impossible for Marcin and colleagues to make comparisons and also to draw conclusions about whether patients are as satisfied with telemedicine as they are with face-to-face treatment.

Telemental Health

As previously mentioned, interest in the use of technology in the delivery of health services began to gain popularity in the late 1980s and early 1990s. Not only was technology used in providing medical services, but it also began to be used to provide mental health care, with service points including clinics, hospital emergency rooms, patients' homes, group homes, nursing homes, homeless shelters, hospices, schools, and forensic facilities (Hilty et al., 2004). A review of the literature conducted by Hilty et al. (2004) spanning January,1965 through July, 2003 found that nearly all telemental health services were conducted using interactive videoconferencing. The Australian New Zealand Telehealth Committee found that mental health programs accounted for approximately one-third of all telehealth applications in 2000, and as of 2004, over 50 telepsychiatry programs existed in the United States (Hilty et al., 2004; Rees & Haythornthwaite, 2004). A review of the literature conducted by Richardson and colleagues (2009) found that telemental health programs have primarily focused on rural, urban, geriatric, prison, and military populations, but this modality has also been used for child and adolescent mental health service delivery, family therapy, mental health services for the deaf, substance use, cognitive-behavioral therapy for mood and anxiety disorders, cancer patients with adjustment disorder, mental health practitioner training and supervision, and psychiatric consultation-liaison services.

The use of telemental health services has tended to focus on individual therapy and consultation, with videoconferencing being the most commonly used modality (Jerome et al., 2000; Rees & Haythornthwaite, 2004). Despite being primarily applied in these capacities, telemental health services have also included psychoeducational

interventions, crisis response, triage, treatment planning, case management, and medication support (Jerome et al., 2000).

Telepsychiatry

Nearly all telepsychiatric services are conducted via videoconferencing (Hilty et al., 2004). Telepsychiatry patients demonstrated significant improvements on measures of mental health following intervention, and patients receiving telepsychiatric care, as compared to those receiving face-to-face care, did equally well on self-report and clinical measurements at follow-up (Kennedy, 2000; Urness, Wass, & Gordon, 2006). Urness and colleagues (2006) assessed patient satisfaction and mental health outcomes at one-month follow-up for those using telepsychiatry compared to face-to-face consultations. Twenty-seven telepsychiatry users and 20 face-to-face patients completed the Short-Form 12-Item Health Survey (SF-12), a quality of life survey, prior to their appointment, a post-consultation satisfaction survey immediately following their appointment, and the SF-12 again one month after their appointment. For face-to-face patients, 90% were satisfied with their ability to talk during the consultation, 95% were satisfied with the outcome of their session, and 95% felt supported and encouraged by their psychiatrist. No significant differences were found between initial SF-12 scores and those obtained at one-month follow-up. For telepsychiatry patients, 90% reported being able to present the same information to the psychiatrist as they would have in-person, 96% were generally satisfied with their session, and 78% were satisfied with the support and encouragement they received during the consultation. In addition, telepsychiatry users were found to have significant improvement on SF-12 scores at one-month follow-up.

Of interest is the discrepancy in support and encouragement found between groups. Urness et al. (2006) did not report whether this difference was statistically significant, nor did they provide an explanation for this discrepancy, making it difficult to draw conclusions about whether this difference is to be expected or if there were other methodological issues that may have contributed to this finding. It may be that the distance created by the use of video technology creates a colder, less empathic environment for patients. It is also unclear from this study how much previous experience patients in the telepsychiatry group had with this technology, as there is evidence to suggest that increased familiarity with the equipment used for telepsychiatry results in more positive evaluations of the telepsychiatric experience (Simpson, 2001).

Kennedy (2000) evaluated a pilot program in a southern, rural Queensland town. The program was designed to support local public and private mental health professionals and psychiatrists through videoconferencing, with the goal of determining whether those using telemental health services received better care. There were three phases to the evaluation. In phase one, information was collected from patients and practitioners regarding a variety of mental and physical health issues, social relationships, housing, occupation, and general functioning. In addition, information on level of satisfaction, cost, and travel as it related to receiving mental health services and using videoconferencing technology was also collected. In phase two, information was gathered regarding videoconferencing usage details, such as time, purpose, and sites and people involved in service delivery. Phase three was considered the follow-up phase, with patients completing the same questionnaires used in phase one and practitioners providing information regarding their own satisfaction, management issues, and clinical

effectiveness at one-year post-intervention. In this study, 124 patients completed questionnaires, 32 of whom used videoconferencing for their mental health issues.

Overall, no significant improvements were found in patient well-being or quality of life, but results did indicate that people "were no worse off from a consumer and practitioner perspective from using videoconferencing" (Kennedy et al., 2000). Results also found that 98% of patients preferred to be offered videoconferencing with a combination of local services. Unfortunately, it is not clear what the authors mean when they say patients "prefer to be offered" videoconferencing, and it is also unclear whether this preference would translate into actual utilization of the videoconferencing modality. In addition, having practitioners complete satisfaction surveys only at the completion of treatment could be a methodological issue, as it does not allow for the comparison of practitioner attitudes before and after using videoconferencing technology. This makes it unclear what attitudes therapists had toward the technology prior to using it and whether there was any change in these attitudes, positive or negative.

In addition, studies in which telepsychiatry was compared to in-person services found no differences in clinical status, attendance, or improvement (Mohr, 2009). In fact, a study by D'Souza and colleagues (2002) found fewer reported medication side effects, better treatment adherence, and lower readmission rates among rural psychiatric patients receiving telepsychiatric treatment compared to those treated face-to-face. In this study, D'Souza et al. (2002) evaluated a psychoeducational program delivered via videoconferencing aimed at promoting treatment adherence for patients with serious mental illness living in remote and rural communities. Fifty-one psychiatric inpatients from four rural hospitals participated in discharge planning using either

videoconferencing technology followed by six psychoeducational sessions (also delivered through videoconferencing), or through conventional discharge methods without the psychoeducational program. Patients were followed for one year and compared using case manager notes and satisfaction questionnaires that addressed prescribed medications, side effects, treatment compliance, case managers, and psychiatric management. Results indicated patients participating in videoconferencing were more satisfied with their case managers, were readmitted to the hospital fewer times, reported fewer medication side-effects, adhered more to treatment, and were more satisfied with their overall treatment and discharge planning than the control group.

One problem with this study, however, is the inability to separate the effects of videoconferencing from the effects of receiving extra treatment in the form of psychoeducational sessions. The videoconferencing group was not only different from the control group in the modality used for discharge planning, but also in the amount of treatment the group received. It could be argued that the psychoeducational program was, in actuality, more treatment, making it difficult to say that the positive results reported by the treatment group were solely the result of being involved in videoconferencing. Although the psychoeducational group is not comparative to treatment as usual, it could be argued that the findings from this study lend support to the argument that videoconferencing may increase access to care and allow patients to utilize services previously unavailable due to barriers (i.e., cost, transportation).

In a review of the literature by Monnier, Knapp, and Frueh (2003), high patient satisfaction with, and acceptance of, the use of telepsychiatric services were reported among patients, with many of these patients preferring telepsychiatry to in-person

appointments because of the aforementioned benefits. High levels of patient satisfaction have been found in jail, rural, child, adolescent, family, geriatric, and nonpsychotic populations, as well as those with limited access to healthcare (Monnier et al., 2003). Despite these findings, it is important to note that satisfaction is not equivalent to effectiveness. In a study by Lunnen and Ogles (1998), 52 patients completed measures of outcome, perceived change, therapeutic alliance, and satisfaction. Based on scores on the outcome questionnaire, patients were classified as improvers (i.e., reduction in symptoms), deteriorators (i.e., increase in symptoms), or non-changers (i.e., no change in symptoms).

Results from this study indicated no significant differences in treatment satisfaction between improvers and non-changers. More interestingly for the purposes of the current research project was the finding that there were no significant differences in satisfaction with treatment between improvers and deteriorators. This finding, again, supports the idea that satisfaction is not equivalent to effectiveness. It is possible for patients to report being satisfied with a treatment for a variety of reasons unrelated to whether or not the treatment was effective, such as being happy to have received treatment at all or feeling pressured to give a positive evaluation of the treatment experience. At this time, it is unclear whether patient satisfaction with telemental health would remain as high in the presence of other mental health service options, or if ratings of high satisfaction are the result of being happy to have received services at all (Richardson et al., 2009).

It is still not clear whether people would prefer to use telepsychiatry over in-person services once the barriers to treatment (such as cost, transportation, and time

constraints) were removed, and satisfaction studies also fail to assess whether patients would prefer to use telepsychiatry to in-person consultation (Norman, 2006). In studies conducted by Mohr (2009) and Monnier and colleagues (2003), telepsychiatry was rated as "almost as good" or "as good" as in-person services, but no definitive preference for one modality was expressed. In addition, Simpson, Doze, and Urness (2001) found that although most patients preferred the use of telepsychiatry instead of travelling and waiting for a face-to-face visit, only a few patients said that overall they would rather consult with a psychiatrist via telepsychiatry.

O'Reilly and colleagues (2007) conducted the largest randomized, controlled study of the equivalence of telepsychiatry compared to face-to-face psychiatric treatment delivered to distance Canadian communities. In this study, 495 patients were randomly assigned to receive psychiatric services either face-to-face or through videoconferencing, and the groups were then compared on a variety of outcome measures, including the Brief Symptom Inventory (BSI), the Medical Outcomes Study Short Form (SF-36), and the Client Satisfaction Questionnaire (CSQ-8). There was no standardized regimen for prescribing medications, and the number of interactions with a psychiatrist varied for each patient, with some attending only one consultation session and others attending both an initial consult and multiple follow-up appointments. Results indicated that participants in both groups reported "less distress from symptoms and improved mental health after the clinical intervention," with "approximately 20% of each group mov[ing] from a dysfunctional to functional rating" on the BSI, as well as a moderate degree of satisfaction with services. This study's design is problematic, however, because it allows for the introduction of uncontrolled for factors. There is no way to know whether the

number of medications patients were taking contributed to improvements, or if the number of consultations per patient influenced outcome. Despite these problems, the authors concluded that these findings support the equivalence of the face-to-face and telepsychiatry conditions:

> On all measures of clinical outcome, [telepsychiatry] was comparable to face-to-face delivery, with both groups reporting clinically and socially relevant levels of reduced symptomatic distress and improved mental health (i.e., a reduction [in number of diagnostic criteria met] and reduced number of psychiatric hospitalizations)…[and] moderate levels of satisfaction (Richardson et al., 2009).

It should be noted, however, that according to the authors "…while the brief [telepsychiatric] intervention was as successful as [treatment as usual], they would not draw similar conclusions about equivalency with regard to more complex psychotherapies that they viewed as 'more dependent on the therapist-patient relationship'" (Richardson et al., 2009). This comment raises questions as to the impact of technology on the psychotherapeutic relationship and hints at the possibility that the use of telemental health for psychotherapy may have outcomes that are different than those found for telepsychiatry.

Teletherapy

One possible reason for the limited use of technology in psychology, and therapy specifically, is that "technology challenges the values and traditional practices of psychologists" (Rees & Haythornthwaite, 2004). Therapists are taught to value the interpersonal processes that take place in therapy, and emphasis is placed on the importance of creating a warm, face-to-face relationship with clients. It is through this

relationship that therapeutic change is believed to occur, and the use of technology, which seems inherently cold and distant, goes against traditional beliefs about what is needed to create an effective interpersonal relationship (Norcross, 2002). Another reason for the limited use of teletherapy may also be clinicians' lack of exposure to this modality. In the opinion of Schopp, Johnstone, and Merrell (2000):

> …Perhaps the greatest barrier to widespread telehealth use in psychology resides in the culture of practitioners, some of whom are resistant to technology mediated clinical interactions. Clients appear generally more open to telehealth than psychologists, and education may be needed for psychologists to help them understand how telehealth can benefit their clients. (p. 182)

A meta-analysis conducted by Bee et al. (2008) examined randomized controlled trials of psychological interventions for mood disorders or other, non-organic mental health problems delivered using "remote communications" (i.e., not face-to-face). Three main groups were analyzed: remote communication therapy versus a control group (e.g., treatment-as-usual, waitlist), remote communication therapy versus conventional face-to-face therapy, and different types of remotely communicated therapy. Studies of depression were analyzed separately from studies of anxiety and anxiety-related disorders, and each of these groups were found to have statistically significant effect sizes for the impact of teletherapy compared to control conditions. Pooled effect sizes for remotely delivered therapy compared to control conditions, defined as either waitlist or treatment as usual, were .44 for depressive disorders and 1.15 for anxiety disorders (Bee et al., 2008).

The same meta-analysis found that of the 13 randomized controlled trials of remotely delivered psychotherapy included in the review, only two directly compared the efficacy of face-to-face therapy with an equivalent, remotely delivered therapy. In the first of these studies, cognitive behavioral therapy administered face-to-face was compared to telephone administration for clients receiving outpatient treatment for obsessive-compulsive disorder. Lovell, Cox, Haddock, and Hadley (2006) recruited 72 clients who received either 10, 1-hour face-to-face sessions or eight, 30-minute phone calls that focused on exposure and response prevention delivered through fear hierarchies, weekly exposure, and homework. Clients completed the Yale Brown Obsessive Compulsive Checklist and the Beck Depression Inventory on two occasions prior to treatment, immediately following treatment, and at one-, three-, and six-month follow-up. Patients also completed a satisfaction questionnaire following treatment. Results indicated that treatment delivered via the telephone produced equivalent outcomes to treatment delivered face-to-face not only immediately following treatment, but also at all follow-up points. In addition, clients in this study reported high levels of satisfaction with both modalities.

The second of these studies, conducted by Nelson, Barnard, and Cain (2003), involved 28 depressed children assigned to eight sessions of cognitive behavioral therapy delivered either face-to-face or through videoconferencing. The Schedule for Affective Disorders and Schizophrenia for School-Aged Children – Present Episode (K-SADS-P) and the Children's Depression Inventory (CDI) were completed at both pre- and post-treatment. In addition, a questionnaire assessing satisfaction with teletherapy was also completed following treatment. Results indicated an equivalent decrease in child

depressive symptoms in both the face-to-face and videoconferencing conditions, and, in fact, the videoconferencing group reported "a greater decrease in depressive symptoms over time as compared to the [face-to-face] group" (Nelson et al., 2003). In addition, high satisfaction with teletherapy was reported.

One of the major problems with Bee and colleagues' meta-analysis (2008) is the grouping of the treatment-as-usual and waitlist groups into a single control group for comparison. Those in a waitlist would not be receiving any kind of therapeutic treatment, making it impossible to say that the outcomes reported by these people are similar to those reported by people in the treatment-as-usual conditions. Making comparisons between these groups and then drawing conclusions fails to acknowledge the impact of treatment.

In addition to identifying the ways technology has been used in the fields of medicine, psychiatry, and psychology, the previous studies have also described the benefits and outcomes of telemedicine and telemental health applications, as well as patient satisfaction with these modalities. For the purposes of the current study, however, the previous literature review is incomplete without also examining research on the working alliance and its role in telemental health.

The Working Alliance

Questions have been raised as to the impact of technology on the alliance between therapist and client, and the possibility exists that the use of telemental health for psychotherapy may have outcomes that are different than those found in traditional, face-to-face treatment. Although there is no consensus among clinicians about what exactly is meant by the "therapeutic alliance," Wampold (2010) defined the alliance as "the bond

between the therapist and client as well as the agreement about the tasks and goals of therapy." The status of the early alliance (i.e., third to fifth sessions) has been found to be highly predictive of final psychotherapy outcome (Bachelor & Horvath, 1999). This relationship between alliance strength and treatment outcome has been found for different types of therapy, and also pharmacotherapy (Hubble, Duncan, Miller, & Wampold, 2010). Interestingly, there tends to be low agreement between client and therapist about the quality of the relationship, and research has shown that the client's view is most predictive of overall therapeutic outcome (Bachelor & Horvath, 1999; Norcross, 2002).

According to Castonguay and Beutler (2006), "therapy is likely to be beneficial if a strong working alliance is established and maintained during the course of treatment." The alliance has consistently been shown to be related to outcome across a broad range of published and unpublished studies, and research shows that there are common factors that account for approximately 30% of therapeutic outcome (Horvath & Symonds, 1991; Hubble et al., 1999; Martin, Garske, & Davis, 2000). Lambert and Ogles (2004) break these relationship factors into four primary domains: accurate empathy, positive regard, nonpossessive warmth, and congruence or genuineness. Michael Lambert previously said:

> Virtually all schools of therapy accept the notion that these or related therapist relationship variables are important for significant progress in psychotherapy and, in fact, fundamental in the formation of a working cooperative effort between patient and therapist. (1983)

These four factors are most frequently studied within the context of the therapeutic alliance and, in the past, were found by client-centered therapists to be

"necessary and sufficient conditions" for change; however, it is now more commonly believed that these factors are necessary for change, but "that they alone are not sufficient" (Lambert & Ogles, 2004). Gatson (1990) also suggested that the client's affective relationship with the therapist, the client's capacity to work purposefully in therapy, the therapist's empathic understanding and involvement, and client-therapist agreement on the goals and tasks of therapy also contributed to the establishment of empathy, regard, warmth, and genuineness. The American Psychological Association Division of Psychotherapy task force on empirically supported therapy relationships identified empathy, alliance, cohesion, goal consensus and collaboration, positive regard, congruence/genuineness, feedback, repair of alliance ruptures, self-disclosure, management of countertransference, and quality of relational interpretations as the elements of effective therapy relationships (Beutler & Castonguay, 2006). Of these elements, Castonguay and Beutler (2006) stated that "therapists should relate to their clients in an empathic way," and that "an attitude of caring, warmth, and acceptance is likely to be helpful in facilitating therapeutic change."

Empathy and warmth

Accurate empathy appears most directly related to outcome, with a meta-analysis of 47 studies finding a median correlation of .26 between therapist empathy and therapy outcome (Norcross, 2010). Carl Rogers is credited with defining empathy as "the therapist's sensitive ability and willingness to understand clients' thoughts, feelings, and struggles from their point of view" (Norcross, 2010). Empathy "involves entering the private, perceptual world of the other and, in therapeutic contexts, communicating that understanding back to the client in ways that can be received and appreciated" (Norcross,

2010). This, in turn, means that empathy is more than just focusing on feelings and there is not one, universal empathic response. To support this belief, a study by Bachelor (1988) found that 44% of clients valued a cognitive form of empathic response, 30% an affective form of empathy, and the rest a "nurturing and disclosing empathic response." In order for a therapist to accurately convey empathy, he or she must understand the client's experiences on a moment-by-moment basis, and the clinician must be able to share this understanding and the implications of the experience with the client. Empathy is more than just reflecting a client's comments back to him or her, instead requiring a focus on both what is and is not said (Bohart, Elliot, Greenberg, & Watson, 2002). Part of the reason empathy has been credited with improving outcome is because empathy "serves a positive relationship function, facilitates a corrective emotional experience, promotes exploration and meaning creation, and supports clients' active self-healing" (Norcross, 2010).

Therapist warmth has also been hypothesized as being a key element in creating a strong therapeutic alliance, and often the terms "warmth" and "positive regard" are used interchangeably in the literatures to describe a "nonpossessive caring for the [client] as a separate person with the inherent right and responsibility of self-determination" (Truax, 1963). As Truax (1963) suggested nearly 50 years ago, empathy and warmth are logically intertwined, such that being empathic toward a client and being able "to be deeply sensitive to the moment-to-moment 'being' of another person" first requires the therapist to value that person unconditionally. Warmth, like empathy, is considered to be one of the fundamental variables needed for the establishment of an effective working relationship between client and therapist, and, as a result, is believed to impact treatment

outcome as well (Lambert & Ogles, 2004; Norcross, 2010). Research conducted by Truax (1963) examining the impact of therapist empathy, warmth, and self-congruence on therapy outcomes with schizophrenic clients found that those clients receiving "low levels" of these variables experienced increases in symptoms (e.g., anxiety).

Snyder and Snyder (1961) also emphasize the importance of counselor warmth for the relationship and identify three types of warmth, including commitment to therapy, effort to understand, and spontaneity. Although Snyder and Snyder differentiate between these three types of warmth, they are likely related to one another, in that putting forth effort to understand a client is related to the therapist's commitment to therapy and willingness and ability to spontaneously offer feedback and support.

The Working Alliance and Telemental Health

Telepsychiatry

Providers and patients appear to have diverging views about the impact of technology on the quality of the therapeutic interaction. Provider satisfaction has tended to be lower in terms of ease with the process, ability to express oneself, and quality of the interpersonal relationship; however, patients have rarely reported feeling as though telepsychiatry is impersonal or is less likely to be as sensitive as face-to-face meetings (Hilty et al., 2004). Although not directly stated, this indicates that telepsychiatric patients should be able to establish effective working alliances with their psychiatrists.

In addition, Werner (2004) found high patient willingness to use telepsychiatry. This study evaluated patients' willingness to use telepsychiatric services as they related to attitudes toward telemedicine, attitudes toward the patient-physician relationship, satisfaction with current care, and technology anxiety. In this study 1,204 Israeli

participants aged 45 and over were selected via random digit dialing to complete a telephone interview assessing participants' willingness to use telepsychiatry and their attitudes toward telemedicine and any current medical care they were receiving. A description of telemedicine services was also read to participants prior to their interview, as these patients were not currently involved in telemedical or telepsychiatric care.

Using a 5-point Likert scale, where 1 indicated being not at all willing to use telepsychiatry and 5 indicated being very willing, results indicated a moderate willingness to use telepsychiatry with a mean rating of 3.2. In addition, patient attitudes toward telemedicine were found to have the greatest impact on willingness to use telepsychiatry, such that those with more positive attitudes toward telemedicine were more willing to use telepsychiatry. Attitudes toward the patient-physician relationship also affected willingness to use; those with "stronger beliefs" about relationships with physicians were more willing to use telepsychiatry. Unfortunately, it is unclear what exactly is meant by "stronger beliefs," as only two of the items used to assess this were provided. If attitudes toward the patient-physician relationship impact patients' willingness to use telepsychiatry, then the ability to create a warm, supportive working alliance may mean the difference between patients accepting or rejecting telepsychiatry. Also worth noting was the finding that technology-anxiety impacted patients' willingness to use telepsychiatry, such that more anxiety about the technology made patients less willing to use it.

In contrast, a study by Doze, Simpson, Hailey, and Jacobs (1999) evaluated a telepsychiatry pilot program that linked a psychiatric hospital with five hospitals' mental health clinics. Fifty-seven patients completed questionnaires evaluating their

telepsychiatric care, 32 of whom also completed a follow-up telephone interview. As shown in Table 1, patients cited a number of both non-monetary and monetary benefits of receiving telepsychiatric services, such as "reduced travel time, less stress from travelling to appointments, less absence from work (for both patient and family), less delay in accessing a psychiatrist, feelings of confidentiality and privacy, more patient choice and control, improved quality of life, and potential for clinical improvement without hospitalization" (Doze et al., 1999).

Table 1

Overall Effect of Telepsychiatry Services

Area of Effect	**Non-monetary**	**Monetary**
Decreased travel	Decreased travel time; no additional stress due to driving in unfamiliar areas/traffic/parking	No expense of travel (fuel, parking, bus, paying someone); no expense of time away from work
Decreased waiting time	Receive help/support without delay; potential for decreased severity of illness; potential to prevent hospitalization; less stress/worry	Less lost work time/school time
Client choice and control/increased ability to manage in the community	Ability to leave consultation at any time; choice of options (other than those in community); ability to get second opinion/specialist; positive self-esteem/image	
Quality of life	Immediate benefits; feeling of support and having someone qualified to talk to; expert opinion/information/assistance with coping skills; improvement in condition/relationships; feeling comfortable that visit is confidential – consultant from outside community, no need to tell someone about transportation	

Note. Adapted from "Evaluation of a Telepsychiatry Pilot Project," by S. Doze, J. Simpson, D. Hailey, and P. Jacobs, 1999, *Journal of Telemedicine and Telecare*, 5, pp. 38-46.

Despite identifying multiple advantages, disadvantages were "that their interaction with the psychiatrist tended to be impersonal, and that there was potential for less sensitivity in interviews" (Doze et al., 1999). This is an important finding, in part because it contradicts earlier findings, but also because it implies that there may be differences in patients' and psychiatrists' ability to develop an effective working alliance via telepsychiatry. Because we know that the therapeutic relationship is strongly related to outcome, problems developing this relationship may lead to reduced treatment effects. In follow-up interviews conducted by Doze and colleagues (1999), patients reported a preference for telepsychiatry over having to wait or having to travel for an appointment, but results were split about whether they would prefer a telepsychiatric consultation over a face-to-face appointment, with 13 patients agreeing, 13 disagreeing, and 3 being unsure. Approximately 93% of participants reported that they would use telepsychiatry again, and 97% would recommend telepsychiatry to a friend. One short-coming of this study was that no data was available regarding patient satisfaction with face-to-face psychiatric consultations, preventing comparisons from being made between telepsychiatry and face-to-face care.

Teletherapy

According to Bee and colleagues (2008), "conventional wisdom still insists […] that for most purposes, psychological therapies should be delivered face-to-face." The client-therapist relationship is the mechanism through which change occurs, and face-to-face contact is necessary for the development of a close, warm therapeutic relationship. Despite this belief, technology continues to be increasingly incorporated not only into people's daily lives, but specifically into their medical and mental health treatment. As

such, it is important to evaluate whether in-person contact really is necessary to create an effective alliance, or whether this can be accomplished in other ways.

Day & Schneider (1999) examined psychotherapy delivered via videoconferencing, two-way audio, and face-to-face and the impact of each modality on the development on the working alliance. In this experiment, 80 clients were randomly assigned to each condition, and an additional 20 clients were assigned to a waitlist control group. Participants received five free sessions of cognitive-behavioral therapy conducted by advanced doctoral students, all of whom worked in all three modalities, were aware of the study's purpose, and knew they were expected to provide equivalent treatment to all groups. Three master's-level clinicians were recruited to observe three 5-minute long segments of videotape samples from the beginning, middle, and end of therapy and rate the working alliance using three subscales of the Vanderbilt Psychotherapy Process Scale (Client Participation, Client Hostility, and Therapist Exploration). In addition, clients and clinicians completed several outcome questionnaires to evaluate overall level of functioning, current symptomology, problem severity, and satisfaction with therapy.

Results indicated that clients participated more in the videoconferencing and audio conditions than when meeting face-to-face, as evidenced by ratings of activity level, initiative, trust, spontaneity, and disinhibition. The authors suggest two possible reasons for this increased participation. First, it may be that clients in the videoconferencing condition "made more of an effort to communicate, taking more responsibility for the interaction" (Day & Schneider, 1999). It may also be that "distance made openness seem safer" (Day & Schneider, 1999), a finding supported by Wootton, Yellowlees, and McLaren, (2003), who suggested that videoconferencing may increase

clients' sense of security. Despite this difference, overall no significant differences were found between groups in clinical outcome, satisfaction, and ability to establish a working alliance. This finding led the authors to conclude that "in a brief therapy situation, the outcome of delivery over two-way audio or video is comparable to face-to-face treatment" (Day & Schneider, 1999). The lack of statistical differences has led some to conclude that the therapeutic alliance can be built regardless of technological mediation (Rees & Haythornthwaite, 2004). One of the problems with the Day and Schneider (1999) study is its use of outside observers to rate the therapeutic alliance. Because research has shown that the clients' perception of the working alliance is most closely related to treatment outcome, it seems more appropriate to ask clients themselves to report their perceptions of the therapeutic alliance and their own treatment experiences.

A study conducted by Simpson (2001) found that not only did clients feel able to develop a positive therapeutic relationship with their therapist through videoconferencing, but they also reported feeling as though the videoconferencing enhanced the therapeutic relationship. Over a 12-month period, 10 clients in the Shetland Islands participated in therapy with a psychologist located in Scotland using videoconferencing. Participants completed measures of satisfaction, symptom improvement, and therapeutic alliance. Results indicated that approximately half of clients reported feeling "definitely much better," with the other half indicating that they felt "somewhat better." In addition, all but one client were satisfied with the use of videoconferencing and most clients felt that communication was easy and their videoconferencing sessions were useful. Participants also reported that as they became more familiar with the video equipment, their satisfaction increased. According to two

different clients, videoconferencing "is sufficiently personal without being so personal as to be confrontational…there was good personal contact but without an invasion of my space," and the clients in the videoconferencing condition reported being able to speak more freely and feeling less self-conscious than they would if they had met with a therapist face-to-face (Simpson, 2001). The small sample size in Simpson's study makes it difficult to generalize her results, and because no information is provided regarding exactly how much prior computer and videoconferencing experience clients had, it is difficult to draw conclusions about the impact of this experience on clients' satisfaction.

In a study of prison inmates, "no significant differences between telemental health and face-to-face delivery modalities for perceptions of the therapeutic relationship, post-session mood, or general satisfaction with services" were found (Morgan, Patrick, & Magaletta, 2008). In this study, Morgan and colleagues (2008) evaluated inmates' perceptions of the working alliance, post-session mood, and satisfaction following either TMH or face-to-face psychiatric or psychological services. In this study, 186 adult male inmates participated, with 50 receiving face-to-face psychological care, 36 receiving telepsychological care, 50 receiving face-to-face psychiatric care, and 50 receiving telepsychiatric care. Each inmate participated in only one condition to avoid duplication of services, and participation was based on modality availability at the inmates' prison (face-to-face vs. TMH) and which service was needed (psychology or psychiatry). At the completion of one regularly scheduled session, inmates completed three questionnaires. Results indicated no significant differences in working alliance (as measured by the Working Alliance Inventory), session evaluation, and satisfaction between face-to-face psychology and telepsychology groups. This was also true for face-to-face psychiatric

and telepsychiatric services. Like Simpson's study in Shetland, one of the problems with Morgan and colleague's research is its lack of generalizability. While these findings may suggest that telemental health is a potentially beneficial treatment modality in the criminal justice system, it is difficult to say that this finding also applies to non-prison populations. Clients were also not randomly assigned to conditions, raising questions about potential selection bias.

Wooten et al. (2003) suggest that nonverbal information may be less complete when using teletherapy applications. For example, eye contact, posture, facial expressions, body positioning, voice quality and tone, and hesitations may be lost, all of which assist in, and are important to, the assessment of emotion (Wootton et al., 2003). In support of this claim, a review of the literature by Hilty and colleagues (2004) cite two studies in which decreased ability to detect nonverbal cues in client interviews was reported during videoconferencing, possibly limiting mutual connections and understanding. According to Hilty et al. (2004), "in a physical environment, informational cues are incorporated without conscious awareness (for example, a [client] is seen walking in a reticent way)." Because videoconferencing is often unable to show a client's full body and face in the same level of detail as if the client and therapist were in the same room, therapists may also be unable to perform supportive gestures during videoconferencing sessions, which may lead to a perceived lack of empathy (Ghosh, McLaren, & Watson, 1997). In contrast, the distancing effects of videoconferencing may promote a sense of security and help patients feel more comfortable and less scrutinized, which in turn could encourage honesty in certain client groups, specifically

schizophrenics and agoraphobics (Wootton et al., 2003). It may be that meeting in "neutral territory" promotes a greater sense of client control (Norman, 2006).

In general, lower expectations about the value of teletherapy have been reported by clinicians (Richardson et al., 2009). Therapists tend to believe that therapy conducted via videoconferencing is less effective than that conducted in-person, and that a strong therapeutic alliance cannot be formed without face-to-face contact. In a study by Rees and Stone (2005), 30 Australian clinical psychologists from the Health Department of Western Australia were randomly assigned to watch a 20-minute, pre-recorded session video and rate the alliance using the Penn Helping Alliance Rating Scale (HAr). For the video, a researcher and an actor posing as a client simulated a therapy session in both face-to-face and videoconferencing formats, being sure to keep all aspects of the therapist-client interaction as similar as possible between conditions. In addition to rating the alliance, psychologists were asked to complete a questionnaire regarding their previous experience with videoconferencing, with most of the raters admitting to having no previous experience with conducting therapy via videoconferencing or the technology itself. Results indicated a significant difference on total HAr scores between groups, with the videoconferencing condition receiving lower alliance scores from raters ($p < .05$). These findings indicate that third-party observers (i.e., clinical psychologists) viewed the alliance as being less strong in videoconferencing compared to face-to-face interactions. As previously mentioned, however, observer ratings of the alliance are correlated less with treatment outcome than client ratings, raising questions as to whether this is the most appropriate methodology for assessing the alliance between face-to-face and videoconferencing therapy.

Related to this are concerns about clinician countertransference reactions, given that the information received in a videoconferencing therapy session may be less complete than that obtained when meeting face-to-face. Videoconferencing often allows the clinician to see only a limited portion of the room in which the client is located, and also may limit eye contact and the ability to read subtle, perhaps hidden, body language. In addition, conducting therapy via videoconferencing requires the clinician to relinquish some of his or her control over the session; because the client is not in the room, he or she may decide to terminate the session by turning of the computer, or perhaps even threaten to harm him- or herself without the clinician being able to immediately step-in (Christogiorgos et al., 2010). It has been suggested that being unable to have full access to the client's experience and having less control may "stimulate the imagination of the counselor about what sort of place the call is being made from, what sort of state the [client] is in, and whether there are other people around." This, in turn, may cause the clinician to "feel inadequate to help, awkward or anxious," or perhaps even fearful and "[impotent in] their role" (Christogiorgos et al., 2010).

Other research has shown that clinicians report generally being satisfied with videoconferencing after using the technology and gaining familiarity with it (Richardson et al., 2009). Finn and Barak (2010) surveyed 93 Master's level counselors who were conducting online therapy in order to determine the counselors' attitudes toward and satisfaction with telemental health. They found that 55% of counselors rated online therapy and face-to-face therapy as equally effective, 36% felt e-therapy was less effective, and 9% felt e-therapy was more effective.

To summarize, the last 50 years have seen substantial growth in the use of technology in the provision of medical and mental health services. The use of this technology has helped patients overcome many barriers to care, such as travel cost, transportation issues, and time constraints. Videoconferencing is the most commonly used modality, and it has been used to provide a variety of telemental health services, including consultation, crisis intervention, psychiatry, and, of particular importance to this dissertation, therapy. Across fields, patient satisfaction with telehealth has been high, and telehealth has also been shown to be as effective as face-to-face treatment. In the field of telemental health, the use of videoconferencing in the provision of psychiatric and therapy services has resulted in decreased symptoms and improved functioning in those with mental health concerns. In addition, increasing patients' familiarity with videoconferencing technology has resulted in more positive ratings of the telemental health experience.

With regards to the working alliance, client perceptions have been shown to be most closely related to treatment outcome. Research in the field of telemental health has resulted in conflicting evidence regarding the impact of videoconferencing on clients' perceptions of the working alliance. Clients generally express high willingness to use telemental health, but there has been evidence to suggest that some clients feel that telemental health is more impersonal than face-to-face treatment. One possible reason for these conflicting findings may be methodological issues with the studies. Sample sizes have tended to be small, groups were not randomly assigned, observer ratings were typically used to assess the alliance, and there was often no face-to-face comparison

group. Conflicting research results, coupled with these methodological issues, create a need for further research on the impact of telemental health on the working alliance.

Purpose of Study

At this time, there are questions as to whether or not an effective alliance can be established in technology-mediated therapy, and whether elements of the alliance, specifically empathy and warmth, are impacted by this technology (Bee et al., 2008). Most of the research to date has failed to make comparisons between face-to-face clients and those receiving services through distance technology, such as videoconferencing. Those studies that have looked specifically at these two groups have typically used third-party evaluators to rate the strength of the alliance. Day and Schneider (1999) found no differences in rater evaluations of the therapeutic alliance between face-to-face and teletherapy conditions, but research by Rees and Stone (2005) contradicted these results, instead finding that third-party observers rated the therapeutic alliance lower in the teletherapy condition compared to face-to-face therapy. Based on previous research indicating that the client's view of the alliance is most important, it seems that research should ask clients themselves about the strength of their working relationships with their therapists.

In addition, previous research has tended to focus on client satisfaction with services rather than alliance strength, which is problematic when considering that satisfaction with mental health services tends to be high in general and is also not considered to indicate the strength of the therapeutic relationship or to be strongly related to outcome. Another problem with previous research on the working alliance and videoconferencing therapy is lack of random assignment. Many of those participating in

these research studies were already participating either in therapy generally or teletherapy specifically. This raises questions about possible selection bias. In addition, small sample sizes have made it difficult to interpret results and to generalize findings.

Most pertinent to this dissertation is that the majority of research to date has failed to examine the impact of videoconferencing on empathy and warmth, two major variables that Truax (1963) conceptualized as being logically intertwined and contributing to the establishment of the working alliance. Previous research has tended to report overall working alliance scores rather than the scores achieved on specific subscales, making it impossible to know whether elements of the working alliance are impacted differently by the introduction of technology in therapy.

Given these limitations, it appears that more research is needed that directly compares client perceptions of the therapy session, including therapist empathy and warmth, in face-to-face therapy versus teletherapy using a large, randomly assigned sample. The goal of this dissertation was to partially address this need by randomly assigning participants to either a face-to-face interview or an interview conducted through videoconferencing technology, and also by asking participants about their own perceptions of the interview, including the interviewer's empathy and warmth.

It was hypothesized that clients in the videoconferencing condition would have less positive overall ratings of the session, as well as lower ratings of therapist warmth and empathy compared to the face-to-face condition. It may be that nonverbal cues are not as easy to read in videoconferencing, as suggested by Wooten and colleagues (2003), and this may, in turn, lead to fewer supportive gestures by the therapist (Ghosh et al., 1997). In research conducted by Doze et al. (1999), patients reported feeling as though

telepsychiatric consultations were more impersonal and less sensitive than face-to-face meetings. Research by Rees and Stone (2005) also found lower ratings of the alliance in therapy conducted through videoconferencing compared to face-to-face.

In addition, it was hypothesized that clients who were more familiar with the videoconferencing technology would have more positive ratings of the session. Both Werner (2004) and Simpson (2001) found evidence to support this hypothesis, with research indicating that greater anxiety about using videoconferencing resulted in less willingness to do so, and that as people became more familiar with videoconferencing technology their satisfaction with this modality increased.

CHAPTER II

METHODS

Participants

Participants were recruited through the Psychology Subject Pool, which is comprised of Introductory Psychology undergraduate students, at Indiana University of Pennsylvania (IUP). Course credit was received for participation. Table 2 contains participants' demographic information. Participants were randomly assigned to either a face-to-face condition (n = 30) or a videoconferencing condition (n = 34). Participants in both conditions reported median videoconferencing use of one to three times per month (range = not used – 2 or more times per week).

Table 2

Participant Characteristics

Demographic	Sample *n*	Percentage of Sample
Gender		
Male	31	48.4%
Female	33	51.6%
Age		
18	30	46.9%
19	19	29.7%
20	7	10.9%
21	3	4.7%
22	3	4.7%
23	1	1.6%
31	1	1.6%
Class		
Freshman	43	67.2%
Sophomore	13	20.3%
Junior	4	6.3%
Senior	4	6.3%
Race/Ethnicity		
White	57	89.1%
Black	2	3.1%
Asian	3	4.7%
Multiracial/ Multi-ethnic	2	3.1%
Videoconferencing hours		
Not used	4	6.3%
1 – 4 times per year	10	15.6%
5 – 8 times per year	7	10.9%
9 – 11 times per year	5	7.8%
1 – 3 times per month	21	32.8%
1 time per week	7	10.9%
2+ times per week	10	15.6%

Procedure

Potential participants were required to complete a five-question pretest assessing level of comfort and experience with technology and videoconferencing (Appendix A) prior to being selected to participate in the study. The pretest was administered to avoid biased outcome results caused by being assigned to the videoconferencing condition and actually using the technology. Participants who failed to answer all questions on the

pretest were not considered for inclusion in the study. Selected participants were randomly assigned to either a face-to-face or videoconferencing condition and were contacted by the principle researcher via email to establish the day and time of participation. Participants in both conditions completed an interview with the primary researcher who was introduced using a pseudonym in order to reduce respondent bias.

In order to maintain the analog nature of this study, the experiment was conducted in the Center for Applied Psychology (CAP), the training clinic used by the university's psychology doctoral students. A research assistant greeted each participant in the waiting room and administered an informed consent form (Appendix B). A detailed outline of the scripted procedure followed by the research assistant can be found in Appendix C. Following completion of the informed consent, participants were asked to wait briefly in the waiting room in order to more closely approximate an initial therapy session. Just prior to meeting with the interviewer, participants were told by the research assistant that the purpose of the study was to examine factors associated with effective interviewing techniques, and those in the videoconferencing condition were also told that their interviewer was located in Pittsburgh. These deceptions served two purposes. First, if participants believed the interview was the focus of the experiment, they would focus less on the videoconferencing technology itself and hopefully provide more thorough answers. Second, making participants believe that the interviewer was not located nearby made the distance condition feel more realistic, thus allowing for more accurate responses from the videoconferencing group regarding their perceptions of the interviewer's empathy and warmth. Following the explanation of the study, the research assistant escorted each participant to a therapy room in the CAP, where they were either

greeted by the interviewer (face-to-face condition) or instructed to have a seat at the computer (videoconferencing condition).

Participants completed a structured interview led by the primary researcher. A detailed, step-by-step description of the interview for each condition can be found in Appendix D. Sample questions included: "Tell me how you relax or reduce stress," "Tell me about an accomplishment you're proud of," and "Can you tell me about a time you had a serious conflict with someone?" The interview was scripted in its entirety, meaning that not only were the primary questions structured, but the follow-up questions and comments were also predetermined (e.g., "That sounds pretty important to you;" "How did you handle that?"). In addition, responses to requests for clarification from participants regarding question content were scripted (e.g. "Just tell me about any situation that you found challenging,"), and participants were asked to provide another example in the event that the same experience could be used to answer multiple questions (e.g., a serious conflict with someone and a challenging situation). The use of a scripted interview not only helped control for the potential effects of varying therapist response by ensuring all participants received the same primary and follow-up questions, but the way it was written also allowed the interview to more closely approximate the give-and-take of everyday conversation.

The interviewer also displayed the same nonverbal cues, including smiling and head-nodding. The interviewer displayed primarily neutral facial expressions, with consistent voice tone and body posture. The use of neutral body language helped ensure that the interviewer did not inadvertently display more empathy toward some participants as opposed to others. Rather than relying on smiling or brow furrowing to acknowledge

participants' positive and negative responses, the interviewer nodded her head during each response. This maintained neutrality while also showing participants that the interviewer was listening. The interviewer's body posture was also consistent; she sat holding a clipboard and with her legs crossed for all interviews. Having the clipboard helped to ensure that the interview protocol was followed and that all questions were asked in a consistent manner. The exception to displaying neutrality involved interview questions pertaining to positive experiences, such as the question "What was one of your happiest moments ever." Following these questions and during their related follow-ups, the interviewer smiled. Although participants were asked a standard set of questions, it was important for them to feel as though their responses were heard.

In addition, independent observers, blind to the study's hypotheses, were recruited to watch random interviews and complete an Observer Rating Form (Appendix E), which evaluated whether the interviewer adhered to the scripted protocol. Several aspects of the interview were rated, including smiling, head nodding, neutral facial expression, and use of follow-up questions. Ten interviews were randomly observed, with results indicating high consistency across interviews. Forty-nine out of 50 total smiles and 219 out of 220 total head nods were noted across the 10 observed interviews; rating forms indicated 100% interviewer consistency on other protocol elements.

Following the interview, participants were directed to another room in the CAP where the research assistant administered the Session Evaluation Questionnaire (Appendix F), a questionnaire assessing empathy and warmth (Appendix G), and a demographic questionnaire (Appendix H). In addition, the interviewer completed the Session Evaluation Questionnaire following each interview for the purposes of

comparing interviewer and participant perceptions of the overall meeting. Following the collection of all data, participants were emailed a debriefing form (Appendix I) regarding the purpose of the study and, for those in the videoconferencing condition, the fact that the interviewer was in an adjacent room rather than in Pittsburgh. A rationale for this deception was also provided to participants.

Because the interview was meant to approximate an initial therapy session, there was the possibility that some questions might raise concerns for some participants. As such, all participants were given a referral list (Appendix J) of local clinicians should they wish to discuss their concerns in more depth. In addition, had anyone endorsed serious pathology or requested an immediate consultation, the interviewer (a Psy.D. doctoral candidate) was prepared to immediately provide supportive services and assist in making a referral; no participants required this assistance.

Materials

Participants completed a structured interview developed by the principle researcher, as well as two questionnaires to assess participants' overall perceptions of the interview and their perceptions of the interviewer's empathy and warmth. Participants also completed a short demographic questionnaire in order to compare the equivalence of both conditions. In addition, the interviewer completed the same measure of overall perceptions of the interview completed by participants.

Technology

Videoconferencing was conducted using two computers with internal cameras and Skype, an internet-based, real-time chat program. Photographs of the therapy rooms and videoconferencing equipment utilized by both the interviewer and participants in the

videoconferencing condition can be found in Appendix K. The principle researcher established two separate videoconferencing accounts through the designated site in order to protect confidentiality and to prevent participants from having to register any personal information. In addition, Skype did not store any copies of the transmitted conversations, again helping to protect participant confidentiality.

The Session Evaluation Questionnaire

The Session Evaluation Questionnaire (SEQ) is a 21-item measure used to assess client and therapist perceptions of the depth and smoothness of an individual therapy session, as well as the respondent's immediate post-session mood. The SEQ presents a variety of bipolar adjectives grouped into two sections that are rated on a seven-point scale. In the first section, questions are preceded by the stem "This session was:," while the stem "Right now I feel:" precedes the second section. Examples of session and mood descriptions used on the SEQ include relaxed/tense, weak/powerful, happy/sad, and friendly/unfriendly. Higher scores indicate greater depth and smoothness, as well as more positive mood. The SEQ has consistently demonstrated high internal consistency across a variety of conditions and settings, with alphas ranging from .78 to .91 (Stiles, 2002; Morgan et al., 2008).

Because participants completed an interview rather than a typical therapy session, the SEQ was chosen in order to tap into more general feelings about the participant-interviewer interaction as opposed to the relationship between client and therapist. For the purposes of this study, only the portion of the SEQ measuring participants' overall evaluation of the interview was used. The goal of the current research was to determine whether technology impacted the relationship between the interviewer and the

participant, not the participant's mood. Including information about participants' post-interview mood was outside the scope of the current study. In addition, because participants completed interviews rather than therapy sessions, the term "counselor" found in the original instructions for the SEQ was changed to "interviewer." A copy of the modified SEQ being used in this dissertation can be found in Appendix F. The interviewer also completed the SEQ following each interview for the purpose of comparing interviewer and participant perceptions of the interview experience. The modified version of the SEQ used in this study was assessed for internal reliability and demonstrated a Cronbach's alpha of .85.

Truax Relationship Questionnaire

The Truax Relationship Questionnaire (TRQ) is a 141-item measure of the client's perception of his or her relationship with the therapist. Items are marked as either "true" or "false" by respondents, resulting in scores for six subscales: Accurate Empathy, Nonpossessive Warmth, Genuineness, Intensity and Intimacy of Interpersonal Contact, Concreteness, and Overall Therapeutic Relationship. Reliability coefficients for the empathy and nonpossessive warmth subscales of the TRQ range from .43 to .79 and .48 to .84, respectively (McDonald, 1970). Welkowitz and Kuc (1973) found alpha reliability coefficients of .79 for the empathy subscale and .87 for the warmth subscale, as well as interrater reliabilities of .84 and .88 for empathy and warmth, respectively.

Given the length of the TRQ, its inclusion of multiple subscales, and its focus on assessing the therapeutic relationship, individual questions from the Accurate Empathy and Nonpossessive Warmth subscales were selected for use in this study rather than using the TRQ in its entirety. Many of the items comprising the TRQ are worded specifically to

assess the therapeutic relationship after several meetings (e.g., "He *never* says anything that makes him sound like a real person" [emphasis added]). Because participants in this study met with the interviewer only once, questions were individually selected and changed from present tense to past tense (e.g., "She *was* impatient with me," rather than "She *is* impatient with me"[emphasis added]) in order to most accurately assess empathy and warmth during this single meeting. In addition, questions were selected solely from the Accurate Empathy and Nonpossessive Warmth subscales of the TRQ, because these variables were the topics of primary interest for this dissertation. Items selected from the Empathy subscale included "She understands me," and "She may understand me, but she does not know how I feel," while questions assessing warmth included "She seems like a very cold person," and "She treats me like a person." A copy of the 20-item questionnaire used in this dissertation to assess empathy and warmth can be found in Appendix G.

In addition, because the questionnaire assessing empathy and warmth had fewer questions than the full TRQ, the original "true" and "false" response format of the TRQ was transformed into a 6-point Likert scale ranging from "Not At All True" to "Extremely True." Although there is no psychometric data regarding the use of Likert-question formatting with the TRQ, the inclusion of this formatting allowed for greater variability in participant responding, potentially providing richer data regarding perceptions of interviewer empathy and warmth. Reliability coefficients for the modified versions of the TRQ Empathy and Warmth subscales used in this dissertation were .83 and .90, respectively.

Demographic questionnaire

Participants completed an 11-item demographic questionnaire addressing age, class standing, gender, ethnicity, frequency of videoconferencing use, and hours spent using social media websites. In addition, three questions assessed participants' comfort with technology in general, comfort with videoconferencing technology, and their willingness to use this technology for therapy services in the future.

CHAPTER III

RESULTS

Results of the primary multiple analysis of variance (MANOVA), which examined differences between the face-to-face and videoconferencing conditions on the specified outcome measures, will be reported first. Next, a multiple regression analysis will be used to examine whether experience with technology and/or videoconferencing, as well as hours of videoconferencing and social media use, impacted overall ratings on the SEQ. Then, an analysis of variance (ANOVA) will be used to examine differences between the face-to-face and videoconferencing conditions on willingness to use videoconferencing for therapy in the future. Finally, differences between interviewer and participant SEQ ratings will be explored, as will the potential impact of participant characteristics (i.e., age, class, gender) on the dependent measures.

Primary Analyses

A one-way, between-groups MANOVA was conducted to examine the effect of the independent variable (use of videoconferencing) on the three dependent variables: overall ratings of the interview (as measured by an adapted version of the Session Evaluation Questionnaire [SEQ]), perceptions of interviewer empathy (as measured by an adapted version of the Empathy Subscale of the Truax Relationship Questionnaire [TRQ]), and perceptions of interviewer warmth (as measured by an adapted version of the Warmth Subscale of the TRQ). The primary MANOVA tested two hypotheses. First, it was hypothesized that participants in the face-to-face condition would have significantly higher overall ratings of the interview compared to those in the videoconferencing condition. Second, it was hypothesized that participants would rate the

interviewer as more empathic and warm in the face-to-face condition compared to the videoconferencing condition. No statistically significant differences were found between conditions on the combined dependent variables: $F(3, 60) = 1.49$, $p = .23$; Wilks' Lambda = .93. A separate examination of the impact of videoconferencing on each of the dependent measures also failed to reveal significant findings: adapted version of the SEQ, $F(1, 62) = 2.33$, $p = .13$; adapted version of the Empathy Subscale, $F(1, 62) = .07$, $p = .79$; adapted version of the Warmth Subscale, $F(1, 62) = .68$, $p = .41$. Table 3 contains the means and standard deviations of participant ratings for each of the dependent measures across conditions.

Table 3

Mean Scores on Dependent Measures across Conditions

	Session Evaluation Questionnaire	Empathy Subscale of the TRQ	Warmth Subscale of the TRQ
Condition	*M (SD)*	*M (SD)*	*M (SD)*
Face-to-Face (n = 30)	51.00 (10.01)	49.00 (9.18)	63.73 (13.09)
Videoconferencing (n = 34)	54.62 (8.94)	49.59 (8.22)	66.12 (9.93)

Note. Adapted version of the SEQ scale ranges from 11 to 77. Adapted version of the Empathy Subscale of the TRQ ranges from 11 to 66. Adapted version of the Warmth Subscale of the TRQ ranges from 14 to 84.

Participant Comfort and Experience with Technology and Videoconferencing

Multiple regression analysis was used to examine whether participant ratings of comfort with technology in general, comfort with videoconferencing specifically, hours spent using videoconferencing, and hours spent using social media websites (e.g.,

Facebook, Twitter) predicted scores on the Session Evaluation Questionnaire. Comfort ratings and usage hours from a pre-test that evaluated the independent variables were used for this analysis. The effect of comfort level and usage hours was examined only for participants in the videoconferencing condition, as comfort with, and use of, technology and videoconferencing was not pertinent for those participants who met with the interviewer face-to-face. Results indicated that the variables did not significantly predict SEQ scores: $R^2 = .12$, $F(4, 29) = .96$, $p = .45$. Likewise, none of the variables were independently found to predict dependent measure scores: comfort with technology in general, $\beta = 1.18$, $p = .27$; comfort with videoconferencing technology, $\beta = -.89$, $p = .40$; hours spent using videoconferencing $\beta = .004$, $p = .99$; hours spent using social media sites, $\beta = .03$, $p = .89$. Table 4 contains the means and standard deviations for participant ratings on the SEQ for comfort with technology, comfort with videoconferencing; Table 5 contains the means and standard deviations for participant ratings on the SEQ for hours spent using videoconferencing, and hours spent using social media sites.

Table 4

Videoconferencing Mean Scores by Comfort Level

		Session Evaluation Questionnaire
Comfort level	*n*	*M (SD)*
Technology in general		
Somewhat uncomfortable	1	41.00 (0)
Somewhat comfortable	10	52.10 (10.92)
Mostly comfortable	13	55.85 (7.47)
Extremely comfortable	10	56.90 (7.99)
Videoconferencing		
Somewhat comfortable	11	51.09 (10.89)
Mostly comfortable	13	55.85 (7.47)
Extremely comfortable	10	56.90 (7.99)

Table 5

Videoconferencing Mean Scores by Hours Used

		Session Evaluation Questionnaire
Hours used	*n*	*M (SD)*
Videoconferencing		
1 – 4 times per year	10	51.00 (9.65)
5 – 8 times per year	2	61.50 (2.12)
9 – 11 times per year	3	59.33 (8.39)
1 – 3 times per month	5	56.20 (7.19)
1 time per week	9	54.89 (8.74)
2+ times per week	5	54.20 (11.52)
Social media sites		
Less than 1 hour per day	12	56.50 (8.68)
1 – 3 hours per day	11	52.18 (8.81)
4 – 6 hours per day	7	54.57 (9.33)
7 – 10 hours per day	2	56.50 (2.12)
10+ hours per day	2	55.00 (19.80)

Participant Willingness to Use Videoconferencing for Therapy

An examination of the percentage of the sample that would be willing to use videoconferencing for future therapy services was conducted for each condition, as was an examination of the percentage of the sample that would prefer to receive therapy via videoconferencing. For those in the face-to-face condition, 56.7% of participants were unwilling to use videoconferencing for future therapy services, while 43.3% expressed willingness to do so. In addition, 96.7% of those in the face-to-face condition reported a preference for face-to-face treatment in the future, while 3.3% preferred videoconferencing for future therapy. For participants in the videoconferencing condition, 58.8% were unwilling to use videoconferencing for future therapy services, while 41.2% expressed willingness to do so. In addition, 94.1% of those in the videoconferencing condition expressed a preference for face-to-face treatment in the future, while 5.9% preferred videoconferencing for future therapy.

In order to examine whether being in the videoconferencing condition made participants more willing to receive therapy services via this modality in the future, a post-hoc, one-way, between-groups analysis of variance (ANOVA) was conducted. No statistically significant differences were found between conditions on the dependent variable: $F(1, 62) = .23$, $p = .64$.

Interviewer Ratings

In addition to participant ratings of the overall session, the interviewer also completed the Session Evaluation Questionnaire following each interview. A one-way, between-subjects ANOVA was conducted to evaluate the impact of the independent variable (use of videoconferencing) on interviewer ratings on the SEQ. No statistically

significant differences were found between conditions on the dependent measure: interviewer SEQ score, $F(1, 62) = .28$, $p = .60$. A simple correlation between participant and interviewer ratings on the SEQ was also conducted to examine whether participant and interviewer scores on the dependent measure were related to one another. Results indicated a statistically significant relationship between participant and interviewer ratings on the SEQ: $r(64) = .43$, $p < .01$.

Participant Characteristics

Separate analyses were conducted in order to evaluate the relationship between participant characteristics and scores on the dependent measures. The means and standard deviations for each participant characteristic are displayed in Tables 6 and 7.

A one-way MANCOVA was used to evaluate differences between conditions (face-to-face and videoconferencing) on the dependent measures (SEQ score, Empathy Subscale score, and Warmth Subscale score), controlling for participant age. No statistically significant differences were found between the face-to-face and videoconferencing conditions on the combined dependent variables: $F(3, 59) = 1.46$, $p = .24$, Wilks' Lambda = .93. Analysis of the impact of videoconferencing on the separate dependent measures also failed to yield significant results: adapted version of the SEQ, $F(1, 61) = 2.35$, $p = .13$; adapted version of the Empathy Subscale, $F(1, 61) = .14$, $p = .71$; adapted version of the Warmth Subscale, $F(1, 61) = .89$, $p = .35$. In addition, no significant results were found on the combined dependent measures after adjusting for age: $F(3, 59) = .607$, $p = .613$, Wilks' Lambda = .97. Likewise, an examination of the separate dependent measures after adjusting for age also failed to reveal significant results: adapted version of the SEQ, $F(1, 61) = .06$, $p = .80$; adapted version of the

Empathy Subscale, $F(1, 61) = 1.14$, $p = .29$; adapted version of the Warmth Subscale, $F(1, 61) = 1.40$, $p = .24$.

The effect of participant class (i.e., freshman, sophomore, junior, senior) on the dependent variables was assessed using a two-way, between-groups MANOVA. No significant interaction or main effects were found on the combined dependent variables for: video condition, $F(3, 54) = 1.57$, $p = .21$, Wilks' Lambda = .92; class, $F(3, 54) = 1.67$, $p = .10$, Wilks' Lambda = .77; and interaction between condition and class, $F(3, 54) = 1.13$, $p = .35$, Wilks' Lambda = .84.

A two-way, between-groups MANOVA was conducted to examine the impact of gender on the dependent measures. Results indicated no significant interaction or main effects on the combined dependent variables for: condition, $F(3, 58) = 1.41$, $p = .25$, Wilks' Lambda = .93; gender, $F(3, 58) = .48$, $p = .70$, Wilks' Lambda = .98; and interaction between condition and gender, $F(3, 58) = .92$, $p = .44$, Wilks' Lambda = .96.

Table 6

Mean Scores across Conditions by Participant Class

Condition	Class	*n*	Session Evaluation Questionnaire *M (SD)*	TRQ Empathy Subscale *M (SD)*	TRQ Warmth Subscale *M (SD)*
Face-to-Face					
	Freshman	20	51.15 (11.19)	49.30 (8.82)	63.85 (12.63)
	Sophomore	7	51.57 (6.83)	45.71 (9.23)	61.57 (13.21)
	Junior	1	39.00 (0)	41.00 (0)	45.00 (0)
	Senior	2	53.50 (9.19)	61.50 (.71)	79.50 (3.54)
Videoconference					
	Freshman	23	55.13 (8.97)	48.78 (8.63)	64.91 (9.86)
	Sophomore	6	51.00 (9.14)	49.50 (6.78)	67.83 (10.72)
	Junior	3	52.33 (8.33)	49.33 (6.66)	66.33 (10.79)
	Senior	2	63.00 (8.49)	59.50 (7.78)	74.50 (10.61)

Table 7

Mean Scores across Conditions by Participant Gender

Condition	Gender	*n*	Session Evaluation Questionnaire *M (SD)*	TRQ Empathy Subscale *M (SD)*	TRQ Warmth Subscale *M (SD)*
Face-to-Face					
	Male	14	50.79 (7.59)	47.79 (8.68)	62.79 (11.43)
	Female	16	51.19 (11.99)	50.06 (9.75)	64.56 (14.72)
Videoconference					
	Male	17	57.06 (8.74)	50.88 (9.11)	67.12 (10.25)
	Female	17	52.18 (8.71)	48.29 (7.26)	65.12 (9.80)

CHAPTER IV

DISCUSSION

Overall Session Evaluation and Perceptions of Interviewer Empathy and Warmth

Research to date has produced mixed results regarding the impact of videoconferencing technology on overall session ratings, as well as on the ability to establish an effective working relationship within the context of therapy. Participant willingness to use telemental health services has generally been high, but it has also been suggested that patients may find the use of videoconferencing more impersonal, thus making it more difficult to establish an effective alliance (Doze et al., 1999). Empathy, or the ability and willingness to understand another person's "thoughts, feelings, and struggles from their point of view," is considered one of the key common factors necessary for the formation of an effective therapeutic alliance (Norcross, 2010). Like empathy, warmth has also been identified as one of the common factors contributing to the development of a strong therapeutic relationship (Lambert & Ogles, 2004; Norcross, 2010; Truax, 1963).

Although previous research has examined the impact of telemental health on the alliance in general, it has failed to examine the impact of technology on specific common factors, such as empathy and warmth. A study conducted by Doze and colleagues (1999) asked 57 patients involved in a telepsychiatry pilot program to complete self-report questionnaires and follow-up phone interviews regarding perceptions of their telepsychiatric care. Disadvantages of telepsychiatric care cited by participants included feeling as though interactions with the psychiatrist were more impersonal and that there was the "potential for less sensitivity in interviews" (Doze et al., 1999). In addition,

previous research by Rees and Stone (2005) evaluated clinician alliance ratings of a 20-minute, pre-recorded therapy session conducted either face-to-face or through videoconferencing. Results indicated that clinicians assigned to the videoconferencing condition had significantly lower ratings of the alliance than those assigned to the face-to-face condition.

Based on these studies, it was hypothesized that participants in the videoconferencing condition would have lower overall ratings of the session, as measured by a modified version of the Session Evaluation Questionnaire (SEQ). In addition, it was hypothesized that participants in the videoconferencing condition would have lower ratings of the interviewer's empathy and warmth, as measured by modified versions of the Empathy and Warmth Subscales of the Truax Relationship Questionnaire (TRQ). Results from the current study did not support either of these hypotheses. Specifically, no statistically significant differences were found between mean ratings on the SEQ or mean ratings on the Empathy and Warmth Subscales of the TRQ between participants in the face-to-face condition and those in the videoconferencing condition. Overall, these results suggest two things. First, it can be inferred that conducting an initial interview via videoconferencing does not significantly impact participant perceptions of the overall session. Second, these results indicate that perceptions of the interviewer's empathy and warmth are not significantly impacted by meeting with the interviewer via videoconferencing technology.

The interview used in this study was scripted to closely approximate an initial therapy or intake session, relying on open-ended questions related to a variety of general topics, as well as some personal, and potentially challenging, questions (e.g., "Tell me

about the ways your relax or reduce stress;" "When was a time that you felt rejected by someone;" "What's something people don't know about you;" "Can you tell me about a time you had a serious conflict with someone?"). Given that this interview was similar to an initial therapy session, results from the current study may also suggest that conducting an initial therapy session using videoconferencing technology may not significantly impact client perceptions of the overall session.

Results from the current study lend support to previous research findings indicating that alliance ratings between face-to-face and videoconferencing conditions are not significantly different. Research conducted by Simpson (2001) and Morgan and colleagues (2008) evaluated differences between face-to-face and telepsychology services on measures of client satisfaction, post-session mood, symptom improvement, and therapeutic alliance among clients in the Shetland Islands and prison inmates, respectively. Results from both studies found no significant differences across conditions; however, Simpson's study was limited by its small sample size (i.e., 10 participants), while participants in Morgan and colleagues' study were not randomly assigned to conditions. In addition, both studies utilized very specific, specialized sample populations (i.e., Shetland Island residents and prison inmates), limiting the generalizability of each study's results. Given these limitations, it is important that the current study, with its improved methodology, was able to support these previous findings.

As previously discussed, the current study utilized an interview which was structured to replicate an initial therapy session by asking questions that could potentially be found in a clinical interview. No significant differences were found between conditions on overall session ratings and alliance factors (i.e., empathy and warmth),

suggesting that initial interviews can effectively be carried out through videoconferencing without impacting client perceptions of the session or alliance ratings. In turn, if overall session evaluation, as well as interviewer empathy and warmth, have equivalent ratings based on a 10-15 minute interview, this may also suggest that more extensive, long-term therapy may result in similar overall session and alliance ratings across conditions.

In addition, results from the current study contradict previous research indicating significantly lower ratings of the alliance in the videoconferencing condition (Rees & Stone, 2005). This lack of significant differences between groups may also mean that clinicians can more confidently utilize videoconferencing technology for the provision of therapy services. If, as suggested by Rees and Haythornthwaite (2004) and Norcross (2010), one of the major factors preventing clinicians from integrating videoconferencing into their own practice is concern about its potential negative impact on the working alliance, results from the current study should alleviate at least some of this anxiety. Based on the results of the current study, clinicians may want to consider integrating videoconferencing services into their practices. Using video technology can increase client access to therapy services by eliminating barriers to treatment, such as distance, travel time, and even stigma about receiving care (Mohr, 2009). Results from the current study suggest that the use of videoconferencing to provide therapy services does not negatively impact the alliance between clinician and client, making it a potentially promising treatment option for those clients who might otherwise not receive care because of these barriers.

There are several potential explanations for the contradictory findings of previous research. Previous studies have had methodological limitations, including small sample

sizes, lack of random assignment, lack of a consistent, effective control group (e.g., using waitlist control and treatment-as-usual in the same study), and the use of third-party observers to rate the session rather than asking clients themselves about their perceptions. Results from the current study could be due to improved methodology, namely, the use of a control condition (i.e., face-to-face interview) and the use of a structured, scripted procedure. Use of a scripted procedure allowed for greater control over extraneous variables, in turn making it more likely that any differences found between groups can be attributed to the use of videoconferencing. The use of a script also reduces the likelihood that results are due to the behavior or responses of the interviewer, as these responses and behaviors were predetermined and were consistent across conditions.

The use of a tightly controlled procedure helped increase internal validity; it could also be argued that the questions asked by the interviewer closely approximated an initial therapy session, thus also maintaining the ecological validity of the study. In addition to the use of interview questions that could feasibly be found in an initial therapy session, the external validity of the current study was also maintained by the general structure of the interview process. Participants were invited to an actual therapy clinic to complete their interviews, rather than a standard research office, and spent time in the clinic's waiting room prior to meeting with the interviewer, both of which may have contributed to a more "therapeutic feel" to the interview process. In addition, interviews took place in a therapy room, which was filled with comfortable chairs, wall art, and plants, again potentially contributing to the ecological validity of the current study by making the interview feel more like an initial therapy session. If this is the case and the current study appears to have adequate internal and external validity, then results may suggest that

utilizing videoconferencing in regular therapy sessions may be equally effective with regards to establishing the alliance as conducting therapy face-to-face. It should be noted however, that, although the interview may have had a therapeutic feel, ultimately the interaction between participants and the interviewer was not therapy. Participants did not meet with the interviewer in an attempt to receive help, nor did participants view the interviewer as someone in a helping role. This limitation suggests that one area for future research is to study the impact of videoconferencing on overall perceptions of the session, as well as therapist empathy and warmth, in actual therapy situations.

Despite the use of a controlled procedure, one potential limitation of the current study is the length of the interview. Although questions were scripted in a way so as to approximate an initial therapy session, the actual length of the interview was between 10 and 15 minutes on average. Research by Werner (2004) assessing participant willingness to use telepsychiatry, as well as attitudes toward telemedicine, found that anxiety about technology impacted willingness to use telepsychiatry, such that increased anxiety resulted in decreased willingness to use this modality. In addition, Simpson (2001) also found that increased familiarity with videoconferencing resulted in increased satisfaction with the technology. Based on this previous research suggesting that increased interaction with videoconferencing increases comfort with the technology, allowing participants to spend more time with the interviewer and, in the videoconferencing condition, with the technology itself, may allow participants to better adapt to the video technology. It is possible that this may then lead to even fewer differences between conditions on perceptions of both overall session and interviewer empathy and warmth.

One strength of the current study is the use of participant self-report of interviewer empathy and warmth. Contrary to previous research (Rees & Stone, 2005), participants themselves were asked to rate the alliance rather than relying on the ratings of third-party observers. Client perceptions of the therapeutic relationship are generally considered most highly related to treatment outcome, making it imperative that clients themselves be asked about the strength of the alliance. The lack of statistically significant differences between conditions suggests that participants in both the videoconferencing and face-to-face condition had similar views of the therapeutic relationship. Extrapolating this finding to the therapy setting, results from the current study may suggest that clients feel equally capable of establishing an effective alliance both through videoconferencing and when meeting with a clinician face-to-face.

It has been suggested that one of the limitations of the use of videoconferencing technology in therapy is its inability to show nonverbal behaviors to the same degree as can be accomplished in a face-to-face meeting. A client's full body may be difficult, or impossible, to see, and facial expressions may not be able to be seen in the same amount of detail (Ghosh et al., 1997). This, in turn, has been suggested to impede therapists' ability to perform supportive gestures and convey accurate empathy, perhaps leading to less positive overall evaluations of the session (Ghosh et al., 1997). To the extent that nonverbal behaviors lead to client perceptions of empathy and warmth, as well as overall ratings of the session, the current study did not find significant differences between those in the face-to-face and videoconferencing conditions. Although not directly assessed, this may suggest that videoconferencing, despite displaying a more limited view of both the client and the clinician, provides enough nonverbal feedback to establish an effective

therapeutic relationship. Another possibility is that results from the current study may suggest that nonverbal cues are not imperative for the formation of an effective therapeutic alliance.

While nonverbal behavior may provide clinicians with more information about a client's level of functioning or state of mind, this may play a less critical role in the therapeutic relationship. This may, in turn, suggest that an effective alliance can be established through videoconferencing, even in the absence of complete nonverbal feedback. Because the direct examination of nonverbal cues was outside the scope of the current study, future research could examine these factors and their potential impact on client ratings of the session.

Previous research has also evaluated clinician perceptions of videoconferencing and the therapeutic alliance and has generally found resistance to the use of technology in the provision of mental health services. Rees and Stone (2005) found that clinicians asked to rate the alliance after watching videos of therapy conducted face-to-face and through videoconferencing had lower ratings of the alliance in the videoconferencing condition. Contrary to Rees and Stone's findings, results of the current study found no significant differences in mean ratings of interviewer SEQ scores across conditions. These findings may mean that conducting an initial interview via videoconferencing does not significantly impact the interviewer's perceptions of the overall session.

Like previously cited research examining clients' views of the overall session, previous research examining clinician perceptions of the use of videoconferencing have tended to rely on the use of third-party observers. For example, Day and Schneider (1999) examined the impact of therapy delivered through videoconferencing, 2-way

audio, and face-to-face on clinician ratings of the working alliance; however, the clinicians from whom alliance ratings were received were outside observers who had viewed 20-minute pre-recorded sessions. Clinicians actually utilizing videoconferencing technology have generally not been asked to objectively rate the quality of the overall session. Given that these previous results were based on third-party observer (i.e., clinician) ratings, the results from the current study may suggest that having clinicians participate in interviews conducted via videoconferencing may influence clinician perceptions of the overall session. Results should be interpreted with caution, however, as the interviewer in this study was also the primary investigator. Although results indicate no significant differences between interviewer ratings of the overall session for face-to-face and videoconferencing conditions, this nonsignificant finding may be the result of some characteristic inherent to the interviewer herself. The use of more than one interviewer, blind to the purposes of the study, may result in greater variability in ratings and is an area for future research.

Another possible area for future research is the examination of the potential influence of videoconferencing technology on interviewer, rather than participant, behavior. Rather than adhering to a structured interview protocol, interviewers could interact with participants in a more naturalistic way, asking them to rate the frequency of specific interviewer behaviors. This, in turn, would allow examination of whether interactions conducted face-to-face or through videoconferencing result in differences in interviewer behavior.

Comfort and Experience with Technology and Videoconferencing

Previous research has suggested that greater anxiety about using videoconferencing technology resulted in less willingness to do so, and that as people became more familiar with the technology, their satisfaction with videoconferencing increased (Simpson, 2001; Werner, 2004). In the current study, participants assigned to the videoconferencing condition reported comfort with videoconferencing ranging from "somewhat comfortable" to "extremely comfortable," and hours spent using videoconferencing ranging from one to four times per year to two or more times per week, with median use being one to three times per month. Findings from this dissertation failed to support the hypothesis that participants who were more comfortable and had greater experience with the videoconferencing technology would have higher overall ratings of the session, as measured by a modified version of the SEQ. Comfort with technology in general and videoconferencing specifically, as well as the number of hours spent using videoconferencing technology and social media websites, were the primary measures of experience with technology used in the current study. It may be that these questions are not accurate measures of experience, perhaps necessitating the use of a different measure of this variable. In addition, it may be that anxiety about using technology and/or videoconferencing is more closely related to both willingness to use this modality and preference to receive therapy through videoconferencing versus face-to-face.

Another limitation of the current study is the participant sample used. The sample, which was comprised solely of college students, expressed a relatively high level of comfort and experience with videoconferencing technology. All participants in the

videoconferencing condition reported being at least "somewhat comfortable" with videoconferencing technology and having had some exposure to this technology, limiting the range of participant experience and making it difficult to say whether comfort with this modality truly impacts perceptions of the session and ratings of the alliance. In addition, the size of the sample used in the current study is also a limitation. Although the sample size used in this study is comparable to those used in previous research, ultimately more participants are necessary in order to draw more definitive conclusions. The use of a small sample may have limited the power of the current study, perhaps limiting the ability to detect significant differences between groups. Future research could employ the same methodology and procedures used in the current study, but utilize a larger sample size so as to maximize the chances of detecting any statistically significant differences between conditions.

Logically related to this is the sample's limited number of participants without videoconferencing experience; in fact, all participants in the videoconferencing condition had used this technology at least once. It is unclear how those who have never actually used videoconferencing view this technology (e.g., how comfortable they are with it; how frequently they use it), making it difficult to generalize the current study's findings. Future research could examine a non-college student population, which might result in greater variability in videoconferencing comfort, use, and experience, which in turn might produce different results. In addition, using a non-college sample may allow for greater variability in participant socioeconomic status and cultural background. Given that the current study utilized predominantly Caucasian, middle-class participants, it is difficult to generalize results to a more diverse sample.

Willingness to Use Videoconferencing for Therapy

Much of the research to date has evaluated participant satisfaction with videoconferencing technology, as well as willingness to use videoconferencing in the future. One of the limitations of focusing on satisfaction is that although client satisfaction with therapy tends to be high, satisfaction is not equivalent to effectiveness. Research by Lunnen and Ogles (1998) evaluating clients classified as improvers, deteriorators, or non-changers found no significant differences between groups on ratings of therapy satisfaction. In addition, previous research has generally found high client willingness to use telemental health applications (Werner, 2004). Despite high patient satisfaction with, and willingness to use telemental health, previous research has failed to evaluate whether clients would opt to use videoconferencing if they were given the option of receiving treatment either face-to-face or through videoconferencing.

Contrary to previous results (e.g., Werner, 2004), the current study found that the majority of participants were unwilling to use videoconferencing for future therapy services. Of those in the face-to-face condition, 56.7% were unwilling to use videoconferencing, while 58.8% of those in the videoconferencing condition were unwilling to use this modality for therapy. In addition, despite nonsignificant differences between conditions, the overwhelming majority of participants across conditions (face-to-face = 96.7%; videoconferencing = 94.1%) endorsed a preference for future therapy conducted face-to-face versus videoconferencing when provided with a choice between the two. This clear preference stands in stark contrast to the lack of statistically significant differences found between conditions. It seems logical to assume that the lack of differences in overall session ratings, as well as ratings of empathy and warmth, would

also result in relatively equal preference ratings for face-to-face and videoconferencing based on the condition to which participants were assigned. This is clearly far from the case, raising questions as to why participant preference for face-to-face therapy is so strong.

At this time, it is unclear what underlying factors contributed to participants' preference to receive future therapy services face-to-face rather than through videoconferencing. It may be that traditional ideas about what constitutes the "best" therapy persist despite experience with videoconferencing. Future research could examine the beliefs contributing to this preference, perhaps by evaluating participant attitudes about therapy and videoconferencing in general, both before and after being exposed to the technology. Determining participant attitudes toward, and beliefs about, therapy and videoconferencing could suggest ways that clinicians could work toward increasing acceptance and use of videoconferencing for therapy. It may be that clinicians need to demystify the therapy process, discuss with clients what to expect from therapy, and challenge clients' inaccurate beliefs about what makes therapy effective. If videoconferencing therapy is a treatment option, clinicians may need to determine how their clients feel about this modality, how they view the use of videoconferencing, and educate clients about the benefits and risks so that clients can make informed treatment choices.

Conclusion

This study can be considered the first in a line of research more rigorously examining the impact of videoconferencing technology on the therapeutic working alliance. The goal of this dissertation was to examine the potential impact of the use of

videoconferencing technology on perceptions of the overall session, as well as two specific aspects of the therapeutic alliance: interviewer empathy and warmth. In addition, previous experience with both technology in general and videoconferencing specifically were evaluated as potential moderating variables. Results indicated that the use of videoconferencing technology did not impact participants' overall evaluations of the session, nor did they impact participant ratings of interviewer empathy and warmth. In addition, previous experience with technology and videoconferencing did not impact ratings of the overall session or perceptions of the specified alliance variables. Participant willingness and preference to use videoconferencing for future therapy services was also evaluated, and revealed slightly less willingness to use video technology for therapy services, as well as an overwhelming preference to receive future therapy face-to-face rather than through videoconferencing.

These results help to clarify some of the inconsistent findings suggested by previous research. The improved methodology of the current study (e.g., structured procedure, participant self-report, use of a face-to-face control group) should increase confidence that these results are a more accurate representation of the impact of videoconferencing on overall session ratings and the therapeutic alliance than the results of previous research. These findings have meaningful implications for clinicians who are considering the use of videoconferencing but who may also have concerns about its impact on their ability to establish an effective alliance. Given the lack of statistically significant differences between conditions, clinicians who are hesitant or resistant to the use of videoconferencing may want to evaluate the rationale underlying their hesitancy. If the concern is that videoconferencing will negatively impact client perceptions of the

overall session or of clinician empathy and warmth, this fear has not been support by the results of the current study.

Given that no significant differences were found between conditions, it is cautiously recommended that clinicians consider integrating videoconferencing services into their practices. It may be that clinicians feel more comfortable initially meeting with clients face-to-face and then transitioning to therapy provided through videoconferencing; this seems reasonable, but it should be emphasized that based on the results of the current study, an initial face-to-face meeting may not be necessary for the formation of an effective alliance and positive overall perceptions of the session. Empathy and warmth were the primary alliance factors examined by the current study, meaning that there may be other factors not addressed by this study that are impacted by videoconferencing and, in turn, impact the establishment of the therapeutic relationship. Future research is necessary to determine how videoconferencing may impact other alliance factors as well as how these factors may influence overall perceptions of both the session and the interviewer.

Although results of the current study do not definitively settle the debate surrounding the use of videoconferencing technology in the provision of mental health services, this dissertation can be considered the initial study in a line of research aimed at answering questions about the impact of technology on the therapeutic alliance. Although this study is limited by the use of the principle researcher as the sole interviewer, the current study improved upon the limitations of previous research by using more tightly-controlled procedures. More research is necessary, but it appears that videoconferencing is a potentially promising addition to therapeutic practice.

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APPENDIX A: PRETEST

Dissertation Pretest

1. Using the following scale, please rate your level of comfort with technology in general.

1	2	3	4	5	6
Not At All Comfortable	Mostly Uncomfortable	Somewhat Uncomfortable	Somewhat Comfortable	Mostly Comfortable	Extremely Comfortable

2. Do you use internet video-chat technology (Skype, webcam, etc.)?
    a. Yes, I currently use internet video-chat technology.
    b. I have used internet video-chat technology in the past, but do not use it now.
    c. I have never used internet video-chat technology.

3. If you use internet video-chat technology, how frequently do you use this technology (Skype, Webcam, etc.)?
    a. 1-4 times a year
    b. 5-8 times a year
    c. 9-11 times a year
    d. 1-3 times a month
    e. Once a week
    f. Two or more times a week

4. Using the following scale, please rate your level of comfort with internet video-chat technology.

1	2	3	4	5	6
Not At All Comfortable	Mostly Uncomfortable	Somewhat Uncomfortable	Somewhat Comfortable	Mostly Comfortable	Extremely Comfortable

5. How many hours do you spend using social media websites (Facebook, Twitter, etc.)?
    a. I do not use social media websites.
    b. Less than one hour a day
    c. 1-3 hours a day
    d. 4-6 hours a day
    e. 7-10 hours a day
    f. More than 10 hours a day

APPENDIX B: INFORMED CONSENT

Informed Consent Form

You are invited to participate in this research study. The following information is provided in order to help you to make an informed decision about whether or not to participate. If you have any questions, please do not hesitate to ask. You are eligible to participate because you are a student in the General Psychology course at Indiana University of Pennsylvania.

The purpose of this study is to examine factors associated with effective interviewing techniques. Participation will take approximately 20-25 minutes and will require the completion of a brief interview. After the interview, you will be asked to complete some brief questionnaires about the interview process.

Participation in this study is voluntary, and you are free to decide not to participate or to withdraw from this study at any time without it adversely affecting your relationship with the investigators or IUP. Choosing not to participate will also have no effects on the evaluation of your performance in General Psychology. Your decision will not result in any loss of benefits to which you are otherwise entitled. If you choose to participate, you may withdraw at any time by notifying the Project Director or informing the research assistant. Upon your request to withdraw, all information pertaining to you will be destroyed. If you choose to participate, all information will be held in strict confidence and will have no bearing on your academic standing or services you receive from the University. Your responses to the interview questions will be confidential, with the exception of threatening to harm yourself or another individual. In addition, the results of the questionnaires assessing your perceptions of the interview will be confidential. Your name will be removed from your answers, so please answer as honestly as possible to ensure accurate results. The information you provide to us will be considered only in combination with that of other participants. The information obtained in the study may be published in scientific journals or presented at scientific meetings, but your identity will be kept confidential.

When you complete the study, you will be given an information sheet that will provide a more detailed description of the study's purpose, as well as contact information if you wish to receive the results of the study. The interview used in this study will include a range of questions regarding some of your good and bad experiences. Although there are no known risks associated with this study, you will also receive a list of referral sources if you would like to receive counseling regarding any issues that may arise during participation.

If you are willing to participate in this study, please sign the statement below and return it to the research assistant. Take the extra unsigned copy with you. If you choose not to participate, please give the unsigned copies to the research assistant.

Student Researcher:
Ms. Shelby H. Bohn Frantz, M.A.
Clinical Psychology Doctoral Student
Psychology Department
Uhler Hall, 1020 Oakland Ave.
Indiana, PA 15705

Faculty Sponsor:
Dr. Derek Hatfield, Ph.D.
Assistant Professor
Psychology Department
Uhler Hall, 1020 Oakland Ave.
Indiana, PA 1570

This project has been approved by the Indiana University of Pennsylvania Institutional Review Board for the Protection of Human Subjects (Phone: 724.357.7730).

Informed Consent Form (continued)

VOLUNTARY CONSENT FORM:

I have read and understand the information on the form and I consent to volunteer to be a subject in this study. I understand that my responses are completely confidential and that I have the right to withdraw at any time. I have received an unsigned copy of this informed Consent Form to keep in my possession.

Name (PLEASE PRINT): _____

Signature: _____

Date: _____

Phone number or location where you can be reached: _____

Best days and times to reach you: _____

I certify that I have explained to the above individual the nature and purpose, the potential benefits, and possible risks associated with participating in this research study, have answered any questions that have been raised, and have witnessed the above signature.

_____ _____

Date Investigator's Signature

APPENDIX C: RESEARCH ASSISTANT PROCEDURE

For the Face-to-Face Interview:

Waiting Room RA

1. Greet participants in waiting room & determine which study they're part of:
    a. "Hi, I'm XXXXX. Which study are you here for?"
2. Hand them **Informed Consent** and ask them to sign it:
    a. "If you could sign this, please – it's consent to participate and it just outlines the study."
3. Collect Informed Consent and tell participant the following:
    a. "The goal of this study is to look at factors associated with effective interviewing techniques. You'll be meeting Lillie Robertson today, who'll be acting as your interviewer and asking you a series of questions about various experiences in your life. After the interview, you'll be asked to complete some brief questionnaires about the interview process. You can follow me."
4. Escort participant to appropriate room.

The actual interview will then take place.

5. Participant will be directed to the room at the end of the hallway by interviewer.

Questionnaire Room RA

6. Hand appropriate **Questionnaire Packet** and **Writing Utensil** to participant and remind them their responses are confidential:
    a. "Remember, all your responses are confidential, and for the purposes of this study, please be as honest as possible."
7. Collect completed questionnaire packet (MAKE SURE BANNER ID IS GIVEN) and tell participants they will receive a debriefing letter after data collection is complete:
    a. "The researcher will email you a debriefing letter about the purpose of the study after all the data has been collected."
8. Ask participants if they have any questions, and then give them a **Referral List** and send them out (either out the back door or the door they originally came through at the end of the hallway).
    a. "Do you have any questions? That's it – you can either go out this back door or the one at the other end of the hallway where you originally came in. Thanks."

For the Webcam Interview:

Waiting Room RA

1. Greet participants in waiting room & determine which study they're part of:
    a. "Hi, I'm XXXXX. Which study are you here for?"
2. Hand them **Informed Consent** and ask them to sign it:
    a. "If you could sign this, please – it's consent to participate and it just outlines the study."
3. Collect Informed Consent and tell participant the following:
    a. "The goal of this study is to look at factors associated with effective interviewing techniques. You'll be meeting Lillie Robertson today, who'll be acting as your interviewer and asking you a series of questions about various experiences in your life. Lillie's in Pittsburgh right now, so you'll be using a webcam for your interview. After the interview, you'll be asked to complete some brief questionnaires about the interview process. You can follow me."
4. Escort participant to appropriate room.
5. Ensure webcam is on and connected to Skype.

The actual interview will then take place.

6. Participant will be directed to the room at the end of the hallway by the interviewer, but just pay attention and make sure they actually find it!

Questionnaire Room RA

1. Hand appropriate **Questionnaire Packet** and **Writing Utensil** to participant and remind them their responses are confidential:
    a. "Remember, all your responses are confidential, and for the purposes of this study, please be as honest as possible."
2. Collect completed questionnaire packet (MAKE SURE BANNER ID IS GIVEN) and tell participants they will receive a debriefing letter after data collection is complete:
    a. "The researcher will email you a debriefing letter about the purpose of the study after all the data has been collected."
3. Ask participants if they have any questions, and then give them a **Referral List** and send them on their merry way (either out the back door or the door they originally came through at the end of the hallway).
    a. "Do you have any questions? That's it – you can either go out this back

door or the one at the other end of the hallway where you originally came in. Thanks."

APPENDIX D: INTERVIEW

Notes:

-NOD HEAD during each response
-NEUTRAL facial expressions

Face-to-Face:

1. Open door and introduce self ***(smile during intro)***:

    a. "Hi, thanks so much for coming in. You can sit there *(gesture toward chair)*. My name's Lillie and I'm going to be asking you a variety of questions today. Just answer as best you can. Are you ready to get started? Okay…"

2. Sit with legs crossed, holding clipboard.

3. Conduct the interview:

    a. So, tell me about where you're from.

    [If asked "What do you want to know/what do you mean?" interviewer will respond "Just tell me whatever you want about where you're from."]

    b. And how was high school for you?

    [If participant asks for clarification, interviewer will say "Just, in general, how did you feel about high school?"]

    *Follow-up: Can you tell me more about that?

    c. So, how is being at IUP different from being at home?

    *Comment: Yeah, I can see how that would be different.

    d. So what's one of your happiest moments ever?

    [If asked "From childhood?" interviewer will respond "It can be from any time."]

    Smile while participant responds and during interviewer comment.

    *Comment: It sounds like that was a really nice experience.

    e. Okay, can you tell me about an accomplishment you're proud of?

    Smile while participant responds and during interviewer comment.

    *Comment: That sounds pretty important to you. Can you tell me more about that?

    f. And what motivates you to work your hardest?

g. So tell me about a challenging situation you've faced.

[If asked to elaborate, interviewer will respond "Just tell me about any situation that you found challenging."]

*Comment: That sounds pretty difficult.

*Follow-up: How did that make you feel?

[If participant says they already said how they felt, interviewer will say "Can you give me another feeling?"]

h. And what's something you're afraid of?

[If asked to elaborate, interviewer will respond "It can be anything you're afraid of – an object, a place, a situation, whatever."]

*Follow-up: Can you tell me more about that?

i. And can you tell me about a time you made a big mistake or really messed something up?

[If participant says they do not have an example, interviewer will say "How about a time you did something wrong?"]

*Comment: Yeah, that sounds tough.

*Follow-up: Were there any long-term consequences for that?

j. And what's something you wish you were better at?

*Follow-up: Can you tell me more about that?

k. Can you tell me about a time you had a serious conflict with someone?

[If participant says "I don't have conflicts with people," interviewer will say "How about a time you had a disagreement with someone?"]

*Follow-up: So what, if anything, might you have done differently?

l. Can you tell me about a time you felt rejected by someone?

*Comment: That sounds like it was difficult.

m. I'm also wondering if you could describe a time when you felt like you really let someone down.

[If participant asks for clarification about letting someone down, interviewer will say "Just tell me about a time you felt like you disappointed someone."]

*Comment: Yeah, that sounds hard.

n. Alright, changing gears a bit, how would you describe yourself?

[If asked how they should describe themselves, interviewer will respond "Give me three words to describe who you are."]

o. So then what's something people don't know about you?

*Follow-up: Can you tell me more about that?

p. Okay, tell me about the ways you relax or reduce stress.

q. So when was a time you felt particularly stressed?

*Follow-up: How did you handle that?

r. Okay, so what kinds of things do you do for fun?

Smile while participant responds.

4. Thank participants and direct them to end of hallway for questionnaires:

    a. "Okay, that's it. Thanks so much for your answers. You can go to the room at the end of the hallway and the research assistant will give you some follow-up questions. ***Smile for last sentence****:* It was great to meet you, and enjoy the rest of your day. Thanks."

5. Stand and show participant to the door.

Wecam Interview:

6. Webcam will already be on – wait for participant to be seated and introduce self ***(smile during intro)***:

    a. "Hi, thanks so much for coming in. My name's Lillie and I'm going to be asking you a variety of questions today. Just answer as best you can. Are you ready to get started? Okay…"

7. Sit with legs crossed, holding clipboard.

8. Conduct the interview:

    a. So, tell me about where you're from.

    [If asked "What do you want to know/what do you mean?" interviewer will respond "Just tell me whatever you want about where you're from."]

    b. And how was high school for you?

    [If participant asks for clarification, interviewer will say "Just, in general, how did you feel about high school?"]

    *Follow-up: Can you tell me more about that?

    c. So, how is being at IUP different from being at home?

*Comment: Yeah, I can see how that would be different.

d. So what's one of your happiest moments ever?

[If asked "From childhood?" interviewer will respond "It can be from any time."]

Smile while participant responds and during interviewer comment.

*Comment: It sounds like that was a really nice experience.

e. Okay, can you tell me about an accomplishment you're proud of?

Smile while participant responds and during interviewer comment.

*Comment: That sounds pretty important to you. Can you tell me more about that?

f. And what motivates you to work your hardest?

g. So tell me about a challenging situation you've faced.

[If asked to elaborate, interviewer will respond "Just tell me about any situation that you found challenging."]

*Comment: That sounds pretty difficult.

*Follow-up: How did that make you feel?

[If participant says they already said how they felt, interviewer will say "Can you give me another feeling?"]

h. And what's something you're afraid of?

[If asked to elaborate, interviewer will respond "It can be anything you're afraid of – an object, a place, a situation, whatever."]

*Follow-up: Can you tell me more about that?

i. And can you tell me about a time you made a big mistake or really messed something up?

[If participant says they do not have an example, interviewer will say "How about a time you did something wrong?"]

*Comment: Yeah, that sounds tough.

*Follow-up: Were there any long-term consequences for that?

j. And what's something you wish you were better at?

*Follow-up: Can you tell me more about that?

k. Can you tell me about a time you had a serious conflict with someone?

[If participant says "I don't have conflicts with people," interviewer will say "How about a time you had a disagreement with someone?"]

*Follow-up: So what, if anything, might you have done differently?

l. Can you tell me about a time you felt rejected by someone?

*Comment: That sounds like it was difficult.

m. I'm also wondering if you could describe a time when you felt like you really let someone down.

[If participant asks for clarification about letting someone down, interviewer will say "Just tell me about a time you felt like you disappointed someone."]

*Comment: Yeah, that sounds hard.

n. Alright, changing gears a bit, how would you describe yourself?

[If asked how they should describe themselves, interviewer will respond "Give me three words to describe who you are."]

o. So then what's something people don't know about you?

*Follow-up: Can you tell me more about that?

p. Okay, tell me about the ways you relax or reduce stress.

q. So when was a time you felt particularly stressed?

*Follow-up: How did you handle that?

r. Okay, so what kinds of things do you do for fun?

Smile while participant responds.

9. Thank participants and direct them to end of hallway for questionnaires:

   a. "Okay, that's it. Thanks so much for your answers. You can go to the room at the end of the hallway and the research assistant will give you some follow-up questions. ***Smile for last sentence****:* It was great to meet you, and enjoy the rest of your day. Thanks."

APPENDIX E: OBSERVER RATING FORM

1. Did the interviewer follow the scripted questions?

   YES NO

   a. If yes, did the interviewer follow the indicated responses and follow-up comments?

      YES NO

   b. If no, please specify how/when the interviewer deviated from the script.

2. Did the interviewer nod her head during every question, as indicated in the script?

   YES NO

3. Did the interviewer smile during the following interactions/questions:

When greeting the participant:	YES	NO
Question 4:	YES	NO
Question 6:	YES	NO
Question 18:	YES	NO
When thanking participant:	YES	NO

4. Did the interviewer maintain her posture, as indicated in the script (i.e., seated with legs crossed, holding clipboard).

   YES NO

5. Did the interviewer maintain a neutral facial expression throughout the course of the interview (with the exception of when a specific facial expression was indicated in the script)?
   Note: Deviations from a neutral facial expression may include: frowning, smirking, furrowing of the brow, laughing.

   YES NO

   a. If no, please describe how/when the interviewer's facial expression deviated from a neutral expression.

6. In the face-to-face condition, did the interviewer show the participant to the door?

   YES NO

7. Did the interviewer maintain consistent eye contact?

   YES NO

APPENDIX F: SESSION EVALUATION QUESTIONNAIRE

Please circle the appropriate number to show how you feel about your meeting with the interviewer.

This meeting was:

bad	1	2	3	4	5	6	7	good
difficult	1	2	3	4	5	6	7	easy
valuable	1	2	3	4	5	6	7	worthless
shallow	1	2	3	4	5	6	7	deep
relaxed	1	2	3	4	5	6	7	tense
unpleasant	1	2	3	4	5	6	7	pleasant
full	1	2	3	4	5	6	7	empty
weak	1	2	3	4	5	6	7	powerful
special	1	2	3	4	5	6	7	ordinary
rough	1	2	3	4	5	6	7	smooth
comfortable	1	2	3	4	5	6	7	uncomfortable

**This questionnaire was completed by both the participant and the interviewer following the meeting.

APPENDIX G: EMPATHY AND WARMTH QUESTIONNAIRE

Please consider the following statements carefully. Circle how accurately each statement describes your interaction with the interviewer.

1. She understood me.

1	2	3	4	5	6
Not At All True	Mostly Untrue	Somewhat Untrue	Somewhat True	Mostly True	Extremely True

2. When she saw me, she seemed to be "just doing a job."

1	2	3	4	5	6
Not At All True	Mostly Untrue	Somewhat Untrue	Somewhat True	Mostly True	Extremely True

3. I feel that she really thought I was worthwhile.

1	2	3	4	5	6
Not At All True	Mostly Untrue	Somewhat Untrue	Somewhat True	Mostly True	Extremely True

4. She was impatient with me.

1	2	3	4	5	6
Not At All True	Mostly Untrue	Somewhat Untrue	Somewhat True	Mostly True	Extremely True

5. There are lots of things I could have told her, but I was not sure how she would react to them, so I kept them to myself.

1	2	3	4	5	6
Not At All True	Mostly Untrue	Somewhat Untrue	Somewhat True	Mostly True	Extremely True

6. She may have understood me, but she did not know how I felt.

1	2	3	4	5	6
Not At All True	Mostly Untrue	Somewhat Untrue	Somewhat True	Mostly True	Extremely True

7. She was a person you could really trust.

1	2	3	4	5	6
Not At All True	Mostly Untrue	Somewhat Untrue	Somewhat True	Mostly True	Extremely True

8. She usually was not very interested in what I had to say.

1	2	3	4	5	6
Not At All True	Mostly Untrue	Somewhat Untrue	Somewhat True	Mostly True	Extremely True

9. She felt indifferent about me.

1	2	3	4	5	6
Not At All True	Mostly Untrue	Somewhat Untrue	Somewhat True	Mostly True	Extremely True

10. She ignored some of my feelings.

1	2	3	4	5	6
Not At All True	Mostly Untrue	Somewhat Untrue	Somewhat True	Mostly True	Extremely True

11. She really listened to everything I said.

1	2	3	4	5	6
Not At All True	Mostly Untrue	Somewhat Untrue	Somewhat True	Mostly True	Extremely True

12. She seemed like a very cold person.

1	2	3	4	5	6
Not At All True	Mostly Untrue	Somewhat Untrue	Somewhat True	Mostly True	Extremely True

13. She probably laughed about the things that I said to her.

1	2	3	4	5	6
Not At All True	Mostly Untrue	Somewhat Untrue	Somewhat True	Mostly True	Extremely True

14. She sometimes pretended to understand me when she really did not.

1	2	3	4	5	6
Not At All True	Mostly Untrue	Somewhat Untrue	Somewhat True	Mostly True	Extremely True

15. Sometimes she seemed interested in me while other times she didn't seem to care about me.

1	2	3	4	5	6
Not At All True	Mostly Untrue	Somewhat Untrue	Somewhat True	Mostly True	Extremely True

16. She treated me like a person.

1	2	3	4	5	6
Not At All True	Mostly Untrue	Somewhat Untrue	Somewhat True	Mostly True	Extremely True

17. Often she made me feel stupid the way she used strange or big words.

1	2	3	4	5	6
Not At All True	Mostly Untrue	Somewhat Untrue	Somewhat True	Mostly True	Extremely True

18. She talked to me, but otherwise she seemed very far away from me.

1	2	3	4	5	6
Not At All True	Mostly Untrue	Somewhat Untrue	Somewhat True	Mostly True	Extremely True

19. Even though she paid attention to me, she seemed to be just another person to talk with, an outsider.

1	2	3	4	5	6
Not At All True	Mostly Untrue	Somewhat Untrue	Somewhat True	Mostly True	Extremely True

20. If I had a chance to work with a different interviewer, I would.

1	2	3	4	5	6
Not At All True	Mostly Untrue	Somewhat Untrue	Somewhat True	Mostly True	Extremely True

The following is a listing of the previous questions grouped according to the variable assessed (i.e., empathy vs. warmth).

Empathy
She understands me.
She may understand me but she does not know how I feel.
She sometimes pretends to understand me, when she really does not.
She probably laughs about the things that I have said to her.
Often she makes me feel stupid the way she uses strange or big words.
If I had a chance to work with a different interviewer, I would.

Warmth
I feel that she really thinks I am worthwhile.
She is a person you can really trust.
She is impatient with me.
Sometimes she seems interested in me while other times she doesn't seem to care about me.
She usually is not very interested in what I have to say.
She feels indifferent about me.
She seems like a very cold person.
She really listens to everything I say.
She treats me like a person.

Both Empathy and Warmth
She will talk to me, but otherwise she seems very far away from me.
Even though she pays attention to me, she seems to be just another person to talk with, an outsider.
She ignores some of my feelings.
There are lots of things I could tell her, but I am not sure how she would react to them, so I keep them to myself.
When she sees me, she seems to be "just doing a job."

APPENDIX H: DEMOGRAPHIC QUESTIONNAIRE

Please circle your answers to the following questions.

1. What is your age?
    g. 18
    h. 19
    i. 20
    j. 21
    k. Other_____

2. What is your class standing?
    a. Freshman
    b. Sophomore
    c. Junior
    d. Senior

3. What is your gender?
    a. Male
    b. Female
    c. Transgender
    d. Not specified

4. What is your race/ethnicity?
    a. Black
    b. White
    c. American Indian
    d. Asian
    e. Hispanic
    f. Pacific Islander
    g. Multiracial/multi-ethnic
    h. Other
    i. Not specified

5. Using the following scale, please rate your level of comfort with technology <u>in general</u>.

1	2	3	4	5	6
Not At All Comfortable	Mostly Uncomfortable	Somewhat Uncomfortable	Somewhat Comfortable	Mostly Comfortable	Extremely Comfortable

6. Do you use internet video-chat technology (Skype, webcam, etc.)?
    a. Yes, I currently use internet video-chat technology.
    b. I have used internet video-chat technology in the past, but do not use it now.
    c. I have never used internet video-chat technology.

7. If you use internet video-chat technology, how frequently do you use this technology (Skype, Webcam, etc.)?
    a. 1-4 times a year
    b. 5-8 times a year
    c. 9-11 times a year
    d. 1-3 times a month
    e. Once a week
    f. Two or more times a week

8. Using the following scale, please rate your level of comfort with internet video-chat technology.

1	2	3	4	5	6
Not At All Comfortable	Mostly Uncomfortable	Somewhat Uncomfortable	Somewhat Comfortable	Mostly Comfortable	Extremely Comfortable

9. How many hours do you spend using social media websites (Facebook, Twitter, etc.)?
    a. I do not use social media websites.
    b. Less than one hour a day
    c. 1-3 hours a day
    d. 4-6 hours a day
    e. 7-10 hours a day
    f. More than 10 hours a day

10. If you were to seek therapy for a problem in the future, how willing would you be to consider using a teletherapy approach (i.e., therapy delivered through video-chat)?

1	2	3	4	5	6
Not At All Willing	Mostly Unwilling	Somewhat Unwilling	Somewhat Willing	Mostly Willing	Extremely Willing

11. If you were to seek therapy for a problem in the future, would you prefer to meet with the therapist face-to-face or through video-chat?
    a. I would prefer to meet face-to-face.
    b. I would prefer to meet through video-chat.

APPENDIX I: DEBRIEFING FORM

Debriefing Form

Dear Participant:

The purpose of the study was to evaluate differences in perceptions of interviews conducted face-to-face compared to interviews conducted through videoconferencing. During this study, you were asked to participate in a brief interview and to complete two measures evaluating your perceptions of the interview. You were told that the interviewer's name was Lillie Robertson and, in the videoconferencing group, that she was conducting the interview from Pittsburgh, PA. In reality, the interviewer was Shelby H. Bohn Frantz, the principle researcher for this study. In addition, rather than conducting the videoconferencing interview in Pittsburgh, Ms. Frantz was in a room next to where you were located. We did not tell you everything about the purpose of this study for two reasons. First, we did not want you to feel pressured to provide positive ratings of the interviewer, and we felt this would be easier to accomplish if you believed the researcher was not the person being evaluated. Second, in order for the videoconferencing to feel as real as possible, it was important for people in this group to believe the interview was being conducted over a long distance.

You are reminded that your original consent document included the following information: Participation in this study is voluntary, and you are free to decide not to participate or to withdraw from this study at any time without it adversely affecting your relationship with the investigators or IUP, or on the evaluation of your performance in General Psychology. Your decision will not result in any loss of benefits to which you are otherwise entitled. If you choose to participate, you may withdraw at any time by notifying the Project Director or informing the research assistant. Upon your request to withdraw, all information pertaining to you will be destroyed. Your responses to the interview questions will be confidential, with the exception of threatening to harm yourself or another individual. In addition, your name will be removed from your answers, and the results of the questionnaires assessing your perceptions of the interview will be confidential. If you have any concerns about your participation or the data you provided in light of this disclosure, please discuss this with us. We will be happy to provide any information we can to help answer questions you have about this study.

If your concerns are such that you would now like to have your data withdrawn, please inform the Project Director or the research assistant and we will do so.

If you have questions about your participation in the study, please contact me at s.h.bohn@iup.edu, or my faculty advisor, Dr. Derek Hatfield, at hatfield@iup.edu.

If you have questions about your rights as a research participant, you may contact Indiana University of Pennsylvania's Institutional Review Board at irb-research@iup.edu.

If you experienced distress as a result of your participation in this study, a referral list of mental health providers is attached to this document for your use. If you would like to speak to someone immediately, please tell the research assistant, and either I or my faculty advisor will be more than happy to speak with you.

Please again accept our appreciation for your participation in this study.

Shelby H. Bohn Frantz, M.A.
Student Researcher
Clinical Psychology Doctoral Student

Dr. Derek Hatfield, Ph.D.
Faculty Sponsor
Assistant Professor

APPENDIX J: REFERRAL LIST

The following is a list of mental health professionals located in the Indiana area. Should you feel distressed and wish to speak with a professional, we encourage you to contact one of the organizations listed below.

IUP Counseling Center
Suites on Maple East, G31
901 Maple Street
Indiana, PA 15705
Ph: 724.357.2621

Community Guidance Center
792 Old Route 119 North, Hwy
Indiana, PA 15701
Ph: 724.465.5576

The Open Door
334 Philadelphia Street
Indiana, PA 15701
Ph: 724.465.2605

Thank you again for your participation in this research study.

Student Researcher
Ms. Shelby H. Bohn Frantz, M.A.
Clinical Psychology Doctoral Student
Psychology Department
Uhler Hall, 1020 Oakland Ave.
Indiana, PA 15705

Faculty Sponsor:
Dr. Derek Hatfield, Ph.D.
Associate Professor
Psychology Department
Uhler Hall, 1020 Oakland Ave.
Indiana, PA 15705

APPENDIX K: THERAPY ROOM PHOTOGRAPHS

Figure 1. Therapy room used by the interviewer in the videoconferencing condition.

Figure 2. Computer used by the interviewer in the videoconferencing condition. The screen shows the interviewer's view of the participants' room via Skype.

Figure 3. Therapy room used by participants in the videoconferencing condition.

Figure 4. Therapy room used in the face-to-face condition.