

AN ABSTRACT OF THE DISSERTATION OF

Jeffrey L. Causey for the degree of Doctor of Philosophy in Counseling presented on November 17, 2016.

Title: Cybersupervision of Counselors: Implications for the Enhancement of Social Presence.

Abstract approved: _____

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The purpose of this dissertation was to add to the professional literature in counselor education and supervision through inquiry and synthesis of research among online teaching, online counseling, and online communities of practice through the supervision lens of the Discrimination Model. A unique, research-informed framework for synchronous online supervision (i.e., cybersupervision) was developed out of this research with the purpose of guiding supervisors to utilize specific strategies to mitigate technology and interpersonal barriers that interfere with social presence and the process of cybersupervision. By utilizing a research-informed framework, supervisors can optimize the conditions for counselor skill development during cybersupervision.

To address the gap in current research on the impact of barriers on social presence during cybersupervision, a Likert-type survey was administered to assess the association between the level of social presence (i.e., engagement) and hindering phenomena (i.e., technology and interpersonal barriers) among counselor supervisees who experienced cybersupervision as a part of their graduate training. The survey measured supervisees' ($N = 12$) social presence with the *Igroup Presence Questionnaire*, which included three

subscales that measured spatial presence, involvement, and experienced realness. Barriers were measured using the *Supervision Hindering Phenomena Survey*, which included two subscales that measured pure technology barriers and interpersonal barriers.

Respondents' scores were summed and disaggregated through a split-half median process to determine the levels (i.e., low or high) of experienced barriers and social presence which were used in 2 x 2 tables to test for associations. Analysis from chi-square, Mantel-Haenszel chi-square, and Fisher's Exact tests indicated that there was an equally significant association between both experienced realness and pure technology, $\chi^2(1, N = 12) = .046, p < .05, \phi = -.577$, indicating a weak, negative correlation. Since pure technology and interpersonal barriers were indistinguishable for this sample, ancillary analysis revealed that there was a significant association between experienced realness and overall (i.e., combined pure technology *and* interpersonal barriers) hindering phenomena with a $\chi^2(1, N = 12) = .018, p < .05, \phi = -.683$ and a Mantel-Haenszel chi-square $(1, N = 12) = .024, p < .05, \phi = -.683$, indicating a strong, negative correlation. A two-sided Fisher's Exact test $Pr \leq P = .018$ with a 95% odds ratio and relative risks confidence interval of [0.07, 0.75] supports these results.

Ancillary factor analysis with orthogonal rotation revealed that five subscales clustered into two distinct factors: telepresence and hindering phenomena, thus providing validation evidence for both the *Igroup Presence Questionnaire* ($\alpha = .895$) and the *Supervision Hindering Phenomena Survey* ($\alpha = .740$).

Results from this study, combined with the research-informed framework for cybersupervision, form a foundation upon which future research on cybersupervision, social presence, and hindering phenomena may be developed in order to continue to

understand and refine this growing practice in counselor education and supervision.

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Cybersupervision of Counselors: Implications for the Enhancement of Social Presence

by
Jeffrey L. Causey

A DISSERTATION

submitted to

Oregon State University

in partial fulfillment of
the requirements for the
degree of

Doctor of Philosophy

Presented November 17, 2016
Commencement June 2017

Doctor of Philosophy dissertation of Jeffrey L. Causey presented on November 17, 2016.

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I understand that my dissertation will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my dissertation to any reader upon request.

Jeffrey L. Causey, Author

ACKNOWLEDGEMENTS

First, I would like to express my gratitude to my family for instilling in me a love for education and life-long learning. To my parents, Jean and Jim, I appreciate your constant presence in my life and your encouragement and support to pick myself up and carry on when I've stumbled along this journey. To my sister and academic role-model, Jennifer, I cannot begin to express how much I admire and appreciate your wisdom, friendship, reality checks, editing, statistics support, emotional support, and all of the meals and hugs you've given me to get through the final stages of this process. I never imagined that a PhD could bring us closer as siblings.

My most sincere appreciation also goes to my major professor, Dr. Debbie Rubel, for patiently guiding me through the writing process and helping me create a manuscript about which I feel proud. When I was lost in the woods of academic writing, you provided me a map back to civilization. To my committee members: Dr. Gene Eakin, for being unwaveringly supportive and a champion of the school counseling profession; Dr. Daniel Stroud, for including me in this research project and teaching and modeling adult learning principles; Dr. Kathy Biles, for her willingness to join my committee mid-way through the process and for reaching out to offer support; and Dr. Steven Zielke, my Graduate Representative, for sharing his valuable time, mentorship, and a mutual love of choral arts.

Finally, I would like to say "*Thank you!*" to my Cohort 59 "Trailblazer" colleague, Dr. Carla Stewart-Donaldson, for her steadfast friendship, wise counsel, and encouraging patience as she has witnessed this project come to fruition.

CONTRIBUTION OF AUTHORS

Dr. Cass Dykeman contributed to Chapter 3 by consulting on research questions and statistical approaches to use with these data.

Dr. Jennifer L. Causey contributed to this entire dissertation through careful copy editing and to Chapters 3 and 4 by providing statistical analyses and interpretation of these data.

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CHAPTER 1: General Introduction

Dissertation Overview

Clinical supervision is a standard of practice among mental health professionals that is based on accepted practices to assure safe and effective care of clients. Clinical supervision originates with the dawn of psychotherapy; Freud conducted case conceptualizations through discussions with a colleague (Wheeler & Cushway, 2013). Out of those first, informal discussions about the origin of childhood neuroses developed what is now a formal aspect of all mental health training programs. Throughout the last 30 years, clinical supervision has taken many forms, from postal-mailed video tape review of counseling sessions, review of transcripts, telephone consultations, and email exchanges (Casey, Bloom, & Moan, 1994; Clingerman & Bernard, 2004; Coursol, 2004; Graf & Stebnicki, 2002; Miller & Dollarhide, 2006; Myrick & Sabella, 1995; Watson, 2003). Those early attempts at distance supervision have now become a mainstream practice as counseling and related mental health (i.e., psychology and social work) programs utilize the Internet to conduct live videoconferencing supervision, known as cybersupervision (Coursol, 2004). Graduate training programs, professional associations (American Counseling Association [ACA], 2014), accrediting organizations (Council for the Accreditation of Counseling and Related Educational Programs [CACREP], 2016), and state licensure boards (Coker & Schooley, 2009) have standardized supervision requirements as a minimal part of professional training and have included cybersupervision as a meaningful way to train and license professional counselors.

The body of research on cybersupervision is relatively scant. Little is known about how cybersupervisors are prepared to embark on this unique form of clinical

supervision. Novice cybersupervisors – which may include both new supervisors to the field and experienced supervisors who are new to cybersupervision – may simply be replicating their experiences with traditional, face-to-face supervision and applying what they learned, themselves, to the practice of cybersupervision. For example, despite over 50 years of formal clinical supervision development, a recent review of the literature revealed that there are still no empirically supported models of supervisor development (Baker, Exum, & Tyler, 2002; Watkins, 2012). Cybersupervision requires specialized training and skill-based knowledge of not only the technology involved but also how the technology influences the interactions between the supervisor and supervisee (Vacarro & Lambie, 2007). Researchers have suggested that cybersupervisors: (a) obtain ongoing training for the technology being utilized, (b) make extra time to prepare for cybersupervision sessions, and (c) provide increased structure, protocols, and expectations for supervisees (Graf & Stebnicki, 2002). It is also recommended that all supervisors be trained in clinical supervision approaches that should include a standards-based framework of competencies which will equip them to address supervisee needs and create optimal conditions for professional growth and development (Falender, 2014; Falender & Shafranske, 2012). Barnard and Goodyear (2014) add that supervisor training goals should include an understanding of the roles of teaching, counseling, and providing consultation within a supervisory relationship.

Current Trends in the Literature

Developing out of online teacher preparation and school counseling programs, cybersupervision provided a “widespread sense of connectedness over isolation” and “more frequent and thoughtful contact between supervisor and supervisee” (Casey, Bloom,

& Moan, 1994, p. 3). Cybersupervision mitigates barriers to access supervision for rural counselors who live and work in communities lacking qualified supervisors (Abbass et al., 2011; Gainor & Constantine, 2002; Kanz, 2001; Rousmaniere, 2014). There are benefits that make cybersupervision desirable to the profession: (a) cost-effective for the student (i.e., lower travel, tuition, and related expenses); (b) cost-effective for the university (i.e., more tuition revenue without the costs of using on-campus facilities); (c) flexible scheduling that accommodates both supervisor and supervisee; and (d) accessible for diverse students which allows increased participation of underrepresented group (i.e., reducing barriers and increasing access; Crowell & McCarragher, 2007; Kim, 2008; Locke, 1993; Vacarro & Lambie, 2007; Wantz et al., 2003).

Not only is cybersupervision convenient and cost-effective, there is also evidence that it may be just as effective as traditional models at developing certain basic counselor skills, such as increasing trainees' multicultural case conceptualization, treatment planning and etiology skills (Butler & Constantine, 2006; Gainor & Constantine, 2002; Chapman 2008). However, it has also been suggested that cybersupervision may lack specific attributes (i.e., visual and nonverbal cues) that impede skill development in other areas of professional competence such as the interpersonal skills related to the establishment of rapport. While some skill acquisition measures for counselors participating in cybersupervision have not been shown to be statistically significant in existing studies, the clinical significance of skill development by students experiencing cybersupervision should not be discounted (Constantine, 1997).

Research indicates that satisfaction with cybersupervision improves over time and may be related to the supervisor's ability to establish rapport (Ladany, Hill, Corbett, &

Nutt, 1996; Conn, Roberts, & Powell, 2009). Feelings of frustration and disconnectedness with cybersupervision diminishes over time while satisfaction and working alliance improves (Abbass et al., 2011). The implication is that it takes longer to become comfortable with the online format and there may be unique attributes about cybersupervision that enhances rapport (Conn, Roberts, & Powell, 2009; Preschl, Maercker, & Wagner, 2011; Efstation, Patton, & Kardash, 1990). Thus, supervisees may adapt to the format and adjust their expectations and perceptions, accordingly.

Despite the published benefits of cybersupervision, the research also indicates that there are a number of potential problems and barriers associated with this practice. First and foremost, technology failures are a commonly reported barrier that most certainly impedes effective cybersupervision (Nelson, Nichter, & Henriksen, 2010; Rousmaniere, 2014; Watson, 2003). Cybersupervisors need to have back-up plans to conduct supervision when technology fails.

In addition to technology failure, cybersupervision has been widely cited as having the potential to inhibit non-verbal micro-expressions (i.e., raised eyebrow, pursed lips) as the quality of video and the cropped size of the video frame reduce social cues that supervisors depend upon to monitor the working alliance (Deane, Gonzalvez, Blackman, Saffioti, & Andresen, 2015; Heller, 2010; Rousmaniere, Abbass, & Frederickson, 2014). In addition, supervisee anxiety may be heightened – and unmanaged – by cybersupervisors who may not be able to accurately gauge and address the distress that technology may add to the process (Rousmaniere, Abbass, & Frederickson, 2014).

Ethical implications for the practice of cybersupervision are also potentially serious drawbacks. Issues raised in the literature include: (a) obtaining informed consent;

(b) privacy and confidentiality breaches; (c) client and supervisee issues of welfare; (d) emergency response procedures; and (e) legal jurisdiction (Coursol, 2004; Rousmaniere, 2014; Miller & Miller, 2008; Nelson, Nichter, & Henriksen, 2010; Watson, 2003).

Despite the limited research on the benefits and drawbacks of cybersupervision, the practice is growing rapidly. For example, in 2015 there were 24 CACREP-accredited online master's and doctoral programs (CACREP, 2015). In 2016, there are 31 master's and doctoral programs accredited, a 29% increase in accredited online programs in one year (CACREP, 2016). That number does not include accredited hybrid programs that are a combination of online and face-to-face instruction. Moreover, accredited master's level programs from other mental health specialties (i.e., marriage/family therapy, social work) are rapidly expanding their online programs. In one year, there has been a 43% increase in accredited online LMFT and Social Work programs (AAMFT, 2016; CSWE, 2016). Online education appears to be here to stay, and the field of counselor education and supervision needs to keep pace with the growth in order to prepare supervisors who are adept at the practice of cybersupervision.

Importance to the Profession of Counseling

With such rapid expansion in online mental health programs comes a need for further examination of the competencies necessary to optimize this practice as well as an understanding of how the proposed barriers actually impact the practice of cybersupervision. Counselor educators and clinical supervisors who utilize cybersupervision in their professional practice will benefit from this research. Having greater awareness and skills on how to optimize cybersupervision while also minimizing barriers will allow cybersupervisors to conduct meaningful and effective supervision

sessions. After all, the goal of cybersupervision is to aid in the professional development of counselor trainees and assure quality care for their clients.

Because little is known about how cybersupervisors are prepared, there is a need for a framework to guide the practice of cybersupervision to optimize supervisee professional development and assure quality care of clients. Without a framework that is grounded in research, cybersupervisors may inadvertently replicate ineffective practices from their own supervision experiences. In addition, the complexities of cybersupervision necessitate the development of specific competencies to guide this practice.

Rationale and Organization

The purpose of this dissertation was to produce scholarly work that explores potential ways to optimize cybersupervision through effective practices while minimizing hindering barriers. This dissertation adds to the body of research in counselor education and supervision in that it: (a) offered a research-informed framework for the practice of cybersupervision through the lens of a prevalent supervision theory, the Discrimination Model (Bernard & Goodyear, 2004); and (b) identified the relationship between the types of technology hindrances and the level of telepresence among counselor supervisees who experienced cybersupervision.

This dissertation was produced using a manuscript style format based on the Publication Manual of the American Psychological Association (APA, 2010) and as outlined by the Oregon State University Graduate School. Following this format, Chapter 1 provided a brief overview and background for the topic of cybersupervision and described the thematically tied, journal-formatted manuscripts found in Chapters 2

and 3. Chapter 4 was a general conclusion thematically linking all manuscripts and discussed ancillary analyses of instruments.

The manuscripts in Chapters 2 and 3 in this dissertation fill a void in the existing cybersupervision literature and are poised to be stand-alone articles for submission to the following peer-reviewed journals: *Journal of Counselor Preparation & Supervision* and the *International Journal of Distance Education Technologies*.

Manuscript 1 – Chapter 2

The first manuscript titled, *A Research-Informed Framework for the Practice of Cybersupervision*, is detailed in Chapter 2. The goal of this position paper was to contribute to the body of counselor education and supervision literature by creating a user-friendly framework of cybersupervision competencies that converge and are supported by research for the practice of online teaching, online counseling, and online communities of practice. This framework fills a much-needed void in the literature.

Reviewing the research through the lens of Bernard and Goodyear's (2004) Discrimination Model of supervision, six overarching themes were identified that converge as management competencies that can guide supervisors in the practice of cybersupervision: (1) social presence; (2) learning outcomes; (3) content & process; (4) social oppression; (5) technology systems; and (6) working alliance. This research-informed framework was created which is a unique contribution to the field as only one published "framework" currently exists which is merely a check-list of discussion items for online case conceptualizations (Dubi, Raggi, & Reynolds, 2012). The framework suggested in this position paper could be used to guide further research, train future

counselor educators, improve the practice of current cybersupervisors, and optimize the practice of cybersupervision.

Manuscript 2 – Chapter 3

The purpose of Chapter 3 was to conduct unique scholarly research to add to the body of literature on cybersupervision. Chapter 3, titled, *The Relationship Between Level of Telepresence and Technology Hindrances During Full-Spectrum Synchronous Online Supervision*, is focused on the relationship between measures of telepresence (i.e., social presence and related factors of spatial presence, involvement, and realness) and technology hindrances (i.e., technology-only and use-of-technology barriers) during cybersupervision. Findings from this survey research are believed to be important to inform the practice of cybersupervision in counselor education and supervision programs and related mental health programs delivered via the Internet. Understanding how technology barriers impact social presence during cybersupervision will help practitioners mitigate the effects of unavoidable technology problems while maximizing opportunities to create social presence.

A sample of convenience was used to recruit participants enrolled in a master's-level counseling program who experienced cybersupervision ($n = 12$). Participants provided demographic information and completed a 55-item Likert-type questionnaire designed to measure satisfaction with supervision (results reported elsewhere; Bender, 2013), level of telepresence, and technology hindrances experienced during cybersupervision. Telepresence was measured using the *Igroup Presence Questionnaire* which was modified for use with cybersupervision (Schubert, Friedmann, & Regenbrecht, 2001). Technology hindrances were measured using *Supervision*

Hindering Phenomena Survey which was created in the spirit of qualitative research on hindering experiences in supervision and adapted for cybersupervision (Dykeman, 2011; Enyedy et al., 2003).

The research questions that guided this study were:

1. Is there a relationship between type of technology hindrance and level of telepresence?
2. Is there a relationship between type of technology hindrance and level of spatial presence?
3. Is there a relationship between type of technology hindrance and level of involvement?
4. Is there a relationship between type of technology hindrance and level of experienced realness?

It was hypothesized that there would be statistically significant relationships between the level of telepresence and types of technology hindrances. A chi-square, Mantel-Haenszel chi-square, and Fisher's exact test were used to examine these research questions. Results of these data analyses indicated that there was a statistically significant association between both pure technology and interpersonal barriers and the level of experienced realness. Supervisees who experienced higher levels of either pure technology or interpersonal barriers reported that cybersupervision was less real. Conversely, supervisees who experienced lower levels of pure technology or interpersonal barriers reported that cybersupervision was more real. Neither spatial presence nor involvement were significantly associated with pure technology or

interpersonal barriers. Discussion and recommendations for future research were presented.

**CHAPTER 2: A Researched-Informed Framework for the Practice of
Cybersupervision**

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Abstract

The field of counselor education has experienced rapid geographic expansion as graduate-level training is now being delivered via the Internet through fully online and hybrid (i.e., Internet and face-to-face) programs. Accrediting bodies are endorsing these programs as valuable ways to meet the needs of 21st Century adult learners. As online counselor education rapidly expands, there becomes a need to examine the professional readiness and competencies of clinical supervisors who are providing client and supervisee oversight through various online applications, many of which include text-chat, VoIP (Voice over Internet Provider) audio, live web-camera video conferencing, and digital counseling session review. There is little research to inform this growing practice of online supervision, known as cybersupervision. Supervisors need to develop new skills to keep up with the advancement of technology within the field of professional counseling. Through the lens of the Discrimination Model of clinical supervision, a framework for cybersupervision can be constructed from research in fields that align with the roles that supervisors utilize while: teacher, counselor, and consultant.

Keywords: clinical supervision, communities of practice, counselor education, cybersupervision, online counseling, online teaching

A Researched-Informed Framework for the Practice of Cybersupervision

Technology is changing access to and the delivery of counselor education (CE) programs at a rapid rate. CE programs have evolved from traditional face-to-face (FtF) training programs at brick-and-mortar institutions to online and hybrid (i.e., combination of FtF and online) delivery platforms. Therefore, it is a natural extension that curriculum, andragogy, and clinical supervision will also evolve. Social communication scholars predicted this educational revolution as early as the 1970s:

Hitherto, the fact that face-to-face contact has almost always been the most satisfactory form of communication has been a fundamental constraint on society.....This supposedly fundamental constraint may be undermined by developments in technology, for no longer need all communication involve physical movement. It is within the scope of foreseeable technology to reconstitute by electronic means a virtual three-dimensional representation of an individual who is hundreds of miles distant. Dazzled by such technological marvels, enthusiastic futurists have speculated about possibilities ranging from education at home, to working by audio-video links from homes no longer located in overcrowded cities. The potential significance of such developments for a range of disciplines from sociology and psychology to urban and transportation planning needs little elaboration. (Short, Williams, & Christie, 1976, p. V).

Accrediting bodies are endorsing online programs as meaningful ways to train counselors and mental health professionals. As such, Short, Williams, and Christie (1976) were surprisingly accurate in their predictions of how technology would allow learning to take place in the 21st century. In 2004, 8.6% of graduate programs in CE were

delivered entirely by online formats, while 18% used Internet courses to supplement traditional, FtF courses (Wantz, et al., 2005). A recent Internet search of CE programs with online training located a growing number of programs ($N = 24$) that are accredited by the Council for Accreditation of Counseling and Related Educational Programs ([CACREP], 2015). There are also 42 online programs that are endorsed by related mental health organizations and accrediting associations, such as the Commission on Accreditation for Marriage and Family Therapy Education ([COAMFTE], 2015), and the Council on Social Work Education ([CSWE], 2015). Counselor education programs must keep up with these developments in technology in order to stay relevant in a competitive academic market. Students have more choices of where and how they obtain professional training. The future proposed by Short, Williams, and Christie in 1976 is a reality today as online counselor education now includes clinical supervision via the Internet, known as cybersupervision (CybSup).

Brick-and-mortar universities no longer have a monopoly on CE programs which necessitates the development of a practical, research-informed framework for CybSup that can assist counselor educators in meeting the unique needs of distance learners.

Complexity of Clinical Supervision

Clinical supervision is core to the training of graduate level practitioners and serves several key functions. The goals of clinical supervision are to produce competent counselors who are autonomous, ethical, self-aware, and professionally ready to enter the field (Bernard & Goodyear, 2004; 2014; Norcross & Halgin, 1997). Supervisors are charged to monitor supervisees' work with clients, facilitate skill development, and assist in problem conceptualization and treatment planning, all with the purpose of providing

clients with high levels of care while simultaneously minimizing risks of harm (Campbell, 2006).

The practice of supervision in traditional brick-and-mortar programs is a complicated process that is further impacted by CybSup and the mediating factors of technology and the delivery models being utilized. This complex process may include: understanding the supervisee's worldview and experiences; utilizing the adopted theoretical lens/models; negotiating interpersonal styles; identifying roles and strategies; focusing the supervision session on client care; managing the supervision format; and implementing techniques and interventions during the session (Bernard, 1979; Loganbill, Hardy, & Delworth, 1982; Saba & Liddle, 1986; Watkins, 1997; Watson, 1993).

Due to the complex nature of supervision, training standards from CACREP (2016) indicate specific requirements for supervision of practicum and internship counselor trainees. According to the 2016 standards, students enrolled in CACREP-accredited programs are required to participate in at least one hour of weekly individual and/or triadic supervision and at least one-and-a-half hours of weekly group supervision during both practicum and internship courses. As online supervision increases, counselor educators will need to develop new skills and rely upon new approaches to meet the CybSup needs of distance learners. Research-informed frameworks regarding CybSup are nearly nonexistent in the counselor education and related mental health literature. To date, one published theoretical framework exists for the practice of CybSup. Unfortunately, the PIDIB (Presenting Problem, Issues, Dynamics, Interventions, and Bridge) framework is merely a handy acronym to remember steps for a case conceptualization during CybSup rather than a research-informed framework of

competencies that cybersupervisors need to manage the complexities of CybSup (Dubi, Raggi, & Reynolds, 2012).

With the increasing numbers of online counselor education programs, there is a need to identify a CybSup framework for online teaching faculty and clinical supervisors. Why have a framework for CybSup? “Indeed, other professions – medicine, accounting, and architecture, among many others – have well-established definitions of expertise and procedures to certify novice and advanced practitioners. Such procedures are the public’s guarantee that the members of a profession hold themselves and their colleagues to high standards of practice” (Danielson, 2007, p. 2). A framework could be useful in categorizing the domains and areas of competence in which cybersupervisors need to develop expertise (Lester, 1995). A framework for CybSup would identify aspects of a cybersupervisors' responsibilities that empirical studies have demonstrated as promoting supervisee learning and skill development. Because CybSup is complex, it is helpful to have a guide through the online terrain, centered around a common understanding of CybSup.

Viewing Online Interaction Research through Supervision Roles

A potential framework for CybSup can be constructed from research in fields that parallel the roles of supervision. Bernard and Goodyear (2004; 2014) describe the roles of a clinical supervisor as teacher, counselor, and consultant. The purpose of this manuscript is to synthesize the relevant research in education, professional counseling, CE, and related mental health disciplines (i.e., psychology, social work) that addresses each of these roles to identify potential guiding principles that may inform the practice of CybSup. First, the research on distance learning that informs the teacher role of

supervision will be analyzed for themes. Next, the research on counseling via the Internet that informs the counselor role of supervision will be examined. Finally, the research related to online communities of practice that informs the consultant role of supervision will be explored. Combined, these themes and implications will help to formulate a potential framework for CybSup that is grounded in research.

Cybersupervisor as a Teacher

Cybersupervisors are called upon to act as teachers when the developmental needs of the supervisee warrant instruction and guidance to develop theoretical orientations, counseling skills, and models for ethical practice. Counselor trainees tend to have increased anxiety about performance and seek knowledge from their supervisors (Campbell, 2006; Stoltenberg & McNeill, 1997). Group supervision is a common and efficient delivery modality to convey this knowledge. Direct instruction and modeling of techniques are often utilized in groups where participants can observe, practice, and demonstrate new concepts and skills. Teaching strategies may be utilized during individual and triadic CybSup, as well. In order to understand the role of the teacher during CybSup, the vast research on adult learning, distance education, and influence of computer-mediated communication will be examined and synthesized to derive recommendations.

Early online communication research led to premature conclusions that computer-mediated communication (CmC) and online learning was less effective than traditional educational settings, particularly for social-emotional interchanges that are inherent in counseling and supervision (Hiltz, 1985; Kiesler, Siegel, & McGuire, 1984; Sproull & Kiesler 1991, as cited in Preece, 2000). Reduced social cues (i.e., head nods, crossed

arms, etc.), misunderstandings, impression management, self-disclosures, online personas, and gender stereotypes plagued early online communication (Short, Williams, & Christie, 1976).

Social presence is defined as the “degree of the salience of the other person in the interaction and the consequent salience of the interpersonal relationship” (Short, Williams, & Christie, 1976, p. 65). Cybersupervisors who are acting in the role of the teacher can increase social presence among supervisees by utilizing text cues and live video streaming. Nonverbal signals (i.e., emoticons, symbols) to communicate social presence in online learning are useful to help regulate turn taking, foster interactions within a group meeting, help provide structure for learning, and are considered important to the feedback process (Allmendinger, 2010; Andersson et al., 2001; Bollinger, 2009; Guye-Vuillème, Capin, Pandzic, Thalmann, & Thalmann, 1999; Kraus, Stricker, & Speyer, 2010; Muller, Bewes, Sharma, & Reimann, 2008; Wood & Smith, 2005).

Social presence is only one construct used to understand the needs of online learners. The goals of communication during online teaching can be divided into two types: task-oriented and social-oriented (Bollinger, 2009). Interactions before the official start of an online class and after have been shown to be more social-oriented; participants naturally attempt to foster social presence in online environments (Bollinger, 2009). Cybersupervisors can manage social presence among group supervisees by encouraging social interactions. Providing supervisees with access to online supervision sessions both before and after the scheduled meeting times creates opportunities for social interactions among supervisees.

Another important finding from the research is that gender and ethnic-related

differences in participation may exist in online classes. As with FtF learning, several studies indicate that men tend to dominate discussions during online and computer-supported collaborative learning environments. However, there is also evidence which indicates that women tend to participate more and perform better than men in asynchronous learning modalities such as discussion threads and essays (Belcher, 1999; Prinsen, Volman, & Terwel, 2007a; 2007b; Gunn, McSporran, Macleod, & French, 2003; Wolfe, 2000; Yukselturk & Bulut, 2009). Ethnic differences also impact online learning. Research that describes differences among different cultural groups using online applications parallels existing research on gender and sociolinguistics (Wolfe, 2000). Cybersupervisors need to be aware of a dominant male discourse, promote equitable sharing and collaboration among participants, and monitor the participation of supervisees in context to the intersection of their gender and ethnic identities.

While online learning has both pros and cons for participants based on gender and ethnic identity, passive, quiet, or non-participatory members may actually learn and gain skills by observing the leaders and experts within the group. This subgroup of learners are considered legitimate peripheral participants (Lave & Wenger, 1991). Cybersupervisors can create optimal conditions for online learning by actively monitoring the learning of passive, observational learners who may be perceived as disengaged or uninterested.

Another important factor in establishing social presence and collaboration among participants in an online learning environment is the level of trust in the cybersupervisor. Disclosures of private information through social networking media may impact supervisees' communication with the cybersupervisor in several ways (DiVerniero &

Hosek, 2011). First, self-disclosures validate claims made by cybersupervisors, thereby humanizing them (i.e., reducing the hierarchical structure), and strengthening student perceptions of credibility through confirmation of experience and education. On the other hand, cybersupervisors' credibility is negatively impacted by overt social networking self-disclosures. Students who find out "too much" about their cybersupervisors believe that it damages credibility. Second, an absence of online disclosures leads supervisees to speculate and form potentially inaccurate conclusions about cybersupervisors, which impacts the supervisory relationship in potentially negative ways. The general conclusions in the research suggests that cybersupervisors manage their supervisory working alliances with limited, facilitative online disclosures (DiVerniero & Hosek, 2011).

Credibility has been shown to be one of the most important variables that influences student learning (Myers, 2001; Thweatt & McCroskey, 1998, as cited in DiVerniero & Hosek, 2011). Not only is it important for cybersupervisors to manage their online personas, they also need to manage technology in order to create the conditions necessary to meet learning objectives. Online learning outcomes appear to be stable across varied delivery modalities such as text-chat, discussion boards, and live video conferencing (Bueno Alastuey, 2011; Slavitt, LoFaro, & Cooper, 2002; Simon, 2006; Simonson, Smaldino, Albright, & Zvacek, 2006). However, the types of applications used for online learning are important to consider depending on the learning objectives (Allmendinger, 2010; Daft & Lengel, 1986; McGrath & Hollingshead, 1994; Wood & Smith, 2005). "Lean" media would be considered text-chat and would be appropriate for questions and answers and procedural instruction. "Rich" media would

be considered videoconferencing and would be well suited for case conceptualization and interpersonal skill development. Cybersupervisors need to consider the goals and tasks of instruction during a supervision session and manage the technology that is a best fit to achieve the goals.

Utilizing adult learning principals of andragogy (Knowles, 1968, as cited in Merriam, Caffarella, & Baumgartner, 2007), cybersupervisors need to consider models of adult learning that align with learning objectives and technology platforms selected. Illeris (2002, as cited in Merriam, Caffarella, & Baumgartner, 2007) presents a comprehensive yet simplistic model of adult learning that considers three dimensions that impact the learning process for counselors: cognition, emotion, and society. This model is beneficial because the emotional and social aspects of learning are integrated and can be used to understand resistance to or rejection of new learning (i.e., ruptures). “Very special and demanding situations, often with a crisis-like character, can lead to deep and comprehensive transformative learning processes that include simultaneous changes in all the three learning dimensions and have to do with the very identity of the learner” (Illeris, 2002, p. 229, as cited in Merriam, Caffarella, & Baumgartner, 2007). These adult learning principles also align with a framework for teaching social justice that involves a balance between emotional and cognitive learning, and connecting the here-and-now to real-world examples in society (Bell & Griffin, 2007). The implication is that cybersupervisors need to create both emotional safety and evoke provocative discourse to deepen emotional learning that is inherent in counselor education.

Another theme in the research related to online learning is comfort with computers and technology. There is a positive correlation between social presence and

self-perception of computer expertise (Perse et al, 1992, as cited in Tu & McIsaac, 2002). Participation in and perceptions of online learning depended on gender, sociocultural background, and computer skills/attitudes (Homer, Plass, & Blake, 2008; Prinsen, Volman, & Terwel, 2007a; 2007b; Wolfe, 2000; Yukselturk & Safure, 2009). Cybersupervisors who are utilizing the role of the teacher need to consider the level of supervisee technology proficiency and how it impacts participation. As such, cybersupervisors need to assess students' applied technology skills and put supports in place to mitigate deficits (Calvin & Freeburg, 2010; Hong & Jung, 2011; Muilenburg & Berge, 2005; Rousmaniere, 2014). Students who appear to have less social presence online may actually need additional support and instruction with the use of technology.

Online learning formats appear to restrict the depth of discussion and may limit the potential for learning compared to traditional educational formats because of technology issues that dominate the discourse (Strømsø, Grøttum, & Lycke, 2007). Cybersupervisors need to be aware that there are potential pitfalls to instruction and discussion in an online format, including a tendency to pay more attention to technical questions than content. In general, research indicates that online learners: (a) spend more time, initially, discussing technology issues than the topic; (b) produce fewer and more succinct comments, less elaborate questions, and reflections; (c) make more small talk and have more technical questions; (d) produce more ideas and recommendations and do not follow-up on those recommendations or discuss them as deeply as FtF learners; and (e) tend to focus on task-oriented topics than on social-emotional topics (Bordia, 1997; Strømsø, Grøttum, and Lycke, 2007; Weisband, 1992). When utilizing the teaching role, cybersupervisors need to be intentional about utilizing adult learning strategies while

flexibly managing the content being discussed by following up on unanswered questions, asking probing questions, and using formative assessments to check for understanding (Malott, Hall, Sheely-Moore, Krell, & Cardaciotto, 2014; Mayes, Luebeck, Ku, Akarasriworn & Korkmaz, 2011; Safran & Muran, 2000).

Within the teacher role of CybSup, it is important to facilitate online instruction intentionally to be assured that learning outcomes are met. Four collaboration competencies have been found to be necessary for effective online teaching: (1) operational; (2) interactional; (3) managerial; and (4) design (Bower, 2011). These competencies are hierarchical and multilayered. Cybersupervisors who are teaching need to be able to operate the technology, interact with it and the supervisees, manage the session both in time/space and content/process, design course content, and implement adult learning strategies to maximize learning within an online forum. Cybersupervisors need to obtain professional development which includes training in online course development and management in order to create the conditions necessary for optimal learning (Malott et al., 2014).

In summary, research from online learning indicates that cybersupervisors utilizing the teacher role can better promote learning by intentionally fostering social presence and interpersonal connections to aid in the establishment of rapport. Managing social presence takes intentional focus to create conditions where supervisees can establish rapport with both peers and the supervisor. Additionally, cybersupervisors are called to manage and monitor the participation of diverse supervisees who may experience low levels of social presence. Utilizing adult learning principles will also help enhance engagement.

Cybersupervisor as a Counselor

Cybersupervisors utilize the role of the counselor when supervisees experience the inherent limitations of the counseling process, become more aware of their own skill deficits, and vacillate between wanting autonomy from and having dependency on their supervisor (Stoltenberg & McNeill, 1997). From a developmental perspective, supervisees move through a predictable stage of increased willingness to discuss and process “personal issues of self-awareness, defensiveness, transference-countertransference, and the supervisory relationship” (Stoltenberg & McNeill, 1997, p. 195). During individual CybSup, the cybersupervisor helps to make meaning of the struggles as a part of professional development by using counseling skills and interventions such as empathetic and nonjudgmental responses, validation, reflection of meaning, encouragement, summaries, and facilitative self-disclosures. Utilizing the role of the counselor during individual or triadic CybSup not only models counseling techniques but also allows supervisees to be less defensive and build confidence as they develop their skills and competence (Ladany, Ellis, & Friedlander, 1999; Mehr, Ladany, & Caskie, 2010).

The counselor role in CybSup is a parallel process to the counseling relationships between the supervisees and clients. Since the [counseling] relationship is important to the process of change, it is a natural extension of the research to examine how online counseling interventions impact the working (i.e., therapeutic) alliance, as it is the most robust factor associated with successful outcomes in FtF counseling (Lambert, & Barley, 2001; Safran & Muran, 2000). Examining the body of online counseling research will inform the practice of cybersupervisors who are utilizing the role of the counselor during

CybSup.

Online counseling research suggests that meaningful working alliances between client and counselor can be formed through online interactions (Cook & Doyle, 2002; Leibert, Archer, Munson, & York, 2006; Morgan, Patrick, & Magaletta, 2008; Preschl, Maercker, & Wagner, 2011). Therefore, one can reason that utilizing online counseling interventions during individual CybSup may also be an effective way to establish a *supervisory* working alliance between the cybersupervisors and supervisee.

Cybersupervisors can utilize the role of the counselor to intervene and address interpersonal issues that may influence the supervisory working alliance, client working alliance, or other aspects of professional practice such as ethical behavior. Online counseling is considered comparable to traditional counseling in terms of overall satisfaction, post-session mood, and clients' perceptions of the working alliance (Rees & Stone, 2005). Additionally, online counseling reduces barriers to accessibility, may disinhibit certain clients, and creates safe conditions to discuss difficult topics (Collie et al., 2007; Hassija & Gray, 2011; Khasanshina, Wolfe, Emerson, & Statura, 2008). Internet-based counseling interventions are effective in assisting clients with a variety of mental health needs, particularly for clients who may experience physical or psychological barriers to access mental health services (Barak, Hen, Boniel-Nissim, & Shapira, 2008; Collie, et al., 2007; Hassija & Gray, 2011; Khasanshina, Wolfe, Emerson, & Statura 2008). The benefits of online counseling are twofold; interventions are effective and mitigate barriers to accessible and appropriate services for clients who would normally be underserved.

Online counseling interventions may be an effective way for cybersupervisors to

establish a working alliance and to monitor interpersonal issues that may arise for supervisees during individual or triadic supervision. Recordings, transcripts, and other archival data are used by online counseling clients to review, reinforce, practice, and serve as concrete messages of both constructive and supportive feedback to review at later dates; supervisees could also benefit by having archival records of CybSup interactions (Fenichel et al., 2002; Yeh et al., 2008).

Cybersupervisors in the counseling role need to be able to support online graduate students' in maintaining their mental health and fitness for the profession. The CybSup literature indicates that there is a disinhibiting effect on supervisees' honesty with cybersupervisors, allowing for improved accuracy in case conceptualization, diagnosis and treatment planning (Cook & Doyle, 2002). Supervisees may feel disinhibited and therefore more compelled to disclose personally distressing material to their cybersupervisors. The implication for cybersupervisors who are acting in the role of the counselor is that graduate education in mental health fields puts supervisees at an increased risk of mental health distress and cybersupervisors have an ethical obligation to address supervisee needs. As such, cybersupervisors need their supervisees to be honest about personal issues that may cause impairment; having a record of difficult discussions could be beneficial for both supervisees and cybersupervisors (Fenichel, 2011; Schwartze-Mette, 2009).

In order to protect client and supervisee welfare, cybersupervisors may need to assess both the supervisory working alliance and the mental health needs of supervisees who are struggling by using informal and formal evaluation tools during individual supervision. The research on assessment in online counseling has several implications

for cybersupervisors acting in the counseling role. First, assessment is a standard of practice that guides the appropriate use of interventions. One part of ethical and professional online counseling is an accurate and thorough evaluation of client (i.e., supervisee) needs; this rationale can be extended to cybersupervisors who are acting in the role of the counselor. Second, a variety of symptom severity scales have been effectively administered online, which may also include scales to assess the supervisory relationship, such as the Supervisory Working Alliance Inventory ([SWAI], Efstation, Patton, & Kardish, 1990; Kobak, Williams, Jeglic, Salvucci, & Sharp, 2008). Therefore, cybersupervisors may use both formal and informal assessment methods in a counseling role to guide appropriate interventions or referrals for supervisees.

The research body for online counseling interventions is scant. Most counseling outcome research utilizes standardized treatment protocols. Cognitive Behavior Therapy (CBT) protocols delivered online show promise for a range of mental health issues that could potentially cause impairment in supervisees (Amstadter, Broman-Fulks, Zinzow, Ruggiero, & Cercone, 2009; Andersson et al., 2012; Bouchard, 2004; Botella et al., 2008; Bulik et al., 2012; Germain, Marchand, Bouchard, Drouin, & Guay, 2009; March, Spence, & Donovan, 2009; Reger & Gahm, 2009). It is outside the scope of professional practice – and ethically discouraged – for cybersupervisors to provide ongoing counseling to an individual supervisee when a mental health referral is warranted. Cybersupervisors who are utilizing the role of the counselor may encounter supervisees who may be emotionally triggered by a client. Additionally, research indicates that they are at an increased risk of experiencing clinical levels of anxiety or depression as a result of the stresses of graduate training (Schwartz-Mette, 2009). Cybersupervisors are wise

to utilize counseling skills and brief interventions to provide short-term relief of distress caused by challenging clients, stress from graduate school, or mistakes which are common when learning and applying new clinical skills. Examples of counseling interventions that are within the scope of the CybSup relationship would be reflective listening, cognitive reframing, identifying faulty logic, normalizing experiences, scaling, and role-playing. Cybersupervisors make appropriate mental health referrals and monitor supervisees for distress and fitness for the profession by utilizing online counseling skills.

In summary, cybersupervisors may need to utilize short-term online counseling interventions to help manage supervisee anxiety, transference, and counter-transference issues that arise during the course of professional training and post-graduate licensure. Rapport can be effectively established online which will allow the supervisor to use counseling skills and techniques to assess the counselor/client relationships as well as the counselor/supervisor relationship. The goal of counseling interventions during CybSup is to address personal issues that may interfere with professional practice and client welfare.

Cybersupervisor as a Consultant

Cybersupervisors are called upon to utilize the role of the consultant during advanced stages of supervision through a collaborative process on behalf of clients. As supervisees develop their professional skills, there is a shift in needing supervisors to do *for* them toward a practice of supervisors doing things *with* them (Campbell, 2006). Some of the functions of consultation during CybSup are promoting independence, working collaboratively, encouraging consultation and peer support, modeling and teaching self-care, continuing self-exploration, promoting life-long learning, and advocating for mental health services (Campbell, 2006). There is scant research specific to the consultant role

for the practice of CybSup. However, a substantial research body from the Communities of Practice (CoP) literature exists and may inform the role of the consultant during CybSup as the models parallel the tasks and functions of counselor consultation models.

Research with online CoP across helping disciplines – such as occupational therapy, nursing, ministry, teaching, and medicine – shows promise for a model of consultation for CybSup (Borg, 2012; Brooks, 2010; Cowan, 2012; Hoffmann, Desha, and Verrall, 2011; Ramage, 2010; Slavitt, LoFaro, & Cooper, 2002; Valaitis, Akhtar-Danesh, Brooks, Binks, & Semogas, 2011). Analogous to group supervision of counselors, a CoP is based on a clearly identifiable group of people (i.e., counselors; trainees and cybersupervisors) who have a common body of knowledge (i.e., theoretical knowledge, counseling skills, etiology and treatment planning for disorders, multicultural awareness, ethical and legal decision making, etc.), passion for the profession, and specific ways of acting (i.e., social norms for counselors, such as good listening skills, validating others, reflecting, summarizing, etc.). A specific topic or an area of concern is generally the focus of a CoP; client care and professional development drives consultation for CybSup. CoP have been described through a social learning theory lens based on assumptions that “we are social beings; knowledge is a matter of competence with respect to valued enterprises...knowing is a matter of participating in the pursuit of such enterprises” (Wenger, 1998, p. 4).

Strong interpersonal relationships (i.e., working alliances) are central to successful models of consultation in the CoP literature (Borg, 2012; Caudle, 2013; Okech, Barner, Sgoshi, & Carney, 2014). However, it should also be noted that weaker social ties among group members led to an increase in knowledge sharing among

participants (Barnett, Jones, Bennett, Iverson, & Bonney, 2012). Evidence suggests that effective knowledge sharing is closely tied to social connectedness, yet there may be a point at which too much social connectedness interferes with collaboration. The concept of social capital explains, “the people who do better are better connected” (Burt, 1999, p. 48). “If an organization encourages knowledge hoarding with reward structures that focus on individual expertise but ignore collaborative contributions, then successful collaboration is unlikely” (Hall, 1999, as cited in Hughes, Wickersham, Ryan-Jones & Smith, 2002, p. 1; Hew & Hara, 2007). Based on these research supported ideas, several implications exist for cybersupervisors acting in the role of the consultant. First, cybersupervisors should consider creating CybSup groups across specialty areas (i.e., school or clinical mental health counseling) or cohorts to maximize knowledge sharing as they would inherently have weaker social ties yet would be professionally connected. Second, cybersupervisors need to acknowledge all participants for their unique contributions in order to minimize individuals as experts. Intentionally including peripheral participants will also foster collaboration.

Beyond actively participating in a CoP, there are several factors that combine to increase a participant’s social capital among members in an online setting (Faraj, Kudaravalli & Wasko, 2015; Hew & Hara, 2007). First, contribution of knowledge to the discussion has been shown to increase social capital for participants. Examples of knowledge sharing are procedural information, declarative information, and assessment expertise. Second, sociability increases social capital for participants who demonstrate online social skills (i.e., using participant names, thanking others for help, a goodbye before signing off, etc.), making connections with the topic through a personal story, and

nurturing personal interactions with specific members to show support or interest.

Legitimate peripheral participants may need to be intentionally drawn into the discussions in order to help foster their social presence and capital. The implication is that cybersupervisors who are acting as consultants can foster supervisee social capital and knowledge sharing by setting clear behavioral expectations, providing structure for online discussions, modeling desired online social skills, encouraging passive participants to share expertise with the group, and rewarding members' contributions through verbal praise (Hew & Hara, 2007; Hughes, Wickersham, Ryan-Jones, & Smith, 2002).

Creating the conditions necessary to increase supervisee social capital and encourage knowledge sharing during CybSup is a challenge that comes with several caveats. First, people naturally tend to hoard knowledge unless there are conditions that motivate them to benefit others (Ardichvili, Page, & Wentling, 2003). Second, managing group dynamics in an online environment is an already complex task that is further complicated by the tendency for members to withhold information from each other. Therefore, cybersupervisors acting in the consultant role will need to be keen facilitators of group dynamics. Two distinct categories of leadership styles have been identified for those managing online consultation: task-oriented and relations-oriented. Similarly, online leaders are considered either facilitators or caretakers (Caudle, 2013; Faraj, Kudaravalli & Wasko, 2015; Yukl, 2006). Effective cybersupervisors in a consultant role need to balance both types of tasks, attending to both the topic of discussion and the social relationships of the consulting members. Second, cybersupervisors need to manage content knowledge as the facilitators of learning by: (a) coordinating community activities; (b) scheduling and implementing meetings; (c) corresponding about

management tasks; (d) facilitating discussions; and (e) providing resources. They also need to foster social presence and connections by: (a) building trusting and respectful relationships; (b) encouraging and motivating participants; and (c) supporting group cohesion (Caudle, 2013; Faraj, Kudaravalli & Wasko; Hew & Hana, 2007; Porterfield & Isaac-Savage, 2013). Cybersupervisors in the consultant role need to be able to manage both the content and process of group CybSup sessions which requires a careful balance between agenda management, the flexibility to deviate from set agendas, and a purposeful review of unfinished business (Einon, 2010; Hulseley-Killackey, Killackey, & Donigian, 2001; Yeh et al., 2008).

In conclusion, cybersupervisors need to facilitate consultation skills with supervisees who are more developmentally independent and require less instruction and emotional support. As supervisees become more competent with specific clients, knowledge sharing becomes a bigger focus of group CybSup. As cybersupervisors model consultation skills, they need to carefully weigh the needs of the supervisees against task- and social-oriented interactions. Further, cybersupervisors need to facilitate and support knowledge sharing while simultaneously managing and balancing the content and process of the discourse.

Implications for the Practice of Cybersupervision

A potential framework to guide CybSup can be constructed from the relevant research on online teaching, online counseling, and online communities of practice through the lens of Bernard and Goodyear's (2004; 2014) discrimination model of supervision. The goals of both traditional FtF supervision and CybSup are to develop intervention skills, conceptualization skills, and personalization skills. Cybersupervisors

will shift their roles among those of teacher, counselor, and consultant based on the needs of the supervisee, her or his developmental level, and the discussion content. Therefore, the roles that cybersupervisors utilize during supervision are somewhat interchangeable. Cybersupervisors may seamlessly shift between roles and therefore not be cognizant of which role they are utilizing at any given moment. At the same time, it is necessary to acknowledge that some supervisory roles are better suited for different delivery modalities. Certainly the role of the teacher crosses individual, triadic and group supervision formats as moments of teaching are overarching in a professional training program. The role of the counselor during CybSup is most likely to occur during individual CybSup due to the vulnerability associated with emotionally-charged content such as corrective feedback or discussion of counter-transference issues. In cases where supervisees are co-counseling (i.e., family therapy programs) the role of the counselor may be utilized in a triadic setting. The consultant role during CybSup may occur during individual or triadic and most certainly occurs in advanced stages of training during group CybSup. Recommendations for each specific role of CybSup – which overlap and link teaching, counseling, and consulting – will be presented to create a framework that will help to guide the CybSup process. Table 1 provides a visual of a potential framework that identifies specific, research-based cybersupervisor competencies which will support this growing practice.

Cybersupervisor Skills and Competencies

Managing social presence. A clear implication from the research is that counselors will attempt to create social connections both before and after CybSup sessions. Cybersupervisors can create conditions for social interaction by having online

platforms open and available to students prior to the official start of the session. Similar to a brick-and-mortar session, students often show up a few minutes prior to the start of supervision and engage in social pleasantries, connect with faculty who are preparing the room, and take time to transition to the upcoming task. Providing a brief (i.e., 15 minute) window of time prior to the start of a CybSup session may allow students who need time to connect a chance to get technical or social support prior to the start of the session. In the real world, students rarely show up to supervision at the exact start of the session. Counselor educators may enjoy the convenience that CybSup provides as it can be conveniently delivered from the comfort of home or an office. However, cybersupervisors could treat the experience as if it was happening on a campus and create a sense of “being there” prior to the start. Cybersupervisors should have virtual meeting rooms open and be available before supervision begins.

Managing learning outcomes. The research indicates that adult learners have unique needs when learning online. In order to optimize learning for counselor supervisees, cybersupervisors need to engage the cognitive, affective, and societal dimensions of each participant. Linking here-and-now discussions to real-world phenomena increases meaning-making and learning. By balancing emotional safety with provocative questioning, cybersupervisors can “push” supervisees to grow both personally and professionally.

As outcome standards and rigor increase among accrediting and licensure organizations, cybersupervisors must actively monitor student progress through ongoing formative assessments and not just rely on end-of-course exams and projects to determine mastery. It is the responsibility of the cybersupervisors to monitor and intervene when

learning objectives are not being met.

Knowing that online learners tend to produce more ideas and follow up with less in-depth discussion or follow-through, cybersupervisors need to create systems to assure that topics are not forgotten or overlooked. Making a point to acknowledge unfinished business and putting it on the next agenda or following up with another method of communication (i.e., discussion thread) will allow participants to review content and provide acknowledgement to supervisees who made suggestions or asked unanswered questions. As in FtF teaching, to adhere to a complete lesson plan is unlikely; cybersupervisors will need to scaffold and link back to prior content and topics that were not discussed.

Managing technology systems. Assessing supervisee technology competencies is a recommendation for counselor educators. Content knowledge of technology is different than the process of utilizing the functions of ever-evolving multimedia software. A systematic evaluation for proficiency in the various multimedia platforms would be a wise investment of time prior to initial CybSup sessions. The goal of this assessment would not be one of gatekeeping. Rather, the purpose would be to identify specific needs of students and to provide resources and training in order to minimize overt focus on technology problems and trouble-shooting during CybSup. The focus of all supervision should be skill development and client welfare. Similarly, new cybersupervisors need to seek training in online collaboration competencies, especially if employers do not provide such training (Bower, 2011; Rousmaniere, 2014).

Managing social oppression. Cybersupervisors also need to be aware of the ethnic, gender, and sexual minority status of their supervisees. A review of research

relevant to the roles of CybSup indicates that an important task of cybersupervisors is to manage social oppression. Beyond checking-in privately with supervisees who may be “legitimate peripheral participants” (Lave & Wenger, 1991), supervisors may be wise to share with their supervisees the research on participation and sociolinguistics among gender and ethnic groups as a primer to discuss how oppression can manifest within counselor CybSup and in their own practice. This intervention aligns with several frameworks for teaching and supervision that acknowledge personal experiences, reward changes in awareness, and attend to social relationships (Barlow, 2004; Bell & Griffin, 2007; Holloway, 1997; Krumboltz, 2009; Stoltenberg & McNeill, 1997). Even with a homogenous ethnic group (i.e., all Caucasian women), the conversation as a primer to supervision may help participants realize that as a group they have the ability to change those dynamics by confronting oppression in pro-social ways. Cybersupervisors could monitor and track the level of participation both in asynchronous platforms (i.e., discussion threads, text-chat archives) and, more importantly, during CybSup. By tallying the frequency and types of interactions, CybSup can use objective data to monitor participation and use it as discussion points with individuals who may not appear to be actively participating.

Managing the supervisory working alliance. The research on CybSup indicates that rapport can be effectively established online, although it may take longer than traditional supervision. To maintain rapport during CybSup, cybersupervisors need to be mindful of having clear personal boundaries with social media platforms as supervisees will seek to verify credentials and claims made by supervisors. One way to manage credibility and create transparency for online supervisees is a recommendation that online

supervisors share important professional documents, such as curriculum vita, links to professional publications, professional websites, photos, and an introductory presentation at the beginning of the supervisory relationship to humanize the supervisor while maintaining clear boundaries. In addition, to help foster social connections among group supervisees, cybersupervisors could have “Supervisees of the Week” who share a similar presentation with their cohort and faculty members. Providing a model and structure for what is appropriate to share (considering multicultural demographics of the student group) would help create structure and personalization that supervisees’ desire.

Managing content and process. The research is clear that cybersupervisors have a difficult time balancing task-oriented and social-oriented interactions, tending to overemphasize one or the other. One way to provide structure and balance the tasks and social needs of supervisees is to plan CybSup sessions with a clear agenda (co-constructed with supervisees prior to the meeting). A well-planned agenda and careful timekeeping will offer structure and guide the pace for the session. The agenda can be placed on a virtual whiteboard or provided in a document that students can print and refer to throughout the session. A note of caution for supervisors is that overreliance on agendas and adherence to plans creates perceived hostility and creates ruptures in the working alliance (Safran & Muran, 2000). Supervisors need to be aware that ruptures are inevitable and are often due to disagreement over tasks and goals. Noting rupture markers such as confrontation or withdrawal will allow the supervisor to adjust the pace and agenda, accordingly.

Knowing that some students often arrive right on time or even late to FtF or CybSup, it is still a best practice to offer a warm-up exercise to engage participants and

informally assess their level of social presence (Einon, 2010; Hulse-Killacky et al., 2001, Miller & Miller, 2008). A skilled cybersupervisor will be able to balance the pace of a CybSup session while carefully attending to the content being addressed and the interpersonal processes happening between the supervisor and supervisee(s) during individual, triadic, or group supervision by referring back to the agenda. Acknowledging the agenda at the start of the session is good practice and allows supervisees a chance to put anything important on the table prior to the start of the session. Cybersupervisors must be aware that supervisee anxiety is always present, and unmet goals and tasks that don't align with supervisee needs will create a rupture in the working alliance (Bordin, 1979; Horvath & Luborsky, 1993). Giving supervisees a chance to put important items on the agenda may prevent ruptures in the alliance by helping to manage supervisee anxiety. In addition, counselor educators need to have the therapeutic skills to repair ruptures that are an inevitable part of the counseling and supervisory process (Bordia, 1997; Binder & Strupp, 1997).

Cybersupervisors need to attend to time and keep on schedule. Modeling and time management are skills for professional practice. The structure and pace of CybSup should also provide supervisees with time to integrate content and make meaning with a cool-down phase and opportunity for self-reflections and personal learning (Einon, 2010; Hulse-Killacky, Killacky & Donigian, 2001; Miller & Miller, 2008). Sharing back a take-away or a wondering allows the supervisee to make meaning from the session.

Summary

Online education is changing how and when counselor educators teach and supervise distance learners. With the increasing numbers of programs that continue to

seek (and are granted) accreditation by professional organizations such as CACREP, AAMFT, and CSWE, it's clear that the trend for CybSup is only going to increase over time. The growth of online counselor education will also include increasing numbers of cybersupervisors providing individual, triadic, and group CybSup. It is unclear what training and support counselor educators are receiving regarding this evolving practice. There are distinct lessons to be learned from the research from online teaching, online counseling, and online communities of practice that inform a potential framework for CybSup.

Table 1

A Framework for Cybersupervision

Management Domain	Online Teaching	Online Counseling	Online Consultation	CybSup
Social Presence	Use non-verbal gestures/avatars to clarify meaning, create cognitive presence	Engage, support, build rapport	Model skills, mixed groups to maximize sharing	Sessions open early, track participation, attend to rupture markers
Learning Outcomes	Assessment, engage peripheral learners, intentional guided discussion	Enhance insight, model skills, monitor for distress	Reward sharing, group benefits, monitor cohesion	Andragogy, balance content/process, attend to unfinished business
Content & Process	Focus on topic, redirect “tech talk,” attend to topics on agenda	Focus on clients, give adequate time to process material and ask questions	Clear group norms, balance roles of facilitator and caretaker	Co-construct agendas, manage time, warm-up and cool-down
Social Oppression	Manage gender inequality, monitor participation and give 1:1 feedback for peripheral participants	Monitor and assess for signs of distress, refer for mental health services, offer short-term interventions	Heterogeneous groups, foster social capital, acknowledge and seek involvement from peripheral participants	Check-in privately, discuss research on oppression, track participation and give feedback to peripheral participants
Technology Systems	Rich media for skill training, thin media for content and assignments	Rich media for case consults and feedback, provide tech and emotional support	Rich media for knowledge sharing, thin media for questions/answers	Assess technology competencies, provide training and support, media richness, obtain training for platforms
Working Alliance	Manage social media persona, use careful disclosures to enhance rapport, minimize over-exposure	Use engagement skills, assess the working alliance, model disclosures	Model trusting and respectful discourse, encourage, motivate members to share, support group bond and activities	Provide evidence of experience through limited sharing in structured ways, model clear personal boundaries

References

- Adobe Connect[®] (Version 7.5) [Computer software]. San Jose, CA: Adobe.
- Allmendinger, K. (2010). Social presence in synchronous virtual learning situations: The role of nonverbal signals displayed by avatars. *Educational Psychology Review*, 22, 41-56. doi:10.1007/s10648-010-9117-8
- Amstadter, A. B., Broman-Fulks, J., Zinzow, H., Ruggiero, K. J., & Cercone, J. (2009). Internet-based interventions for traumatic stress-related mental health problems: A review and suggestions for future research. *Clinical Psychology Review*, 29(5), 410-420. doi:10/1016/j.cpr.2009.04.0016
- Andersson, E., Enander, J., Andrén, P., Hedman, E., Ljótsson, B., Hursti, T., . . . Rück, C. (2012). Internet-based cognitive behavior therapy for obsessive-compulsive disorder: A randomized controlled trial. *Psychological Medicine*, 42(10), 2193-2203. doi:10.1017/S0033291712000244
- Ardichvili, A. A. Page, V., & Wentling, T. (2003). Motivation and barriers to participation in virtual knowledge-sharing teams. *Journal of Knowledge Management*, 7, 64-77. doi:10.1108/13673270310463626
- Barak, A., Hen, L., Boniel-Nissim, M., & Shapira, N. (2008). A comprehensive review and a meta-analysis of the effectiveness of internet-based psychotherapeutic interventions. *Journal of Technology in Human Services*, 26(2/4), 109-160. doi:10.1080/15228830802094429
- Barlow, S. H. (2004). A strategic three-year plan to teach beginning, intermediate, and advanced group skills. *The Journal for Specialists in Group Work*, 29, 113-126.
- Barnett, S., Jones, S. C., Bennett, S., Iverson, D., & Bonney, A. (2012). General practice training and virtual communities of practice – a review of the literature. *BMC Family Practice*, 13(87), 1-12. doi:10.1186/1471-2296-13-87
- Belcher, D. D. (1999). Authentic interaction in a virtual classroom: Leveling the playing field in a graduate seminar. *Computers and Composition*, 16, 253-267.
- Bell, L. A., & Griffin, P. (2007). Designing social justice education courses. In Adams, M., Bell, L. A., & Griffin, P. (Eds.), *Teaching for diversity and social justice* (2nd ed.) (pp. 67-113). New York, NY: Routledge.
- Bernard, J. (1979). Supervision training: A discrimination model. *Counselor Education and Supervision*, 19, 60–68. doi:10.1002/j.1556-6978.1979.tb00906.x

- Bernard, J., & Goodyear, R. K. (2004). *Fundamentals of clinical supervision* (3rd ed.). Boston, MA: Pearson.
- Bernard, J. M., & Goodyear, R. K. (2014). *Fundamentals of clinical supervision* (5th ed.). Upper Saddle River, NJ: Pearson.
- Binder, J., & Strupp, H. (1997). “Negative process”: A recurrently discovered and underestimated facet of therapeutic process and outcome in the individual psychotherapy of adults. *Clinical Psychology: Science and Practice*, 4(2), 121-139.
- Bordia, P. (1997). Face-to-face versus computer-mediated communication: A synthesis of the experimental literature. *International Journal of Business Communication*, 34(1), 99-118. doi:10.1177/002194369703400106
- Bordin, E. S. (1979). The generalizability of the psychoanalytic concept of the working alliance. *Psychotherapy: Theory, Research and Practice*, 16(3), 252-291.
- Bolliger, D. U. (2009). Use patterns of visual cues in computer-mediated communication. *The Quarterly Review of Distance Education*, 10(2), 95-108.
- Borg, T. (2012). The evolution of a teacher community of practice: Identifying facilitating and constraining factors. *Studies in Continuing Education*, 34(3), 301-317. doi:10.1080/0158037X.2011.622717
- Botella, C., Quero, S., Banos, R. M., Garcia-Palacios, A., Breton-Lopez, J., Alcaniz, M., & Fabregat, S. (2008). Telepsychology and self-help: The treatment of phobias using the Internet. *CyberPsychology & Behavior*, 11(6), 659-664. doi:10.1089/cpb.2008.0012
- Bouchard, S. (2004). Treating anxiety disorders with virtual reality or telepsychotherapy. *International Journal of Psychology*, 39(5-6), 150.
- Bouchard, S., St-Jacques, J., Robillard, G., & Renaud, P. (2008). Anxiety increases the feelings of presence in virtual reality. *Presence*, 17(4), 376-391.
- Bower, M. (2011). Synchronous collaboration competencies in web-conferencing environments – their impact on the learning process. *Distance Education*, 32(1), 63-83. doi:10.1080/01587919.2011.565502
- Brooks, C. F. (2010). Toward ‘hybridised’ faculty development for the twenty-first century: Blending online communities of practice and face-to-face meetings in instructional and professional support programmes. *Innovations in Education and Teaching International*, 47(3), 261-270. doi:10/1080/14703297.2010.498177

- Bueno Alastuey, M.C. (2011). Perceived benefits and drawbacks of synchronous voice-based computer-mediated communication in the foreign language classroom. *Computer Assisted Language Learning*, 24(5), 419-432. doi:10.1080/09588221.2011.574639
- Bulik, C. M., Marcus, M. D., Zerwas, S., Levine, M. D., Hofmeier, S., Trace, S. E., . . . Kordy, H. (2012). CBT4BN versus CBTF2F: Comparison of online versus face-to-face treatment for bulimia nervosa. *Contemporary Clinical Trials*, 33, 1056-1064. doi:10.1016/j.cct.2012.05.008
- Burt, R. S. (1999). The social capital of opinion leaders. *The Annals of the American Academy of Political and Social Science*, 566, 37-54. Retrieved from <http://www.jstor.org/stable/1048841>
- Calvin, J., & Freeburg, B. W. (2010). Exploring adult learners' perceptions of technology competence and retention in web-based courses. *Quarterly Review of Distance Education*, 11(2), 63-73.
- Campbell, J. M. (2006). *Essentials of clinical supervision*. Hoboken, New Jersey: John Wiley & Sons.
- Council for Accreditation of Counseling and Related Educational Programs. (2015). *Directory of accredited programs*. Retrieved from <http://www.cacrep.org/directory/>
- Commission on Accreditation for Marriage and Family Therapy Education. (2015). *Directory of COAMFTE accredited programs*. Retrieved from http://coamfte.org/iMIS15/COAMFTE/Directory_of_Accredited_Programs/MFT_Training_Programs.aspx
- Council on Social Work Education. (2015). *Directory of accredited programs*. Retrieved from <http://www.cswe.org/17491.aspx>
- Caudle, L. A. (2013). Using a sociocultural perspective to establish teaching and social presences within a hybrid community of mentor teachers. *Adult Learning*, 24(3), 112-120. doi: 10.1177/1045159513489112
- Collie, K., Kreshka, M. A., Ferrier, S., Parsons, R., Graddy, K., Avram. S., . . . Koopman, C. (2007). Videoconferencing for delivery of breast cancer support groups to women living in rural communities: A pilot study. *Psycho-Oncology*, 16, 778-782. doi:10.1002/pon.1145
- Cook, J. E., & Doyle, C. (2002). Working alliance in online therapy as compared to face-to-face therapy: Preliminary results. *CyberPsychology & Behavior*, 5(2), 95-105.

- Council for Accreditation of Counseling and Related Educational Programs. (2016). *2016 CACREP Standards*. Retrieved from <http://www.cacrep.org/>
- Cowan, J. E. (2012). Strategies for developing a community of practice: Nine years of lessons learned in a hybrid technology education master's program. *TechTrends*, *56*(1), 12-18. doi:10.1007/s11528-011-0549-x
- Daft, R. L., & Lengle, R. H. (1984). Organizational information requirements, media richness and structural design. *Management Science*, *32*(5), 554-571. Retrieved from <http://www.jstor.org/stable/2631846>
- Danielson, C. (2007). *Enhancing professional practice: A framework for teaching* (2nd ed.). Alexandria, VA : Association for Supervision and Curriculum Development.
- DiVerniero, R. A., & Hosek, A. M. (2011). Students' perceptions and communicative management of instructors' online self-disclosure. *Communication Quarterly*, *59*(4), 428-449. doi:10.1080/01463373.2011.597275
- Dubi, M., Raggi, M., & Reynolds, J. (2012). Distance supervision: The PIDIB model. In *Ideas and Research You Can Use: VISTAS 2012* (Article 82). Retrieved from <http://www.counseling.org/library>
- Einion, G. (2010). Managing computer-supported collaboration. In H. Donelan, K. Kear, & M Ramage (Eds.), *Online communication and collaboration: A reader* (pp. 26-29). New York, NY: Routledge.
- Efstation, J. F., Patton, M. J., & Kardash, C. M. (1990). Measuring the working alliance in counselor supervision. *Journal of Counseling Psychology*, *37*(3), 322-329.
- Faraj, S., Kudaravalli, S., & Wasko, M. (2015). Leading collaboration in online communities. *MIS Quarterly*, *39*(2), 393-412.
- Fenichel, M. (2011). Online behavior, communication, and experience. In R. Kraus, G. Stricker, & C. Speyer (Eds.) *Online counseling: A handbook for mental health professionals* (2nd ed.), pp. 3-20. Burlington, MA: Elsevier.
- Fenichel, M., Suler, J., Barak, A., Zelvin, E., Johnes, G., Munro, K., . . . Walker-Schmucker, W. (2002). Myths and realities of online clinical work. *CyberPsychology & Behavior*, *5*(5). Retrieved from <http://www.fenichel.com/myths>
- Germain, V., Marchand, A., Bouchard, S., Drouin, M-S., & Guay, S. (2009). Effectiveness of cognitive behavioural therapy administered by videoconference for posttraumatic stress disorder. *Cognitive Behaviour Therapy*, *38*(1), 42-53. doi:10.1080/16506070802473494

- Gunn, C., McSparran, M., Macleod, H., & French, S. (2003). Dominant or different? Gender issues in computer supported learning. *Journal of Asynchronous Learning Networks*, 7(1), 14-30. Retrieved from http://cs.lamar.edu/faculty/osborne/COSC1172/v7n1_gunn.pdf
- Guye-Viulléme, A., Capin, T. K., Pandzic, I. S., Thalmann, N. M., & Thalmann, D. (1999). Nonverbal communication interface for collaborative virtual environments. *Virtual Reality*, 4(1), 49-59. doi:10.1007/BF01434994
- Hassija, C., & Gray, M. J. (2011). The effectiveness and feasibility of videoconferencing technology to provide evidence-based treatment to rural domestic violence and sexual assault populations. *Telemedicine and e-Health*, 17(4), 309-315. doi:10.1089/tmj.2010.0147
- Hew, K. F., & Hara, N. (2007). Empirical study of motivators and barriers of teacher online knowledge sharing. *Education Tech Research Dev*, 55, 573-595. doi:10.1007/s11423-007-9049-2
- Hiltz, S. R. (1985). *Online communities: A case study of the office of the future*. Norwood, NJ: Ablex Publishing Corp. Retrieved from <http://www.books.google.com>
- Hoffman, T., Desha, L., & Verrall, K. (2011). Evaluating an online occupational therapy community of practice and its role in supporting occupational therapy practice. *Australian Occupational Therapy Journal*, 58, 337-345. doi:10.1111/j.1440-1630.2011.00954.x
- Holloway, E. L. (1997). Structures for the analysis and teaching of supervision. In Watkins, Jr., C. E. (Ed.), *Handbook of psychotherapy supervision*, (pp. 249-276). Hoboken, NJ: John Wiley & Sons.
- Homer, B. D., Plass, J. L., & Blake, L. (2008). The effects of video on cognitive load and social presence in multimedia-learning. *Computers in Human Behavior*, 24, 786-797. doi: 10.1016/j.chb.2007.02.009
- Hong, S., & Jung, I. (2011). The distance learner competencies: A three-phased empirical approach. *Educational Technology Research and Development*, 59, 21-42. doi:10.1007/s11423-010-9164-3
- Horvath, A. O., & Luborsky, L. (1993). The role of the therapeutic alliance in psychotherapy. *Journal of Consulting and Clinical Psychology*, 61(3), 561-573.

- Hughes, S. A., Wickersham, L., Ryan-Jones, D. L., & Smith S. A. (2002). Overcoming social and psychological barriers to effective on-line collaboration. *Educational Technology & Society*, 5(1), 1-9. Retrieved from http://www.ifets.info/journals/5_1/hughes.html
- Hulse-Killacky, D., Killacky, J., & Donigien, J. (2001). *Making tasks groups work in your world*. Upper Saddle River, NJ : Merrill Prentice Hall.
- Khasanshina, E. V., Wolfe, W. L., Emerson, E. N., & Statura, M. E. (2008). Counseling center-based tele-mental health for students at a rural university. *Telemedicine and e-Health*, 14(1), 35-41. doi:10.1089/tmj.2006.0038
- Kiesler, S., Siegel, J., & McGuire, T. W. (1984). Social psychological aspects of computer-mediated communication. *American Psychologist*, 39(10), 1123-1134.
- Kobak, K. A., Williams, J. B. W., Jeglic, E., Salvucci, D., & Sharp, I. R., (2008). Face-to-face versus remote administration of the Montgomery-Asberg depression rating scale using videoconference and telephone. *Depression and Anxiety*, 25, 913-919. doi:10.1002/da.20392
- Kraus, R., Stricker, G., & Speyer, C. (2010). *Online counseling: A handbook for mental health professionals – 2nd ed.* San Diego, California: Elsevier Inc.
- Krumboltz, J. (2009). The happenstance learning theory. *Journal of Career Assessment*, 17(2), 135-154. Doi: 10.1177/1069072708328861
- Ladany, N., Ellis, M. V., & Friedlander, M. L. (1999). The supervisory working alliance, trainee self-efficacy, and satisfaction. *Journal of Counseling & Development*, 77, 447-455.
- Lambert, M. J., & Barley, D. E. (2001). Research summary on the therapeutic relationship and psychotherapy outcome. *Psychotherapy: Theory, Research, Practice, Training*, 38(4), 357-361.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge England; New York: Cambridge University Press.
- Lester, S. (1995). Beyond knowledge and competence towards a framework for professional education. *Capability*, 1(3), 44-52.
- Liebert, T., Archer, Jr., J., Munson, J., & York, G. (2006). An exploratory study of client perceptions of internet counseling and the therapeutic alliance. *Journal of Mental Health Counseling*, 28(1), 69-83.

- Loganbill, C., Hardy, E., & Delworth, U. (1982). Supervision: A conceptual model. *The Counseling Psychologist, 10*(1), 3-42.
- Mallot, K. M., Hall, K. H., Sheely-Moore, A., Krell, M. M., & Cardaciotto, L. (2014). Evidence-based teaching in higher education: Application to counselor education. *Counselor Education & Supervision, 53*, 294-305. doi:10/1002/j.1556-6978.2014.00065.x
- March, S., Spence, S. H., & Donovan, C. L. (2009). The efficacy of an internet-based cognitive-behavioral therapy intervention for child anxiety disorders. *Journal of Pediatric Psychology, 34*(5), 474-487. doi:10.1093/jpepsy/jsn099
- Mayes, R., Ku, H-Y., Akarasriworn, C., Luebeck, J., & Korkmaz, O. (2011). Themes and strategies for transformative online instruction: A review of literature and practice. *Quarterly Review of Distance Education, 12*(3), 151-166.
- McGrath, J. E., & Hollingshead, A. B. (1994). *Groups interacting with technology: Ideas, evidence, issues, and an agenda*. Thousand Oaks, CA: Sage Publications, Inc.
- Mehr, K. E., Ladany, N., & Caskie, G. I. L. (2010). Trainee nondisclosure in supervision: What are they not telling you? *Counselling and Psychotherapy Research, 10*(2), 103-113. doi:10.1080/14733141003712301
- Merriam, S. B., Caffarella, R. S., & Baumgartner, L. M. (Eds.). (2007). *Learning in adulthood: A comprehensive guide – 3rd ed.* San Francisco, California: John Wiley & Sons.
- Myers, S. (2001). Perceived instructor credibility and verbal aggressiveness in the college classroom. *Communication Research Reports, 18*(4), 354-364. doi: 10.1080/08824090109384816
- Miller, K. L., & Miller, S. M. (2008). Challenges and solutions in the delivery of clinical cybersupervision. In Zeng, R., & Ferris, S. P. (Eds.), *Understanding Online Instructional Modeling: Theories and Practices* (pp. 223-241). doi: 10.4018/978-1-59904-723-2.ch014
- Morgan, R. D., Patrick, A. R., & Magaletta, P. R. (2008). Does the use of telemental health alter the treatment experience? Inmates' perceptions of telemental health versus face-to-face treatment modalities. *Journal of Consulting and Clinical Psychology, 76*(1), 158-162. doi:10.1037/0022-006X.76.1.158
- Muilenburg, L. Y., & Berge, Z. L. (2005). Student barriers to online learning: A factor analytic study. *Distance Education, 26*(1), 29-48. doi:10.1080/01587910500081269

- Muller, D. A., Bewes, J., Sharma, M. D., & Reimann, P. (2002). Saying the wrong thing: Improving learning with multimedia by including misconceptions. *Journal of Computer Assisted Learning*, 24(2), 144-155. doi: 10.1111/j.1365-2729.2007.00248.x
- Norcross, J. C., & Halgin, R. P. (1997). Integrative approaches to psychotherapy supervision. In Watkins, C. E., Jr. (Ed.) *Handbook of psychotherapy supervision* (pp. 203-222). Hoboken, NJ: John Wiley & Sons.
- Okech, D., Barner, J., Segoshi, M., & Carney, M. (2014). MSW student experience in online vs. face-to-face teaching formats? *Social Work Education*, 33(1), 121-134. doi:10.1080/02615479.2012.738661
- Porterfield, M. & Isaac-Savage, E. P. (2013). The formation of online wisdom communities amongst ministerial students: A quantitative case study. *Journal of Adult Theological Education*, 10(20), 116-131. doi:10.1179/1740714114Z.00000000018
- Preece, J. (2000). Research speaks to practice: Interpersonal communication. In Donelan, H., Kear, K., & Ramage, M. (Eds.). *Online communication and collaboration: A reader*. (pp. 161-175). New York, NY: Routledge.
- Preschl, B., Maercker, A., & Wagner, B. (2011). The working alliance in a randomized controlled trial comparing online with face-to-face cognitive-behavioral therapy for depression. *BMC Psychiatry*, 11(189), 1-10. Retrieved from <http://www.biomedcentral.com/1471-244X/11/189>
- Prinsen, F., Volman, M. L. L., & Terwel, J. (2007a). Gender-related differences in computer-mediated communication and computer-supported collaborative learning. *Journal of Computer Assisted Learning*, 23, 393-409. doi:10.1111/j.1365-2729.2007.00224.x
- Prinsen, F., Volman, M. L. L., & Terwel, J. (2007b). The influence of learner characteristics on degree and type of participation in a CSCL environment. *British Journal of Educational Technology*, 38(6), 1037-1055. doi:10.1111/j.1467-8535.2006.00692.x
- Ramage, M. (2010). Communities of practice – real and virtual. In Donelan, H., Kear, K., & Ramage, M. (Eds.). *Online communication and collaboration: A reader*. (pp. 176-178). New York, NY: Routledge.
- Rees, C. S. & Stone, S. (2005). Therapeutic alliance in face-to-face versus videoconferenced psychotherapy. *Professional Psychology*, 36(6), 649-653. doi:10.1037/0735-7028.36.6.649

- Reger, M. A., & Gahm, G. A. (2009). A meta-analysis of the effects of internet- and computer-based cognitive-behavioral treatments for anxiety. *Journal of Clinical Psychology, 65*(1), 53-75. doi:10.1002/jclp.20536
- Robillard, G., Bouchard, S., Fournier, T., & Renaud, P. (2004). The relationship between anxiety and presence. *Cyberpsychology & Behavior, 7*(3), 305-306.
- Rousmaniere, T. (2014). Using technology to enhance clinical supervision and training. In Watkins, C. E., Jr. & Milne D. L. (Eds.), *The Wiley International Handbook of Clinical Supervision, First Edition*. (pp. 204-237). John Wiley & Sons, Ltd.
- Rousmaniere, T., Abbass, A., & Frederickson, J. (2014). New developments in technology-assisted supervision and training: A practical review. *Journal of Clinical Psychology: IN SESSION, 70*(11), 1082-1093. doi:10/1002/jclp.22129
- Saba, G. W., & Liddle, H. A. (1986). Perceptions of professional needs, practice patterns and critical issues facing family therapy trainers and supervisors. *The American Journal of Family Therapy, 14*(2), 109-122. doi:10.1080/01926188608250628
- Safran, J. D., & Muran, J. C. (2000). *Negotiating the therapeutic alliance: A relational treatment guide*. New York, NY: Guilford Press.
- Schwartz-Mette, R. A. (2009). Challenges in addressing graduate student impairment in academic professional psychology programs. *Ethics and Behavior, 19*(2), 91-102. doi: 10.1080/10508420902768973
- Short, J., Williams, E., & Christie, B. (1976). *The social psychology of telecommunications*. London: John Wiley & Sons.
- Simon, A. F. (2006). Computer-mediated communication: Task performance and satisfaction. *The Journal of Social Psychology, 146*(3), 349-379.
- Simonson, M., Smaldino, S., Albright, M., & Zvacek, S. (2006). *Teaching and learning at a distance: Foundations of online education*. Saddle River, NJ: Pearson.
- Slavit, D., LoFaro, T., & Cooper, K. (2002). Understandings of solutions to differential equations through contexts, web-based simulations, and student discussion. *School Science and Mathematics, 102*(8), 380-390.
- Stewart, A. R., Harlow, D. B., & DeBacco, K. (2011). Students' experience of synchronous learning in distributed environments. *Distance Education, 32*(3), 357-381. doi:10.1080/01587919.2011.610289

- Stoltenberg, C. D., & McNeill, B. W. (1997). Clinical supervision from a developmental perspective: Research and practice. In Watkins, Jr., C. E. (Ed.). *Handbook for psychotherapy supervision* (pp. 184-202). New York, NY: Wiley.
- Strømsø, H. I., Grøttumt, P., & Lycke, K. H. (2007). Content and processes in problem-based learning: A comparison of computer-mediated and face-to-face communication. *Journal of Computer Assisted Learning*, *23*, 271-282. doi:10.1111/j.1365-2729.2007.00221.x
- Tu, C-H., & McIsaac, M. (2002). The relationship of social presence and interaction in online classes. *American Journal of Distance Education*, *16*(3), 131-150. doi:10.1207/S15389286AJDE1603_2
- Valaitis, R. K., Akhtar-Danesh, N., Brooks, F., Binks, S., & Semogas, D. (2011). Online communities of practice as a communication resource for community mental health nurses working with homeless persons. *Journal of Advanced Nursing*, *67*(6), 1273-1284. doi:10.1111/j.1365-2648.2010.05582.x
- Wantz, R. A., Tromski, D. M., Mortsof, C. J., Yoxheimer, G., Brill, S., & Cole, A. (2003). *Incorporating distance learning into counselor education programs: A research study*. In Bloom, J. W., & Walz, G. R. (Eds.), *Cybercounseling and cyberlearning: An encore* (pp. 327-344). Retrieved from <http://files.eric.ed.gov/fulltext/ED481146.pdf>
- Watkins, C. E. (1997). The ineffective psychotherapy supervisor: Some reflections about bad behaviors, poor practices, and offensive outcomes. *The Clinical Supervisor*, *16*(1), 163-180.
- Watson, J. C. (2003). Computer-based supervision: Implementing computer technology into the delivery of counseling supervision. *Journal of Technology in Counseling*, *3*(1), 1-13. Retrieved from http://www.jtc.colstate.edu/vol3_1/Watson/Watson.htm
- Watson, M. F. (1993). Supervising the person of the therapist: Issues, challenges and dilemmas. *Contemporary Family Therapy*, *15*, 21-31. doi:10.1007/BF00903485
- Weisband, S. P. (1992). Group discussion and 1st advocacy effects in computer-mediated and face-to-face decision-making groups. *Organizational Behavior and Human Decision Processes*, *53*(3), 352-380.
- Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. New York, NY: Cambridge University Press.

- Wolfe, J. (2000). Gender, ethnicity, and classroom discourse. *Written Communication*, 17(4), 491-519. Retrieved from <http://web.b.ebscohost.com.ezproxy.proxy.library.oregonstate.edu>
- Wood, A. F., & Smith, M. J. (2005). *Online communication: Linking technology, identity, & culture – 2nd ed.* [Kindle Reader version]. Retrieved from <https://www.amazon.com/Online-Communication-Technology-Identity-Routledge-ebook>
- Yukselturk, E., & Bulut, S. (2009). Gender differences in self-regulated online learning environment. *Journal of Educational Technology & Society*, 12(3), 12-22. Retrieved from http://www.ifets.info/journals/12_3/3.pdf
- Yukl, G. A. (2006). *Leadership in organizations*. Englewood Cliffs, NJ: Prentice-Hall.

**CHAPTER 3: The Relationship Between Level of Telepresence and Technology
Hindrances During Full-Spectrum Synchronous Online Supervision**

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Abstract

Online counselor education is rapidly expanding. Research indicates that cybersupervision is an effective way to provide clinical supervision for distance learners. Full-spectrum synchronous online supervision is one way that cybersupervisors are providing clinical supervision through the Internet. Despite the growth of this practice, the expanding body of cybersupervision research suggests several barriers that may impede this practice. Specifically, social presence may be impaired online, even with live videoconferencing as an option. Social presence is one of the most important aspects of online education and warrants further investigation. Other barriers include session management by the supervisor, impression management by the supervisee, and technology hindrances. This non-experimental survey study assessed the level of social presence as it relates to technology disturbances and the subtypes of hindering phenomena. The results of this study indicate that both interpersonal and pure technology barriers are significantly associated with levels of experienced realness during cybersupervision. Overall hindering phenomena are significantly associated with experienced realness. Implications and recommendations for cybersupervision practice and future research are discussed.

Keywords: barriers, counselor education, cybersupervision, hindering phenomena, involvement, realness, social presence, spatial presence, telepresence

With the increasing numbers of online and hybrid (i.e., combination of Internet-based and traditional, on-campus coursework) counselor education programs, there is a need to examine both the practical and professional needs of both counselor educators and students enrolled in these non-traditional training programs. As technology develops to meet the needs of online counseling students, counselor educators are using more evolved Internet-based platforms to conduct clinical supervision. Full-spectrum synchronous online supervision (SoS) is one approach that utilizes a combination of text-chat, voice over Internet provider (VoIP), videoconferencing, virtual white boards, and video-recording review of counseling sessions (Miller & Miller, 2008; Rousmaniere, 2014). By utilizing full-spectrum SoS, supervisors attempt to mitigate the reported barriers to effective online supervision such as limited social presence, session management, supervisee impression management, and technology disturbances.

One aspect of online supervision (i.e., cybersupervision) that has been identified in the literature as a potential barrier to effective supervision is the level of social presence. Short, Williams, & Christie (1976, p. 65) defined social presence as the “degree of the salience of the other person in the interaction.” Mayne and Wu (2011, p. 111) assert that social presence is the “degree to which participants in computer-mediated communication environments feel affectively connected to one another.” Other related terms for social presence in published research include telepresence, co-presence, spatial presence, psychological involvement, and behavioral engagement (Biocca, 1997; Biocca, Harms, & Burgoon, 2003; Lombard & Ditton, 1997; Palmer, 1995). Regardless of terminology, research indicates that an increased level of online social presence is related to the improvement of working alliances and learning outcomes (Miller & Miller, 2008;

Muilenburg & Berge, 2005; Plante & Asselin, 2014; Stewart, Harlow, & DeBacco, 2011).

Live videoconferencing is a core component of full-spectrum SoS and is one way that cybersupervisors can create optimal conditions for increased social presence. Communications research indicates that facial expressions and non-verbal messages account for 55% of communication (Heller, 2010). Eye-contact is a crucial aspect of non-verbal communication and helps to not only regulate turn-taking, it has also been shown to cause physiological reactions such as increased heart rate and increased brain activity which may be indicative of being socially present with someone (Mayne & Wu, 2011; Heller, 2010). On the other hand, limitations in video image quality may dilute subtle facial expressions – including the perception of eye-contact – while cropped screen images hide body position and posture, potentially inhibiting social presence (Deane, Gonsalvez, Blackman, Saffioti, & Andresen, 2015; Rousmaniere, 2014; Rousmaniere, Abbass, & Frederickson, 2014). Despite these potential drawbacks, counselor educators can optimize conditions for increased social presence by utilizing the videoconference function as a tool when conducting full-spectrum SoS.

Not only do counselor educators using online applications need to foster social presence, they also need to plan for and manage the pace of online supervision. Session management is crucial to create optimal learning conditions. A careful balance is necessary between the goals and tasks of cybersupervision that include warm-up, action, and closure phases (Einon, 2010; Hulse-Killacky, Killacky, & Donigian, 2001; Miller & Miller, 2008). In addition, there is evidence that to create optimal conditions for synchronous online learning, high levels of cognitive engagement must be met which

includes meaningful interactions between the student and the teacher, other students, and the curriculum (Mayne & Wu, 2011; Plante & Asselin, 2014; Stewart, Harlow, & DeBacco, 2011). Strømsø, Grøttum, and Lycke (2007) compared the balance of content and process during SoS to traditional, face-to-face (FtF) supervision. Their results indicate five key findings: (1) participants spent more time discussing technology issues than the topic; (2) participants produced fewer and shorter comments, less elaborated questions, and reflections; (3) participants made more small talk and had more technical questions; (4) online facilitators paid more attention to technical matters and organization than to the discussion of the case; (5) participants produced more ideas and recommendations but did not follow-up on those recommendations or discuss them as deeply. Online supervision appears to restrict the depth of discussion and potential for learning compared to FtF supervision. As a result, there is an explicit need for counselor educators to be intentional with the facilitation of SoS in order to enhance learning and foster deeper discussions. Online supervisors can create both conditions for learning and optimize client care by managing both the content that is being discussed and facilitating the processes of interaction to create high levels of cognitive engagement.

Because cybersupervision has a tendency to restrict the depth of discussion, there is the potential for supervisees to withhold important information from cybersupervisors. As a form of impression management, withholding information from a supervisor is a type of barrier that impedes FtF supervision and may be a function of lower social presence during SoS. Research of traditional FtF supervision shows a strong tendency for supervisees to purposefully withhold important information from their supervisors, including clinical mistakes, general client observations, negative reactions to clients,

countertransference, client-counselor attraction issues, supervisor-supervisee attraction issues, and personal issues not directly related to supervision (Ladany, Hill, Corbett, & Nutt, 1996; Mehr, Ladany, & Caskie, 2010). Deference to the supervisor, increased supervisee anxiety, fear of political suicide, and shame were factors related to nondisclosures (Ladany, Hill, Corbett, & Nutt, 1996; Mehr, Ladany, & Caskie, 2010; Yourman & Farber, 1996; Yourman, 2003). There is a need to examine how impression management and level of social presence interact during SoS.

On the other hand, trainees during FtF supervision have been shown to disclose more when the level of anxiety decreases (Mehr, Ladany, & Caskie, 2010). The research on SoS repeatedly illustrates that supervisees experience anxiety and challenges with full-spectrum SoS. However, there is no published research that examines cybersupervisor skills with regard to technology management during SoS. It stands to reason that managing technical problems will help with anxiety management.

Managing technology problems may be another relevant factor associated with the level of social presence during cybersupervision. Because technology adds another layer of complexity to an already complicated process, cybersupervisors need to manage technology problems as another strategy for anxiety reduction and session management. Technology barriers have been widely cited in the research as creating potential problems with the practice of cybersupervision due to software and hardware problems (i.e., freezing, loss of sound, echoes, software/website crashes), hardware and software costs, and lack of expertise with and training support for the use of the modality (Deane, Gonsalvez, Blackman, Saffioti, & Andresen, 2015; Miller, Sanders, & Miller, 2009; Mulenburg & Berge, 2005; Mungania, 2003; Nelson, Nichter, & Henriksen, 2010; Papa,

2001; Phillips, Sheffield, Moore, & Robinson, 2016; Richards & Timulak, 2013; Terras & Ramsay, 2015; Watson, 2003). In order to improve clinical supervision delivered via the Internet, counselor educators need to understand the factors that impede social presence during SoS within the constructs of technology-related and use-of-technology barriers. In addition to software and hardware malfunctions, barriers are associated with interactions between people and the technology they are utilizing. There are several types of interactional barriers associated with online learning and technology, including factors such as self-efficacy, computer competence, technical skills, technology training, navigating platforms, online social skills, and the usability of the platform (Muilenburg & Berge, 2005; Mungania, 2003; Phillips, Sheffield, Moore, & Robinson, 2016; Richards & Timulak, 2013). Two distinct types of barriers emerge from the research and can be classified as technology-only and use-of-technology barriers. These types of hindrances are further supported by the research that describes technology barriers (i.e., hindrance stress) and psychological characteristics (i.e., challenge stress) of online learners (Phillips, Sheffield, Moore, & Robinson, 2016; Terras & Ramsay, 2015). Research is lacking on how these types of technology barriers impact the level of social presence among supervisees experiencing full-spectrum SoS.

The purpose of this article is to address concerns raised in the literature about the use of full-spectrum SoS in counselor education. Evidence suggests that full-spectrum SoS has the potential to create barriers in the supervisory relationship in terms of level of social presence, session management, supervisee impression management, and technology disturbances. Social presence appears to be a common factor in how well a session is managed by the supervisors and to what extent a supervisee is withholding

information due to anxiety or strain on the working alliance. It makes intuitive sense that those aspects of SoS would influence social presence and is also supported in the literature. Current research has yet to elucidate the technology hindrances and their impact on the level of social presence during full-spectrum SoS. This study was designed to identify the relationship between self-reported levels of social presence and hindering phenomena associated with the use of Adobe Connect[®] 7.5. This tool was an Internet application and the most technologically advanced platforms available for full-spectrum SoS at the time of this study. In order to improve clinical supervision delivered via the Internet, counselor educators need to understand the factors that impede social presence during SoS within the constructs of technology-related and use-of-technology barriers. This study also aimed to identify needs for continuing research on full-spectrum SoS among counselor educators. Therefore, the following research questions were posed:

1. Is there a relationship between type of technology hindrance and level of telepresence?
2. Is there a relationship between type of technology hindrance and level of spatial presence?
3. Is there a relationship between type of technology hindrance and level of involvement?
4. Is there a relationship between type of technology hindrance and level of experienced realness?

Hypotheses

H₁: There is a relationship between type of technology hindrance and level of telepresence.

H₀¹: There is *no relationship* between type of technology hindrance and level of telepresence.

H₂: There is a relationship between type of technology hindrance and level of spatial presence.

H₀²: There is *no relationship* between type of technology hindrance and level of spatial presence.

H₃: There is a relationship between type of technology hindrance and level of involvement.

H₀³: There is *no relationship* between type of technology hindrance and level of involvement.

H₄: There is a relationship between type of technology hindrance and level of experienced realness.

H₀⁴: There is *no relationship* between type of technology hindrance and level of experienced realness.

Method

Research Design

This non-experimental survey research was designed to measure the level of telepresence and hindering phenomena experienced by supervisees experiencing full-spectrum SoS in order to improve practices within the field of counselor education.

Participants

Participants were selected out of convenience at a university in the western United States from a Council for the Accreditation of Counseling and Related Educational Programs (CACREP)-accredited master's-level counseling program during Spring Quarter 2011. Participants were enrolled in either a practicum or internship experience and received either weekly traditional FtF supervision, weekly SoS via Adobe Connect[®] 7.5, or a combination of both while enrolled in these courses. This research project did not involve any change to the students' extant supervision experience.

Twenty-nine of 31 (94% response rate) possible participants completed the first section of the questionnaire which measured the level of satisfaction with their clinical supervision experience (i.e., FtF, SoS, or combination). The results are published elsewhere (Bender, 2013). A sub-set ($N = 12$) of the 29 participants who experienced SoS were prompted to continue the questionnaire which measured levels of telepresence and hindering phenomena.

Participants completed a demographic questionnaire that included their gender, age, race/ethnicity, graduate level (Master's or Doctoral), clinical course, supervisor status (Faculty, Doctoral student, or Other), supervision structure and supervision delivery modality. A summary of the descriptive statistics of the sample populations is presented in Table 2.

Table 2

Descriptive Statistics of Participants

Category	Frequency
Female	11
Male	1
White/Non-Hispanic	11
Other/Unknown	1
Aged 20-29	9
Aged 30-39	3
Practicum	8
Internship	4
Individual	11
Triadic	1
Traditional*	3
Adobe Connect [®]	9

Note. All participants experienced Adobe Connect[®].

*Participants indicate that they also received face-to-face.

Materials

Participants were given the option to participate, review the questionnaire, and decline participation with the understanding that their participation or refusal would have neither a negative nor beneficial impact on course outcomes. The measure was a one-time administration of a 55-item paper-and-pencil survey available for review in Appendix A. This seven-point, partially anchored Likert-type questionnaire assessed perceptions of clinical supervision (Likert, 1931). The questionnaire took no more than 15 minutes to complete and was designed to measure three domains frequently encountered in the literature: usefulness (i.e., how helpful is the supervision), telepresence (i.e., the overall level of engagement in online supervision), and barriers (i.e., problems that impede supervision). The usefulness dimension was assessed by the

Group Supervision Impact Scale (Getzelman, 2003). Presence was assessed by the *Igroup Presence Questionnaire* (Schubert, Friedmann, & Regenbrecht, 2001) modified for use with full-spectrum synchronous cybersupervision. Barriers were assessed by the *Supervision Hindering Phenomena Survey* (Dykeman, 2011; Enyedy et al., 2003) based on a qualitative analysis of hindering phenomena during live group supervision and created for use with full-spectrum synchronous cybersupervision.

Group Supervision Impact Scale. The *Group Supervision Impact Scale* (GSIS) is a scale developed and validated by Getzelman (2003) for the purposes of measuring both the positive and negative experiences of clinicians (i.e., counseling psychologist trainees) participating in clinical group supervision. The author identified three fundamental components of group supervision: 1) the impact of the group supervisor; 2) the impact of the group environment on the process; and 3) the impact of the peers within the group on the process of supervision, including perceptions and opinions of the experience.

The results of this GSIS data are reported elsewhere (Bender, 2013).

Igroup Presence Questionnaire. The *Igroup Presence Questionnaire* (IPQ) is a 14-item Likert-type scale developed by Schubert, Friedmann, and Regenbrecht (2001) that was designed to measure “presence” in virtual reality and was adapted for this research to measure the level of social presence experienced during Adobe Connect[®] 7.5 full-spectrum SoS. The IPQ was constructed through the combination of previously published questionnaires and created through multi-level factor analysis (Schuemie, van der Straaten, Krijn, & van der Mast, 2004). The literature does not have a consistent operational definition of “presence.” Therefore, the definition was used by the authors

who tested the model and questionnaire (Constantin & Grigorovici, 2003; Tona, Spagnolli, Bracken, & Rubenking, 2008). “Presence is thought of as a composite of spatial presence, involvement, and experienced realism, but also measured directly by an indicator, ‘sense of being there.’” (Constantin & Grigorovici, 2003, p. 4).

The IPQ has three sub-scales that measure the components of presence that were operationally defined by Constantin et al. (2008). In addition to providing an overall measure of presence during SoS, three sub-scales measured spatial presence ([SP]; i.e., a general sense of being physically present in SoS), involvement ([INV]; i.e., a measure of the attention paid to SoS and the involvement experienced), and experienced realness ([REAL]; i.e., a measure of the subjective realism of SoS; Schubert, Friedmann, & Regenbrecht, 2001). This research will utilize an overall telepresence score as well as the sub-scores to identify how each composite of presence is related to hindering phenomena. The two factors of SP and INV may be combined “together load on a first second-order factor, which thus might be a general presence factor” (Schuemie, van der Straaten, Krijn, & van der Mast, 2004, p. 191).

Validation evidence. The IPQ has modest reliability information in the literature. The authors conducted two studies to identify factors associated with presence with samples of approximately 500 participants (<http://www.Igroup.org>, 2016; Schuemie, van der Straaten, Krijn, & van der Mast, 2004). The Cronbach’s alpha coefficients for the three sub-scales and the overall scores between the two studies indicate high levels of reliability: SP .77-.80; INV .76; REAL .68-.70; and IQP total .85-.87 ($N = 264$, $N = 296$, respectively).

Supervision Hindering Phenomena Survey. *The Supervision Hindering Phenomena Survey* (SHPS) is a 22-item Likert-type scale designed to measure to what extent supervisees felt “hindered” in SoS from an anchor of *1-Not at all* to *7-Extensive* (Dykeman, 2011). By “hindered”, the author meant “the extent to which your functioning was somehow negatively affected by an event or process” (Dykeman, 2011, p. 6, as cited in Enyedy et al., 2003, p. 313). The SHPS was developed from “a systematic, empirical means to classify types of phenomena that supervisees perceive to hinder their learning during group supervision” (Enyedy et al., p. 315). Cluster analysis of the 61 generated phenomena suggested that a five-cluster solution was acceptable that included the following categories: 1) between-member problems; 2) problems with supervisor; 3) supervisee anxiety and other perceived negative affects; 4) logistical constraints; and 5) poor group time management (Enyedy et al., 2003). The current scale was created in the spirit of Enyedy et al.’s (2003) qualitative research and adapted to measure two types of hindering phenomena experienced by supervisees utilizing the Adobe Connect[®] 7.5 platform.

Validation evidence. There is no validation evidence on the SHPS as it was created for this research and was based on the clusters and sub-clusters found in Enyedy et al.’s (2003) research. Therefore, reliability and validity are nonexistent at this time as this is the first time the scale has been piloted. Reporting on the validation evidence of the SHPS is above and beyond the scope of this research project.

Procedure

Raw scores from the 55-point Likert-type instruments were manually entered into a master spreadsheet and reverse entered by a second coder to ensure authenticity and

accuracy of participant responses. Incongruent scores were verified by reviewing the raw data and corrected. Likert-type questions were grouped into the following three categories:

1. Questions 1-13: *Group Supervision Impact Scale* (Getzelman, 2003)
2. Questions 14-27: *Igroup Presence Questionnaire* (Schubert, Friedmann, & Regenbrecht, 2001)
3. Questions 28-55: *Supervision Hindering Phenomena Survey* (Dykeman, 2011; Enyedy et al., 2003)

Telepresence and hindering phenomena scores for each of the 12 participants who completed the entire questionnaire were summed. When applicable, Likert-type scores were reversed to maintain the conceptual orientation of items with overall Likert scale categories (SAS[®]/STAT User's Guide, 1990). For example, on the Telepresence questionnaire, item 15 asked "*How real did the Adobe Connect online environment seem to you?*" The options ranged from *1-completely real* to *7-not real at all*. Similarly, item 18 asked "*How real did the Adobe Connect online environment seem to you?*" Those responses ranged from *1-about as real as an imagined world* to *7-indistinguishable from the real world*. Therefore, item responses for questions 15, 24, and 26 were reversed to maintain a consistent response orientation for the range of *1-realistic* to *7-unrealistic* environments (Barnette, 2000; Chan, 1991).

Eight missing items of 502 total responses (i.e., two percent) were given a replacement score based on recommendations by de Gil and Kromrey (2013) who assert that missing data on Likert-type scales is a challenge due to the nature of attitudes and opinions being measured. In order to compensate for the missing values, the Person

Mean Substitution (PMS) method was used to replace missing item scores. According to de Gil and Kromrey (2013), this method represents a suitable approximation of a participant's responses to individual items that compose an attitudinal scale. Therefore, it is a reasonable assumption to use a mean score of the respondent's total scores to replace her or his missing item.

Telepresence Likert items were divided into three Likert scales: "Involvement," "Spatial Presence," and "Realness." Similarly, Hindering Phenomena were divided into two Likert scales: "Pure Technology Barriers" and "Interpersonal Barriers."

Likert-type data pose a unique analytical situation, many standard statistical tests which rely on interval data and use such techniques as means and t-tests are not applicable due to the non-parametric nature of ordinal data (Clason & Dromody, n.d.; High, 2013; Sullivan & Artino, Jr., 2013). Likert-scale data are calculated by creating composite scores (i.e., sums) from four or more individual Likert-type items (Boone, Jr., & Boone, 2012). Likert-scale data are often analyzed as interval scales and average responses to statements are tabulated. Accordingly, ANOVA, t-test and specific types of regression analysis are now possible and appropriate statistical measures to analyze these survey data. (Boone, Jr., & Boone, 2012; Norman, 2010; Schmee & Oppenlander, 2010; Sullivan & Artino, Jr., 2013).

Some statisticians argue that Likert type scales may be considered as either interval or ordinal, but these discussions are beyond the scope of this research and will not be addressed. Rather, the assumption that these responses are ordinal will be maintained as a way to measure respondents' levels of agreement with statements (*not at all true* to *very true*), the frequency of participants' experiences (*not very often* to *very*

often), and preferences about an experience (*not at all* to *extremely likely*). While ordinal scales are coded as integers, their actual values are arbitrary and we cannot presume a meaningful quantitative difference between a score of 2 and 3 between participants (High, 2013; Sullivan & Artino, Jr., 2013). As such, non-parametric statistics were utilized because they have several advantages for studies with small sample sizes because these approaches: (a) may be used with all types of scales; (b) make fewer assumptions; (c) are more robust due to fewer assumptions; and (d) may be as exact as parametric procedures (Varghese & Varghese, *n.d.*).

Results

Data Analysis

Using the SAS[®] University Edition software package, a chi-square test of association, Mantel-Haenszel chi-square statistic, and Fisher's Exact test were performed to determine the relationship between level of telepresence and hindering phenomena. These data meet the following assumptions used in chi-square analyses: (1) the two variables are either ordinal or nominal; and (2) the two variables consist of two or more categorical, independent groups (i.e., low/high telepresence, low/high hindering phenomena). When an observed frequency was less than five for a cell, a two-sided $Pr < = P$ Fisher's Exact test exact test was used (Brown, 2013).

Table 3 shows the Mantel-Haenszel chi-square (MHC) probabilities for 2 x 2 cross tabulations of types of hindering phenomena and levels of telepresence. Due to the small sample size ($N = 12$) all analyses had less than five observations in at least one cell. Therefore, Fisher's Exact test was used as it is a more conservative approach. However, given the complexity of calculating these statistics by hand, a heuristic artifact exists that

suggests that cells with less than five observations are not suitable for chi-square or MHC. Thomas (2000) and McDonald (2014) both argue that with computers and modern software there is no need to avoid the use of these tests when there are fewer than five observations for any given cell. Given that small samples may not necessarily distribute at least five responses in each cell (a non-parametric assumption that is already inherent in statistical research) one may still assume relevant clinical usefulness from these results.

Convergently, these assumptions suggest that if the probabilities between chi-square and MHC are closely related, either may be reported, even if the assumption of five responses per cell is not maintained (Thomas, 2000; McDonald, 2014). For numerical clarity between approaches, a comparison is presented in Table 4.

Table 3

Mantel-Haenzel chi-square probabilities for all Likert scale items. Missing items indicate insufficient responses to calculate chi-square values for those comparisons. For all other values: $p < 0.05$.

Measure	Hindering Phenomena			Telepresence				95% CI
	Total Hindering	Pure Technology (PT)	Interpersonal (IP)	Total Telepresence	REAL	INV	SP	
Hind x PT	0.015**	0.015**						[1.14, 42.97]*
Hind x IP	0.015**	0.015**						[1.14, 42.97]*
Hind x Tele	0.417**			0.417**				[0.17, 0.79]*
Hind x REAL	0.046**				0.046**			[0.07, 0.75]
Hind x INV	1.000**					1.000*		[0.11, 11.60]
Hind x SP								
PT x Tele		1.000**		1.000**				1.000
PT x REAL		0.181**			0.181**			[0.22, 1.11]
PT x INV		1.000**				1.000**		[0.19, 20.61]
PT x SP								
PT x IP		0.080**	0.080**					[1.20, 520.73]
IP x Tele			1.000**	1.000**				1.000
IP x REAL			0.181**		0.181**			[0.22, 1.11]
IP x INV			1.000**			1.000**		[0.05, 5.15]
IP x SP								
Tele x REAL				0.250**	0.250**			[0.05, 0.63]*
Tele x INV				0.417**		0.417**		[0.17, 0.79]*
Tele x SP								
REAL x INV					0.523**	0.523**		[0.25, 63.95]
SP x REAL								
SP x INV								

*One cell had zero value. **Fisher's Exact Test due to <5 observations in each cell.

Table 4

Comparisons of chi-square, Mantel-Haenszel chi-square, and Fisher's Exact test.

Measure	χ^2	MHC	Fisher's	CI
PT x Tele	0.296	0.317	1.000	[0.58, 1.19]
PT x SP	NA	NA	NA	
PT x INV	0.558	0.575	1.000	[0.19, 20.61]
PT x REAL	0.046*	0.056*	0.182	[0.22, 1.11]
IP x Tele	0.296	0.317	1.000	[0.58, 1.19]
IP x SP	NA	NA	NA	
IP x INV	0.558	0.575	1.000	[0.05, 5.15]
IP x REAL	0.046*	0.056*	0.182	[0.22, 1.11]

Note. NA = no association. CI = confidence interval, 95%. $p < .05$. *When the probabilities between χ^2 and MHC are closely related, either one may be used (Thomas, 2000; McDonald, 2014).

Hypotheses Testing

H₁: There is a relationship between type of technology hindrance and level of telepresence. Results indicate that there was not a significant association between type of technology hindrance and level of telepresence. The null hypothesis was accepted.

H₂: There is a relationship between type of technology hindrance and level of spatial presence. Results indicate that there was not a significant association between type of technology hindrance and level of spatial presence. The null hypothesis was accepted.

H₃: There is a relationship between type of technology hindrance and level of involvement. Results indicate that there was not a significant association between type of technology hindrance and level of involvement. The null hypothesis was accepted.

H₄: There is a relationship between type of technology hindrance and level of experienced realness. Results indicate that there was a significant association between type of technology hindrance and level of experienced realness. The null hypothesis was rejected.

Discussion

Comparisons between pure technology hindrances and experienced realness and interpersonal hindrances and experienced realness each revealed a $\chi^2 (1, N = 12) = 0.046, p < .05, \phi = -.577$; Mantel-Haenszel chi-square $(1, N = 12) = 0.056, p < .05, \phi = -.577$; and Fisher's Exact test with a two-sided $Pr \leq P = .182$ with a 95% odds ratio and relative risks confidence interval of [0.22, 1.11], respectively.

1. Participants who reported *low levels of interpersonal hindrances* also reported high levels of experienced realness during SoS.
2. Participants who reported *high levels of interpersonal hindrances* also reported low levels of experienced realness during SoS.
3. Participants who reported *low levels of pure technology hindrances* also reported high levels of experienced realness during SoS.
4. Participants who reported *high levels of pure technology hindrances* also reported low levels of experienced realness during SoS.

Since the subscales of hindering phenomena (i.e., pure technology or interpersonal) revealed the same association with realness, it is not possible to differentiate potential differences. What may be inferred from this research is that both interpersonal and pure technology barriers appear to be equally important to the perception of realness during cybersupervision.

While the more conservative statistics (i.e., MHC, or Fisher's Exact test statistic) do not reveal significant results between both pure technology and interpersonal barriers and realness, Thomas (2000) and McDonald (2014) suggest that closely related probabilities give researchers the option to choose. For example, examining a Mantel-Haenszel chi-square ($1, N = 12$) = 0.056, $p < .05$, in Table 4 a *nearly significant* result suggests that there is a chance of making a Type I error by incorrectly rejecting the null hypothesis for H_4 by selecting the chi-square value. These nearly significant results are supported by the association between *overall* hindrances and experienced realness (see Ancillary Analyses). However, if the decision to rely on expected frequencies for chi-square and Mantel-Haenszel chi-square were maintained, an increased chance of making a Type II error is possible by incorrectly accepting the null hypothesis when a real-world association existed and was supported by ancillary analysis.

The lack of any association between types of hindering phenomena and the subscale of spatial presence is notable. Specifically, the original instrument was designed to measure virtual reality (i.e., 3D imagery) and the sense of being surrounded by the online world which clearly does not translate to SoS. Virtual reality headsets are a potential tool that could increase both spatial presence and a sense of realness if utilized with SoS. However, it is unclear if such technology upgrades would in any way benefit supervision. Making broader inferences about satisfaction, spatial presence, and outcome measures of SoS is beyond the scope of this project.

Involvement as a measure of telepresence was neither significantly associated with pure technology barriers nor interpersonal barriers in this study. Intuitively, one might conclude that the level of involvement (i.e., engagement) would be impeded by

technology problems or the quality of the working alliance during SoS. However, within the limitations of the current research construct, this was not possible to discern. Larger sample sizes and more information on demographics in future studies may lead to approaches that might tease out an association between involvement and hindering phenomena that is thus far not possible.

Ancillary Analyses

All combinations of telepresence and hindering phenomena were examined to complete the data matrix. Although exploratory, a significant association was revealed between the overall level of hindering phenomena and the telepresence subscale of experienced realness, $\chi^2(1, N = 12) = 0.018, p < .05, \phi = -.683$; MHC (1, $N = 12$) = 0.024, $p < .05, \phi = -.683$; and Fisher's Exact test (1, $N = 12$) = 0.046, $p < .05$, with a 95% odds ratio and relative risks confidence interval of [0.07, 0.75]. Overall, participants who reported low levels of overall hindrances also reported high levels of experienced realness. Conversely, participants who reported high levels of overall hindrances also reported low levels of experienced realness. Even with the most robust and conservative approaches for this size sample, a significant association was revealed by three widely accepted statistical approaches. As such, realness appears to be a meaningful component of SoS for participants in this study. Participants who were less troubled with hindering phenomena viewed the experience as more realistic than their counterparts who experienced more hindering phenomena.

Schuemie, van der Straaten, Krijn, and van der Mast (2004) note that the subscales of Involvement and Spatial Presence may be combined to form a measure of General Presence. As such, a MHC was performed to analyze the relationship between

the general presence factor and interpersonal barriers. The relationship between these measures was not significant, $MHC(1, N = 12) = 0.138, p < .05$. The relationship between the general presence factor and pure technology barriers was also not significant, $MHC(1, N = 12) = 1.000, p < .05$. For this study, general presence was not related to hindering phenomena experienced during SoS.

Post Hoc Power Analysis

Post hoc power analysis for correlation among variables was performed using G*Power 3.1[®] (Faul, Erdfelder, Buchner, & Lang, 2009; Gillett, 1994; McCrum-Gardner, 2010). An estimated large effect size of 0.5 ($1, N = 12$) $\beta = 0.41, p < .05$ revealed that power ($1 - \beta$) was relatively low for the present study (Cohen, Manion, & Morrison, 2000). In order to have a large effect size of 0.5 with $\beta = 0.95, p = .05$ one would need a sample size of 50 participants. However, research in the field of statistics is split on the utility of post hoc power analysis. Some statisticians indicate that post hoc power analysis is not a useful strategy for Likert-type survey data as they are subjective reports of experiences on nominal and ordinal scales (Colegrave & Ruxton, 2002; Goodman & Berlin, 1994; Hoenig & Heisey, 2001). On the other hand, a more appropriate method to establish the significance of research findings specific to Likert-type survey items includes examining the width and magnitude of the confidence intervals as presented in Tables 2 and 3 (Colegrave & Ruxton, 2002; Goodman & Berlin, 1994).

Survey Research Strengths

Surveys are a “systematic method for gathering information from (a sample of) entities for the purposes of constructing quantitative descriptors of the attributes of the larger population of which the entities are members” (Groves et al., 2009, p. 3). Survey

data is a cost-effective and time-efficient means of gathering information that can both descriptively and analytically describe people or events. Used almost universally by countries to make estimates, gather opinions, and rate people's satisfaction, surveys are also frequently used in the social sciences (Groves et al., 2009).

The use of survey data in research allows counselor educators to make more general inferences about a larger population (i.e., all counselors experiencing SoS) based on individual respondents answers to questions (i.e., counselors at the research institution experiencing SoS). Groves et al. (2009) describes "inferential steps" that allow researchers to describe unobserved experiences based on observed or reported experiences. The steps involved include: (1) respondent answers to questions; (2) inference; (3) characteristics of a respondent; (4) statistical computing; (5) characteristics of a sample; (6) inference; and (7) characteristics of a population.

Making generalizable statements comparing telepresence and hindering phenomena during SoS would be impossible from this study due to lack of adequate statistical power, sample size, limitations of Likert scales as self-report measures, and lack of generalizability due to a sample of convenience. However, the results from this exploratory study add to the scant body of research on SoS, specifically how experienced realness was related to hindering phenomena for this sample population. If SoS is a viable way to supplant traditional face-to-face supervision for online counseling students, the experience needs to be as realistic as possible. Future research is warranted that measures experienced realness and hindering phenomena to make broader inferences in order to improve SoS.

Survey Research Limitations

While survey research is convenient, cost-effective, and time-efficient, there are drawbacks when considering a sample of convenience. Since this study surveyed two discrete samples of convenience, the ability to make broader inferences of the larger population is limited by a lack of randomized sampling and selection (Groves et al. 2009). In addition, in order to make generalizable statements about a population like counselors experiencing SoS, two conditions are presumed: (1) the answers provided must accurately reflect the experiences and opinions of the respondents; and (2) the survey sample group must have similar characteristics to the representative population (Groves et al., 2009). There are threats to these conditions that could impact the internal validity of the survey, such as respondent impression management, over or under-rating supervision experiences, primacy effects, and social pressure to participate in the study and respond to items in a certain way due to the presence of the primary researchers during administration (Barnett, Jones, Bennett, Iverson, & Bonnie, 2012; Chan, 1991).

Error is also a potential drawback in survey research. Error is known as the deviation of what is desired in the survey process and what is obtained (Groves et al., 2009). Several types of error plague survey research, such as measurement errors, errors of non-observation, and non-response errors (i.e., unanswered items). Without randomized sampling and selection and several types of error to account for in survey research, there are significant limitations to generalizable statements due to the threats to internal validity. Despite these drawbacks, survey research is valuable as a measure of real world experiences, opinions, and perceptions. Qualitative, experimental, and quasi-

experimental research can be developed from survey this research to grow this scant body of literature on SoS.

Implications for the Practice of Cybersupervision

The results of this study support previous research which suggests that hindering phenomena impact the level of social presence during cybersupervision. For this sample population, both technology problems and interpersonal problems equally influenced the level of experienced realness reported by supervisees during SoS.

From this study, there are several implications for supervisors conducting SoS. First, minimizing technology problems appears to be an important aspect of making the SoS seem realistic to supervisees. It makes sense that experiencing technology disturbances would distract supervisees and remind them that they are not in a live, face-to-face supervision session with someone, thereby diminishing their experiences of realness. As such, adequate training on both the use and troubleshooting of software packages would be a valuable use of time outside of the actual cybersupervision sessions. Both cybersupervisors and supervisees need to be familiar with ways to problem-solve issues as they arise. Additionally, cybersupervisors can do more than merely respond to technology disturbances. These disturbances could be prevented if both cybersupervisors and supervisees regularly checked for and installed software and operating system updates and monitored and restarted internet and wireless connections prior to SoS. The body of literature on cybersupervision has demonstrated that technology disturbances are a problem during cybersupervision. Therefore, preventing – as opposed to troubleshooting – technology problems may be one of the best strategies to increase realness during SoS.

Future studies could also assess the brand, operating system, hardware specifications (i.e., processor, flash vs. hard-drive, RAM), Internet connectivity (i.e., Ethernet vs. Wifi), and bandwidth speeds. Comparing the experiences of supervisees during SoS with the technology they utilize could inform recommendations for equipment if clear trends are revealed. Further, a recommendation for SoS would be to require specific hardware requirements such as the operating system (i.e., Apple[®] vs. Windows[®]), required RAM and processor speed, and Internet connectivity bandwidth requirements (i.e., >60 mbps) as a part of course materials. If all supervisees were using the same hardware, cybersupervisors could be more adept at troubleshooting problems if they are both familiar with and trained to use a specific product to conduct SoS.

Another implication for the practice of SoS is that cybersupervisors need to be skilled at managing the working alliance and pace of the supervision session. Interpersonal barriers between the cybersupervisor and supervisee impact the level of realness. Diminished realness may indicate that supervisees are not engaged in the process which inadvertently impacts the purpose of supervision which is skill development and client care. The onus of responsibility to establish and maintain rapport lies with all supervisors, especially when conducting SoS. An implication for the practice of SoS would be that cybersupervisors need to be skilled at managing the working alliance, noticing ruptures, and repairing problems with rapport as a way to increase realness. One way that cybersupervisors can create optimal conditions for SoS is to utilize a research-informed framework of competencies that was developed by this author and presented in Chapter 2.

Implications for Future Research

Several implications exist for future research on SoS. Due to the small sample size, this research should be replicated to see if the relationship between types of hindering phenomena and level of realness are maintained with more current software platforms (i.e., Adobe Connect[®] 8.0, Zoom[®]) and a larger sample of randomly selected participants. Replicating this research would provide an important step in survey research which allows researchers to make broader inferences about the practice of SoS. With the rapid expansion of online counselor education programs, it would be reasonable to replicate this study with a sample of at least 50 participants to give it adequate statistical power. Additionally, a larger sample size would allow logistic regression analysis of demographic variables such as age, gender, and ethnicity. Understanding how diversity is related to the experience of SoS would add to existing research on gender and ethnicity barriers and possibly inform ways to mitigate hindrances for diverse learners. Further, expanding the study to participants outside of the current university system would increase the generalizability of the findings in the field of online counselor education and practice of SoS.

Another implication for future research would be to validate and refine the instruments used in this study. The *Igroup Presence Questionnaire* (Schubert, Friedmann, & Regenbrecht, 2001), while moderately reliable, was created for virtual reality (i.e., gaming) research and modified to measure telepresence during SoS. The reliability and validity of the original instrument cannot be extended to the current version. In addition, the *Supervision Hindering Phenomena Survey* (Dykeman, 2011; Enyedy et al., 2003) was developed for this research from a qualitative study of

traditional, face-to-face supervision. Essentially, both scales were piloted for this study and need to be validated as instruments to measure experiences of SoS. Replication is an important step to obtain validation evidence and begins with internal consistency and reliability of items. These surveys could be correlated with other known measures of telepresence such as the *Social Presence Questionnaire of Online Collaborative Learning* (Lin, 2004), the *Social Presence Scale* (Gunawardena & Zittle, 1997), the *Social Presence and Privacy Questionnaire* (Tu, 2002), and the *Social Presence Scale* developed by Kreijns, Kirschner, Jochems, and van Buuren (2011). Çakmak, Çebi, and Kan (2014) are currently validating a “Social Presence Scale” for online learners that may also prove to be useful for future research.

Future research recommendations include an examination of the hindering phenomena and level of telepresence for the *cybersupervisors* who are providing SoS. In order to know how to improve the practice of SoS, it is worth investigating the online experiences of cybersupervisors. It is unknown how the level of telepresence for cybersupervisors is related to the types of hindering phenomena as they facilitate SoS. Is there a parallel process between cybersupervisors and supervisees and are the issues similar or distinctly different? This is an area that needs further examination.

Finally, given that instruments to measure social presence are still being developed and there is still not an agreed upon operational definition of social presence in counselor education or related fields, qualitative research on the experiences of supervisees who experience SoS would be beneficial. Similar to Enyedy et al.’s (2003) research on hindering phenomena during live group supervision, a qualitative inquiry of

SoS could identify themes and potential factors to guide in the development and refinement of social presence and more robust measures to assess barriers.

References

- Adobe Connect[®] (Version 7.5) [Computer software]. San Jose, CA: Adobe.
- Barnett, S., Jones, S. C., Bennett, S., Iverson, D., & Bonney, A. (2012). General practice training and virtual communities of practice – a review of the literature. *BMC Family Practice, 13*(87), 1-12. doi:10.1186/1471-2296-13-87
- Barnette, J. (2000). Effects of stem and Likert response option reversals on survey internal consistency: If you feel the need, there is a better alternative to using those negatively worded stems. *Educational and Psychological Measurement, 60*(3), 361-370. doi: 10.1177/00131640021970592
- Bender, S. (2013). *Perceptions of the usefulness of clinical supervision: Synchronous online vs. traditional face-to-face delivery*. (Unpublished doctoral dissertation). Oregon State University, Corvallis.
- Biocca, F. (1997). Cyborg's dilemma: Professive embodiment in virtual environments. *Journal of Computer-Mediated Communication, 3*(2), 0-0. doi:10.1111/j.1083-6101.1997.tb00070.x
- Boone, Jr., H. N., & Boone, D. A. (2012). Analyzing Likert data. *Journal of Extension, 50*(2). Retrieved from <http://www.joe.org/joe/2012april/tt2.php>
- Brown, J. D. (2013). Chi-square and related statistics for 2x2 contingency tables. *Shiken Research Bulletin, 17*(1), 33-40.
- Çakmak, E. K., Çebi, A., & Kan, A. (2014). Developing a “social presence scale” for E-learning environments. *Educational Sciences: Theory & Practice, 14*(2), 764-768. doi: 10.12738/estp.2014.2.1847
- Chan, J. (1991). Response-order effects in Likert-type scales. *Educational and Psychological Measurement, 51*, 531-540. Retrieved from <http://www3.nccu.edu.tw/~jyjan/papers/responseorder.pdf>
- Clason, D. L., & Dormody, T. J. (n.d.). Analyzing data measured by individual Likert-type items. *Journal of Agricultural Education, 35*(4), 31-35. Retrieved from <http://pubs.aged.tamu.edu/jae/pdf/Vol35/35-04-31.pdf>
- Cohen, L., Manion, L., & Morrison, K. (2000). *Research methods in education*. London: Routledge.
- Colegrave, N., & Ruxton, G. D. (2003). Confidence intervals are a more useful complement to nonsignificant tests than are power calculations. *Behavioral Ecology, 14*(3), 446-447. doi:10.1093/beheco/14.3.466

- Constantin, C., & Grigorovici, D. (2003, October). *Virtual environments and the sense of being there: An SEM model of presence*. Paper presented at the Sixth Annual International Workshop on Presence. *The International Society for Presence Research (ISPR)*. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.106.2825&rep=rep1&type=pdf>
- Daft, R. L., & Lengle, R. H. (1984). Organizational information requirements, media richness and structural design. *Management Science*, *32*(5), 554-571. Retrieved from <http://www.jstor.org/stable/2631846>
- Deane, F. P., Gonsalvez, C., Blackman, R., Saffioti, D., & Andresen, R. (2015). Issues in the development of e-supervision in professional psychology: A review. *Australian Psychologist*, *50*, 241-247. doi:10.1111/ap.12107
- de Gil, P. R., & Kromrey, J. D. (2013). What score should Johnny get? Missing_items SAS[®] macro for analyzing missing item responses on summative scales. *SAS Global Forum 2013*, 1-12. Retrieved from <http://support.sas.com/resources/papers/proceedings13/233-2013.pdf>
- Dykeman, C. (2011). Supervision hindering phenomena survey. [Likert-type survey]. Unpublished instrument.
- Einon, G. (2010). Managing computer-supported collaboration. In H. Donelan, K. Kear, & M Ramage (Eds.), *Online communication and collaboration: A reader* (pp. 26-29). New York, NY: Routledge.
- Enyedy, K. C., Arcinue, F., Puri, N. N., Carter, J. W., Goodyear, R. K., & Getzelman, M. A. (2003). Hindering phenomena in group supervision: Implications for practice. *Professional Psychology: Research and Practice*, *34*(3), 312-317. doi:10.1037/0735-7028.34.3.312
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: tests for correlation and regression analyses. *Behavior Research Methods*, *41*, 1149-1160.
- Getzelman, M. A. (2003). *Development and validation of the group supervision impact scale* (Unpublished doctoral dissertation). University of Southern California, Los Angeles, CA.
- Gillet, R. (1994). Post hoc power analysis. *Journal of Applied Psychology*, *79*(5), 783-785. doi:10.1037/0021-9010.79.5.783
- Goodman, S. N., & Berlin, J. A. (1994). The use of predicted confidence intervals when planning experiments and the misuse of power when interpreting results. *Annals of Internal Medicine*, *121*(3), 200-206. doi:10.7326/0003-4819-121-3-199408010-00008

- Groves, R. M., Fowler, Jr., F. J., Coupler, M. P., Lepkowski, J. M., Singer, E., & Tourangeau, R. (2009). *Survey Methodology – 2nd ed.* [Kindle Reader version]. Retrieved from <https://www.amazon.com/Survey-Methodology-Wiley-ebook>
- Gunawardena, C. N. (1995). Social presence theory and implications for interaction collaborative learning in computer conferences. *International Journal of Educational Telecommunications*, 1(2/3), 147-166. Retrieved from www.learntechlib.org/d/15156
- Gunawardena, C. N., & Zittle, F. J. (1997). Social presence as a predictor of satisfaction within a computer-mediated conferencing environment. *The American Journal of Distance Education*, 11(3), 8-26. doi:10.1080/08923649709526970
- Heller, R. M. *Telepresence: A modern way for collaborative work.* Retrieved from <http://site.ebrary.com.ezproxy.proxy.library.oregonstate.edu/lib/oregonstate/detail.action?docID=10489210>
- High, R. (2013). Models for ordinal response data. In *Proceedings of the SAS Global Forum 2013 Conference*. Cary, NC: SAS Institute Inc. Paper (pp. 445-2013). Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.380.4951&rep=rep1&type=pdf>
- Hulse-Killacky, D., Killacky, J., & Donigien, J. (2001). *Making tasks groups work in your world.* Upper Saddle River, NJ : Merrill Prentice Hall.
- Kreijns, K., Kirschner, P. A., Jochems, W., & van Buuren, H. (2011). Measuring perceived social presence in distributed learning groups. *Education and Information Technologies*, 16(4), 365-381. doi:10.1007/s10639-010-9135-7
- Ladany, N., Hill, C. E., Corbett, M. M., & Nutt, E. A. (1996). Nature, extent, and importance of what psychotherapy trainees do not disclose to their supervisors. *Journal of Counseling Psychology*, 43(1), 10-24.
- Likert, R. (1932). A technique for the measurement of attitudes. *Archives of Psychology*, 140, 1-55.
- Lin, G-Y. (2004). *Social presence questionnaire of online collaborative learning: Development and validity.* Paper presented at the annual meeting of the Association for Educational Communications and Technology, Chicago, IL.
- Lombard, M., & Ditton, T. (1997). At the heart of it all: The concept of presence. *Journal of Computer-Mediated Communication*, 3(2). Retrieved from <http://www.ascusc.org/jcmc/vol3/issue2/lombard.html>

- Mayne, L. A., & Wu, Q. (2011). Creating and measuring social presence in online graduate nursing courses. *Nursing Education Perspectives*, 32(2), 110-114. doi:10.5480/1536-5026-32.2.110
- McCrum-Gardner, E. (2010). Sample size and power calculations made simple. *International Journal of Therapy and Rehabilitation*, 17(1), 10-14. doi:10.12968/ijtr.2010.17.1.45988
- McDonald, J. H. (2014). *Handbook of biological statistics* (3rd ed.), Baltimore, MD: Sparky House Publishing. Retrieved from <http://www.biostathandbook.com/HandbookBioStatThird.pdf>
- Mehr, K. E., Ladany, N., & Caskie, G. I. L. (2010). Trainee nondisclosure in supervision: What are they not telling you? *Counselling and Psychotherapy Research*, 10(2), 103-113. doi:10.1080/14733141003712301
- Miller, K. L., & Miller, S. M. (2008). Challenges and solutions in the delivery of clinical cybersupervision. In Zeng, R., & Ferris, S. P. (Eds.), *Understanding Online Instructional Modeling: Theories and Practices* (pp. 223-241). doi: 10.4018/978-1-59904-723-2.ch014
- Miller, K. L., Sanders, S. A., & Miller S. M. (2009). Requisite computer technologies and infrastructures for providing live, remote, clinical cybersupervision. In G. R. Walz, J. C. Bleuer, & R. K. Yep (Eds.), *Compelling counseling interventions: VISTAS 2009* (pp. 317-328). Alexandria, VA: American Counseling Association.
- Muilenburg, L. Y., & Berge, Z. L. (2005). Student barriers to online learning: A factor analytic study. *Distance Education*, 26(1), 29-48. doi:10.1080/01587910500081269
- Mungania, P. (2003). The seven e-learning barriers facing employees. *The Masie Centre*. Retrieved from <http://s3.amazonaws.com/academia.edu.documents/34812334/The-Seven-E-Learning-Barriers-facing-Employees-Penina-Mungania-2003.pdf>
- Nelson, J. A., Nichter, M., & Henriksen, R. (2010). *On-line supervision and face-to-face supervision in the counseling internship: An exploratory study of similarities and differences*. Retrieved from http://counselingoutfitters.com/vistas/vistas10/Article_46.pdf
- Norman, G. (2010). Likert scales, levels of measurement and the “laws” of statistics. *Advances in Health Sciences Education*, 15(5), 625-632. doi:10.1007/s10459-010-9222-y

- Palmer, M. T. (1995). Interpersonal communication and virtual reality: Mediating interpersonal relationships. In Biocca, F., & Levy, M. R. (Eds.). *Communication in the age of virtual reality*, Hillsdale, NJ: Lawrence Erlbaum Associates.
- Papa, F. (2001). Broadband networks for distance education and training: Some results and practical solutions from a human factors investigation. *International Journal of Modern Physics C*, 12(4), 607-619. Retrieved from <http://osulibrary.oregonstate.edu>
- Phillips, A. S., Sheffield, A., Moore, M., & Robinson, H. A. (2016). An online social constructivist course: Toward a framework for usability evaluations. *Quarterly Review of Distance Education*, 17(1), 1-10. Retrieved from <http://web.a.ebscohost.com.ezproxy.proxy.library.oregonstate.edu/ehost/pdfviewer/pdfviewer?sid=4450d2dc-258e-42e2-b74c-e891d48591aa%40sessionmgr4008&vid=1&hid=4002>
- Plante, K., & Asselin, M. E. (2014). Best practices for creating social presence and caring behaviors online. *Nursing Education Perspectives*, 35(4), 219-223. doi:10.5480/13-1094.1
- Richards, D., & Timulak, L. (2013). Satisfaction with therapist-delivered vs. self-administered online cognitive behavioural treatments for depression symptoms in college students. *British Journal of Guidance & Counselling*, 41(2), 193-207. doi:10.1080/03069885.2012.726347
- Rousmaniere, T. (2014). Using technology to enhance clinical supervision and training. In Watkins, C. E., Jr. & Milne D. L. (Eds.), *The Wiley International Handbook of Clinical Supervision, First Edition*. (pp. 204-237). John Wiley & Sons, Ltd.
- Rousmaniere, T., Abbass, A., & Frederickson, J. (2014). New developments in technology-assisted supervision and training: A practical review. *Journal of Clinical Psychology: IN SESSION*, 70(11), 1082-1093. doi:10/1002/jclp.22129
- Schmee, J., & Oppenlander, J. (2010). Chapter 1: About data. In Schmee, J., & Opepnader, J. (Eds.), *JMP[®] Means Business: Statistical Models for Management* (pp. 1-18). Retrieved from <http://www.sas.com>
- Schubert, T., Friedmann, F., & Regenbrecht, H. (2001). The experience of presence: Factor analytic insights. *Presence*, 10(3), 266-281.
- Schuemie, M. J., van der Straaten, P., Krijn, M., & van der Mast, C. A. P. G. (2004). Research on presence in virtual reality: A survey. *CyberPsychology & Behavior*, 4(2), 183-201. doi:10.1089/109493101300117884

- Short, J., Williams, E., & Christie, B. (1976). *The social psychology of telecommunications*. London: John Wiley & Sons.
- Stewart, A. R., Harlow, D. B., & DeBacco, K. (2011). Students' experience of synchronous learning in distributed environments. *Distance Education, 32*(3), 357-381. doi:10.1080/01587919.2011.610289
- Strømsø, H. I., Grøttumt, P., & Lycke, K. H. (2007). Content and processes in problem-based learning: A comparison of computer-mediated and face-to-face communication. *Journal of Computer Assisted Learning, 23*, 271-282. doi:10.1111/j.1365-2729.2007.00221.x
- Sullivan, G. M., & Artino, Jr., A. R. (2013). Analyzing and interpreting data from Likert-type scales. *Journal of Graduate Medical Education, 5*(4), 541-542. doi: 10.4300/JGME-5-4-18
- Terras, M. M., & Ramsay, J. (2015). Massive open online courses (MOOCs): Insights and challenges from a psychological perspective. *British Journal of Educational Technology, 46*, 472-487. doi:10.1111/bjet.12274
- Thomas, W. (2000). *Notes from Biostatistics 2, PubH 5452, Spring 2000*. Personal collection of J. L. Causey, University of Minnesota, Minneapolis, MN.
- Tona, T., Spagnolli, A., Bracken, C. C., & Rubenking, B. (2008, October). *How real is it? The state of (tele)presence in therapy with mediated environments*. Paper presented at the Eleventh Annual International Meeting of the Presence Workshop. Padova, Italy. Retrieved from <http://astro.temple.edu/~lombard/ISPR/Proceedings/2008/Tona.pdf>
- Tu, C-H. (2002). The measurement of social presence in an online learning environment. *International Journal on E-Learning, 1*(2), 34-45. Retrieved from <http://go.galegroup.com.ezproxy.proxy.library.oregonstate.edu/ps/i.do?p=AONE&sw=w&u=s8405248&v=2.1&it=r&id=GALE%7CA90933922&asid=746adb3dab6caccfe33b886f9c76267b>
- Varghese, E., & Varghese, C. (n.d.). Non-parametric tests using SAS. http://www.iasri.res.in/sscnars/sas_manual/15-Nonparametric%20Tests%20using%20SAS.pdf
- Watson, J. C. (2003). Computer-based supervision: Implementing computer technology into the delivery of counseling supervision. *Journal of Technology in Counseling, 3*(1), 1-13. Retrieved from http://www.jtc.colstate.edu/vol3_1/Watson/Watson.htm

Yourman, D. B. (2003). Trainee disclosure in psychotherapy supervision: The impact of shame. *Journal of Clinical Psychology/In Session*, 59(5), 601-609.
doi:10.1002/jclp.10162

Yourman, D.B. & Farber, B. A. (1996). Nondisclosure and distortion in psychotherapy supervision. *Psychotherapy*, 33(4), 567-575.

CHAPTER 4: General Conclusions

Dissertation Overview

The purpose of this chapter was to thematically link and summarize the development of a unique, research-informed framework for the practice of cybersupervision (Chapter 2) with research that assessed the relationship between types of hindering phenomena and level of social presence among counselor supervisees who experienced cybersupervision (Chapter 3). The two chapters are thematically connected through their focus on informing the practice of cybersupervision via research. Chapter 2 synthesized current research to develop ways to mitigate problems and maximize the engagement, learning outcomes, and effectiveness of cybersupervision. Chapter 3, on the other hand, informs current practice and future research by assessing what was not currently known about the practice of cybersupervision and helped to identify the impact of known barriers and how they are related to social presence. In addition, ancillary analyses from this research provided validation evidence for the piloted Likert-type *Supervision Hindering Phenomena Survey* (Dykeman, 2011; Enyedy et al., 2003). Strengths, limitations, and recommendations for future research are presented and discussed.

As counselor education moves into online formats, counselor educators and supervisors need a guide to transition traditional, brick-and-mortar practices to Internet-based formats. A research-informed framework was developed that may assist cybersupervisors in providing remote supervision and creating optimal conditions for supervisee skill development while simultaneously monitoring the quality of client care. No such framework existed in the literature. To meet this knowledge gap, a framework

was developed that is based on the Discrimination Model of supervision (Bernard & Goodyear, 2004; 2014). Using research and best-practices from the fields of online teaching, online counseling, and communities of practice, this new model parallels the roles of the counselor supervisor who acts in the roles of the teacher, counselor, and consultant. This research-informed framework provides a unique contribution to the field of counselor education and is an important first-step in the optimization of structure and interventions within a very complex process that is also complicated by the use of technology as a communication medium.

The limited research on cybersupervision reviewed barriers which impede the process. Examples include technology problems and a lack of social presence among participants who may not be fully engaged because the experience of online communication has inherent differences compared to face-to-face communication. The most common technology problems cited in the literature include hardware and software failure, intermittent buffering and interruptions of video, sound failures, and problems utilizing software features. Some communication nuances are not easily translated through videoconferencing, such as micro-expressions (i.e., pursed lips or shift in gaze), body posture (i.e., arms crossed or bouncing leg) due to video image quality, and cropped screen images that do not show the person's whole body in the frame.

Despite the rapid growth of online counselor education programs, there remains a shortage of research to support best-practices. The intersection of supervision hindering phenomena and social presence has not received adequate attention in published research. In order to address this deficit, this quasi-experimental survey research was designed to assess the relationship between types hindering phenomena and the level of social

presence during cybersupervision of counselor trainees with the following research questions:

1. Is there a relationship between type of technology hindrance and level of telepresence?
2. Is there a relationship between type of technology hindrance and level of spatial presence?
3. Is there a relationship between type of technology hindrance and level of involvement?
4. Is there a relationship between type of technology hindrance and level of experienced realness?

Hindering phenomena generally fall into two categories: pure technology (PT) and interpersonal (IP). These PT and IP barriers were measured by the *Supervision Hindering Phenomena Survey* (Dykeman, 2011; Enyedy et al., 2003) which was based on hindering experiences of supervisees in live, face-to-face group supervision. The survey was adapted from qualitative research and created to measure barriers during cybersupervision and was piloted as a part of the study in Chapter 3.

The level of social presence was assessed with the *Igroup Presence Questionnaire* (Schubert, Friedmann, & Regenbrecht, 2001) which measures an overall level of social presence along with three sub-scales that are related to overall social presence: involvement (INV), spatial presence (SP), and experienced realness (REAL). This scale is well-validated for virtual reality and gaming and was modified to measure social presence during cybersupervision.

In Chapter 3, standard statistical methods used to measure Likert-type scales, namely chi-square, Mantel-Haenszel chi-square, and Fisher's Exact test revealed that there was a significant association between technology barriers and experienced realness and interpersonal barriers and experienced realness. Total hindering phenomena was also significantly associated with realness, although the sub-types of technology and interpersonal barriers were indistinguishable; the null hypothesis was rejected for question four. Supervisees who experienced few barriers reported that their cybersupervision was rated as being more "real." Conversely, supervisees who experienced more barriers reported that their cybersupervision was less "real." Both technology and interpersonal barriers influence the realness of cybersupervision.

Post hoc power analysis performed with G*Power 3.1[®] (Faul, Erdfelder, Buchner, & Lang, 2009; Gillett, 1994; McCrum-Gardner, 2010) indicated that the study had insufficient power with a sample size of $N = 12$. From a practitioner's perspective, the results are clinically significant, even if the tendency to make a Type I error is likely given the sample size and inadequate power.

The two manuscripts that comprise Chapters 2 and 3 are conceptually linked by the overarching topics of social presence, session management, and technology management competencies and how they intersect with hindering phenomena during cybersupervision. The research in areas of cybersupervision through the Discrimination Model lens of supervision (Bernard & Goodyear, 2004; 2014) indicate that whether utilizing the role of teacher, counselor, or consultant there are specific tasks that a cybersupervisor can implement to optimize social presence for more effective supervision. The research-informed framework for cybersupervision created for Chapter

2 is related to the research presented in Chapter 3. Specifically, the Likert-type survey research was designed to measure how social presence (i.e., telepresence) was associated with barriers such as technology utilization and management as well as on session management and the working alliance, both considered interpersonal barriers.

The results and discussion presented in Chapter 3 are related to the competencies outlined in the cybersupervision framework, such as creating conditions that enhance engagement and rapport (i.e., managing social presence), monitoring the pace and agenda for a session (i.e., session management), and the ability to troubleshoot and prevent technology problems (i.e., technology management). Individual items on the survey related to these competencies, such as *Supervisor was more wrapped up in technological processes than clinical issues* (i.e., managing social presence), *Not enough time to get all my questions addressed because of technology issues* (i.e., session management), and *Supervisor had insufficient technological expertise* (i.e., technology management). These examples are related to the framework in Chapter 2 and provided a quantitative measure of social presence and hindering phenomena for supervisees who experienced cybersupervision.

A goal of cybersupervision is to create conditions which enable authentic dialogue surrounding very sensitive topics that are both emotionally charged and involve the mental health care of clients. It is both the professional and ethical obligation of counselor educators and supervisors to provide the conditions necessary to make cybersupervision as realistic and meaningful to online supervisees as their traditional counterparts at brick-and-mortar campuses.

Ancillary Analyses

Ancillary analyses of these data yielded interesting results that warrant discussion as part of this chapter as these results were outside the scope of the original research project hypotheses presented and fulfilled in Chapter 3.

Recall from Chapter 3 the chi-square analysis of split-summed totals for overall hindering phenomena was significantly associated with the realness subscale portion of the telepresence scale. However, the subtests PT and IP were indistinguishable in that first model. When overall hindering scores were subsequently split into the two subscales of PT and IP there was an expected, yet not statistically significant level ($p = .050$) chi-square measure of association between types of hindering phenomena and the perception of realness ($p = .056$). In sum, the specific types of hindering phenomena that were associated with realness were not statistically distinguishable using the traditional simple methods of association. For this reason, a step-wise statistical approach was used that was designed to produce both cross-validation of scale instruments and attempted to reveal which subscales potentially explain how hindering phenomena are related to the perception of realness for these participants.

Correlation, Factor Analysis, and Reliability Validation

Summed subgroup totals for each participant were subjected to item correlations, exploratory factor analysis with and without orthogonal rotation and Cronbach's coefficient alpha as a measure of test instrument reliability. The statistics were generated using SAS[®] University Edition software. This correlation matrix output also allowed for the decision whether to use higher order statistics such as exploratory factor analysis. Given the small sample size, once the self-determined statistical stringency of at least

0.60 between correlations between the hindering and telepresence scales were met and exceeded, factor analysis was conducted.

The correlation matrix showed distinctly significant clusters that provided additional validation of the *Igroup Presence Questionnaire* (Schubert, Friedmann, & Regenbrecht, 2001) as well as initial validation of the *Supervision Hindering Phenomena Survey* (Dykeman, 2011; Enyedy et al., 2003).

Table 5

Correlations of Raw Data, N = 12

	PT	IP	REAL	INV	SP
PT	1.000	0.588	-0.509	-0.206	-0.471
IP	0.588	1.000	-0.516	-0.452	-0.792
REAL	-0.509	-0.516	1.000	0.839	0.709
INV	-0.205	-0.452	0.839	1.000	0.672
SP	-0.471	-0.792	0.709	0.672	1.000

The correlation matrix (Table 5) appropriately clustered distinctly significant core experiences that reproduced the test instrument grid. With respect to hindering subscales, PT was strongly correlated with IP hindering phenomena (0.588) and was negatively correlated with REAL (-0.509), and not significantly correlated with the INV or SP subscales of telepresence. This negative correlation between overall hindering phenomena and realness on the TP scale was expected since overall hindering and realness were the only statistically significant findings from chi-square analysis of these data reported in Chapter 3.

Conversely, REAL was highly correlated with INV (0.839) as well as with SP (0.709) and negatively and not significantly correlated with the subscales of PT and IP hindering phenomena. Hence, the high pair-wise correlation among PT and IP indicated some tendency to measure “hindering phenomena” while REAL, INV, and SP were all pairwise correlated and indicated some tendency to measure “telepresence.”

Factor analysis was then conducted on the survey subscales from Chapter 3 using SAS[®] University Edition software. Scores from the five subscales were summed and an additional Pearson correlation matrix was generated.

The communality estimates describe the proportion of variance remaining after extracting each of the factors and ranged from 0.586 to 0.835. These estimates represent the proportion of the variance for each of the subscales. It appears that PT was the least well represented as it had the smallest communality at 0.586 and is still acceptable since it is above 0.500. The other four variables (i.e., IP, REAL, INV, and SP) are sufficiently represented by the two factors. Statistically, this is simply a measure of the squared multiple correlation of each variable between all other variables and collectively shows that all five variables will be represented sufficiently by factor analysis loading onto groups greater than one.

Table 6

Eigenvalues of the Reduced Correlation Matrix

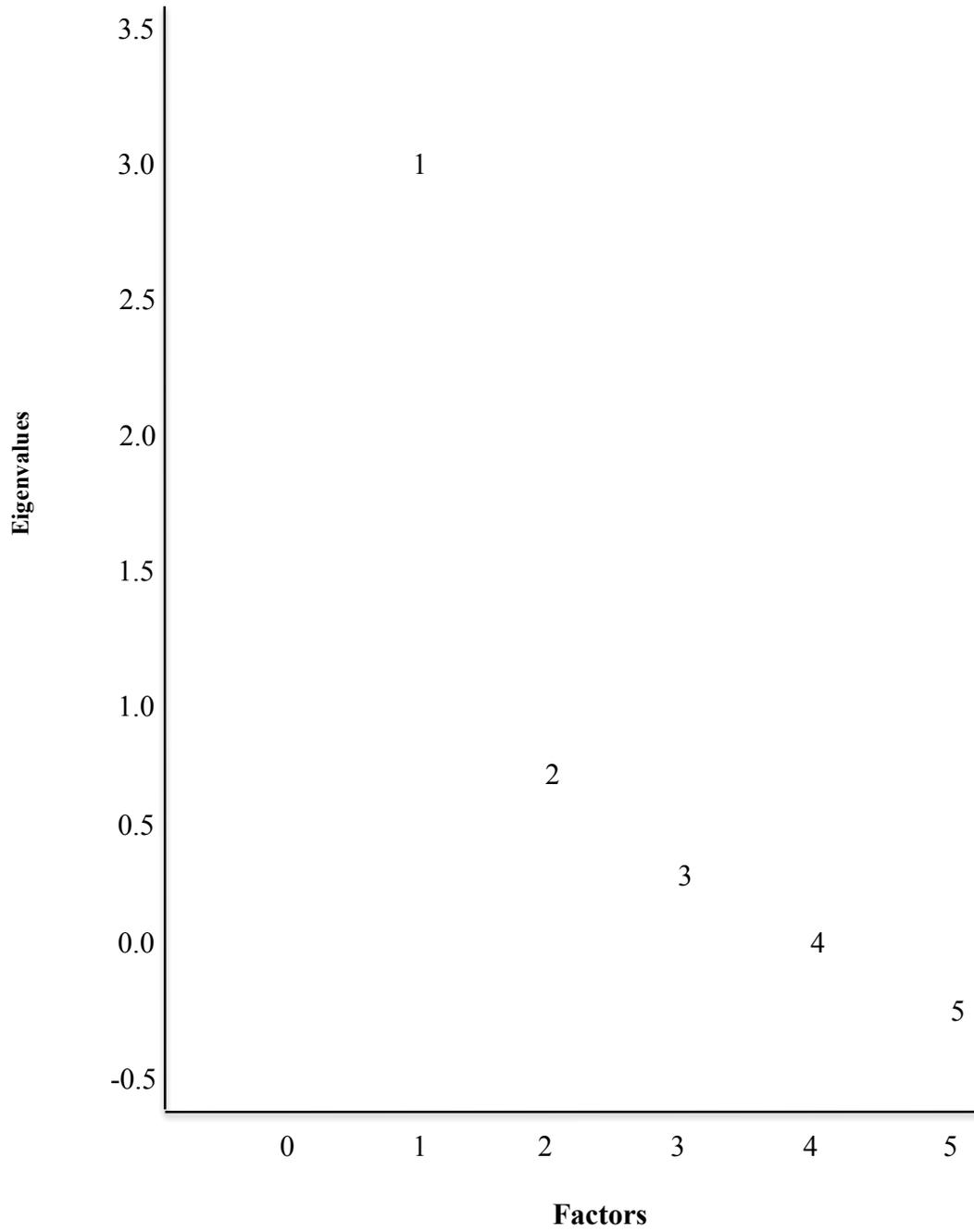
	Eigenvalue	Difference	Proportion	Cumulative
1	3.093	2.474	0.837	0.837
2	0.619	0.401	0.167	1.004
3	0.217	0.302	0.059	1.063
4	-0.085	0.062	-0.023	1.040
5	-0.147	*	-0.040	1.000

Note. Total = 3.698, Mean = 0.740

*Missing value indicates that the factor did not load sufficiently to contribute to the Eigenvalue and no difference was obtained. Two factors were retained by the NFACTOR criterion in SAS[®].

Table 6 shows the Eigenvalue distribution distinguishing two dominant factors among the five variable subgroup scales. This initial factor analysis revealed that these five subscales loaded onto two scales with Eigenvalues of 3.093 and 0.619 which accounted for 84% and 16% of the total variance, respectively. Typically, only Eigenvalues >1.000 are kept as distinct factors, however, the SAS[®] model used an additional scree plot (Figure 1) to visually confirm that two distinct factors explained the total variance. Diagnostically, the scree plot gives a visual “break” between variables that allow the analyst to choose how many initial factors to distinguish. Subsequently, an orthogonal rotation was added and data reanalyzed in order to improve the interpretation of which subscales loaded onto each factor.

Figure 1

Scree Plot of Eigenvalues

This scree plot provides a visual of the size and spread of the individual Eigenvalues generated from the first factor analysis and shows that there are only two dominant factors, given where the “inflection point” or elbow bends and the curve levels off.

Table 7

Factor Pattern

	Factor 1	Factor 2
PT	-0.588	0.442
IP	-0.775	0.356
REAL	0.876	0.251
INV	0.783	0.479
SP	0.876	-0.068

Table 7 shows the initial factor patterns of PT and IP negatively load onto Factor 1, while REAL, INV and SP appear to be highly correlated with Factor 1. Initially, none of the subgroups appear to significantly load onto Factor 2, with the exception of INV (0.479).

The orthogonal rotation in SAS[®] was employed in order to produce a rotation around axes and made interpretation of subgroup loading onto factors easier to interpret. The final communality estimates after orthogonal rotation describe the proportion of variance remaining after extracting each of the factors and ranged from 0.541 to 0.842. Collectively they showed that all five variables were still represented sufficiently by factor analysis loading onto the two factors selected.

Table 8

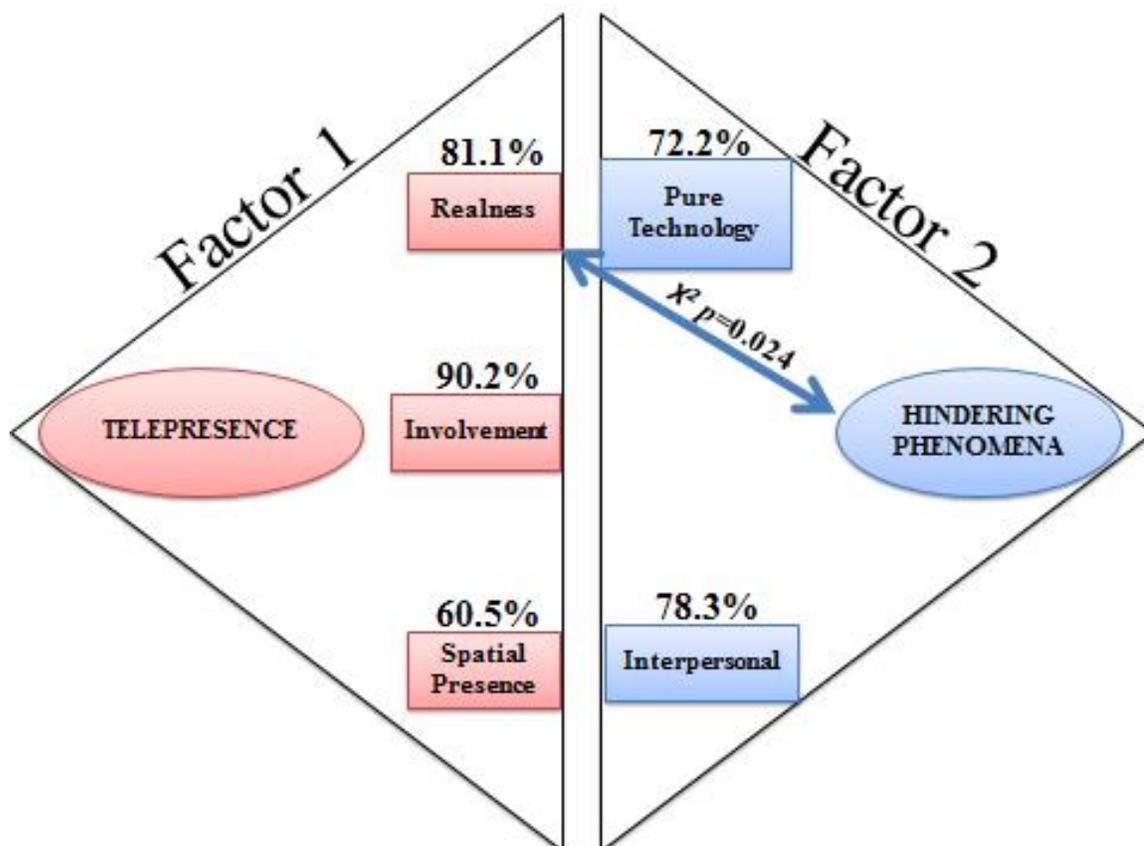
Rotated Factor Pattern

	Factor 1	Factor 2
PT	-0.141	0.722
IP	-0.337	0.783
REAL	0.818	-0.400
INV	0.902	-0.169
SP	0.605	-0.637

Note. Rotated Factor Pattern Following Orthogonal Rotation

Table 8 reveals two distinct subgroup clusters that are highly correlated within each factor. REAL, INV and SP are highly correlated with Factor 1, and not significantly correlated with Factor 2, with the exception of SP, which is negatively correlated with Factor 2. Similarly, PT and IP are highly positively correlated with Factor 2 and not correlated with Factor 1. A likely interpretation of these data is that REAL, INV and SP clustered and loaded onto Factor 1 and are appropriate indicators of telepresence subscales. Likewise, PT and IP are clustered and loaded onto Factor 2 and are appropriate indicators as subscales of total hindering phenomena (Figure 2).

Figure 2

Sub-Scale Clustering by Factor

This orthogonally modified factor analysis provided validation evidence for the piloted Likert-type *Supervision Hindering Phenomena Survey* (Dykeman, 2011; Enyedy et al., 2003) and reiterated the validity of the *Igroup Presence Questionnaire* (Schubert, Friedmann, & Regenbrecht, 2001).

Finally, Cronbach's coefficient alpha was computed for each clustered subgroup for each of the two factors. The *Supervision Hindering Phenomena Survey* (Dykeman, 2011; Enyedy et al., 2003) was validated with a standardized Cronbach's coefficient alpha of 0.740. This new survey met with an acceptable reliability standard at least 0.70

and above and is therefore interpreted to be internally consistent and a reasonable measure of hindering phenomena.

The *Igroup Presence Questionnaire* (Schubert, Friedmann, & Regenbrecht, 2001) was validated with a standardized Cronbach's coefficient alpha of 0.895. This modified survey met with an acceptable reliability standard at least 0.70 and above and is therefore interpreted to be internally consistent and a reasonable measure of hindering phenomena.

Strengths

A strength of this research is that adding step-wise factor analysis in addition to the standard chi-square, Mantel-Haenszel, and Fisher's Exact tests on these Likert-style survey data helped tease out associations between the subscales that were otherwise hidden by more simplistic statistics. Even with a small sample size and limited power, IP appeared to represent 78% of the variance for hindering phenomena and PT appeared to represent 72% of the variance. The clinical implications of these findings, alone, indicates that hindering phenomena is closely tied to both pure technology and interpersonal problems between the supervisees and cybersupervisors for this population. This reiterates this author's claims that the responsibility for the working alliance lies with the supervisor who has the skills and experience to manage the alliance while also preventing and troubleshooting technology issues.

Limitations

As previously noted, the biggest limitations in this research were small sample size and inadequate statistical power. This research was conducted as cybersupervision was being introduced at the research institution. The sample size was an artifact of available participants in the program at the time of the study. Since the instruments have

demonstrated reliability and initial validation evidence, the biggest pitfall of this study was the small sample of convenience.

Recommendations for Future Research

Recommendations for future research include replication of the study with a larger sample (i.e., $N = 50+$) that is more representative of diverse supervisees to assure adequate power and generalizability. Studies that focus on the hindering experiences and social presence of *cybersupervisors* would also be useful to understand the barriers and how they are related to cybersupervisors' social presence. Qualitative inquiry of both hindering phenomena and social presence would not only be clinically useful, results may inform the development of future scales, as in the case of the *Supervision Hindering Phenomena Survey* (Dykeman, 2011; Enyedy et al., 2003). Additional validation of scales used to measure barriers and social presence is also recommended.

Implications for the Future as a Researcher

This process was both exhausting and exhilarating. Having enough time and space from the beginning stages, I can look back with some clarity on what I've learned as a neophyte researcher. Several key lessons-learned emerge as I reflect on this process, such as a very specific research lens, the need for organization of information, and planning/preparation of research ideas.

First, having very clear constructs will inform my lens for future research projects. Knowing what I know now about the muddy construct of social presence (i.e., telepresence) alone will inform any future literature review processes. For example, the original construct of social presence (Short, Williams, & Christie, 1976) was comprised of two factors: intimacy (Argyle & Dean, 1965) and immediacy (Wiener & Mehrabian,

1968). Intimacy during communication was influenced by such factors as eye contact, physical distance, smiles, and personal conversation. Immediacy during communication was considered to be a measure of the relative emotional closeness between the people communicating. These constructs were not part of the *Igroup Presence Questionnaire* (Schubert, Friedmann, & Regenbrecht, 2001) which measured spatial presence, involvement, and experienced realness. These additional factors of intimacy and immediacy may be closely associated with SoS in that clinical supervision is an interpersonal and emotional process. Further, Heller (2010) asserted that eye contact and facial nuances are key components to enhance both physiological and emotional engagement with online communication which are aspects of intimacy. Clearly the research world does not agree on what constitutes social presence or telepresence.

Given that example, research projects should start with a thorough evaluation of the constructs under consideration. Clearly defined, agreed-upon constructs (and the underlying concepts that define them) will guide a literature review. Further, research should pay homage to research pioneers in our field while also staying focused on the last decade of publications to make relevant any new contributions.

Second, technology has greatly influenced the profession of counselor education and access to resources. Gone are the days of copy cards and published journals in the library. (I miss those days). Now, at my fingertips are innumerable sources of legitimate, peer-reviewed research. It's almost breathtaking to think about how many articles I can find with the powerful library search engines and databases. The need for a system to organize information is paramount to keeping my sanity and to save my own precious resources (i.e., printer paper and toner cartridges). In hindsight, utilizing an add-

on program like Zotero[®] or EndNotes[®] to my Internet browser could have made reference management less of a headache. That said, I need to print and write on articles in order to make connections, find quotations, and scour for additional sources. What started out as a simple filing system (i.e., teaching, counseling, and consulting file folders) has turned into stacks and piles of paper. Toward the end of this process I have been utilizing 3-ring binders to stay organized; paper management is not my strong suit. Information overload is definitely a potential factor for future research. I found myself setting aside a stack of 50+ articles labeled “add later” that I *could* have added into my dissertation to bolster my claims. However, the drive to finish this project urges me to let go and save those articles for another project or the recycling bin.

Third, my big take-away from this process is the need for very careful planning and preparation. These steps are necessary from the beginning, as noted by having clear constructs to research. When considering future projects, I will consult with colleagues in the field and scour the literature for valid measures to use and methodology to replicate as a template. Adding to the body of research in the field doesn't necessitate reinventing the wheel! A priori power analysis will always be on the forefront of my mind, as well. The best planned research project is only as good as the statistical power and tendency to reduce Type I errors. At the same time, balancing “ideal” research preparation with what is practical and useful is a necessary consideration.

In addition to power analysis, any future research endeavors will include consultation with colleagues regarding the specificity of research questions, the validity of the measures to collect useful data, and the applicable statistics available to answer the research questions. I'm far from a statistician, and I've learned a tremendous amount

about statistics and how they may be used or misused by inexperienced researchers.

Consultation is key to making wise decisions with statistical software packages.

Bibliography

- Abbass, A., Arthey, S., Elliot, J., Fedak, T., Nowoweiski, D., Markovski, J., & Nowoweiski, S. (2011). Web-conferenc supervision for advanced psychotherapy training: A practical guide. *Psychotherapy, 48*(2), 109-118. doi:10.1037/a0022427
- Adobe Connect[®] (Version 7.5) [Computer software]. San Jose, CA: Adobe.
- Allmendinger, K. (2010). Social presence in synchronous virtual learning situations: The role of nonverbal signals displayed by avatars. *Educational Psychology Review, 22*, 41-56. doi:10.1007/s10648-010-9117-8
- American Counseling Association. (2014). *ACA code of ethics*. Alexandria, VA: Author.
- Amstadter, A. B., Broman-Fulks, J., Zinzow, H., Ruggiero, K. J., & Cercone, J. (2009). Internet-based interventions for traumatic stress-related mental health problems: A review and suggestions for future research. *Clinical Psychology Review, 29*(5), 410-420. doi:10/1016/j.cpr.2009.04.0016
- Andersson, E., Enander, J., Andrén, P., Hedman, E., Ljótsson, B., Hursti, T., . . . Rück, C. (2012). Internet-based cognitive behavior therapy for obsessive-compulsive disorder: A randomized controlled trial. *Psychological Medicine, 42*(10), 2193-2203. doi:10.1017/S0033291712000244
- Ardichvili, A. A. Page, V., & Wentling, T. (2003). Motivation and barriers to participation in virtual knowledge-sharing teams. *Journal of Knowledge Management, 7*, 64-77. doi:10.1108/13673270310463626
- Argyle, M., & Dean, J. (1965). Eye-contact, distance and affiliation. *Sociometry, 28*(3), 289-304. Retrieved from <http://www.jstor.org/stable/2786027>
- Baker, S. B., Exum, H. A., & Tyler, R. E. (2002). The developmental process of clinical supervisors in training: An investigation of the supervisor complexity model. *Counselor Education and Supervision, 42*, 15-30. doi: 10.1002/j.1556-6978.2002.tb01300.x
- Barak, A., Hen, L., Boniel-Nissim, M., & Shapira, N. (2008). A comprehensive review and a meta-analysis of the effectiveness of internet-based psychotherapeutic interventions. *Journal of Technology in Human Services, 26*(2/4), 109-160. doi:10.1080/15228830802094429
- Barlow, S. H. (2004). A strategic three-year plan to teach beginning, intermediate, and advanced group skills. *The Journal for Specialists in Group Work, 29*, 113-126.

- Barnett, S., Jones, S. C., Bennett, S., Iverson, D., & Bonney, A. (2012). General practice training and virtual communities of practice – a review of the literature. *BMC Family Practice, 13*(87), 1-12. doi:10.1186/1471-2296-13-87
- Barnette, J. (2000). Effects of stem and Likert response option reversals on survey internal consistency: If you feel the need, there is a better alternative to using those negatively worded stems. *Educational and Psychological Measurement, 60*(3), 361-370. doi: 10.1177/00131640021970592
- Belcher, D. D. (1999). Authentic interaction in a virtual classroom: Leveling the playing field in a graduate seminar. *Computers and Composition, 16*, 253-267.
- Bell, L. A., & Griffin, P. (2007). Designing social justice education courses. In Adams, M., Bell, L. A., & Griffin, P. (Eds.), *Teaching for diversity and social justice (2nd ed.)* (pp. 67-113). New York, NY: Routledge.
- Bender, S. (2013). *Perceptions of the usefulness of clinical supervision: Synchronous online vs. traditional face-to-face delivery*. (Unpublished doctoral dissertation). Oregon State University, Corvallis.
- Bernard, J. (1979). Supervision training: A discrimination model. *Counselor Education and Supervision, 19*, 60–68. doi:10.1002/j.1556-6978.1979.tb00906.x
- Bernard, J. M., Goodyear, R. G. (2004). *Fundamentals of clinical supervision (3rd ed.)*. Boston, MA: Pearson.
- Bernard, J. M., & Goodyear, R. G. (2014). *Fundamentals of clinical supervision (5th ed.)*. Upper Saddle River, NJ: Pearson.
- Binder, J., & Strupp, H. (1997). “Negative process”: A recurrently discovered and underestimated facet of therapeutic process and outcome in the individual psychotherapy of adults. *Clinical Psychology: Science and Practice, 4*(2), 121-139.
- Biocca, F. (1997). Cyborg’s dilemma: Professive embodiment in virtual environments. *Journal of Computer-Mediated Communication, 3*(2), 0-0. doi:10.1111/j.1083-6101.1997.tb00070.x
- Biocca, F., Harms, C., & Burgoon, J. K. (2003). Toward a more robust theory and measure of social presence: Review and suggested criteria. *Presence, 12*(5), 456-480. doi: 10.1162/105474603322761270
- Bjornesad, A., Johnson, V., Hittner, J., & Paulson, K. (2014). Preparing site supervisors of counselor education students. *Counselor Education and Supervision, 53*, 242-253. doi:10/1002/j.1556-6978.2014.00060.x

- Blackmore, C., Tantam, D., & van Deurzen, E. (2008). Evaluation of e-learning outcomes: Experience from an online psychotherapy education programme. *Open Learning, 23*(3), 185-201. doi:10.1080/02680510802420027
- Bordin, E. S. (1979). The generalizability of the psychoanalytic concept of the working alliance. *Psychotherapy: Theory, Research and Practice, 16*(3), 252-291.
- Bolliger, D. U. (2009). Use patterns of visual cues in computer-mediated communication. *The Quarterly Review of Distance Education, 10*(2), 95-108.
- Boone, Jr., H. N., & Boone, D. A. (2012). Analyzing Likert data. *Journal of Extension, 50*(2). Retrieved from <http://www.joe.org/joe/2012april/tt2.php>
- Bordia, P. (1997). Face-to-face versus computer-mediated communication: A synthesis of the experimental literature. *International Journal of Business Communication, 34*(1), 99-118. doi:10.1177/002194369703400106
- Borg, T. (2012). The evolution of a teacher community of practice: Identifying facilitating and constraining factors. *Studies in Continuing Education, 34*(3), 301-317. doi:10.1080/0158037X.2011.622717
- Botella, C., Quero, S., Banos, R. M., Garcia-Palacios, A., Breton-Lopez, J., Alcaniz, M., & Fabregat, S. (2008). Telepsychology and self-help: The treatment of phobias using the Internet. *CyberPsychology & Behavior, 11*(6), 659-664. doi:10.1089/cpb.2008.0012
- Bouchard, S. (2004). Treating anxiety disorders with virtual reality or telepsychotherapy. *International Journal of Psychology, 39*(5-6), 150.
- Bower, M. (2011). Synchronous collaboration competencies in web-conferencing environments – their impact on the learning process. *Distance Education, 32*(1), 63-83. doi:10.1080/01587919.2011.565502
- Brooks, C. F. (2010). Toward 'hybridised' faculty development for the twenty-first century: Blending online communities of practice and face-to-face meetings in instructional and professional support programmes. *Innovations in Education and Teaching International, 47*(3), 261-270. doi:10/1080/14703297.2010.498177
- Brown, J. D. (2013). Chi-square and related statistics for 2x2 contingency tables. *Shiken Research Bulletin, 17*(1), 33-40.
- Bueno Alastuey, M.C. (2011). Perceived benefits and drawbacks of synchronous voice-based computer-mediated communication in the foreign language classroom. *Computer Assisted Language Learning, 24*(5), 419-432. doi:10.1080/09588221.2011.574639

- Bulik, C. M., Marcus, M. D., Zerwas, S., Levine, M. D., Hofmeier, S., Trace, S. E., . . . Kordy, H. (2012). CBT4BN versus CBTF2F: Comparison of online versus face-to-face treatment for bulimia nervosa. *Contemporary Clinical Trials, 33*, 1056-1064. doi:10.1016/j.cct.2012.05.008
- Burt, R. S. (1999). The social capital of opinion leaders. *The Annals of the American Academy of Political and Social Science, 566*, 37-54. Retrieved from <http://www.jstor.org/stable/1048841>
- Butler, S. K., & Constantine, M. G. (2006). Web-based peer supervision, collective self-esteem and case conceptualization ability in school counselor trainees. *Professional School Counseling, 10*(2), 146-152.
- Çakmak, E. K., Çebi, A., & Kan, A. (2014). Developing a “social presence scale” for E-learning environments. *Educational Sciences: Theory & Practice, 14*(2), 764-768. doi: 10.12738/estp.2014.2.1847
- Calvin, J., & Freeburg, B. W. (2010). Exploring adult learners' perceptions of technology competence and retention in web-based courses. *Quarterly Review of Distance Education, 11*(2), 63-73.
- Campbell, J. M. (2006). *Essentials of clinical supervision*. Hoboken, New Jersey: John Wiley & Sons.
- Casey, J. A., Bloom, J. W., & Moan, E. R. (1994). *Use of technology in counselor supervision* (Report No. EDO-CG-94-25). Greensboro, NC: ERIC Clearinghouse on Counseling and Student Services.
- Caudle, L. A. (2013). Using a sociocultural perspective to establish teaching and social presences within a hybrid community of mentor teachers. *Adult Learning, 24*(3), 112-120. doi: 10.1177/1045159513489112
- Chapman, R. A. (2008). Cybersupervision of entry level practicum supervisees: The effect on acquisition of counselor competence and confidence. *Journal of Technology in Counseling, 5*(1), 1-10. Retrieved from http://jtc.columbusstate.edu/Vol5_1/Chapman.htm
- Chan, J. (1991). Response-order effects in Likert-type scales. *Educational and Psychological Measurement, 51*, 531-540. Retrieved from <http://www3.nccu.edu.tw/~jyjan/papers/responseorder.pdf>
- Clason, D. L., & Dormody, T. J. (n.d.). Analyzing data measured by individual Likert-type items. *Journal of Agricultural Education, 35*(4), 31-35. Retrieved from <http://pubs.aged.tamu.edu/jae/pdf/Vol35/35-04-31.pdf>

- Clingerman, T. L., & Bernard, J. M. (2004). An investigation of the use of e-mail as a supplemental modality for clinical supervision. *Counselor Education & Supervision, 44*, 82-95.
- Cohen, L., Manion, L., & Morrison, K. (2000). *Research methods in education*. London: Routledge.
- Coker, J. K., & Schooley, A. (2009). Investigating the effectiveness of clinical supervision in a CACREP accredited online counseling program. In *Ideas and Research You Can Use: VISTAS 2012* (Article 42). Retrieved from <http://www.counseling.org/library>
- Collie, K., Kreshka, M. A., Ferrier, S., Parsons, R., Graddy, K., Avram, S., . . . Koopman, C. (2007). Videoconferencing for delivery of breast cancer support groups to women living in rural communities: A pilot study. *Psycho-Oncology, 16*, 778-782. doi:10.1002/pon.1145
- Colegrave, N., & Ruxton, G. D. (2003). Confidence intervals are a more useful complement to nonsignificant tests than are power calculations. *Behavioral Ecology, 14*(3), 446-447. doi:10.1093/beheco/14.3.466
- Conn, S. R., Roberts, R. L., & Powell, B. M. (2009). Attitudes and satisfaction with a hybrid model of counseling supervision. *Educational Technology & Society, 12*(2), 298-306.
- Constantin, C., & Grigorovici, D. (2003, October). *Virtual environments and the sense of being there: An SEM model of presence*. Paper presented at the Sixth Annual International Workshop on Presence. *The International Society for Presence Research (ISPR)*. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.106.2825&rep=rep1&type=pdf>
- Constantine, M. G. (1997). Facilitating multicultural competency in counseling supervision: Operationalizing a practical framework. In Pope-Davis, D. B., & Coleman, H. L. K. (Eds.) *Multicultural counseling competencies: Assessment, education and training, and supervision* (pp. 310-324). Thousand Oaks, CA: Sage Publications.
- Cook, J. E., & Doyle, C. (2002). Working alliance in online therapy as compared to face-to-face therapy: Preliminary results. *CyberPsychology & Behavior, 5*(2), 95-105.
- Council for Accreditation of Counseling and Related Educational Programs. (2015). *Directory of accredited programs*. Retrieved from <http://www.cacrep.org/directory/>

- Council for Accreditation of Counseling and Related Educational Programs. (2016). *2016 CACREP Standards*. Retrieved from <http://www.cacrep.org/>
- Commission on Accreditation for Marriage and Family Therapy Education. (2015). *Directory of COAMFTE accredited programs*. Retrieved from http://coamfte.org/iMIS15/COAMFTE/Directory_of_Accredited_Programs/MFT_Training_Programs.aspx
- Council on Social Work Education. (2015). *Directory of accredited programs*. Retrieved from <http://www.cswe.org/17491.aspx>
- Coursol, D. (2004). Chapter Fourteen. Cybersupervision: Conducting supervision on the information superhighway. In G. R. Waltz & C. Kirkman (Eds.), *CyberBytes: Highlighting Compelling Uses of Technology in Counseling* (pp. 82-85). Retrieved from <http://eric.ed.gov>
- Cowan, J. E. (2012). Strategies for developing a community of practice: Nine years of lessons learned in a hybrid technology education master's program. *TechTrends*, *56*(1), 12-18. doi:10.1007/s11528-011-0549-x
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, *16*, 297-334. doi:10.1007/BF02310555
- Crowell, L., & McCarragher, T. (2007). Delivering a social work MSW program through distance education: An innovative collaboration between two universities, USA. *Social Work Education*, *26*, 376-388. doi:10.1080/02615470601081688
- Daft, R. L., & Lengle, R. H. (1984). Organizational information requirements, media richness and structural design. *Management Science*, *32*(5), 554-571. Retrieved from <http://www.jstor.org/stable/2631846>
- Deane, F. P., Gonsalvez, C., Blackman, R., Saffioti, D., & Andresen, R. (2015). Issues in the development of e-supervision in professional psychology: A review. *Australian Psychologist*, *50*, 241-247. doi:10.1111/ap.12107
- de Gil, P. R., & Kromrey, J. D. (2013). What score should Johnny get? Missing_items SAS[®] macro for analyzing missing item responses on summative scales. *SAS Global Forum 2013*, 1-12. Retrieved from <http://support.sas.com/resources/papers/proceedings13/233-2013.pdf>
- DiVerniero, R. A., & Hosek, A. M. (2011). Students' perceptions and communicative management of instructors' online self-disclosure. *Communication Quarterly*, *59*(4), 428-449. doi:10.1080/01463373.2011.597275

- Dubi, M., Raggi, M., & Reynolds, J. (2012). Distance supervision: The PIDIB model. In *Ideas and Research You Can Use: VISTAS 2012* (Article 82). Retrieved from <http://www.counseling.org/library>
- Dykeman, C. (2011). Supervision hindering phenomena survey. [Likert-type survey]. Unpublished instrument.
- Efstation, J. F., Patton, M. J., & Kardash, C. M. (1990). Measuring the working alliance in counselor supervision. *Journal of Counseling Psychology, 37*(3), 322-329.
- Enyedy, K. C., Arcinue, F., Puri, N. N., Carter, J. W., Goodyear, R. K., & Getzelman, M. A. (2003). Hindering phenomena in group supervision: Implications for practice. *Professional Psychology: Research and Practice, 34*(3), 312-317. doi:10.1037/0735-7028.34.3.312
- Falender, C. A., & Shafranske, E. P. (2012). The importance of competency-based clinical supervision and training in the twenty-first century: Why bother? *Journal of Contemporary Psychotherapy, 42*, 129-137. doi:10.1007/s10879-011-9198-9
- Faraj, S., Kudaravalli, S., & Wasko, M. (2015). Leading collaboration in online communities. *MIS Quarterly, 39*(2), 393-412.
- Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39*, 175-191.
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: tests for correlation and regression analyses. *Behavior Research Methods, 41*, 1149-1160.
- Fenichel, M. (2011). Online behavior, communication, and experience. In R. Kraus, G. Stricker, & C. Speyer (Eds.) *Online counseling: A handbook for mental health professionals* (2nd ed.), pp. 3-20. Burlington, MA: Elsevier.
- Fenichel, M., Suler, J., Barak, A., Zelvin, E., Johnes, G., Munro, K., . . . Walker-Schmucker, W. (2002). Myths and realities of online clinical work. *CyberPsychology & Behavior, 5*(5). Retrieved from <http://www.fenichel.com/myths>
- Gainor, K. A., & Constantine, M. G. (2002). Multicultural group supervision: A comparison of in-person versus web-based formats. *Professional School Counseling, 6*(2), 104-113.

- Germain, V., Marchand, A., Bouchard, S., Drouin, M-S., & Guay, S. (2009). Effectiveness of cognitive behavioural therapy administered by videoconference for posttraumatic stress disorder. *Cognitive Behaviour Therapy*, 38(1), 42-53. doi:10.1080/16506070802473494
- Getzelman, M. A. (2003). *Development and validation of the group supervision impact scale* (Unpublished doctoral dissertation). University of Southern California, Los Angeles, CA.
- Gillet, R. (1994). Post hoc power analysis. *Journal of Applied Psychology*, 79(5), 783-785. doi:10.1037/0021-9010.79.5.783
- Goodman, S. N., & Berlin, J. A. (1994). The use of predicted confidence intervals when planning experiments and the misuse of power when interpreting results. *Annals of Internal Medicine*, 121(3), 200-206. doi:10.7326/0003-4819-121-3-199408010-00008
- Graf, N. M., & Stebnicki, M. A. (2002). Using email for clinical supervision: A qualitative analysis. *Journal of Rehabilitation*, 68(3), 41-49.
- Gregory, S., Scutter, S., Jacka, L., McDonald, M., Farley, H., & Newman, C. (2015). Barriers and enablers to the use of virtual worlds in higher education: An exploration of educator perceptions, attitudes and experiences. *Educational Technology & Society*, 18(1), 3-12.
- Groves, R. M., Fowler, Jr., F. J., Coupler, M. P., Lepkowski, J. M., Singer, E., & Tourangeau, R. (2009). *Survey Methodology – 2nd ed.* [Kindle Reader version]. Retrieved from <https://www.amazon.com/Survey-Methodology-Wiley-ebook>
- Gunawardena, C. N. (1995). Social presence theory and implications for interaction collaborative learning in computer conferences. *International Journal of Educational Telecommunications*, 1(2/3), 147-166. Retrieved from www.learntechlib.org/d/15156
- Gunawardena, C. N., & Zittle, F. J. (1997). Social presence as a predictor of satisfaction within a computer-mediated conferencing environment. *The American Journal of Distance Education*, 11(3), 8-26. doi:10.1080/08923649709526970
- Gunn, C., McSporrán, M., Macleod, H., & French, S. (2003). Dominant or different? Gender issues in computer supported learning. *Journal of Asynchronous Learning Networks*, 7(1), 14-30. Retrieved from http://cs.lamar.edu/faculty/osborne/COSC1172/v7n1_gunn.pdf

- Guye-Viulléme, A., Capin, T. K., Pandzic, I. S., Thalmann, N. M., & Thalmann, D. (1999). Nonverbal communication interface for collaborative virtual environments. *Virtual Reality, 4*(1), 49-59. doi:10.1007/BF01434994
- Haberstroh, S. (2009). Strategies and resources for conducting online counseling. *Journal of Professional Counseling: Practice, Theory, and Research, 37*(2), 1-20.
- Hassija, C., & Gray, M. J. (2011). The effectiveness and feasibility of videoconferencing technology to provide evidence-based treatment to rural domestic violence and sexual assault populations. *Telemedicine and e-Health, 17*(4), 309-315. doi:10.1089/tmj.2010.0147
- Heller, R. M. *Telepresence: A modern way for collaborative work*. Retrieved from <http://site.ebrary.com.ezproxy.proxy.library.oregonstate.edu/lib/oregonstate/detail.action?docID=10489210>
- Hew, K. F., & Hara, N. (2007). Empirical study of motivators and barriers of teacher online knowledge sharing. *Education Tech Research Dev, 55*, 573-595. doi:10.1007/s11423-007-9049-2
- High, R. (2013). Models for ordinal response data. In *Proceedings of the SAS Global Forum 2013 Conference*. Cary, NC: SAS Institute Inc. Paper (pp. 445-2013). Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.380.4951&rep=rep1&type=pdf>
- Hiltz, S. R. (1985). *Online communities: A case study of the office of the future*. Norwood, NJ: Ablex Publishing Corp. Retrieved from <http://www.books.google.com>
- Hoffman, T, Desha, L., & Verrall, K. (2011). Evaluating an online occupational therapy community of practice and its role in supporting occupational therapy practice. *Australian Occupational Therapy Journal, 58*, 337-345. doi:10.1111/j.1440-1630.2011.00954.x
- Holloway, E. L. (1997). Structures for the analysis and teaching of supervision. In Watkins, Jr., C. E. (Ed.), *Handbook of psychotherapy supervision*, (pp. 249-276). Hoboken, NJ: John Wiley & Sons.
- Homer, B. D., Plass, J. L., & Blake, L. (2008). The effects of video on cognitive load and social presence in multimedia-learning. *Computers in Human Behavior, 24*, 786-797. doi: 10.1016/j.chb.2007.02.009
- Hong, S., & Jung, I. (2011). The distance learner competencies: A three-phased empirical approach. *Educational Technology Research and Development, 59*, 21-42. doi:10.1007/s11423-010-9164-3

- Horvath, A. O., & Luborsky, L. (1993). The role of the therapeutic alliance in psychotherapy. *Journal of Consulting and Clinical Psychology, 61*(3), 561-573.
- Hughes, S. A., Wickersham, L., Ryan-Jones, D. L., & Smith S. A. (2002). Overcoming social and psychological barriers to effective on-line collaboration. *Educational Technology & Society, 5*(1), 1-9. Retrieved from http://www.ifets.info/journals/5_1/hughes.html
- Hulse-Killacky, D., Killacky, J., & Donigien, J. (2001). *Making tasks groups work in your world*. Upper Saddle River, NJ : Merrill Prentice Hall.
- Kanz, J. E. (2001). Clinical-supervision.com: Issues in the provision of online supervision. *Professional Psychology: Research and Practice, 32*(4), 415-420. doi:10.1037//0735-7028.32.4.415
- Khasanshina, E. V., Wolfe, W. L., Emerson, E. N., & Statura, M. E. (2008). Counseling center-based tele-mental health for students at a rural university. *Telemedicine and e-Health, 14*(1), 35-41. doi:10.1089/tmj.2006.0038
- Kiesler, S., Siegel, J., & McGuire, T. W. (1984). Social psychological aspects of computer-mediated communication. *American Psychologist, 39*(10), 1123-1134.
- Kim, C. (2008). Using email to enable e3 (effective, efficient, and engaging) learning. *Distance Learning, 29*(2), 187-198. doi:10.1080/01587910802154988
- Kobak, K. A., Williams, J. B. W., Jeglic, E., Salvucci, D., & Sharp, I. R., (2008). Face-to-face versus remote administration of the Montgomery-Asberg depression rating scale using videoconference and telephone. *Depression and Anxiety, 25*, 913-919. doi:10.1002/da.20392
- Kraus, R., Stricker, G., & Speyer, C. (2010). *Online counseling: A handbook for mental health professionals – 2nd ed.* San Diego, California: Elsevier Inc.
- Kreijns, K., Kirschner, P. A., Jochems, W., & van Buuren, H. (2011). Measuring perceived social presence in distributed learning groups. *Education and Information Technologies, 16*(4), 365-381. doi:10.1007/s10639-010-9135-7
- Krumboltz, J. (2009). The happenstance learning theory. *Journal of Career Assessment, 17*(2), 135-154. doi: 10.1177/1069072708328861
- Ladany, N., Ellis, M. V., & Friedlander, M. L. (1999). The supervisory working alliance, trainee self-efficacy, and satisfaction. *Journal of Counseling & Development, 77*, 447-455.

- Ladany, N., Hill, C. E., Corbett, M. M., & Nutt, E. A. (1996). Nature, extent, and importance of what psychotherapy trainees do not disclose to their supervisors. *Journal of Counseling Psychology, 43*(1), 10-24.
- Lambert, M. J., & Barley, D. E. (2001). Research summary on the therapeutic relationship and psychotherapy outcome. *Psychotherapy: Theory, Research, Practice, Training, 38*(4), 357-361.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge England; New York: Cambridge University Press.
- Lester, S. (1995). Beyond knowledge and competence towards a framework for professional education. *Capability, 1*(3), 44-52.
- Liebert, T., Archer, Jr., J., Munson, J., & York, G. (2006). An exploratory study of client perceptions of internet counseling and the therapeutic alliance. *Journal of Mental Health Counseling, 28*(1), 69-83.
- Likert, R. (1932). A technique for the measurement of attitudes. *Archives of Psychology, 140*, 1-55.
- Lin, G-Y. (2004). *Social presence questionnaire of online collaborative learning: Development and validity*. Paper presented at the annual meeting of the Association for Educational Communications and Technology, Chicago, IL.
- Locke, D. C. (1993). *Multicultural Counseling* (Report No. ED357316). Ann Arbor, MI: ERIC Clearinghouse on Counseling and Personnel Services.
- Loganbill, C., Hardy, E., & Delworth, U. (1982). Supervision: A conceptual model. *The Counseling Psychologist, 10*(1), 3-42.
- Lombard, M., & Ditton, T. (1997). At the heart of it all: The concept of presence. *Journal of Computer-Mediated Communication, 3*(2). Retrieved from <http://www.ascusc.org/jcmc/vol3/issue2/lombard.html>
- Mallot, K. M., Hall, K. H., Sheely-Moore, A., Krell, M. M., & Cardaciotto, L. (2014). Evidence-based teaching in higher education: Application to counselor education. *Counselor Education & Supervision, 53*, 294-305. doi:10/1002/j.1556-6978.2014.00065.x
- March, S., Spence, S. H., & Donovan, C. L. (2009). The efficacy of an internet-based cognitive-behavioral therapy intervention for child anxiety disorders. *Journal of Pediatric Psychology, 34*(5), 474-487. doi:10.1093/jpepsy/jsn099

- Mayes, R., Ku, H-Y., Akarasriworn, C., Luebeck, J., & Korkmaz, O. (2011). Themes and strategies for transformative online instruction: A review of literature and practice. *Quarterly Review of Distance Education, 12*(3), 151-166.
- Mayne, L. A., & Wu, Q. (2011). Creating and measuring social presence in online graduate nursing courses. *Nursing Education Perspectives, 32*(2), 110-114. doi:10.5480/1536-5026-32.2.110
- McCrum-Gardner, E. (2010). Sample size and power calculations made simple. *International Journal of Therapy and Rehabilitation, 17*(1), 10-14. doi:10.12968/ijtr.2010.17.1.45988
- McDonald, J. H. (2014). *Handbook of biological statistics* (3rd ed.), Baltimore, MD: Sparky House Publishing. Retrieved from <http://www.biostathandbook.com/HandbookBioStatThird.pdf>
- McGrath, J. E., & Hollingshead, A. B. (1994). *Groups interacting with technology: Ideas, evidence, issues, and an agenda*. Thousand Oaks, CA: Sage Publications, Inc.
- Mehr, K. E., Ladany, N., & Caskie, G. I. L. (2010). Trainee nondisclosure in supervision: What are they not telling you? *Counseling and Psychotherapy Research, 10*(2), 103-113. doi:10.1080/14733141003712301
- Merriam, S. B., Caffarella, R. S., & Baumgartner, L. M. (Eds.). (2007). *Learning in adulthood: A comprehensive guide – 3rd ed.* San Francisco, California: John Wiley & Sons.
- Myers, S. (2001). Perceived instructor credibility and verbal aggressiveness in the college classroom. *Communication Research Reports, 18*(4), 354-364. doi: 10.1080/08824090109384816
- Miller, G. M., & Dollarhide, C. T. (2006). Supervision in schools: Building pathways to excellence. *Counselor Education & Supervision, 45*, 296–303. doi:10.1002/j.1556-6978.2006.tb00005.x
- Miller, K. L., & Miller, S. M. (2008). Challenges and solutions in the delivery of clinical cybersupervision. In Zeng, R., & Ferris, S. P. (Eds.), *Understanding Online Instructional Modeling: Theories and Practices* (pp. 223-241). doi: 10.4018/978-1-59904-723-2.ch014
- Miller, K. L., Sanders, S. A., & Miller S. M. (2009). Requisite computer technologies and infrastructures for providing live, remote, clinical cybersupervision. In G. R. Walz, J. C. Bleuer, & R. K. Yep (Eds.), *Compelling counseling interventions: VISTAS 2009* (pp. 317-328). Alexandria, VA: American Counseling Association.

- Morgan, R. D., Patrick, A. R., & Magaletta, P. R. (2008). Does the use of telemental health alter the treatment experience? Inmates' perceptions of telemental health versus face-to-face treatment modalities. *Journal of Consulting and Clinical Psychology, 76*(1), 158-162. doi:10.1037/0022-006X.76.1.158
- Muilenburg, L. Y., & Berge, Z. L. (2005). Student barriers to online learning: A factor analytic study. *Distance Education, 26*(1), 29-48. doi:10.1080/01587910500081269
- Muller, D. A., Bewes, J., Sharma, M. D., & Reimann, P. (2002). Saying the wrong thing: Improving learning with multimedia by including misconceptions. *Journal of Computer Assisted Learning, 24*(2), 144-155. doi: 10.1111/j.1365-2729.2007.00248.x
- Mungania, P. (2003). The seven e-learning barriers facing employees. *The Masie Centre*. Retrieved from <http://s3.amazonaws.com/academia.edu.documents/34812334/The-Seven-E-Learning-Barriers-facing-Employees-Penina-Mungania-2003.pdf>
- Myrick, R. D., & Sabella, R. A. (1995). Cyberspace: New place for counselor supervision. *Elementary School Guidance and Counseling, 30*(1), 35-45.
- Nelson, J. A., Nichter, M., & Henriksen, R. (2010). *On-line supervision and face-to-face supervision in the counseling internship: An exploratory study of similarities and differences*. Retrieved from http://counselingoutfitters.com/vistas/vistas10/Article_46.pdf
- Norcross, J. C., & Halgin, R. P. (1997). Integrative approaches to psychotherapy supervision. In Watkins, C. E., Jr. (Ed.) *Handbook of psychotherapy supervision* (pp. 203-222). Hoboken, NJ: John Wiley & Sons.
- Norman, G. (2010). Likert scales, levels of measurement and the "laws" of statistics. *Advances in Health Sciences Education, 15*(5), 625-632. doi:10.1007/s10459-010-9222-y
- Okech, D., Barner, J., Segoshi, M., & Carney, M. (2014). MSW student experience in online vs. face-to-face teaching formats? *Social Work Education, 33*(1), 121-134. doi:10.1080/02615479.2012.738661
- Palmer, M. T. (1995). Interpersonal communication and virtual reality: Mediating interpersonal relationships. In Biocca, F., & Levy, M. R. (Eds.). *Communication in the age of virtual reality*, Hillsdale, NJ: Lawrence Erlbaum Associates.

- Papa, F. (2001). Broadband networks for distance education and training: Some results and practical solutions from a human factors investigation. *International Journal of Modern Physics C*, 12(4), 607-619. Retrieved from <http://osulibrary.oregonstate.edu>
- Phillips, A. S., Sheffield, A., Moore, M., & Robinson, H. A. (2016). An online social constructivist course: Toward a framework for usability evaluations. *Quarterly Review of Distance Education*, 17(1), 1-10. Retrieved from <http://web.a.ebscohost.com.ezproxy.proxy.library.oregonstate.edu/ehost/pdfviewer/pdfviewer?sid=4450d2dc-258e-42e2-b74c-e891d48591aa%40sessionmgr4008&vid=1&hid=4002>
- Plante, K., & Asselin, M. E. (2014). Best practices for creating social presence and caring behaviors online. *Nursing Education Perspectives*, 35(4), 219-223. doi:10.5480/13-1094.1
- Porterfield, M. & Isaac-Savage, E. P. (2013). The formation of online wisdom communities amongst ministerial students: A quantitative case study. *Journal of Adult Theological Education*, 10(20), 116-131. doi:10.1179/1740714114Z.00000000018
- Preece, J. (2000). Research speaks to practice: Interpersonal communication. In Donelan, H., Kear, K., & Ramage, M. (Eds.). *Online communication and collaboration: A reader*. (pp. 161-175). New York, NY: Routledge.
- Preschl, B., Maercker, A., & Wagner, B. (2011). The working alliance in a randomized controlled trial comparing online with face-to-face cognitive-behavioral therapy for depression. *BMC Psychiatry*, 11(189), 1-10. Retrieved from <http://www.biomedcentral.com/1471-244X/11/189>
- Prinsen, F., Volman, M. L. L., & Terwel, J. (2007a). Gender-related differences in computer-mediated communication and computer-supported collaborative learning. *Journal of Computer Assisted Learning*, 23, 393-409. doi:10.1111/j.1365-2729.2007.00224.x
- Prinsen, F., Volman, M. L. L., & Terwel, J. (2007b). The influence of learner characteristics on degree and type of participation in a CSCL environment. *British Journal of Educational Technology*, 38(6), 1037-1055. doi:10.1111/j.1467-8535.2006.00692.x
- Ramage, M. (2010). Communities of practice – real and virtual. In Donelan, H., Kear, K., & Ramage, M. (Eds.). *Online communication and collaboration: A reader*. (pp. 176-178). New York, NY: Routledge.

- Rees, C. S. & Stone, S. (2005). Therapeutic alliance in face-to-face versus videoconferenced psychotherapy. *Professional Psychology, 36*(6), 649-653. doi:10.1037/0735-7028.36.6.649
- Reger, M. A., & Gahm, G. A. (2009). A meta-analysis of the effects of internet- and computer-based cognitive-behavioral treatments for anxiety. *Journal of Clinical Psychology, 65*(1), 53-75. doi:10.1002/jclp.20536
- Richards, D., & Timulak, L. (2013). Satisfaction with therapist-delivered vs. self-administered online cognitive behavioural treatments for depression symptoms in college students. *British Journal of Guidance & Counselling, 41*(2), 193-207. doi:10.1080/03069885.2012.726347
- Rousmaniere, T. (2014). Using technology to enhance clinical supervision and training. In Watkins, C. E., Jr. & Milne D. L. (Eds.), *The Wiley International Handbook of Clinical Supervision, First Edition*. (pp. 204-237). John Wiley & Sons, Ltd.
- Rousmaniere, T., Abbass, A., & Frederickson, J. (2014). New developments in technology-assisted supervision and training: A practical review. *Journal of Clinical Psychology: IN SESSION, 70*(11), 1082-1093. doi:10/1002/jclp.22129
- Saba, G. W., & Liddle, H. A. (1986). Perceptions of professional needs, practice patterns and critical issues facing family therapy trainers and supervisors. *The American Journal of Family Therapy, 14*(2), 109-122. doi:10.1080/01926188608250628
- Safran, J. D., & Muran, J. C. (2000). *Negotiating the therapeutic alliance: A relational treatment guide*. New York, NY: Guilford Press.
- Schmee, J., & Oppenlander, J. (2010). Chapter 1: About data. In Schmee, J., & Oppenlander, J. (Eds.), *JMP[®] Means Business: Statistical Models for Management* (pp. 1-18). Retrieved from <http://www.sas.com>
- Schubert, T., Friedmann, F., & Regenbrecht, H. (2001). The experience of presence: Factor analytic insights. *Presence, 10*(3), 266-281.
- Schuemie, M. J., van der Straaten, P., Krijn, M., & van der Mast, C. A. P. G. (2004). Research on presence in virtual reality: A survey. *CyberPsychology & Behavior, 4*(2), 183-201. doi:10.1089/109493101300117884
- Schwartz-Mette, R. A. (2009). Challenges in addressing graduate student impairment in academic professional psychology programs. *Ethics and Behavior, 19*(2), 91-102. doi: 10.1080/10508420902768973

- Short, J., Williams, E., & Christie, B. (1976). *The social psychology of telecommunications*. London: John Wiley & Sons.
- Simon, A. F. (2006). Computer-mediated communication: Task performance and satisfaction. *The Journal of Social Psychology, 146*(3), 349-379.
- Simonson, M., Smaldino, S., Albright, M., & Zvacek, S. (2006). *Teaching and learning at a distance: Foundations of online education*. Saddle River, NJ: Pearson.
- Slavit, D., LoFaro, T., & Cooper, K. (2002). Understandings of solutions to differential equations through contexts, web-based simulations, and student discussion. *School Science and Mathematics, 102*(8), 380-390.
- Stewart, A. R., Harlow, D. B., & DeBacco, K. (2011). Students' experience of synchronous learning in distributed environments. *Distance Education, 32*(3), 357-381. doi:10.1080/01587919.2011.610289
- Stoltenberg, C. D., & McNeill, B. W. (1997). Clinical supervision from a developmental perspective: Research and practice. In Watkins, Jr., C. E. (Ed.). *Handbook for psychotherapy supervision* (pp. 184-202). New York, NY: Wiley.
- Strømsø, H. I., Grøttumt, P., & Lycke, K. H. (2007). Content and processes in problem-based learning: A comparison of computer-mediated and face-to-face communication. *Journal of Computer Assisted Learning, 23*, 271-282. doi:10.1111/j.1365-2729.2007.00221.x
- Sullivan, G. M., & Artino, Jr., A. R. (2013). Analyzing and interpreting data from Likert-type scales. *Journal of Graduate Medical Education, 5*(4), 541-542. doi: 10.4300/JGME-5-4-18
- Terras, M. M., & Ramsay, J. (2015). Massive open online courses (MOOCs): Insights and challenges from a psychological perspective. *British Journal of Educational Technology, 46*, 472-487. doi:10.1111/bjet.12274
- Thomas, W. (2000). *Notes from Biostatistics 2, PubH 5452, Spring 2000*. Personal collection of J. L. Causey, University of Minnesota, Minneapolis, MN.
- Tona, T., Spagnolli, A., Bracken, C. C., & Rubenking, B. (2008, October). *How real is it? The state of (tele)presence in therapy with mediated environments*. Paper presented at the Eleventh Annual International Meeting of the Presence Workshop. Padova, Italy. Retrieved from <http://astro.temple.edu/~lombard/ISPR/Proceedings/2008/Tona.pdf>

- Tu, C-H. (2002). The measurement of social presence in an online learning environment. *International Journal on E-Learning*, 1(2), 34-45. Retrieved from <http://go.galegroup.com.ezproxy.proxy.library.oregonstate.edu/ps/i.do?p=AONE&sw=w&u=s8405248&v=2.1&it=r&id=GALE%7CA90933922&asid=746adb3dab6caccfe33b886f9c76267b>
- Tu, C-H., & McIsaac, M. (2002). The relationship of social presence and interaction in online classes. *American Journal of Distance Education*, 16(3), 131-150. doi:10.1207/S15389286AJDE1603_2
- Vaccaro, N., & Lambie, G. W. (2007). Computer-based counselor-in-training supervision: Ethical and practical implication for counselor educators and supervisors. *Counselor Education & Supervision*, 47, 46-57. doi: 10.1002/j.1556-6978.2007.tb00037.x
- Valaitis, R. K., Akhtar-Danesh, N., Brooks, F., Binks, S., & Semogas, D. (2011). Online communities of practice as a communication resource for community mental health nurses working with homeless persons. *Journal of Advanced Nursing*, 67(6), 1273-1284. doi:10.1111/j.1365-2648.2010.05582.x
- Varghese, E., & Varghese, C. (n.d.). Non-parametric tests using SAS. http://www.iasri.res.in/sscnars/sas_manual/15-Nonparametric%20Tests%20using%20SAS.pdf
- Wantz, R. A., Tromski, D. M., Mortsof, C. J., Yoxtheimer, G., Brill, S., & Cole, A. (2003). *Incorporating distance learning into counselor education programs: A research study*. In Bloom, J. W., & Walz, G. R. (Eds.), *Cybercounseling and cyberlearning: An encore* (pp. 327-344). Retrieved from <http://files.eric.ed.gov/fulltext/ED481146.pdf>
- Watkins, C. E. (1997). The ineffective psychotherapy supervisor: Some reflections about bad behaviors, poor practices, and offensive outcomes. *The Clinical Supervisor*, 16(1), 163-180.
- Watson, J. C. (2003). Computer-based supervision: Implementing computer technology into the delivery of counseling supervision. *Journal of Technology in Counseling*, 3(1), 1-13. Retrieved from http://www.jtc.colstate.edu/vol3_1/Watson/Watson.htm
- Watson, M. F. (1993). Supervising the person of the therapist: Issues, challenges and dilemmas. *Contemporary Family Therapy*, 15, 21-31. doi:10.1007/BF00903485
- Weisband, S. P. (1992). Group discussion and 1st advocacy effects in computer-mediated and face-to-face decision-making groups. *Organizational Behavior and Human Decision Processes*, 53(3), 352-380.

- Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. New York, NY: Cambridge University Press. Retrieved from <http://books.google.com>
- Wheeler, S., & Cushwa, D. (2013). Supervision and clinical psychology: History and development. In Fleming, I., & Steen, L. (Eds.), *Supervision and clinical psychology: Theory, practice, and perspectives – 2nd ed.* (pp. 11-22). Florence, Italy: Taylor and Francis.
- Wiener, M., & Mehrabian, A. (1968). *Language within language: Immediacy, a channel in verbal communication*. Ardent Media. Retrieved from <https://books.google.com/books>
- Wolfe, J. (2000). Gender, ethnicity, and classroom discourse. *Written Communication*, 17(4), 491-519. Retrieved from <http://web.b.ebscohost.com.ezproxy.proxy.library.oregonstate.edu>
- Wood, A. F., & Smith, M. J. (2005). *Online communication: Linking technology, identity, & culture – 2nd ed.* [Kindle Reader version]. Retrieved from <https://www.amazon.com/Online-Communication-Technology-Identity-Routledge-ebook>
- Yeh, C. J., Chang, T., Chiang, L., Drost, C. M., Spelliscy, D., Carter, R. T., & Chang, Y. (2008). Development, content, process, and outcome of an online peer supervision group for counselor trainees. *Computers in Human Development*, 24, 2889-2903. doi:10.1016/j.chb.2008.04.010
- Yourman, D. B. (2003). Trainee disclosure in psychotherapy supervision: The impact of shame. *Journal of Clinical Psychology/In Session*, 59(5), 601-609. doi:10.1002/jclp.10162
- Yourman, D.B. & Farber, B. A. (1996). Nondisclosure and distortion in psychotherapy supervision. *Psychotherapy*, 33(4), 567-575.
- Yukselturk, E., & Bulut, S. (2009). Gender differences in self-regulated online learning environment. *Journal of Educational Technology & Society*, 12(3), 12-22. Retrieved from http://www.ifets.info/journals/12_3/3.pdf
- Yukl, G. A. (2006). *Leadership in organizations*. Englewood Cliffs, NJ: Prentice-Hall.

APPENDICES

APPENDIX A: Cybersupervision Research Script

Synchronous Cybersupervision of Counseling: Introduction Script

Step by Step Instructions:

1. Introduce self and read the introduction script below.
2. Pass out the questionnaire.
3. Instruct the students to read the informed consent statement and if they agree to participate to complete the questionnaire. Also state that students who do not wish to participate still may look through the questionnaire if they would like to.
4. After 15 minutes collect the questionnaire.

Introduction Script:

“OSU researchers are examining graduate student perceptions of counseling supervision. The goal of this research is to improve the supervision experience. As part of this research we seek your voluntary participation in an anonymous questionnaire that takes between 10 and 15 minutes to complete. In a moment I am going to pass out the questionnaire and you can look at the informed consent statement and decide if you would like to participate. If you decide not to participate you are still free to look through the questionnaire. Before I pass out the questionnaire are there any questions?”

APPENDIX B: Informed Consent and Instruments



College of Education

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Dear Participant,

This is a request for your agreement to participate in a research project led by Dr. Cass Dykeman, Associate Professor of Counseling. The purpose of this study is to gain knowledge about student experiences in clinical supervision. Participants for this study are graduate students in counseling. The procedures entail completing 49 questions on a seven point rating scale as well as demographic questions. The questionnaire will take approximately 10-15 minutes to complete.

This study seeks to improve clinical supervision. The potential risks involved with participation in this study include some minimal risk of psychological discomfort associated with reflecting upon one's experiences in clinical supervision. Should you find yourself experiencing any psychological distress after completing the questionnaire, please contact this national 24-hour hotline for support and appropriate referral: 1-800-273-TALK.

The decision to participate in this study is voluntary and you are free to withdraw from this study at any time without jeopardizing your relationship with Oregon State University. Your responses will be completely anonymous. You may skip any question you do not wish to answer. No individual results will be reported. Any data you provide will have no link to your identity. There is no financial or extra credit compensation for your participation. Your completion of the questionnaire will constitute your informed consent to participate in this study.

If you have questions about your rights or welfare as a participant, please contact the Oregon State University Institutional Review Board (IRB) Office, at (541) 737-8008 or by email at IRB@oregonstate.edu. If you have any questions or concerns specifically about this project, please contact Dr. Dykeman at dykemanc@onid.orst.edu. Thank you very much for your participation!

Sincerely,

A handwritten signature in black ink that reads "Cass Dykeman". The signature is written in a cursive, slightly slanted style.

Cass Dykeman, PhD, NCC, NCSC, MAC
Associate Professor
Lead, Counseling Academic Unit

Questionnaire Part 1**Instructions:** Circle the number you believe to be the most accurate response.

#	Item	Response (<i>circle one</i>)
A	Your Gender	1=Female 2=Male 3=Other
B	Your Race/Ethnicity	1=American Indian/Alaska Native 2=Asian, Black/African American 3=Hispanic/Latino 4=Native Hawaiian/Pacific Islander 5=White/Non-Hispanic 6=Two or More Races 7=Other/Unknown
C	Your Program	1=Master's 2=Doctorate
D	Your Age Range	1=Aged 20-29 2=Aged 30-39 3=Aged 40-49 4=Aged 50+
E	Your Current Clinical Class	1=Practicum 2=Internship
F	Your Current Supervision Structure	1=Individual 2=Triadic
H	Your Current Supervision Delivery Modality	1=Traditional, on-campus face-to-face 2=Adobe Connect
I	Your Supervisor's Gender	1=Female 2=Male 3=Other
J	Your Supervisor's Status	1=Faculty 2=Doctoral Student 3=Other

Now move on to the questions on Page 3.

Questionnaire Part 2

Instructions: This scale is intended to get your perceptions of your experience in your current or most recent clinical supervision. Please circle the number that best describes your experience with your supervision. Please use a seven-point scale where 1=never and 7=always.

#	To what extent...	Never					Always	
		<i>(circle one)</i>						
1	Did your supervisor demonstrate openness?	1	2	3	4	5	6 7	
2	Did your supervisor demonstrate a sense of humor?	1	2	3	4	5	6 7	
3	Did your supervisor seem flexible?	1	2	3	4	5	6 7	
4	Was your supervisor competent?	1	2	3	4	5	6 7	
5	Did your supervisor provide you with useful feedback?	1	2	3	4	5	6 7	
6	Did your supervisor give you validation?	1	2	3	4	5	6 7	
7	Did your supervisor help you to better understand your client?	1	2	3	4	5	6 7	
8	Did your supervisor structure time effectively?	1	2	3	4	5	6 7	
9	Did your supervisor constructively use interpersonal dynamics?	1	2	3	4	5	6 7	
10	Did your supervisor effectively resolve conflicts in the supervision dyad?	1	2	3	4	5	6 7	
11	Was the group a safe place for you to ask questions?	1	2	3	4	5	6 7	
12	Was your supervisor reliable?	1	2	3	4	5	6 7	
13	Was your supervisor's feedback unfairly negative?	1	2	3	4	5	6 7	

If you attend supervision in person stop here. If you attend supervision via Adobe Connect now move on to the questions on pages 4 to 7.

Questionnaire Part 3

Instructions: Now you'll see some statements about experiences about experiencing supervision in an Adobe Connect (AC) online environment. Please circle the number that best describes your experience given the verbal "anchors" provided. There are no right or wrong answers, only your opinion counts. You will notice that some questions are very similar to each other. This is necessary for statistical reasons.

#	Item	Response (<i>circle one</i>)
14	How aware were you of the real world surrounding while navigating in the Adobe Connect online environment? (i.e. sounds, room temperature, other people, etc.)?	extremely aware moderately aware not aware at all 1 2 3 4 5 6 7
15	How real did the Adobe Connect online environment seem to you?	completely real not real at all 1 2 3 4 5 6 7
16	I had a sense of acting in the Adobe Connect online environment, rather than operating something from outside.	fully disagree fully agree 1 2 3 4 5 6 7
17	How much did your experience in the Adobe Connect online environment seem consistent with your real world experience?	not consistent moderately consistent very consistent 1 2 3 4 5 6 7
18	How real did the Adobe Connect online environment seem to you?	about as real as an imagined world indistinguishable from the real world 1 2 3 4 5 6 7
19	I did not feel present in the Adobe Connect online environment.	did not feel present felt 1 2 3 4 5 6 7
20	I was not aware of my real environment.	fully disagree fully agree 1 2 3 4 5 6 7

#	Item	Response (circle one)
21	In the computer generated world I had a sense of "being there"	not at all much 1 2 3 4 5 6 7 very
22	Somehow I felt that the Adobe Connect online environment surrounded me.	fully disagree agree 1 2 3 4 5 6 7 fully
23	I felt present in the Adobe Connect online environment.	fully disagree agree 1 2 3 4 5 6 7 fully
24	I still paid attention to the real environment.	fully disagree agree 1 2 3 4 5 6 7 fully
25	The Adobe Connect online environment seemed more realistic than the real world.	fully disagree agree 1 2 3 4 5 6 7 fully
26	I felt like I was just perceiving pictures.	fully disagree agree 1 2 3 4 5 6 7 fully
27	I was completely captivated by the Adobe Connect online environment.	fully disagree agree 1 2 3 4 5 6 7 fully

Now move on to the questions on Page 6.

Questionnaire Part 4.

Instructions: This survey asks you to rate how much certain issues hindered your clinical supervision experience via Adobe Connect. By “hindered” we mean “the extent to which your functioning was somehow negatively affected by an event or process.” Circle the number that best represents the extent of the hindrance according to the following scale:

Not At All **Somewhat** **Extensive**
 1 2 3 4 5 6 7

#	Item	Response (circle one)						
		NAA	SW	E				
28	Lack of a computer hardwired to the Internet	1	2	3	4	5	6	7
29	Lack of an USB headphone and microphone	1	2	3	4	5	6	7
30	Lack of a powerful enough computer in terms of RAM or processor	1	2	3	4	5	6	7
31	Lack of access to a high-speed internet connection	1	2	3	4	5	6	7
32	Operating Adobe Connect with my computer’s OS (i.e., Windows, Mac)	1	2	3	4	5	6	7
33	Operating Adobe Connect with my preferred browser (i.e., IE, Chrome, Firefox, Safari)	1	2	3	4	5	6	7
34	Managing bandwidth use during Adobe Connect use (closing other software programs, prohibiting other computer or telephone use in household)	1	2	3	4	5	6	7
35	Slow internet speed because supervision occurs during a time of heavy internet use (i.e., after dinner)	1	2	3	4	5	6	7
36	Getting other household members from interrupting supervision	1	2	3	4	5	6	7
37	Electronically locking session recordings when not in use	1	2	3	4	5	6	7
38	Video playback stops intermittently (buffering)	1	2	3	4	5	6	7
39	Talking without inadvertently talking over someone else in Adobe Connect	1	2	3	4	5	6	7
40	Inadvertently being talked over in Adobe Connect	1	2	3	4	5	6	7
41	Digitally recording a counseling session	1	2	3	4	5	6	7
42	Digitally editing a counseling session	1	2	3	4	5	6	7
43	Converting digital recording to FLV format	1	2	3	4	5	6	7
44	Sending digital recording to supervisor	1	2	3	4	5	6	7
45	Obtaining URL and logging into Adobe Connect	1	2	3	4	5	6	7
46	Set up and use of webcam in Adobe Connect	1	2	3	4	5	6	7
47	Set up and use of audio (VoIP) in Adobe Connect	1	2	3	4	5	6	7
48	I didn’t get enough time to discuss my cases because of technology issues	1	2	3	4	5	6	7
49	Not enough time to get all my questions addressed because of technology issues	1	2	3	4	5	6	7

Now move on to the questions on Page 7.

#	Item	Response (circle one)						
		NAA	SW	E				
50	Supervisor was more wrapped up in technological processes than clinical issues	1	2	3	4	5	6	7
51	Lack of technical assistance with the recording, editing, conversion, and/or transmittal of a counseling session	1	2	3	4	5	6	7
52	Technology issues "bleeding" into supervision	1	2	3	4	5	6	7
53	Lack of technical assistance with Adobe Connect	1	2	3	4	5	6	7
54	Supervisor had insufficient technological expertise	1	2	3	4	5	6	7
55	When using headphones, not being to turn off the computer's speakers and thus getting an echo	1	2	3	4	5	6	7