A Comparison of Videoconferencing and In-person Administration of

the Yale-Brown Obsessive Compulsive Scale

By

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Abstract

Although effective empirically-based OCD assessments and treatments exist, access to these resources can be challenging (Himle et al., 2006). Fortunately the advent of telemental health (TMH) to provide mental health services via videoconferencing may ameliorate some of these access challenges. Participants were 30 undergraduates identified as having subclinical obsessive compulsive symptoms. Each participant underwent Y-BOCS assessments twice, once over videoconferencing and once in-person. As hypothesized, videoconferencing and in-person administrations of the Y-BOCS Symptom Checklist and Severity Ratings were functionally equivalent. However, the results did not support the hypothesis that a TMH environment would be more conducive for increased comfort in disclosure of symptoms. The results build upon prior research demonstrating that TMH is feasible and acceptable for a wide range of underserved populations and settings. Research to establish assessment measures like the Y-BOCS as reliable and acceptable when used over videoconferencing may promote the further dissemination of gold-standard assessments and treatments to underserved populations.

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A diagnosis of obsessive-compulsive disorder (OCD) implies obsessions and/or compulsions that result in significant distress or functional impairment. Obsessions are recurrent, intrusive thoughts, ideas, or images that are experienced as unwanted, whereas compulsions are repetitive acts or mental rituals performed to neutralize resulting anxiety (American Psychiatric Association, 2000). Although the prevalence of OCD in the U.S. population ranges from 2.5 to 3.0%, a much larger percentage of people report subclinical OCD, conceptualized as obsessive and compulsive symptoms that exceed the normal experiences of intrusive thoughts and compulsive behaviors, but do not meet all DSM-IV criteria (de Bruijin, Beun, de Graaf, ten Have, & Denys, 2009; Ruscio, Stein, Chiu, & Kessler, 2010; Zucker, Craske, Blackmore, & Nitz, 2006). An accurate and thorough assessment is the foundation for evidence informed and expert consensus-based treatments, and the Yale-Brown Obsessive Compulsive Scale (Y-BOCS; Goodman et al., 1989b) is generally regarded as the gold-standard for categorizing OCD symptoms and determining severity (Abramowitz, 1997; Antony, Orsillo, & Roemer, 2001).

Although effective empirically-based OCD assessments and treatments exist, access to these resources can be challenging. Sufficiently trained experts tend to cluster in academic medical centers or major metropolitan areas, presenting logistical and transportation challenges to reach them (Barlow, Levitt, & Bufka, 1999; Himle et al., 2006). Fortunately the advent of telemental health (TMH) to provide mental health services via videoconferencing may ameliorate some of these access challenges. Research has demonstrated that TMH is feasible and acceptable for a wide range of underserved populations and settings. Notably, researchers

have demonstrated preliminary evidence supporting the reliability of assessment and treatment using videoconferencing technology in lieu of in-person contact (Frueh et al., 2000; Monnier, Knapp, & Frueh, 2003; Richardson, Frueh, Grubaugh, Egede, & Elhai, 2009). The present study compared the reliability and acceptability of videoconferencing and in-person administration of the Y-BOCS in a sample of undergraduate students with subclinical obsessive-compulsive symptoms.

In this paper, I will first discuss subclinical obsessive-compulsive disorder and the need for additional research in assessing subclinical OCD. Next I will review the literature on the Y-BOCS and its extension to subclinical OCD assessment. Finally, access challenges to mental healthcare will be highlighted and ways in which TMH can address some of these challenges will be discussed.

Subclinical Obsessive-Compulsive Disorder

Previous studies have reported a large range of prevalence rates for subclinical OCD (2-28%), depending on the specific defining criteria (Grabe et al., 2000; Zucker et al., 2006). For example, Grabe et al. (2000) operationally defined subclinical OCD as the presence of obsessions or compulsions *and* at least one of the following additional DSM-IV criteria: (a) the symptoms are recognized as excessive or unreasonable, (b) the symptoms are time consuming, or (c) the symptoms cause significant impairment or distress. Of the 4,075 participants, 355 (8.7%) reported obsessions and/or compulsions, and 78 (2%) met criteria for subclinical OCD. Other studies have used less stringent definitions for subclinical OCD, basing criteria on the presence of obsessions and/or compulsions without meeting the full diagnostic criteria for OCD (de Bruijin et al., 2009; Fullana et al., 2009). Utilizing a prospective longitudinal design with a complete birth cohort of children born in Dunedin, New Zealand, Fullana et al. (2009) found that

69 of 517 participants (13%) interviewed at age 26 and 105 of 602 participants (17%) interviewed at age 32 reported obsessions and compulsions but did not meet criteria for any psychiatric diagnoses based on the NIMH Diagnostic Interview Schedule (DIS-IV). Although subclinical OCD is not well studied, many people report the presence of obsessions and compulsions without meeting criteria for OCD.

Regardless of the criteria used to define subclinical OCD, it is apparent that individuals afflicted by these symptoms experience significant impairments in multiple aspects of functioning (de Bruijin et al., 2009; Fullana et al., 2009; Grabe et al., 2000). For example, de Bruijin et al. (2009) demonstrated that participants with subclinical OCD shared similar health, functional status, rates of comorbid psychological disorders, and psychological vulnerability with participants diagnosed with OCD. Both groups fared significantly worse on these indicators than control group participants without obsessions and compulsions. Furthermore, the time commitment associated with subclinical OCD is considerable. In Fullana et al. (2009), 31-42% of participants diagnosed with subclinical OCD reported a history of obsessions lasting over two weeks, and 25% reported experiencing obsessions for more than an hour a day. Overall, subclinical OCD is associated with significant impairment in terms of lower quality of life and psychosocial functioning. In fact, those with subclinical OCD were more often never married or divorced and were more likely to be unemployed in comparison to those diagnosed with OCD (Grabe et al., 2000). Additionally, subclinical OCD has been associated with high rates of comorbidity with other Axis I disorders, including major depression, panic disorder, social phobia, generalized anxiety disorder, and alcohol abuse/dependence (Angst, 1993; Zucker et al., 2006). Participants with subclinical OCD generally did not attribute their distress and impairment to their obsessions and compulsions and perhaps consequently reported accessing

fewer mental health treatment resources (de Bruijin et al., 2009; Grabe et al., 2000).

Additional research focused on the assessment of subclinical OCD will increase awareness of the nature and impact of obsessive compulsive symptoms and perhaps encourage greater utilization of mental health resources targeting subclinical OCD. Zucker et al. (2006) provided preliminary support for the effectiveness of a brief cognitive behavioral workshop treating subclinical obsessive compulsive symptoms in a group format with a sample of undergraduate participants. The manualized workshop comprised psychoeducation, an exposure and response prevention exercise, cognitive restructuring, and a summary. Workshop participants (n=43) reported significantly fewer obsessions and compulsions at 5-month follow-up in comparison to an assessment only waitlist group (n=42). This suggests that early assessment and intervention in the community may mitigate the distress, interference, and public health costs associated with subclinical OCD, and may even prevent the development of OCD in some cases. Fullana et al. (2009), for example, found that children reporting obsessions and/or compulsions at age 11 were more likely to meet diagnostic criteria for OCD as adults. Given this, there is a substantial need for additional research focused on recognizing and assessing subclinical OCD to bridge treatment need and utilization of mental health resources.

Assessment of Obsessive Compulsive Symptoms

Various measures, including the Leyton Obsessional Inventory (LOI) and the Maudsley Obsessional-Compulsive Inventory (MOCI) have been used in the assessment of obsessive compulsive symptoms. However, measures of obsessive compulsive symptomatology are limited in that they focus only on certain obsessions and compulsions despite the heterogeneity of OCD symptom presentation. Furthermore, most of these measures rely on self-ratings, and research suggests that this strategy may be confounded by such comorbid symptoms as

depression and anxiety. The clinician-administered Y-BOCS was developed to encompass a greater variety of common obsessions and compulsions while also providing a measure of symptom severity (Goodman et al., 1989b, Mataix-Cols, Fullana, Alonso, Menchón, & Vallejo, 2004). In a quantitative review of controlled OCD treatment studies, the Y-BOCS was the most frequently used measure of treatment outcome and is considered the gold standard in the assessment of OCD (Abramowitz, 1997; Antony et al., 2001; Norton & Price, 2007). Thus, the Y-BOCS is a reasonable starting point in determining the reliability and acceptability of assessing obsessive compulsive symptoms over videoconferencing.

Y-BOCS structure.

The Y-BOCS is a clinician-administered, semi-structured measure of OCD symptom presentation and impairment severity over the week preceding the assessment. The Y-BOCS has two components: (a) Y-BOCS Symptom Checklist (Y-BOCS-SC) and (b) Y-BOCS Severity Ratings. The Y-BOCS-SC is a list of common obsessions and compulsions separated into categories by themes (e.g., contamination, aggressive, hoarding/saving, cleaning, checking, and miscellaneous). The 10-item Y-BOCS Severity Ratings has two subscales: Obsessions Severity subtotal (range = 0-20) and Compulsions Severity subtotal (range = 0-20). Each subscale comprises 5 questions measuring distress, frequency, interference, degree of symptom control, and resistance related to the obsessions or compulsions. Each question is rated on a 5-point Likert scale ranging from 0 (*None)* to 4 (*Extreme*). The Obsessions and Compulsions Severity subtotals are summed to obtain a Total score (range = 0-40) representing the overall symptom severity for the previous week. Higher scores indicate greater symptom severity. Clinicians integrate behavioral observations and other sources of information and may adjust ratings based on clinical judgment. The Y-BOCS Severity Ratings demonstrates sensitivity to treatment

effects and thus can be used to monitor treatment progress (Goodman et al., 1989a; Goodman et al., 1989b).

Y-BOCS factor analyses.

Factor analyses of the Y-BOCS-SC find from three to five factor solutions with the majority of studies identifying dimensions of checking; contamination/cleaning; symmetry/ exactness; hoarding; and aggressive, sexual or religious obsessions (Mataix-Cols, et al., 2004; Wu, Watson, & Clark, 2007). The Y-BOCS-SC demonstrated adequate discriminant validity, and three of five scales (contamination/washing, aggression/checking, and hoarding) had good internal consistency reliability. Symmetry/ordering and sexual/religious symptom scales had poor internal consistency reliabilities, which may have resulted from the small number and heterogeneity of the items comprising the scales (Sulkowski et al., 2008).

Research has focused on the psychometric properties of the Y-BOCS Severity Ratings to a greater extent than the Y-BOCS-SC. Although the majority of studies have consistently identified a two-factor structure in the Y-BOCS Severity Ratings, the two factors have varied and have included obsessions and compulsive habits, disturbance and symptom severity, and severity and resistance/control (Garnaat & Norton, 2010). Psychometric properties of the Y-BOCS Severity Ratings when administered to clinical samples include excellent internal consistency ($\alpha = 0.89$; Goodman et al, 1989b), excellent interrater reliability ($r = .98$; Goodman et al, 1989b), and excellent one-week test-retest reliability ($r = .97$; Kim et al., 1992). In addition, the Y-BOCS Severity Ratings demonstrated good convergent validity ($r = .53$) with the Maudsley Obsessive Compulsive Inventory (MOCI), but poor discriminant validity ($r = .60$), with the Hamilton Rating Scale for Depression. The inability of the Y-BOCS to differentiate between depression and OCD may result from the distress and interference associated with OCD

(e.g. obsessions leading to difficulty concentrating or compulsions resulting in poor sleep and low energy; Goodman et al., 1989a; Woody, Steketee, & Chambless, 1995).

Y-BOCS and subclinical OCD.

Frost, Steketee, Krause, and Trepanier (1995) demonstrated that the Y-BOCS is an appropriate measure for detecting obsessive compulsive symptoms in nonclinical populations. Their sample (45 college students) was selected to represent the range of scores on the MOCI. Although none of the participants had a prior diagnosis of OCD, all but four reported multiple obsessive compulsive symptoms on the Y-BOCS. The most frequently reported obsessions were fear of forgetting (n=10); being bothered by sticky substances (n=10); arranging, ordering, or symmetry (n=8); and harming others (n=7). The most frequently reported compulsive habits were checking (n=13); needing to tell, ask, or confess (n=11); hoarding (n=9); and list-making (n=8). There was considerable variability in Y-BOCS scores across the sample, demonstrating that the Y-BOCS is sensitive to obsessive compulsive symptoms in a nonclinical population. Scores on the compulsive habits subtotal ranged from 0-11 with a mean of 4.0 (SD=3.5) and scores on the obsessions subtotal ranged from 0-11 with a mean of 3.8 (SD=2.9). The obsessions, compulsive habits, and total scores of the Y-BOCS Severity Ratings retained good internal consistency and interrater reliability in the nonclinical sample. In addition, the Y-BOCS Severity Ratings scores were moderately to strongly correlated with the Maudsley Obsessive Compulsive Inventory (MOCI), Compulsive Activity Checklist-Revised (CAC-R) and the Obsessive Thoughts Questionnaire (OTQ). The authors concluded that the Y-BOCS is particularly adept at measuring subclinical obsessive compulsive symptoms because of its relatively broad scope and open-ended nature in comparison to other measures of OCD.

The present study focused on using the Y-BOCS to assess subclinical OCD rather than

the whole spectrum of obsessive compulsive symptoms. Furthermore, it examined the potential TMH applicability of the Y-BOCS in nonclinical populations. The establishment of assessment measures like the Y-BOCS that are reliable and acceptable to both patients and providers when used over videoconferencing is necessary for further dissemination of gold-standard assessments and treatments to underserved populations.

Dissemination

Although the Y-BOCS has been shown to be a valid and reliable measure for the assessment of clinical and subclinical OCD, it can be difficult to find specialists who are trained in its administration. The assessment and treatment of obsessive compulsive symptoms require particular skills beyond those of general diagnostic assessment or cognitive behavioral therapy (CBT). For example, the assessment of OCD is complicated by the wide diversity of obsessions and compulsions, resulting in a myriad of presentations beyond the well-known contamination obsessions and compulsions. Furthermore, such OCD symptoms as sexual or harming obsessions may be particularly embarrassing or difficult to disclose, necessitating a trained, empathic clinician to elicit them (Antony et al., 2001). Unfortunately, clinicians who have obtained specialized training are usually located in specialty clinics in urban settings and amongst academic centers (Barlow et al., 1999). Despite the uneven distribution of anxiety specialty services, the prevalence of OCD in rural populations (2.07%) equals that found in urban populations (2.00%), resulting in provider shortages in rural areas (Himle et al., 2006). Although there is no research specifically differentiating the prevalence of subclinical OCD in rural and urban populations, it seems likely that the rates would be comparable, given the similar prevalence rates for OCD. Thus, issues of dissemination and training remain obstacles to providing empirically supported, state-of-the-art assessment and treatment for OCD and

subclinical OCD.

One method of increasing access for rural populations suffering from OCD would be to train rural providers to specialize in OCD assessment and treatment. Although perhaps optimal, this option has drawbacks. In order to acquire competency in any empirically supported treatment, Barlow et al. (1999) recommend that, at a minimum, practitioners study a treatment manual, attend lengthy didactic presentations, and treat several pilot cases under close, direct supervision. Because the majority of rural mental healthcare falls into the hands of generalist mental health staff or other health providers (e.g., primary care or hospital physicians), the small proportion of OCD patients comprising their clinical caseloads may not justify the expense and difficulty of obtaining specialized training and supervision. Even if local primary care practitioners were to acquire the necessary training, their therapeutic skills may deteriorate over time with limited practice (Himle et al., 2006). TMH may be a partial solution to these rural access challenges.

Telemental Health

Although there are various terms used in the literature to describe TMH (e.g., telepsychiatry, telepsychology, behavioral telehealth), TMH will be used in this paper to encompass mental health applications involving videoconferencing (Richardson et al., 2009). Using videoconferencing technology, TMH has demonstrated efficiency, cost-effectiveness and acceptability in providing assessment, psychotherapy, medication management, case management, psychoeducation, professional supervision and training to underserved or isolated populations (Monnier et al., 2003; Richardson et al., 2009). TMH providers include psychiatrists, nurse practitioners, physician assistants, social workers, psychologists, counselors, and nurses. Mental health treatment is a pragmatic application of videoconferencing technology

because the assessment and treatment of mental illness rely primarily on audiovisual communication (Elford et al., 2000). Of the telemedicine mediums (internet, telephone, videoconferencing, and email), videoconferencing may have the most potential for delivering mental health services because it best approximates in-person care (Himle et al., 2006; Richardson et al., 2009). For example, videoconferencing allows the client and therapist to observe nonverbal behavior in real-time, rather than being restricted to verbalizations alone. In addition, the visual component in videoconferencing creates a social presence that promotes familiarity, connectedness, and comfort when discussing complex topics (Bouchard et al., 2004; Menon et al., 2001; Richardson et al., 2009). Therapists also have reported greater feelings of competence and comfort with videoconferencing than with telephoning (Bouchard et al., 2004).

In a review of 63 TMH articles from January 1970 to February 2000, Frueh et al. (2000) found high levels of clinician and patient satisfaction and support for TMH as a viable means of conducting clinical interviews. Monnier et al. (2003) completed a literature review of 68 articles published between March 2000 and March 2003, and Richardson et al. (2009) completed a literature review of 148 articles published between April 2003 and July 2008, reflecting the substantially growing interest and research in TMH. Preliminary evidence suggests that TMH provides a cost benefit to patients when factoring in reduced travel requirements, time off work, and childcare needs. Patients with these challenges may actually prefer TMH to traditional care (Monnier et al., 2003). In addition to financial savings, randomized, controlled clinical trials document that TMH increases access to specialty services and achieves comparable clinical outcomes without compromising patient satisfaction or treatment adherence (Mair & Whitten, 2003; O'Reilly et al., 2007; Ruskin et al., 2004).

In addition to increasing access for patients living in remote areas, TMH can benefit

patients that experience challenges in leaving their homes (e.g., the elderly; those with physical disabilities; and those with particular mental health disorders such as agoraphobia, flying or driving phobias, social anxiety disorder, and severe depression). TMH has also been applied to incarcerated patients stemming from access challenges of safely transporting patients and of limited on-site mental health care, especially in smaller facilities. There are access challenges in urban areas as well. Because patients are usually restricted to providers in their own city, urban specialists may have long waitlists. In addition, patients may have transportation difficulties even within city limits (Bouchard et al., 2004; Grady et al., 2011; Ruskin et al., 2004). The burdens of traveling to a specific provider are magnified in mental health care because regular sessions sustained over a period of time are usually considered necessary for effective care. TMH provides a possible avenue for increasing regular attendance by diminishing financial, temporal, and travel barriers (Deitsch, Frueh, & Santos, 2000). TMH may also increase access for people who are concerned with the stigma associated with being seen at a mental health center or practitioner's office (Nelson, Barnard, & Cain, 2006). In addition, technological advances in computer systems have increased the availability of inexpensive, fast, user-friendly videoconferencing systems and stimulated a significant increase in the range of clinical TMH programs (Himle et al., 2006; Ruskin et al., 2004). For instance, TMH has successfully been implemented in such venues as schools, clients' homes, and rural outreach centers (Nelson et al., 2006).

Despite these advantages and technological advances, TMH has not been widely implemented. Patients have reported limited technological knowledge, experience, and comfort as impediments to utilizing TMH health services. On the other end, providers reported their concerns with TMH included risk management, difficulty interpreting emotional expression and

nonverbal cues, and a more impersonal feel from a lack of physical contact (e.g., the inability to shake patients' hands or hand them tissues). TMH also necessitates adapting communication to audio and visual artifacts (e.g., pixilation, poor resolution, "frozen" images, transmission lags, and echoing) to varying degrees based on available technology. Additionally, providers should consider gaze angle, the angle between a person's camera and where that person looks at the onscreen person. For instance, in order to appear to make eye contact over videoconferencing, providers need to look more at the camera rather than the person on the screen. Another barrier to widespread TMH adoption is higher initial costs in terms of technology, training, and personnel. Specifically, TMH protocols need to be developed and personnel trained to address back-up plans when there are hardware or network problems or crisis situations. Additional support personnel are often necessary to coordinate schedules between multiple sites and provide technical assistance for the equipment (Grady et al., 2011; Jones, Etherage, Harmon, & Okiishi, 2012; Thorp, Fidler, Moreno, Floto, & Agha, 2012; Vogel et al., 2012). Overall, research is needed to provide the foundation of knowledge concerning which assessments and treatments may be most efficacious to implement with TMH technologies before they can reach their full potential (Frueh et al., 2007; Morland, Greene, Rosen, Mauldin, & Frueh, 2009; Richardson et al., 2009).

Psychological Assessment over Videoconferencing

A growing body of research has demonstrated that TMH assessments are feasible, reliable and acceptable across a variety of adult patient populations and settings, including geriatric adults (Jones, Johnston, Reboussin, & McCall, 2001), veterans (Nieves, Candelario, Short, & Briscoe, 2009; Porcari et al., 2009), forensic settings (Lexcen, Hawk, Herrick, & Blank, 2006), psychiatric inpatient settings (Ruskin et al., 1998), and rural American Indian

communities (Shore, Savin, Orton, Beals, & Manson, 2007). Studies have reported that assessments of obsessive-compulsive disorder (Baer et al., 1995), major depression (Kobak, 2004; Ruskin et al., 1998), bipolar disorder (Ruskin et al., 1998), panic disorder (Ruskin et al., 1998), alcohol dependence (Ruskin et al., 1998), schizophrenia (Zarate et al., 1997), posttraumatic stress disorder (PTSD; Nieves et al., 2009; Porcari et al., 2009), cognitive functioning (Kirkwood, Peck, & Bennie 2000; Schopp, Johnstone, & Merrell, 2000), suicidality (Godleski, Nieves, Darkins, & Lehmann, 2008), and forensic competence (Lexcen et al., 2006) can be accurately conducted over videoconferencing.

Studies of broad spectrum measures such as the Structured Clinical Interview for DSM-III-R (SCID; Ruskin et al., 1998; Shore et al., 2007) and the Brief Psychiatric Rating Scale (BPRS; Baigent et al., 1997; Jones et al., 2001), as well as studies of diagnosis-specific rating scales such as the Hamilton Anxiety Rating Scale (Baer et al., 1995), the Hamilton Depression Rating Scale (Baer et al., 1995; Kobak, 2004), the Montgomery-Asberg Depression Rating Scale (Kobak, Williams, Jeglic, Salvucci, & Sharp, 2008), and the Clinician-Administered PTSD Scale (CAPS; Porcari et al., 2009) have demonstrated reliability and acceptability in the context of videoconferencing. Although promising, research on TMH assessment remains limited by the relative lack of randomized, controlled designs and small sample sizes.

To date, only one published study has specifically examined the assessment of OCD via videoconferencing. In a sample of 16 adults diagnosed with obsessive-compulsive disorder, Baer et al. (1995) found high acceptance levels in terms of comfort and ability to express oneself during videoconferencing assessment, and close to perfect inter-rater agreement between face-to-face and videoconferencing administration of scales measuring OCD (Yale-Brown Obsessive-Compulsive Scale), anxiety (Hamilton Anxiety Rating Scale), and depression (Hamilton

Depression Rating Scale). However, Baer et al. (1995) only examined the Y-BOCS Severity Ratings, while the present study incorporated both the Y-BOCS Severity Ratings and the Y-BOCS Symptom Checklist. It is hoped that the establishment of assessment measures like the Y-BOCS as reliable and acceptable when used over videoconferencing will promote the further dissemination of gold-standard assessments and treatments to underserved populations.

Additional Advantages of Telemental Health

In addition to increased access, TMH may have other advantages over in-person assessment and therapy such as decreased patient self-consciousness potentially leading to increased disclosure and a greater sense of personal control and self-efficacy (Himle et al., 2006; Richardson et al., 2009). In a pilot study on the feasibility and acceptability of TMH, for example, patients commented on a qualitative satisfaction questionnaire that videoconferencing made them feel less self-conscious than in-person communication, provided personal attention without being confrontational, and decreased their confidentiality concerns because they were seeing someone outside of their relatively isolated community (Simpson, 2001). Furthermore, Himle et al. (2006) reported clinical impressions that three participants diagnosed with OCD and treated with CBT over videoconferencing appeared to be less self-conscious and less concerned about expressing distress or performing exposures over videoconferencing. They attributed this to the therapist's not being in the same room as the participant.

Based on these preliminary observations, TMH may enable some clients to disclose more completely and honestly than in-person administrations of the Y-BOCS, particularly with the more sensitive aggressive and sexual symptoms. Furthermore, some special populations such as those diagnosed with anxiety disorders may not only experience TMH as equivalent to in-person services, but may actually prefer and be more effectively treated by TMH. For these special

populations, communicating with a provider over videoconferencing may be easier than communicating in person. Perhaps telemedicine can address issues of access with an added benefit of increasing the accuracy of diagnoses by easing disclosure for particularly sensitive symptoms, ameliorating at least some of the challenges posed by the hallmark avoidance found across the anxiety spectrum.

Hypotheses:

Hypothesis 1: Based on the TMH and Y-BOCS research base, it was hypothesized that videoconferencing and in-person administration of the Y-BOCS Severity Ratings would be equivalent[1] in a sample of undergraduates with subclinical OCD.

Hypothesis 2: The Y-BOCS Symptom Checklist was predicted to be equivalent across videoconferencing and in-person administrations. Given the large number of items and the sample size, this was a preliminary analysis.

Hypothesis 3: Subjective ratings concerning comfort-endorsing symptoms were hypothesized to be significantly higher in videoconferencing administrations versus in-person administrations of the Y-BOCS.

Method

Y-BOCS Administrator Training

Three social welfare graduate students and one undergraduate senior psychology major conducted all Y-BOCS administrations. Y-BOCS training consisted of readings and structured

[1] Although most studies aim to reject the null hypothesis to determine that two groups are significantly different, this study aims to determine whether two modalities are equivalent. Equivalence trials are typically used to determine if a new intervention is therapeutically similar to an existing intervention. Failure to detect a statistical difference and reject the null hypothesis may not mean that two modalities are equivalent. Thus, statistical procedures were used in this study to demonstrate whether the two modalities are functionally the same (Piaggio, Elbourne, Altman, Pocock, & Evans, 2006).

meetings to review the Y-BOCS and general symptom profiles of adults with obsessive compulsive symptoms. All administrators observed and scored the Y-BOCS while I administered one in-person Y-BOCS and one videoconferencing Y-BOCS. Then each Y-BOCS administrator gave the Y-BOCS once in-person and once over videoconferencing while the other administrators observed and scored the Y-BOCS. Intraclass correlation coefficients (ICC) were calculated to determine interrater reliability across practice administrations. ICC for the Y-BOCS Severity Ratings was 1.00 (very strong agreement), and ICC for the Y-BOCS-SC was .98 (very strong agreement; LeBreton & Senter, 2008). After each administration, any differences in coding were discussed. From these discussions, a guideline of how to code complex symptoms was developed and provided to each rater (See Appendix A).

Y-BOCS administrators also received training using the videoconferencing equipment and each completed a practice videoconferencing administration of the Y-BOCS. Videoconferencing was set up in two different therapy rooms at the KU Psychological Clinic. Thus the Y-BOCS administrators and participants were in two different rooms in the same building.

In order to reduce rater drift over winter break, administrators scored a recording of the participant with the least agreement between the videoconferencing and in-person Y-BOCS administrations. At that point, 10 participants had completed the study. ICC for the Y-BOCS Severity Ratings was 1.00 (very strong agreement) and .91 for the Y-BOCS-SC (very strong agreement). Differences in scoring were discussed, and two rules were added to the guideline. Both rules involved symptom content that had not been reported in any of the other Y-BOCS administrations up to that point. Furthermore, the added rules only affected which specific symptom within the same Y-BOCS symptom category was coded, leaving the level of analysis

(summed Y-BOCS-SC symptoms) identical. For example, if a participant described changing the volume on the radio to an even number, the *other* symptom rather than the *counting* symptom within the *arranging, counting, and repeating rituals* category would be marked. Thus, the addition did not change how the first 10 participants were scored in comparison to the following 20 participants. From reviewing the recordings, some of the discrepancies between the in-person and videoconferencing Y-BOCS administrations resulted from the participant's endorsing different symptoms and describing some symptoms differently.

Participants

Participants were 33 undergraduates identified as having subclinical OC symptoms from the KU psychology department subject pool. Potential participants who scored high (defined as one standard deviation above the mean) on the Obsessive Compulsive Inventory – Revised Version (OCI-R; Foa et al., 2002) during a mass prescreen were then allowed to sign up for available study times. Three participants did not return for their second Y-BOCS administration, and their data were not included in analyses. Thirty participants (20 women, 10 men, M_{age} = 19.1 years, age range: 18-24 years) completed the study. The demographics of the participants were as follows: 4 (13.3%) self-identified as African American, 1 (3.3%) as Asian American, 23 (76.7%) as Caucasian, 1 (3.3%) as Middle Eastern, and 1 (3.3%) as multi-racial. Most participants (n = 27) reported prior experience with videochat or videoconferencing technology (e.g., Skype with a webcam). Of these participants, videoconference use ranged from once or twice before (n = 2), a few times a year (n = 3), once or twice a month (n = 14), weekly (n = 5), and daily (n = 3).

Informed Consent

Written informed consent as approved by the University of Kansas IRB was obtained.

Potential participants were encouraged to ask questions concerning the study and informed that they could withdraw from the study at any time. All participants received a copy of the consent form and a list of area mental health resources (See Appendix B).

Measures

OCI-R. The OCI-R is an 18-item self-report measure assessing OC symptoms with six subscales (washing, checking, ordering, obsessing, neutralizing, and hoarding). Each item is rated on a 5-point Likert scale to reflect the severity of distress from 0 (*not at all*) to 4 (*extremely*). The OCI-R is a quick, psychometrically sound diagnostic screening instrument with demonstrated excellent internal consistency and test-retest reliability, moderate to excellent convergent validity with other OCD measures, and good discriminant validity (Foa et al., 2002; Hajcak, Huppert, Simons, & Foa, 2004). Hajcak et al. (2004) further determined that the OCI-R has good test-retest reliability for the full scale and subscale scores, solid factor structure, high internal consistency, and good convergent and divergent validity in a large nonclinical undergraduate sample.

Y-BOCS. Each assessment encompassed both sections of the Y-BOCS: the Y-BOCS Symptom Checklist and the Y-BOCS Severity Ratings. All Y-BOCS assessments were recorded for review in the event that there were assessment adherence questions. Each participant underwent the Y-BOCS assessment twice, once over videoconferencing and once in-person. The assessments occurred five to seven days apart and were conducted by different Y-BOCS administrators to reduce participant fatigue, memory effects, and relationship history effects. Based on clinical reports, OCD symptoms and severity should be similar over the course of a week. Furthermore, Y-BOCS Severity Ratings instructions state that each item should be rated based on the average over the entire past week. The order of administration modality was

counterbalanced. Half of the participants were first assessed over videoconferencing and half were first assessed in-person. The second administrator was blind to the Y-BOCS results from the first administration. All administrators conducted half of their assessments via videoconferencing and half in-person.

Assessment Evaluation Questionnaire. After each Y-BOCS assessment, participants completed a modified version of the Telemedicine Satisfaction and Acceptance Scale, Patient Version (Frueh et al., 2007; See Appendix C). Example questions included, "Confidence that you understood the interviewer's questions accurately," and "Overall confidence in the evaluation." Questions were rated on a Likert scale ranging from *N/A: Does Not Apply* to *3: Good* to *5: Excellent*. Two additional questions were added to assess comfort-levels both in disclosing symptoms and asking questions for clarification. The questionnaire following the telemedicine assessment also had a question ascertaining participants' prior videoconferencing experience.

Results

Y-BOCS Severity Ratings

Using SPSS 20, a repeated measures ANOVA was performed with Y-BOCS modalities (in-person and videoconferencing Y-BOCS Severity Ratings) as the within-subjects factors and modality order (in-person first and videoconferencing second or videoconferencing first and in-person second) as the between-subjects factor. As hypothesized, there was not a significant difference between videoconferencing and in-person administrations of the Y-BOCS Severity Ratings, $F(1, 28) = 2.89$, $p = .100$, partial eta squared = .094, and no significant interaction between modality and modality order, $F(1, 28) = 0.58$, $p = .452$, partial eta squared = .020. As a measure of effect size, the value of partial eta squared indicated that Y-BOCS modality only

accounted for 9.4% of the variance in Y-BOCS Severity Ratings, and the interaction between modality and modality order accounted for even less of the variance (2.0%) in Y-BOCS Severity Ratings.

In addition, a paired samples t-test was performed comparing the means of in-person and videoconferencing Y-BOCS Severity Ratings. Table 1 shows the means for videoconferencing and in-person administrations of the Y-BOCS Severity Ratings. Then bootstrapping was used to calculate confidence intervals for the difference between the means. Bootstrapping is a resampling technique used when the type of distribution is unknown, as it is in this sample. Bootstrapping treats the sample as the population. It draws a specified number of independent samples with replacement and analyzes each one. Each analysis is then sorted and a distribution is formed from which a confidence interval (CI) is drawn. If the CI includes zero, then the means for the two populations are considered equivalent. The bootstrap bias-corrected and accelerated (BCa) 95% CI [-1.67, 1.17] further supported the equivalence of administering the Y-BOCS Severity Ratings in-person and over videoconferencing.

An analysis was conducted to determine whether the five to seven day time period between administrations of the Y-BOCS was appropriate in yielding similar reports of symptom severity. A repeated measures ANOVA was performed with Y-BOCS Severity Ratings for the first and second administrations as the within-subjects factors and modality order as the between-subjects factor. There was not a significant difference between the first and second administrations of the Y-BOCS-Severity Ratings, $F(1, 28) = 0.58$, $p = .452$, partial eta squared = .020, and no significant interaction, $F(1, 28) = 2.89$, $p = .100$, partial eta squared = .094.

Y-BOCS Symptom Checklist

Endorsed symptoms on the Y-BOCS-SC were summed for the videoconferencing and in-

person administrations. A repeated measures ANOVA was performed on the summed scores with modality (in-person vs videoconferencing) as the within-subjects factor and modality order (in-person first and videoconferencing second or videoconferencing first and in-person second) as the between-subjects factor. As hypothesized, there was not a significant difference between videoconferencing and in-person administrations of the Y-BOCS-SC, $F(1, 28) = 0.08$, $p = .777$, partial eta squared = .003, and no significant interaction between administration modality and order, $F(1, 28) = 1.53$, $p = .226$, partial eta squared = .052. Furthermore, a paired samples t-test comparing the means of in-person and videoconferencing Y-BOCS-SC symptom totals was performed, and confidence intervals calculated for the difference between the means using bootstrapping. Equivalence between the two modalities was also supported, bootstrap BCa 95% CI [-1.67, 1.17]. As with the Y-BOCS Severity Ratings, there was not a significant difference between the first and second administrations of the Y-BOCS-SC, $F(1, 28) = 1.53$, $p = .226$, partial eta squared = .052, and no significant interaction between the modality and the modality order factors, $F(1, 28) = 0.08$, $p = .777$, partial eta squared = .003.

Similarly, endorsed symptoms for each Y-BOCS-SC symptom category (e.g., contamination, cleaning, and checking) were summed for the videoconferencing and in-person administrations. The videoconferencing and in-person symptom categories were then analyzed using repeated measures ANOVA with modality as the within-subjects factor and modality order as the between-subjects factor. Table 2 displays the means and ANOVA values for individual categories of obsessions and compulsions. Overall, there were no significant main effects of modality for any of the Y-BOCS-SC symptom categories.

Assessment Evaluation Questionnaire

Repeated measures ANOVAs were performed with in-person vs videoconferencing as the

within-subjects factor and the modality order (in-person first and videoconferencing second or videoconferencing first and in-person second) as the between-subjects factor for each question included in the assessment evaluation questionnaire. Only one statistically significant difference between videoconferencing and in-person administrations emerged. Participants reported that they felt significantly more comfortable asking clarification questions during the in-person Y-BOCS administration, $F(1, 28) = 6.05$, $p = .020$, partial eta squared = .178. Although statistically significant, the difference between the means was quite small ($M_{in\text{-}person} = 4.83$, $M_{videoconferencing} = 4.57$), and both means are between the questionnaire's anchors of *4: Very Good* to *5: Excellent*. Furthermore, even a small difference between the videoconferencing and in-person means could have resulted in a significant difference given the limited variability in participant answers. In addition, experiment-wise error for the ANOVAs performed on the assessment evaluation questionnaire was calculated to be 0.23, meaning that there was a 23% chance of making a Type I error. In this case, a Type I error is incorrectly rejecting the null hypothesis and concluding that a significant difference existed between the two modalities when in fact the null hypothesis is true.

No other reliable differences emerged between the videoconferencing and in-person Y-BOCS administrations. Table 3 provides the means for ratings on the Assessment Evaluation Questionnaire. Participants reported similar comfort disclosing information, $F(1, 27) = 2.27$, $p = .144$, partial eta squared = .077; bootstrap BCa 95% CI [0.00, 0.35]. There was not a significant difference in terms of participants' comprehension of Y-BOCS questions, $F(1, 28) = 2.32$, $p = .139$, partial eta squared = .076; bootstrap BCa 95% CI [-0.03, 0.53]. There was not a significant difference between participants' confidence that the interviewer accurately understood their symptoms, $F(1, 28) = 0.00$, $p = 1.00$, partial eta squared < .001; bootstrap BCa 95% CI [-0.27,

0.23]. And lastly, participants reported similar confidence in the overall evaluation, $F(1, 28) = 2.30$, $p = .140$, partial eta squared = .076; bootstrap BCa 95% CI [0.00, 0.33].

Discussion

As hypothesized, videoconferencing and in-person administrations of the Y-BOCS Severity Ratings were functionally equivalent in a sample of undergraduates with subclinical OCD. Understandably, one potential critique of this study and the assertion of equivalence is the small sample size. However, an a priori power analysis revealed that with 30 participants this study would be able to detect a medium effect size, which corresponds to 1.64 points on the Y-BOCS Severity Ratings. In a clinical significance analysis of therapy outcome trials for OCD, Fisher and Wells (2005) determined that a 10-point change on the Y-BOCS Severity Ratings indicates a statistically reliable change that is not simply a result of measurement error. Thus, the power and sample size to detect a 1.64 mean difference between videoconferencing and in-person administrations of the Y-BOCS Severity Ratings is sufficient given that it is far below the reliable change index of 10 points on the Y-BOCS Severity Ratings.

This study builds upon the similar findings of Baer et al. (1995) by adding the Y-BOCS-SC and extending the focus to subclinical OC symptoms. The results lend support to the equivalency of videoconferencing and in-person administrations of the Y-BOCS-SC, even on the level of individual categories of obsessions and compulsions. This study also extends the results of Frost et al. (1995) in supporting the use of the Y-BOCS to assess subclinical OC symptoms over videoconferencing. Overall, these results suggest that TMH is a reliable means of using the Y-BOCS to assess subclinical obsessive-compulsive symptom breadth and severity.

However, the results did not support the hypothesis that a TMH environment would be more conducive for increased comfort in disclosure of symptoms. Perhaps, participants with

subclinical symptoms would not benefit as much from the distance provided by videoconferencing as did participants diagnosed with OCD in Himle et al. (2006) or isolated patients seen by a remote provider (Simpson, 2001). Furthermore, most participants in this study reported prior experience with videoconferencing. Perhaps, participants with prior experience have adapted to communication over videoconferencing and no longer experience decreased self-consciousness as found with patients in Himle et al. (2006) and Simpson (2001). Most TMH studies do not include information about participants' prior experience with videoconferencing or TMH.

Overall, participants rated videoconferencing and in-person Y-BOCS administrations similarly in terms of their comprehension of the administrators' questions, their confidence that the interviewer accurately understood their symptoms, and their confidence in the overall evaluation. The only statistically significant difference participants reported was greater comfort in asking questions during in-person administrations. However, this statistically significant finding may not be a meaningful difference given that both means fell between the descriptors of *Very Good* and *Excellent*, and the difference between the means was 0.26 on a 5-point scale. Overall, the reliability and acceptability of Y-BOCS administrations conducted over videoconferencing found in this study supports the use of TMH to address access challenges to this gold standard of OCD assessment (Abramowitz, 1997; Antony et al., 2001).

These promising results should be replicated, as the results may not generalize to populations with little or no experience with videoconferencing. This is a small sample of college students, and most participants reported relatively frequent use of videoconferencing technology. In a recent study, Jones et al. (2012) found that soldiers reported a strong preference for an in-person post-deployment mental health screening if they had not had TMH services

before. Soldiers that had TMH services before were more ambivalent about their preference for in-person screening, with 48% of participants selecting 'unsure' in response to the statement, "I prefer a face-to-face interview," and 34.9% reporting a preference for in-person care. However, Germain, Marchand, Bouchard, Guay, and Drouin (2010) found that initial client prejudices against TMH and discomfort using videoconferencing did not adversely affect therapeutic alliance during a course of CBT for PTSD. Perhaps negative expectations of TMH coupled with a lack of TMH experiences would negatively affect the acceptability of TMH in initial sessions or assessments, but not in a course of therapy in which repeated sessions promote a therapeutic alliance. Adapting to TMH may happen quickly in the course of therapy. One participant commented, "some lag in video; became more comfortable as session went on." Future studies should continue to assess participant experience with videoconferencing and initial perceptions of TMH, and tease apart any effects that may have on TMH reliability and acceptability in assessment versus treatment. Furthermore, ratings of therapeutic alliance and acceptability should be collected throughout the course of treatment to ascertain if and when people's perceptions of TMH change.

Another potential issue in generalizing these findings is the perceived benefits of TMH in a sample of undergraduates with subclinical OC symptoms. Both in-person and videoconferencing Y-BOCS administrations took place in a conveniently located campus building. Perhaps people that would have to travel further to access in-person administrations, as may be the case for people in underserved areas, would be more inclined to express a preference for TMH. Once the validity of assessment and treatment over videoconferencing is established, future studies could consider the real world applicability of TMH.

Another limitation of the study was the presence of some technical problems that

interfered with a few videoconferencing sessions. For instance, after ten minutes of trying unsuccessfully to correct sound problems one participant was administered the in-person Y-BOCS first rather than the videoconferencing Y-BOCS as planned. More commonly, there were audio or visual artifacts to varying degrees when using videoconferencing. It was not possible to ensure uniform videoconferencing quality as connection speed depended on how many users on campus were accessing the network at a given time. The audio and video quality in one particular videoconferencing session were poor, which appeared to lower the participant's ratings in the assessment evaluation questionnaire. The participant commented, "It was much more relaxing and personable when being interviewed by a person that was physically in the same room as me. I need the human connection to open up more." Perhaps if the videoconferencing quality were better for that participant, she would have been more comfortable with the TMH assessment. Another factor to consider is whether clients may be more forgiving of technical issues if TMH represented the only opportunity to access specialized care.

In order for TMH applications to continue to grow and reach their full potential, additional research is needed to examine provider perceptions of TMH. In particular, studies should include a more systematic examination of provider's prior TMH experience and expectations regarding TMH to ascertain whether their perceptions change with increased exposure to the medium. Even though research may support the use of TMH, available TMH equipment will remain underutilized without the support of both providers and patients.

The present results build upon prior research demonstrating that TMH is feasible and acceptable for a wide range of underserved populations and settings. It is important for TMH research to continue to grow beyond program descriptions and feasibility studies. As it stands now, TMH research lags far behind the technological advances and implementation of TMH

clinical applications. Additionally, the study's focus on subclinical OCD aims to increase early assessment options and encourage utilization of mental health resources in order to mitigate the distress and interference associated with subclinical OCD. Assessments using the Y-BOCS and treatments for subclinical OCD like the cognitive behavioral workshop developed by Zucker et al. (2006) will most likely be located in academic medical centers and urban areas. These access challenges to specialized services may be well addressed through TMH. It will be important to consider the disadvantages and limitations as well to determine whether TMH is an appropriate solution to mental healthcare access challenges in particular situations. It is hoped that the establishment of assessment measures like the Y-BOCS as reliable and acceptable when used over videoconferencing will promote the further dissemination of gold-standard assessments and treatments to underserved populations.

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Table 1

Means and Standard Deviations for the Y-BOCS

Measure	In-person *M (SD)*	Videoconferencing *M (SD)*
Y-BOCS Severity Ratings Total	13.67 (5.68)	12.70 (5.95)
Y-BOCS-Symptom Checklist	11.17 (6.56)	11.37 (7.85)

Table 2

Means and ANOVA Results of Y-BOCS-SC Videoconferencing and In-person Symptom Totals

Category	In-person *M*	TMH *M*	*F*(1,28)	*p*	Partial eta squared
Obsessions					
Contamination	1.80	1.70	0.32	.579	.011
Aggressive	0.77	0.77	0.00	1.00	< .001
Religious and Sexual	0.33	0.37	0.35	.559	.012
Symmetry and Exactness	1.90	1.80	0.34	.564	.012
Hoarding/Saving	0.27	0.27	0.00	1.00	< .001
Miscellaneous	1.33	1.30	0.06	.803	.002
Compulsions					
Cleaning	0.86	0.86	0.00	1.00	< .001
Checking	1.50	1.57	0.38	.541	.014
Arranging, Counting, and Repeating	0.90	0.93	0.06	.812	.002
Hoarding/Collecting	0.23	0.27	0.32	.577	.011
Miscellaneous	1.37	1.50	0.60	.445	.021

Table 3

Means and Standard Deviations for the Assessment Evaluation Questionnaire

Measure	In-person *M (SD)*	Videoconferencing *M (SD)*
Participant comprehension	4.73 (0.52)	4.50 (0.86)
Comfort asking questions	4.83 (0.38)	4.57 (0.82)
Comfort disclosing information	4.55 (0.74)	4.38 (0.86)
Interviewer comprehension	4.43 (0.94)	4.43 (0.90)
Confidence in the evaluation	4.67 (0.55)	4.50 (0.73)

Appendix A

Y-BOCS Training Guide

Good General Questions:

-"Does the thought enter your mind repeatedly?"

-"What are your thoughts when it crosses your mind?" (The goal is to tease apart whether there are consequences tied to the obsessions or whether it's more of a just right obsession)

-"How long (or) how distressing is that to you?"

Check that reported compulsions are tied to obsessions and vice versa. It might help to make little notes so that you remember to ask about it later on. Note: Not all compulsions will have an accompanying obsession and vice versa.

Y-BOCS SC Specific Sections

Contamination Obsessions

-Organic body products, etc

Questions that might help you decide

~ Would you wash your hair with non-organic (insert product) if necessary? (The goal is to determine whether this is a symptom or a preference.)

~ What are you concerned about when using non-organic products? (Try to determine whether it is a concern with illness or disease.)

Bothered by Sticky Substances or Residues

-May overlap with concern about contamination. If so, mark both.

-For clarification, "What bothers you about the sticky substances?"

Excessive concern with animals or insects

-Count it if it is the bug or animal itself or contamination from that animal.

~Look for specificity or certain rules. For clarification, "Are there any other animals that bother you or that you avoid? What do you do after you've encountered (animal/insect)?"

Symmetry and Exactness

-If the individual does not like a certain *word* (i.e. they find it irritating or disgusting), mark "other"

Excessive concern with a body part or aspect of appearance AND Checking tied to intrusive thoughts about the body

- Ask more questions to make sure it's not BDD or hypochondriasis.
- BDD is usually associated with poorer insight, and the thoughts may not be as intrusive.

Cleaning compulsions versus Arranging compulsions

-Cleaning because everything needs to be in its place is an example of an arranging compulsion.

-Cleaning because of dirt, germs, contamination, and grime is a cleaning compulsion.

Excessive re-reading vs. Excessive checking that you did not make a mistake
-A compulsion to reread a certain number of times or until it just feels right (not tied to mistakes) is more of a excessive re-reading compulsion.
-Going back to make sure comprehension is perfect while reading is an example of excessive checking that you did not make a mistake.

Checking Compulsions
-Checking related to preventing something bad happening would go under "other" rather than "checking locks, stove, appliances, an emergency brake, faucets, etc." (e.g., checking the car routinely to prevent any mishaps

Arranging, Counting, & Repeating Rituals
-Changing a setting to an even/odd number because it feels right and it is not tied to a specific consequence would go under "other" rather than "counting."

Miscellaneous Compulsions

Measures (excluding checking) to prevent harm to self, harm to others, or terrible consequences

-Avoiding certain foods so as not to vomit

Severity Ratings
Before beginning, make sure to differentiate between obsessions and compulsions and list some examples from what the participant has reported.

Repeat their answer.

If the participant chooses a response before you have read all the responses, read the next response to make sure they chose the best answer.

Appendix B

INFORMED CONSENT STATEMENT

Telemental Health Administration of the Yale-Brown Obsessive Compulsive Scale

INTRODUCTION

The Department of Psychology at the University of Kansas supports the practice of protection for human subjects participating in research. The following information is provided for you to decide whether you wish to participate in the present study. You may refuse to sign this form and not participate in this study. You should be aware that even if you agree to participate, you are free to withdraw at any time. If you do withdraw from this study, it will not affect your relationship with this unit, the services it may provide to you, or the University of Kansas.

PURPOSE OF THE STUDY

The primary purpose of this study is to compare traditional "in person" administrations of the Yale-Brown Obsessive Compulsive Scale (Y-BOCS) with videoconferencing administrations of the Y-BOCS.

PROCEDURES

Participation in this study consists of two visits spaced 5 to 7 days apart that will require a total of approximately 2 hours of your time. **The first visit will be approximately 1 hour and the second visit will be approximately 1 hour. All study visits will take place in Fraser 330. After completing the study, you will receive 4 credits towards the Psych 104 research requirement.**

You will undergo two Y-BOCS assessments by two different trained students. One assessment will be "in person" and the other will be over videoconferencing. Each Y-BOCS assessment will last about an hour, and the two assessments will be spaced 5 to 7 days apart. **You will receive credit after completing each session. If you decline to participate after the first visit, you will be awarded the credits earned up to that point.** In addition, both Y-BOCS administrations will be recorded.

Following each Y-BOCS assessment, you will complete a brief questionnaire which will take approximately 5 minutes to complete.

RISKS

There are no anticipated risks to participating in this study. However, the assessment questions in the study focus on your thoughts and feelings about anxiety symptoms. **Some of these questions may cause you to experience anxiety.**

BENEFITS

There is no direct benefit to you from participating in this study. The study is not meant to serve as clinical care for the evaluation of any disorder or symptom. It is hoped that additional information gained in this research study may be useful in the assessment of other people who experience obsessive compulsive symptoms, especially for people who have barriers to accessing "in person" OCD assessment.

PAYMENT TO PARTICIPANTS

You will not receive payment for participation in this study.

PARTICIPANT CONFIDENTIALITY

All research-related records and information from this study will be kept confidential. Only authorized study investigators and staff will have access to study information. The records pertaining to the assessments will be assigned a study number. Your name will not be attached to the records that will be studied for research purposes. All study records will be stored in a locked cabinet. The recordings will be stored on an encrypted server behind a firewall. Your name will not be associated in any publication or presentation with the information collected about you or with the research findings from this study. Instead, the researchers will use a study number rather than your name. Your identifiable information will not be shared unless required by law or you give written permission.

Permission granted on this date to use and disclose your information remains in effect indefinitely. By signing this form you give permission for the use and disclosure of your information for purposes of this study at any time in the future.

REFUSAL TO SIGN CONSENT AND AUTHORIZATION

You are not required to sign this Consent and Authorization form and you may refuse to do so without affecting your right to any services you are receiving or may receive from the University of Kansas or to participate in any programs or events of the University of Kansas. However, if you refuse to sign, you cannot participate in this study.

CANCELLING THIS CONSENT AND AUTHORIZATION

You may withdraw your consent to participate in this study at any time. You also have the right to cancel your permission to use and disclose further information collected about you, in writing, at any time, by sending your written request to: Raymond Higgins, PhD, 340 Fraser Hall, University of Kansas, Lawrence, KS 66045

If you cancel permission to use your information, the researchers will stop collecting additional information about you. However, the research team may use and disclose information that was gathered before they received your cancellation, as described above.

QUESTIONS ABOUT PARTICIPATION

Questions about procedures should be directed to the researchers listed at the end of this consent form.

PARTICIPANT CERTIFICATION:

I have read this Consent and Authorization form. I have had the opportunity to ask, and I have received answers to, any questions I had regarding the study. I understand that if I have any additional questions about my rights as a research participant, I may call (785) 864-7385, write the Human Subjects Committee Lawrence Campus (HSCL), University of Kansas, 2385 Irving Hill Road, Lawrence, Kansas 66045-7568, or email janbutin@ku.edu

I agree to take part in this study as a research participant. By my signature I affirm that I am at least 18 years old and that I have received a copy of this Consent and Authorization form.

_____ _____

Print Participant's Name Date

_____

Participant's Signature

Researcher Contact Information

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Area Mental Health Resources

Bert Nash Community Mental Health Center
www.bertnash.org
200 Maine St.
(785)843-9192

KU Counseling and Psychological Services
www.caps.ku.edu/~caps/
Watkins Health Center, 2nd Floor
(785)864-2277

KU Psychological Clinic
psych.ku.edu/psychological_clinic/
Fraser Hall, Room 340
(785)864-4121
psycl@ku.edu

Appendix C

Age:_____ Ethnicity:_____ Gender:_____

Post F2F Y-BOCS Questionnaire

Your opinions are very important to us. Please give your **honest opinions on each item.**

How would you rate:	Excellent	Very Good	Good	Fair	Poor	Does not Apply
1. Confidence that YOU understood the interviewer's questions accurately.	5	4	3	2	1	N/A
2. Comfort asking clarification questions if you did not understand something.	5	4	3	2	1	N/A
3. Comfort disclosing information	5	4	3	2	1	N/A
4. Confidence that the INTERVIEWER understood you accurately.	5	4	3	2	1	N/A
5. Overall confidence in the evaluation.	5	4	3	2	1	N/A

Post TM Y-BOCS Questionnaire

Your opinions are very important to us. Please give your **honest opinions on each item.**

1. a) Aside from this study, have you used videochat or videoconferencing technology (Skype with a webcam)? □ Yes □ No

   b) If so, how would you describe your use of videochat or videoconferencing technology?

   □ Daily □ Every Week □ Once or twice a month

   □ A few times a year □ I just tried it once or twice

How would you rate:	Excellent	Very Good	Good	Fair	Poor	Does not Apply
1. Quality of the audio	5	4	3	2	1	N/A
2. Quality of the video	5	4	3	2	1	N/A
3. Overall quality of the information	5	4	3	2	1	N/A
4. Confidence that YOU understood the interviewer's questions accurately.	5	4	3	2	1	N/A
5. Comfort asking clarification questions if you did not understand something.	5	4	3	2	1	N/A
6. Comfort disclosing information	5	4	3	2	1	N/A
7. Confidence that the INTERVIEWER understood you accurately.	5	4	3	2	1	N/A
8. Overall confidence in the evaluation.	5	4	3	2	1	N/A

Any comments?:_____

Age:_____ **Ethnicity:_____** **Gender:_____**

Post TM Y-BOCS Questionnaire

Your opinions are very important to us. Please give your **honest opinions on each item.**

1.a) Aside from this study, have you used videochat or videoconferencing technology (Skype with a webcam)? □ Yes □ No

b) If so, how would you describe your use of videochat or videoconferencing technology?

□ Daily □ Every Week □ Once or twice a month

□ A few times a year □ I just tried it once or twice

How would you rate:	Excellent	Very Good	Good	Fair	Poor	Does not Apply
1. Quality of the audio	5	4	3	2	1	N/A
2. Quality of the video	5	4	3	2	1	N/A
3. Overall quality of the information	5	4	3	2	1	N/A
4. Confidence that YOU understood the interviewer's questions accurately.	5	4	3	2	1	N/A
5. Comfort asking clarification questions if you did not understand something.	5	4	3	2	1	N/A
6. Comfort disclosing information	5	4	3	2	1	N/A
7. Confidence that the INTERVIEWER understood you accurately.	5	4	3	2	1	N/A
8. Overall confidence in the evaluation.	5	4	3	2	1	N/A

Post F2F Y-BOCS Questionnaire

Your opinions are very important to us. Please give your **honest opinions on each item.**

How would you rate:	Excellent	Very Good	Good	Fair	Poor	Does not Apply
1. Confidence that YOU understood the interviewer's questions accurately.	5	4	3	2	1	N/A
2. Comfort asking clarification questions if you did not understand something.	5	4	3	2	1	N/A
3. Comfort disclosing information	5	4	3	2	1	N/A
4. Confidence that the INTERVIEWER understood you accurately.	5	4	3	2	1	N/A
5. Overall confidence in the evaluation.	5	4	3	2	1	N/A

Any comments?:_____