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CLIENT PERCEPTIONS AND ATTITUDES TOWARD COMPUTER-BASED MODES OF PSYCHOLOGICAL INTERVENTION

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Abstract

Previous research suggests that utilization of computers and the Internet as therapeutic tools may be efficacious while addressing a number of barriers to traditional treatment. Advantages of tele-health modalities include reduced costs, increased access to treatment, and an ability to reach underserved populations. While computer-based interventions may hold significant promise, client's interest in such services has not been extensively evaluated. To assess client's interest in computer-based therapeutic interventions, a brief pencil and paper survey was created to survey attitudes of various aspects of computer-based services. Sixty-five participants were recruited from a local psychological services center. Overall, endorsement of computer-based methods was found to be 40-50%, with a larger percentage endorsing it as an adjunctive to face-to-face rather than a standalone. Findings also suggested that clients would only be willing to pay less, relative to face-to-face services. Few age, gender, and ethnic differences in endorsement of key variables were found.

Keywords: clients; computers, patrons, tele-health; telepsychology

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Client Perceptions and Attitudes Toward Computer-Based Modes of Psychological

Intervention

Digital communication has become the standard means through which society interacts. According to the 2010 U.S. Census, more than 70% of the adult population uses the Internet, an increase from previous years (U.S. Census Bureau, 2011). As digital communication continues to advance, many envision technological applications to counseling services. This notion of tele-health has become a prominent issue in the mental health community with proponents on both sides of the argument (Rochlen, Zach, & Speyer, 2004). Despite studies demonstrating the efficacy of computer-based interventions, a prominent question arose regarding the willingness of counselors to utilize such techniques. Research has recently initiated investigation of this issue (e.g., Mora, Nevid, Chaplin, 2008; Wangberg et al., 2007); however, a secondary concern stands unanswered: are the clients of psychological services wanting and willing to utilize tele-health modes of therapy?

Research has identified several potential benefits of tele-health interventions available to consumers. Within the field of mental-health, communication is crucial, and employing the Internet may allow clients dealing with difficulties related to location, cost, availability of therapists, disabilities, logistics of scheduling, stigma, and time limitations to comfortably maintain contact with a therapist (Cartreine, Ahern, & Locke, 2010). As Emmelkamp (2005) reported, a major benefit of utilizing tele-health interventions is the time-effectiveness of being able to complete therapy in one's home, removing driving time while providing increased flexibility of hours. Although seemingly a minor aspect in the greater sense of the therapeutic

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process, this novel modification may allow for many who may not otherwise engage in therapy to build a relationship with a mental health professional. Additionally, work by Richardson, Frueh, Grubaugh, Egede, and Elhai (2009) reported that published articles since 2003 have generally found high levels of satisfaction among clients who participated in a variety of tele-health services. Suggested benefits, coupled with findings of satisfaction may demonstrate a desire among clients for tele-health opportunities.

While some studies have begun to examine client perception of tele-health services, they present conflicting findings. One such study by Mohr et al. (2010) found 48% of clients interested in some form of behavioral health service were also interested in Internet care. Supporting this claim was a study utilizing a computerized cognitive-behavioral therapy program for anxiety that was conducted with a 6-month follow-up (White, Jones, & McGarry, 2000). Not only was the computerize method effective in reducing the participant's symptoms while improving their quality of life, but was also reported by participants to be a welcomed change due to its rapid, effective, convenient, and inexpensive approach (White, Jones, & McGarry, 2000). In contrast, work by Pelling (2006) found that of 106 surveyed "carers" (individuals who care for a friend or relative in need of psychological, physical, or developmental support), only 5.7% were interested in counseling over the Internet, with these individuals only interested in paying less than they would for face-to-face services. While this disparity may be due to several possibilities, it creates difficulty for interpretation and generalization.

Given these conflicting conclusions, further work is required to clarify previous findings, as tele-health modalities would not be helpful if the general population does not wish to utilize

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them. While much of the research in the field focused on the efficacy and counselor factors related to the tele-health debate, client's perceptions are paramount in determining reasons for acceptance or rejection of this progressive mode of intervention. As Mohr and colleagues (2010) stated, there is scant information on what creates, supports, or diminishes interest in receiving treatments via tele-health modalities. In this regard, the current study sought to provide a preliminary exploratory analysis of client's attitudes towards tele-health modalities, while evaluating key variables that may influence clients' acceptance or rejection.

For this study, four hypotheses were developed. First, there will be at least a 50% acceptance from participants expressing some interest in a computer-based intervention, agreeing with work by Mohr et al. (2010). Second, of those endorsing, many would be willing to pay more for service reimbursements due to the convenience the modality creates. Third, no ethnic differences will emerge; however, younger individuals are posited to be more endorsing than older. Finally, in line with Whitley's (1998) findings that males are more accepting of computers than females, male consumers of tele-health are hypothesized to be more endorsing than females.

Methods

Participants. A sample of 65 current clients ($M=39.45$ years of age, $SD=13.60$) of mental health services, aged 18-75, were gathered from the Psychological Services Center at Nova Southeastern University's Center for Psychological Studies in Ft. Lauderdale, Florida. When divided into age brackets, 20 participants were under 30 years of age (younger aged), 31 were 31-60 (middle aged), and 3 were over 61 years of age (older aged). All participants were at

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least 18 years of age and spoke English as their primary language. The sample consisted of 23 males and 42 females. Of this sample, 33 identified themselves as being Caucasian (50.8%), 8 as African American (12.3%), 21 as Hispanic (32.3%), 2 as Asian (3.1%), and 1 as Other (1.5%). When asked to rate their self-perceived level of computer expertise, 1 (1.5%) reported having little to no computer-related knowledge, 14 (21.5%) reported that most have more computer-related knowledge and ability than they do, 22 reported (33.8%) that they have about as much computer-related knowledge and ability as others, 18 (27.7%) reported that they have more computer-related knowledge and ability than some people, and 8 (12.3%) reported having more computer-related knowledge and ability than many people. Participants reported that on average, 20 (30.8%) spend 0-5 hours a week using a computer, 8 (12.3%) spend 6-10 hours a week, 11 (16.9%) spend 11-15 hours a week, 9 (13.8%) spend 15-20 hours a week, and 17 (26.2%) spend 20 or more hours a week utilizing a computer. Coupled with this 24 (36.9%) spend 0-5 hours a week online, 13 (20.0%) spend 6-10 hours a week, 9 (13.8%) spend 11-15 hours a week, 8 (12.3%) spend 16-20 hours a week, and 11 (16.9%) spend 16-20 hours a week online.

Mental Health Patrons Attitudes Towards Computer-Based Intervention Survey.

The Mental Health Patrons' Attitudes Towards Computer-Based Intervention Survey assessed domains including demographics, overall self-perceived computer-related ability, attitudes towards tele-health modalities, attitudes towards efficacy, and willingness to provide financial compensation for services rendered. To evaluate the survey, a pilot study was completed and questions were adjusted based on participant input. Each assessment began with a short

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description of the purpose of the study and a demographic section. All information remained confidential and participation remained anonymous.

Procedures. When a client checked in at the Psychological Services Center at the Center for Psychological Studies at Nova Southeastern University, they were asked if they would be willing to participate in a short anonymous research study. If they were interested, they were provided with the survey, as well as an attached “participation letter” which outlined the study, including purpose, goal, design, confidentiality, right of study refusal and termination. Following completion of the survey, participants were instructed to place the survey in a locked dropbox near the exit of the clinic. No names or identifying information were collected.

Results

Overall, 46.2% of participants believed that computer-based therapists can be effective in the treatment of psychological disorders, with 43.1% believing that those programs can be beneficial to them, and 46.2% indicating that they would like the option to receive a computer-based therapy delivered via the Internet. Despite nearly a 50% divide in desire for some type of computer-based therapy, 58.5% indicated that they would like a mix of both face-to-face and computer-based therapies with the same therapist, and 52.3% reported that they would use a computer-based intervention or program as an addition to face-to-face therapy if given the opportunity. Although many may be willing to try a technique and think it may be effective, only 18.5% believe that a computer or Internet-based intervention would be as effective as face-to-face therapies.

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Of particular interest, willingness to provide financial compensation for such services was assessed. Of those assessed, 52.3% indicated that they would only be willing to pay less than they would for face-to-face therapies, 16.9% indicated that would pay the same amount as face-to-face therapies, and 12.3% indicated that they would be willing to pay more .

Additional surveyed questions focused on whether clients believe that mental health counselors should be allowed to utilize such techniques. Participants indicated that 50.8% believed that counselors should be allowed to incorporate computers into therapy. Although half are in favor of allowing counselors, clients in this study were nearly unanimous (90.8%) in declaring that the therapeutic process relies on the relationship between the client and the therapist, and therefore believed face-to-face is essential regardless of whether an adjunct is used.

ANOVA procedures allowed for analysis of differences of age brackets (younger, middle, older-aged), gender, and ethnic differences of key outcome variables. Despite analyzing several outcome measures across age brackets, few significant differences were found. The only notable exception was an age-related difference which was recognized for the question surveying the notion that therapy should only be face-to-face and not be allowed through other means, such as through a computer ($F(2, 28)=3.671$, Bonferroni $p=.033$). When further analyzed it was found that older adults were significantly more inclined ($p=.041$) to indicate that therapy should only be face-to-face and not be allowed via other means, such as a computer-based model. No significant findings among gender or ethnicity were noted.

Discussion

The current study served to explore and provide preliminary analyses of key points of interest for clients of psychological services regarding their attitudes towards mental health tele-health interventions. Overall, more than 40% of those surveyed believe that a computer-based intervention can be effective, with more than 50% indicating that they would like a mix of face-to-face and computer intervention. These findings are in agreement with Mohr et al. (2010). Consensus was found regarding computers not being replacements for face-to-face therapy, which coincides with the additional finding that patrons of psychological services believe that the therapeutic bond is of paramount importance and may not be able to be replicated through an online relationship. Although research has suggested that a therapeutic bond, as measured through alliance scores, can be attained via a computer-based medium (Cook & Doyle, 2002; Wade, Wolfe, & Pestian, 2004), it is unlikely that the general population is aware of this type of research, and may therefore be skeptical about attempting such techniques.

Interestingly, our second hypothesis was disproven. In line with Pelling's (2006) findings, clients were only willing to pay less for tele-health services rendered and were not willing to pay the same amount or more than they would for a face-to-face interaction. This suggests that while convenience may be a factor for financial compensation, it is not the most pressing. As with overall endorsement, a hypothesis proposes that a lack of a general knowledge of tele-health modalities may be contributing to one's lack of willingness to put financial resources into a form of therapy that they may see as "untested."

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Despite hypothesized gender-related differences that were informed by Whitley's (1998) findings, data indicated that there were no significant differences between genders in endorsement of outcome variables. Additionally, no significant differences were reported among ethnic groups. However, one interesting difference among age analyses was recognized with older adults appearing significantly more inclined to report that therapy should only be face-to-face and not via other means. Despite findings demonstrating that since 2005, the use of the Internet among those over 70 years of age has grown faster than any other demographic (Jones & Fox, 2009), current data suggests that this age bracket may still not be endorsing of technology integrated with therapy, possibly due a lack of comfort that a younger age bracket may possess. However, caution should be taken with this interpretation, as this is based on the sample size (3 older adults) and may not be indicative of the overall age bracket.

Limitation. While this study served to explore preliminary differences in acceptance of tele-health interventions, a key limitation was recognized. The primary criticism involves the small sample size, which serves to limit conclusions and generalization of the current findings. Despite several attempts from the researchers to gather participants at several mental health centers, difficulties with policies of confidentiality limited the ability to assess the clients at several locations. As a result, future work should continue to explore the differences of age, ethnicity, and gender in acceptance or rejection of tele-health modalities within a larger framework. Future work should also continue to explore reasons for acceptance or rejection including the role that education plays and how a potential lack of knowledge of efficacy may be a contributing factor to rejection.

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Conclusion. While this investigation had a small sample size, the current findings demonstrated preliminary exploratory findings for client's attitudes towards computer- and Internet-based modalities of treatment. Specifically, it was found that although some interest exists for tele-health interventions, many remain skeptical of the gains that may be achieved. Additionally, from the current findings it is suggested that clients of psychological services are not willing to pay the same amount or more than they would for face-to-face, even with the increased convenience and timesaving possibilities associated with a computer-based intervention. Rather, clients would be willing to try such methods if the price was cheaper. Although several explanations for such trends are possible, it is hypothesized that a lack of education on the efficacy of tele-health therapies may be responsible for some to reject consideration. Overall, further work is needed to truly clarify if the clients of mental health services are both wanting and willing to utilize computer- or Internet-based interventions in their treatment.

Perle, J.G., Langsam, L.C., Wallace, B.M., Zlatkin, N.I., Serrano, R.M., & Dorfman, W.I. (2012). Client Perceptions and Attitudes Toward Computer-based Modes of Psychological Intervention. *Counselling, Psychotherapy, and Health*, 7(1), 1-13.

References

- Cartreine, J. A., Ahern, D. K., & Locke, S. E. (2010). A roadmap to computer-based psychotherapy in the United States. *Harvard Review of Psychiatry*, 18(2), 80-95. doi: 10.3109/10673221003707702
- Cook, J. E., & Doyle, C. (2002). Working alliance in online therapy as compared to face-to-face therapy: Preliminary results. *Cyberpsychology & Behavior*, 5, 95-105. doi:10.1089/109493102753770480
- Emmelkamp, P. M. G. (2005). Technological innovations in clinical assessment and psychotherapy. *Psychotherapy and Psychosomatics*, 74, 336-343. doi:10.1159/000087780
- Jones, S., & Fox, S. (2009). Generations online in 2009. Retrieved from <http://www.pewinternet.org/Reports/2009/Generations-Online-in-2009.aspx>
- Mora, L., Nevid, J., & Chaplin, W. (2008). Psychologist treatment recommendations for internet-based therapeutic interventions. *Computers in Human Behavior*, 24, 3052-3062. doi:10.1016/j.chb.2008.05.011
- Mohr, D. C., Siddique, J., Ho, J., Duffecy, J., Jin, L., & Fokuo, J. K. (2010). Interest in behavioral and psychological treatments delivered face-to-face, by telephone, and by internet. *Annals of Behavioral Medicine*, 40, 89-98. doi: 10:1007/s12160-010-9203-7
- Pelling, N. (2006). A survey of carers' interest in face to face and internet based counselling. *International Journal of Technology, Knowledge and Society*, 2(1), 131-135.
- Richardson, L. K., Frueh, B. C., Grubaugh, A. L., Egede, L., & Elhai, J. D. (2009). Current

Perle, J.G., Langsam, L.C., Wallace, B.M., Zlatkin, N.I., Serrano, R.M., & Dorfman, W.I. (2012). Client Perceptions and Attitudes Toward Computer-based Modes of Psychological Intervention. *Counselling, Psychotherapy, and Health, 7*(1), 1-13.

directions in videoconferencing tele-mental health research. *Clinical Psychology, 16*(30), 323-338. doi: 10.1111/j.1468-2850.2009.01170.x

Rochlen, A. B., Zack, J. S., & Speyer, C. (2004). Online therapy: Review of relevant definitions, debates, and current empirical support. *Journal of Clinical Psychology, 60*(3), 269-283.

doi:10.1002/jclp.10263

U.S. Census Bureau, Statistical Abstract of the United States (2011). *1157. Adult computer and adult internet users by selected characteristics: 2000 to 2010*. Retrieved from

<http://www.census.gov/compendia/statab/2011/tables/11s1158.pdf>

Wade, S. L., Wolfe, C. R., & Pestian, J. P. (2004). A web-based family problem-solving intervention for families of children with traumatic brain injury. *Behavior Research Methods, Instruments, & Computers, 36*, 261-269. doi:10.1037/0090-5550.50.4.337

Wangberg, S. C., Gammon, D., & Spitznogle, K. (2007). In the eyes of the beholder: Exploring psychologists' attitudes towards and use of e-therapy in Norway. *Cyberpsychology and Behavior, 10*(3), 418-423. doi:10.1089/cpb.2006.9937

White, J., Jones, R., & McGarry, E. (2000). Cognitive behavioural computer therapy for the anxiety disorders: A pilot study. *Journal of Mental Health, 9*, 505-516.

doi:10.1080/09638230020005237

Whitley, Jr., B. E. (1998). Gender differences in computer-related attitudes and behavior: A meta-analysis. *Computers in Human Behavior, 24*(6), 3052-3062. doi:10.1016/S0747-5632(96)00026-X