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Guided Internet-Based Self-Help Intervention for Social Anxiety Disorder With Videoconferenced Therapist Support

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We describe the development of a novel, Internet-based, self-help intervention for social anxiety disorder (SAD) in adults, and report data on the preliminary efficacy of the program when administered with minimal therapist support delivered via a common videoconferencing platform. Participants (n = 13) completed the intervention, which consists of 8 weekly modules and a brief weekly videoconferenced check-in with a therapist. The intervention program is derived from an acceptance-based CBT program that utilizes traditional behavioral interventions (e.g., exposure) within the context of a model emphasizing mindful awareness and psychological acceptance of distressing subjective experiences. Assessments revealed that participants experienced a significant reduction in SAD symptoms and improvements in psychosocial functioning, and that treatment gains were maintained over a 3-month follow-up period. The effect sizes for the main outcome measures were large to very large (d = 0.90 to 1.47), and comparable to other Internet-based treatment programs as well as in-person trials for SAD (e.g., Feske & Chambless, 1995; Tulbure, 2011). Participants also rated the treatment program as highly acceptable. This pilot study provides preliminary evidence that an Internet-based intervention grounded in basic behavioral and acceptance-based principles is effective for the treatment of SAD, and that videoconferenced therapist support may be useful in enhancing treatment compliance. Implications and future directions are discussed.

Social anxiety disorder (SAD), characterized by a fear of negative evaluation and associated distress and impairment, is among the most common psychiatric disorders, affecting up to 12.1% of the U.S. population at some point in their lives (Kessler et al., 2005; Ruscio et al., 2008). Despite its high prevalence, only a small percentage of individuals affected by SAD receive any form of treatment (Grant et al., 2005; Ruscio et al., 2008), and only a smaller subset of those who access treatment receive evidence-based interventions such as cognitive behavior therapy (CBT). The widespread and growing access to high-speed Internet connections offers a cost-effective opportunity to disseminate evidence-based treatments and to address many of the barriers associated with receiving psychological treatment, including geographic barriers, financial cost, and availability of empirically supported programs. Internet-based programs may also be used to reach individuals who would not otherwise seek treatment by providing them with a sense of anonymity. Such programs are typically developed from self-help books and treatment manuals, adapted to an online interface with additional capabilities and interactivity (e.g., quizzes, videos, forums). Internet interventions also have a number of advantages over traditional forms of treatment, including increased anonymity, ready accessibility, standardized delivery of psychoeducation and therapeutic concepts, time flexibility, and convenience (e.g., Yuen, Goetter, Herbert, & Forman, 2012).

There is growing evidence to suggest that Internet-based self-help interventions are effective for a range of disorders, including depression (e.g., Christensen, Griffiths, & Jorm, 2004), panic disorder (e.g., Carlbring et al., 2005), and SAD (e.g., Carlbring et al., 2007; Titov, Andrews, Schwencke, Drobny, & Einstein, 2008), as well as alcohol abuse (e.g., Cunningham et al., 2009) and smoking cessation (Cobb et al., 2005). Some programs for the treatment of anxiety and mood disorders, such as *Fearfighter* (Marks et al., 2004) and *Beating the Blues* (Proudfoot et al., 2004), have already been recommended for use by various national health services. For instance, the Swedish National Board of Health and Welfare named Internet-based CBT as one of its suggested treatments for SAD (Carlbring, Andersson, & Kaldo, 2011). Similarly, in 2012, the Australian government created a nationwide e-mental health service, which includes a support service and a "virtual clinic" called the MindSport Clinic (Titov et al., 2013).

For anxiety disorders, the effect sizes of Internet-based CBT programs tend to be comparable to those seen in face-to-face CBT treatments (see reviews by Andersson,

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Carlbring, Ljotsson & Hedman, 2013; Cuijpers, Donkers, van Straten, Li, & Andersson, 2010; Spek et al., 2007). In a meta-analysis specifically focusing on SAD, Tulbure (2011) identified eight randomized clinical trials of Internet-based treatments. These studies were from four research groups in Australia, Spain, Sweden, and Switzerland; none had yet been conducted within the U.S. In all of the included studies, the programs were based on CBT principles, including cognitive restructuring and exposure exercises. On average, the duration of interventions was 8.8 weeks, with the dropout ranging from 2.5 to 39% (M = 10%). The effect sizes suggest that such programs are generally both effective in reducing symptoms of social anxiety (d = 0.86) and in improving quality of life (d = 0.53).

In addition to posttreatment benefits of Internet-based interventions, treatment gains appear to be maintained at follow-up assessments of up to 30 months (Carlbring, Nordgren, Furmark, & Andersson, 2009) and even 5 years (Hedman et al., 2011) for treatment of SAD. Hedman and colleagues (2011) found that participants in an Internet-based trial of CBT not only maintained but also continued to improve at a 1-year follow-up. Furthermore, there were no significant differences between 1-year and 5-year follow-up assessment points, suggesting long-term maintenance of treatment gains. At the 5-year assessment, only 10% of participants reported having received other forms of psychological or pharmacological treatment after completing the program, and 61% of participants attributed their improvement to the intervention. These findings suggest that low-cost Internet programs can result in significant and lasting change in symptoms, similar to those of in-person treatment programs that are more resource-intensive.

Although there is mounting evidence to support the efficacy of Internet-based interventions, the specific factors responsible for these effects remain unclear. Existing Internet-based interventions for SAD to date have been derived from traditional forms of CBT that include cognitive restructuring. However, the role of direct cognitive change strategies in CBT remains controversial. In several meta-analyses conducted to date, exposure without cognitive restructuring has been found to be equally effective as exposure combined with cognitive restructuring (Fedoroff & Taylor, 2001; Feske & Chambless, 1995; Powers, Sigmarsson, & Emmelkamp, 2008), suggesting that cognitive restructuring may not be an essential component of treatment. Similarly, in another meta-analysis of RCT studies, the authors found that studies with cognitive restructuring and applied relaxation did not have higher effect sizes than studies without these components (Acarturk, Cuijpers, van Straten, & de Graaf, 2009).

The past two decades have witnessed the growth of novel CBT programs that stress mindful awareness and acceptance of distressing experiences, including negative thoughts, rather than efforts to directly change them (e.g., Acceptance and Commitment Therapy [ACT]; Hayes, Strosahl, & Wilson, 1999, 2011). Internet-based self-help applications of these acceptance-based CBTs have been developed and found to be effective for a range of disorders, including depression (Carlbring et al., 2013), tinnitus (Hesser et al., 2012), and chronic pain (Burhman et al., 2013). However, no studies have yet evaluated Internet-based self-help based on these principles for SAD.

Additionally, the level of therapist support in current Internet-based self-help programs has ranged from no support (unguided) to minimal support (guided). Furthermore, when present, the minimal therapist support has been provided using various modalities, such as weekly emails, telephone calls, text messages, or in-person visits. The optimal level of therapist support necessary to encourage participation in Internet-based programs, to minimize attrition, and to maximize treatment effects remains unknown. Even with Internet-based interventions, therapist support entails additional costs and thereby may limit treatment dissemination. The ideal cost-benefit balance between the amount of therapist involvement and effectiveness of treatment needs to be determined.

Therapist support accompanying guided self-help interventions may provide beneficial components such as accountability and motivation to complete the modules and to ultimately stay in the program. In support of this conjecture, some research suggests that greater therapist contact is associated with better adherence. In a study conducted by Carlbring and colleagues (2007) for treatment of SAD, adherence to an Internet-based self-help traditional CBT program supplemented with weekly phone calls and emails was 93% (Carlbring et al., 2007). In contrast, a similar intervention for SAD with just weekly emails and without telephone support (Andersson et al., 2006) had a lower adherence rate of 62%. In a meta-analysis of 12 Internet-based CBT studies that employed a randomized control design for depression and anxiety disorders, Spek and colleagues (2007) categorized interventions based on the amount of therapist support provided. The interventions with therapist support had large effect sizes, ranging from d = .75 to 1.24, whereas those without any therapist support were associated with small-to-medium effect sizes (d = .08 to .44). Other reviews support the conclusion that greater therapist involvement may be associated with better treatment outcomes in mood and anxiety disorders (Newman, Erickson, Przeworski, & Dzus, 2003). On the other hand, Berger and colleagues (2011) suggest that therapist guidance may not be necessary in Internet self-help interventions for SAD. In a three-arm design, the authors compared unguided, "pure" self-help with two forms of guided self-help. In the guided self-help groups, participants were randomized to receive either weekly therapist email support or an on-demand therapist support (by phone or email based on preference). The results