



## Internet-based guided self-help for university students with anxiety, depression and stress: A randomized controlled clinical trial



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### ABSTRACT

Anxiety, depression and stress, often co-occurring, are the psychological problems for which university students most often seek help. Moreover there are many distressed students who cannot, or choose not to, access professional help. The present study evaluated the efficacy of an internet-based guided self-help program for moderate anxiety, depression and stress. The program was based on standard cognitive behavior therapy principles and included 5 core modules, some of which involved options for focusing on anxiety and/or depression and/or stress. Trained student coaches provided encouragement and advice about using the program via e-mail or brief weekly phone calls. Sixty-six distressed university students were randomly assigned to either Immediate Access or a 6-week Delayed Access condition. Sixty-one percent of Immediate Access participants completed all 5 core modules, and 80% of all participants completed the second assessment. On the Depression, Anxiety and Stress Scales-21, Immediate Access participants reported significantly greater reductions in depression ( $\eta_p^2 = .07$ ), anxiety ( $\eta_p^2 = .08$ ) and stress ( $\eta_p^2 = .12$ ) in comparison to participants waiting to do the program, and these improvements were maintained at a six month follow-up. The results suggest that the provision of individually-adaptable, internet-based, self-help programs can reduce psychological distress in university students.

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Anxiety and depression, experienced to various degrees and often in combination, are the most prevalent mental health problems (Kessler, Demler, & Frank, 2005). This general phenomenon is also true for the university student population (Adalf, Gliksman, Demers, & Newton-Taylor, 2001). For example Price, McLeod, Gleich, and Hand (2006) found that amongst students at a Canadian university the one year prevalence rate for Major Depressive Disorder was 7% for men and 14% for women, and for an Anxiety Disorder was 13% for men and 19% for women, and in all instances the number of students with a level of subclinical depression or anxiety that potentially put them at risk for developing a clinical disorder was at least twice the number of those who met the criteria for a clinical disorder. Within that same sample, 6% of male students and 11% of female students had both a Depressive Disorder and an Anxiety Disorder. Anxiety and depression are the most common problems for which students seek psychological help (Krumrie, Newton, & Kim, 2010). In the 2010 American College Health Survey, on a survey question asking if and how often they

experienced overwhelming anxiety, 48% of college and university respondents felt overwhelming anxiety at least once in the preceding 12 months; and on an item asking if and how often they felt so depressed it was difficult to function, 31% reported feeling so depressed it was difficult to function at least once in the preceding year (ACHA, 2010).

There are effective, empirically supported psychological treatments for anxiety and depression, most of them involving cognitive-behavioral therapy (CBT) (Chambless & Ollendick, 2001). However, most distressed people, including most students, do not seek psychological treatment (Eisenberg, Goldberstein, & Gallant, 2007; Harrar, Affspring, & Long 2010; Wang, Lang, & Olfen, 2005). There are various possible reasons for this, including concerns about stigma, embarrassment and privacy, skepticism about treatment, cost, convenience, etc. (Vogel, Wester, & Larson, 2007). However, simply entreating students to seek therapy is not a realistic solution, since there are often insufficient resources to serve the students who do seek psychological help. North American university counseling services are often unable to meet current demands for services (Eisenberg et al., 2007; Kitzrow, 2003). Alternate solutions must be found, if more students are to be helped. Since the essence of CBT involves learning new ways of

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thinking and acting, it is possible for such learning to take place outside of individual or group therapy. This has been demonstrated in the past through the biblio-therapeutic use of books and manuals (Scogin, Bynum, & Stephens, 1990).

The current generation of university students reports a high level of comfort with computers and a very high level of use of the internet for many activities, including gathering information, business and socializing (Caruso & Salaway, 2008). Kittinger, Correia, and Irons (2012) found that at a large American university, 97% of students had access to the internet at their primary residence, and they spend an average of 14 h per week on-line. Computer programs have the potential to be more interactive and individualized, and therefore more engaging, than written materials. However, computer-based programs that require going to a clinic location to use are not favored by university students (Mitchell & Gordon, 2007). Therefore program delivery via the internet, which is more convenient, flexible and private for the user, appears to be the most promising method of delivery.

Computer programs available via the internet have been developed and found to be helpful for various psychological problems, including anxiety and depression (Anderson, 2009; Spek et al., 2007). Internet based programs for social phobia (Tillfors et al., 2008), bulimia (Sanchez-Ortiz et al., 2011) and perfectionism (Radhu, Daskalkis, Arpin-Cribie, Irvine, & Ritvo 2012) have been used effectively with university students. Meta-analyses of studies of internet based programs have concluded that programs which included some degree of personal guidance or at least regular e-mail or other contact with program staff produced better results than programs which were entirely self-help (Andersson & Cuijpers, 2009; Spek et al., 2007). However, Titov et al. (2009, 2010) as well as Robinson et al. (2010) found that it is not necessary for the person providing such guidance to be a professionally trained therapist. So although guided self-help appears to be more effective than pure self-help, it may be more cost effective to have the guidance be provided by paraprofessional level personnel.

Most studies of the effectiveness of guided internet-based CBT for psychological distress have been on specific anxiety disorders (e.g. social anxiety, panic disorder, health anxiety) or depression (Spek et al., 2007). Of course this permits for more homogeneous research participant groups. However, specific anxiety problems, and even anxiety and depression, are highly inter-correlated, and many people need help for combinations of these problems (Brown & Barlow, 1992). Moreover the CBT solutions for these problems are very similar, and normal clinical practice outside of research trials often includes help for both anxiety and depression to various degrees. It is arguably more efficient and convenient for users to have one self-help program which addresses both anxiety and depression. Titov et al. (2011) recently reported on a controlled clinical trial finding that a “transdiagnostic” on-line CBT program for people with depression, or anxiety disorders, or both depression and anxiety disorders, significantly reduced both depression and anxiety. It is notable that although their participants just had to have an anxiety disorder or depression, most had both.

Some components of CBT, such as changing dysfunctional thinking, are generically applicable to both anxiety and depression (Beck, Benedict, & Winkler 2003); while other components are relevant mostly for specific problems, such as behavioral activation for depressed inactivity (Martell, Dimidjian, & Herman-Dunn, 2010). Broadening the potential applicability of a self-help program, in terms of problems addressed, does imply that users will be able to partially individualize the program to fit their specific needs and goals. With perhaps the exception of manualized treatments for specific problems within clinical research trials, individual in-person CBT for anxiety and depression often includes various negotiated choices about specific foci and methods, even though

there is a common core of changing distressing thoughts and related problematic behaviors that are causing the problems to persist (Beck, 2011). Replicating this type of desirable flexibility within guided self-help programs requires providing users with some choices about specific foci and methods. Recently Carlbring et al. (2011) reported on the significant effectiveness of a guided self-help program applicable a variety of anxiety problems in which participants also received an in-person interview and individualized advice about which modules to use. Johansson et al. (2012) compared the effectiveness of a standardized internet based program for depression with a similar program which also included additional material on strategies for anxiety and stress which were individually selected for the participant by therapists. They found both programs were overall equally effective in comparison to a control group, but the tailored treatment was more effective for a subgroup of participants with more severe depression and more co-morbid anxiety and other problems. Andersson, Estling, Jakobsson, Cuijpers, and Carlbring (2011) have carried this progression a step further, and piloted a guided self-help program for people with mixed anxiety disorders in which participants made their own decisions about which modules to use based mainly on descriptions provided within the program. Andersson et al. (2011) recommended that “the role of choice and tailoring should be further explored in controlled trials and that patient choice could be incorporated into Internet-delivered treatment packages”.

This article reports the results of a randomized controlled clinical trial on the effectiveness of a guided self-help program for moderate anxiety, depression and/or stress experienced by university students. The program is based on standard CBT principles and includes five “core” modules, some with options to learn basic behavioral methods of graduated increases in activity to overcome depression, and/or overcoming anxiety-related avoidance in hierarchical steps, and/or reducing problematic behaviors such as overeating or drinking alcohol in reaction to stress; others with generally applicable strategies for self-motivation for change such as decisional balancing and specific goal-setting, and how to change thoughts and underlying beliefs that cause anxiety and/or depression. After completing the core modules participants also get access to five (for men) or six (for women) “optional” modules for possibly related issues such as social relationships, sleep problems and PMS. The usability of the content of the modules was initially assessed and improved to a high level as reported by Currie, McGrath, and Day (2010). Participants were given the opportunity to individualize the program by choosing to focus on streams relevant for anxiety and/or depression, and/or stress. Participants were also provided with program coaches (i.e. trained graduate or undergraduate students) who provided periodic encouragement and advice about using the program.

Our main hypotheses were that participants using the program would improve with respect to anxiety, depression and stress symptoms more so than students waiting to use the program, and that these improvements would be maintained at a six-month follow-up.

## Method

### *Participants and recruitment*

Participants were recruited from Dalhousie University and the Universities of King's College and Nova Scotia College of Art and Design, in Halifax, Canada. Recruitment for the study began in 2010. Participants were recruited primarily via emails, advertisements in a campus newspaper, and recruitment posters. Interested individuals contacted the primary program coach through email and were provided with information regarding the study. The study

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