

Original Paper

An Evaluation of Community Outcomes for a Web-Based Social Anxiety Intervention

Abstract

Background: Social anxiety is both harmful and prevalent. It also currently remains among the most undertreated of major mental disorders, due in part to socially anxious individuals' concerns about the stigma and expense of seeking help. The privacy and affordability of computer-aided psychotherapy (CP) interventions may render them particularly helpful in addressing these concerns, and they are also highly scalable, but most tend to be only somewhat effective without therapist support. However, a recent evaluation [1] of a new self-guided, 7-module Internet-delivered cognitive behavioural therapy (ICBT) intervention called Overcome Social Anxiety found that it was highly effective.

Objective: The initial evaluation of Overcome Social Anxiety revealed that it led to significant reductions in symptom severity among university undergraduates. The purpose of the present study was to extend the results of this initial study and investigate their generalizability by directly evaluating the intervention's effectiveness among a general community sample.

Methods: While signing up for Overcome Social Anxiety, users consented to the usage of their anonymized outcome data for research purposes. Before and after completing the intervention, users completed the fear of negative evaluation scale (FNE), which we employed as the primary outcome measure. Secondary outcome measures included the depression anxiety stress scales (DASS), and two bespoke questionnaires measuring socially anxious thoughts (thoughts questionnaire) and avoidance behaviours (avoidance questionnaire).

Results: Participants who completed the intervention (102/369, 28%) experienced significant reductions in the severity of their symptoms on all measures employed, including the FNE ($P < .001$, Cohen $d = 1.76$), the depression subscale of the DASS ($P < .001$, Cohen $d = 0.70$), the anxiety subscale of the DASS ($P < .001$, Cohen $d = 0.74$), the stress subscale of the DASS ($P < .001$, Cohen $d = 0.80$), the thoughts questionnaire ($P < .001$, Cohen $d = 1.46$), and the avoidance questionnaire ($P < .001$, Cohen $d = 1.42$).

Conclusions: Our results confirm that Overcome Social Anxiety is highly effective for reducing the severity of social anxiety symptoms of those who complete it, and suggest that it is effective in the general community. The completion rate is the highest documented for a fully automated intervention for anxiety, depression, or low

mood in a real community sample. Additionally, our results indicate that Overcome Social Anxiety is effective for reducing the severity of symptoms of depression, general anxiety, and stress in addition to social anxiety.

Keywords

social anxiety; internet; cognitive behavioural therapy; psychotherapy; mental health

Introduction

Background

Social anxiety disorder has a high lifetime prevalence of approximately 13% [2]. It causes considerable distress and functional impairment, even at a subclinical level of severity [3], and impacts both the private and professional lives of those affected by it [4,5]. It is persistent in the absence of treatment [6], and is related to other mental disorders, such as mood and substance disorders [7]. Yet, social anxiety remains one of the most undertreated of all major mental disorders today [8]. Importantly, its relatively low treatment rate cannot be attributed to any lack of empirically supported treatment methods; research has shown that both psychotherapeutic treatments (e.g., cognitive behavioural therapy; CBT) and pharmaceutical treatments (e.g., selective serotonin reuptake inhibitors) for social anxiety are effective [9,10]. Rather, financial constraints and concerns about being judged or stigmatized for seeking help, among other issues, represent major barriers to treatment for socially anxious individuals [8].

Computerized cognitive behavioural therapy (CCBT), a promising and increasingly popular treatment for anxiety and depression [11], may be particularly useful in surmounting social anxiety's unique barriers to treatment, as it is more affordable and can be accessed more privately than traditional psychotherapy. Most CP interventions¹ involve some therapist support, and the effectiveness of CP interventions is related to the amount of therapist support their users receive [12,13]. Accordingly, self-guided CCBT interventions—those designed

¹ Many terms have been used to describe different kinds of psychotherapies that utilize computer technology. Throughout this article, we define some of these terms as follows: (a) computer-aided psychotherapy (CP) refers to any psychotherapy assisted by computer technology; (b) computerized cognitive behavioural therapy (CCBT) refers to any CP employing a cognitive behavioural therapy (CBT) approach; and (c) internet-delivered cognitive behavioural therapy (ICBT) refers to CCBT that utilizes the web as a mode of delivery. Additionally, any of these interventions may be “self-guided”, meaning that they operate independently, without therapist assistance.

to operate independently, without the necessity of therapist support—tend to be less effective than those involving therapist support [14].

Overcome Social Anxiety

A recent study suggests that a new self-guided ICBT intervention called Overcome Social Anxiety may represent a notable exception to the tendency for self-guided CCBT interventions to be less effective than those involving therapist support [1]. The study—a randomized controlled trial among undergraduate university students, which compared Overcome Social Anxiety with a wait-list control condition—revealed a between-groups effect size (Cohen $d=0.97$) similar to the average between-groups effect size of 19 trials of computer-aided interventions *with* therapist support found in a review (Cohen $d=0.96$) [12].

Overcome Social Anxiety arose from a program of research exploring the common limitations of other CCBT interventions [15], and was designed to address five such limitations in particular. Firstly, where many other interventions do not adequately individualize treatment to individual participants' needs, Overcome Social Anxiety employs a series of questionnaires to tailor each user's treatment package to address their unique symptoms and the contexts in which those symptoms typically occur. Secondly, corrective feedback on important aspects of the CBT process is often lacking from CCBT interventions; Overcome Social Anxiety mitigates the need for corrective feedback by providing example responses to help ensure that users fully understand what they are required to do at each stage of the treatment process (e.g., challenging maladaptive thoughts, designing behavioural experiments). Thirdly, where some interventions do not adequately address low adherence rates [15], which remain common among CP interventions today [16], Overcome Social Anxiety employs two mechanisms to encourage users to make steady progress: it hinders procrastination by limiting users to a six-month window to complete the intervention, and it mitigates forgetfulness by sending users automated reminders to continue their work on the program following periods of inactivity. Fourthly, although research shows that therapist-client interaction is an important aspect of successful CBT [17], many other interventions do not foster a strong therapeutic alliance. Overcome Social Anxiety employs voice recordings of 2 clinical psychologists to guide users through the treatment process, more closely mirroring a traditional course of human-delivered therapy. Although users could not be expected to establish as strong a connection with a voice recording as they might with a caring therapist, it is reasonable to suppose that they may find the voices and faces of real psychologists to be more engaging and motivating than text on a screen. Finally, many other interventions have failed to provide users with a sufficient dose of treatment to effect lasting positive change [15], despite research attesting to the importance of an appropriate dose of treatment to CBT's success [18].

Overcome Social Anxiety was designed to deliver a more robust treatment package than many other programs and includes all established elements of modern CBT. For more detailed information about the content of the program, please see the initial trial [1].

The results of the initial trial indicate that the five design features discussed above are collectively very useful, potentially contributing enough to bridge the effectiveness gap between self-guided and therapist-assisted interventions. Overcome Social Anxiety—if it is indeed as effective as the initial trial suggests—may have important implications not only for reducing the severity of symptoms and increasing the wellbeing of people who struggle with social anxiety, but also for the development of future interventions.

Although the initial study was a randomized controlled trial with high internal validity, it did not explicitly investigate the generalizability of its findings to the general community of individuals with social anxiety. The purpose of the present study was to attempt to replicate the findings of the initial trial with high external validity by employing Overcome Social Anxiety's general user base as its sample. Our rationale for conducting the present study was that, to the extent that the intervention was found to be similarly effective among its general user base as it was among the initial trial's student sample, consumers, mental health professionals, researchers, and developers of future ICBT interventions would be able to place more confidence in the intervention's effectiveness.

Hypothesis

We hypothesized that among those who completed the intervention, post-treatment scores on the Fear of Negative Evaluation Scale (FNE) [19] would be significantly lower than pre-treatment scores. The results from the initial trial [1], which also employed the FNE and found a large pre-treatment-to-post-treatment effect size for that measure (Cohen $d=0.82$), suggested that this difference could be large.

Methods

Participants

In the present study, we retrospectively analyzed data from past users of Overcome Social Anxiety. This data was automatically collected from users between August 2012 and April 2018. Thus, no new data collection was necessary. Our sample ($N=369$) consisted of all former, paying users of Overcome Social Anxiety. We excluded (a) those whose usage of the program was ongoing as of April 2018, (b) the university undergraduates

who participated in the initial trial [1], and (c) all other users who were given free access to the intervention (e.g., through the private practices of its creators).

A power analysis suggested that, for within-subjects comparisons of pre-treatment and post-treatment FNE scores, a sample of 40 completers would have been required to achieve a power level of 0.99 at the $P < .01$ level of significance, 2-tailed, assuming the effect size of Cohen $d = 0.82$ found in the initial trial [1]. Even given a conservative estimate of an effect half this size (i.e., Cohen $d = 0.41$) for the present study's population, we would have achieved a power level of 0.93 at the $P < .01$ level of significance, 2-tailed, with the 102 users who completed the intervention.

All past and present users of Overcome Social Anxiety consented to the collection, anonymization, and later analysis of their data for research purposes during registration. The protocol for the present study was approved by the local institutional ethics board.

Materials

Overcome Social Anxiety begins with a Pre-questionnaires module, which is included both to individualize the course of treatment to each user's needs and to measure each user's pre-treatment symptom severity. The intervention concludes with a Post-questionnaires module, which allows users to quantify changes in the severity of their symptoms. Both of these modules contain four measures. Firstly, they contain the fear of negative evaluation scale (FNE) [19], a commonly-used and well-validated measure of social anxiety symptoms [19,20]. The FNE is comprised of 30 statements (e.g., "I worry that others will think I am not worthwhile") that respondents mark as true or false, and yields a total score between 0 and 30. Scores of 7 (one standard deviation below the mean for a large student sample) and 8 (lower quartile) have been recommended as cutoff scores to indicate low social anxiety, while scores of 22 (one standard deviation above the mean) and 20 (upper quartile) have been recommended as cutoff scores to indicate high social anxiety [20].

Secondly, both of these modules include the depression anxiety stress scales (DASS) [21], a 42-item questionnaire designed to discriminate between depression (e.g., "I felt sad and depressed"), anxiety (e.g., "I was aware of dryness of my mouth"), and stress (e.g., "I was in a state of nervous tension"), despite their shared symptoms. Research has attested to its reliability and validity [22,23].

Finally, these modules include two bespoke questionnaires, which ask users about the frequency with which they experience 37 socially anxious thoughts (e.g., "I can't speak to authority figures") and avoid 23 anxiety-provoking situations (e.g., "Making small talk with strangers/colleagues"). The items on these two questionnaires—titled the thoughts questionnaire and the avoidance questionnaire, respectively—were retrieved

from a file audit of decades of clinical psychology practice with individuals diagnosed with social anxiety. Both questionnaires are scored on 5-point Likert scales, and are intended to capture the patterns of thinking and behaviour characteristic of real experience with social anxiety symptoms. Cronbach's alphas for the thoughts questionnaire and the avoidance questionnaire were .94 and .89, respectively.

Procedure

Users from around the world found Overcome Social Anxiety independently and chose to sign up for \$149.99 USD. During registration, users consented to the use of their data for research. After signing up, users first completed the Pre-questionnaires module, consisting of the FNE, the DASS, the thoughts questionnaire, and the avoidance questionnaire. They then began working through the 7 core modules of the program (see Figure 1 for content outline and the initial trial [1] for details). Users were given a limit of six months from the date of their registration to complete the intervention. They were sent automated emails reminding them to continue using the program after 3, 7, 10, 14, 21, and 28 days of inactivity. Upon completing each module, users were also sent automated emails summarizing that module's contents. Upon completing all of the program's core modules, users responded to the FNE, the DASS, the thoughts questionnaire, and the avoidance questionnaire again during the Post-questionnaires module. Because the present study involved only the retrospective analysis of data from past users of Overcome Social Anxiety, there was no contact with participants throughout the course of the study.

Statistical Analysis

The present study's primary dependent variable was pre-treatment-to-post-treatment change in the severity of social anxiety symptoms, as measured by the FNE. We selected the FNE as a primary measure because it is a well-established and validated measure of social anxiety symptoms and because our other measure of anxiety, the anxiety subscale of the DASS, measures primarily physiological symptoms of anxiety and does not specifically measure social anxiety symptoms. However, we also analyzed changes in scores on five secondary measures—the three factors of the DASS, the thoughts questionnaire, and the avoidance questionnaire. For each of these measures, within-subjects *t*-tests were conducted to determine whether post-treatment scores differed from pre-treatment scores among users who completed the intervention.

We tested for attrition bias by exploring differences between completers and non-completers. Specifically, we conducted between-subjects *t*-tests to check for differences between completers and non-

completers in age and baseline scores on all questionnaire measures. We also conducted chi-square analyses for sex and whether users reported having previously seen a therapist for anxiety, seen a therapist for other reasons, or taken medication for anxiety. Finally, after imputing missing post-treatment data from non-completers using a last observation carried forward approach, we conducted a between-subjects *t*-test to check for pre-treatment-to-post-treatment changes in social anxiety symptoms among all users, completers and non-completers alike.

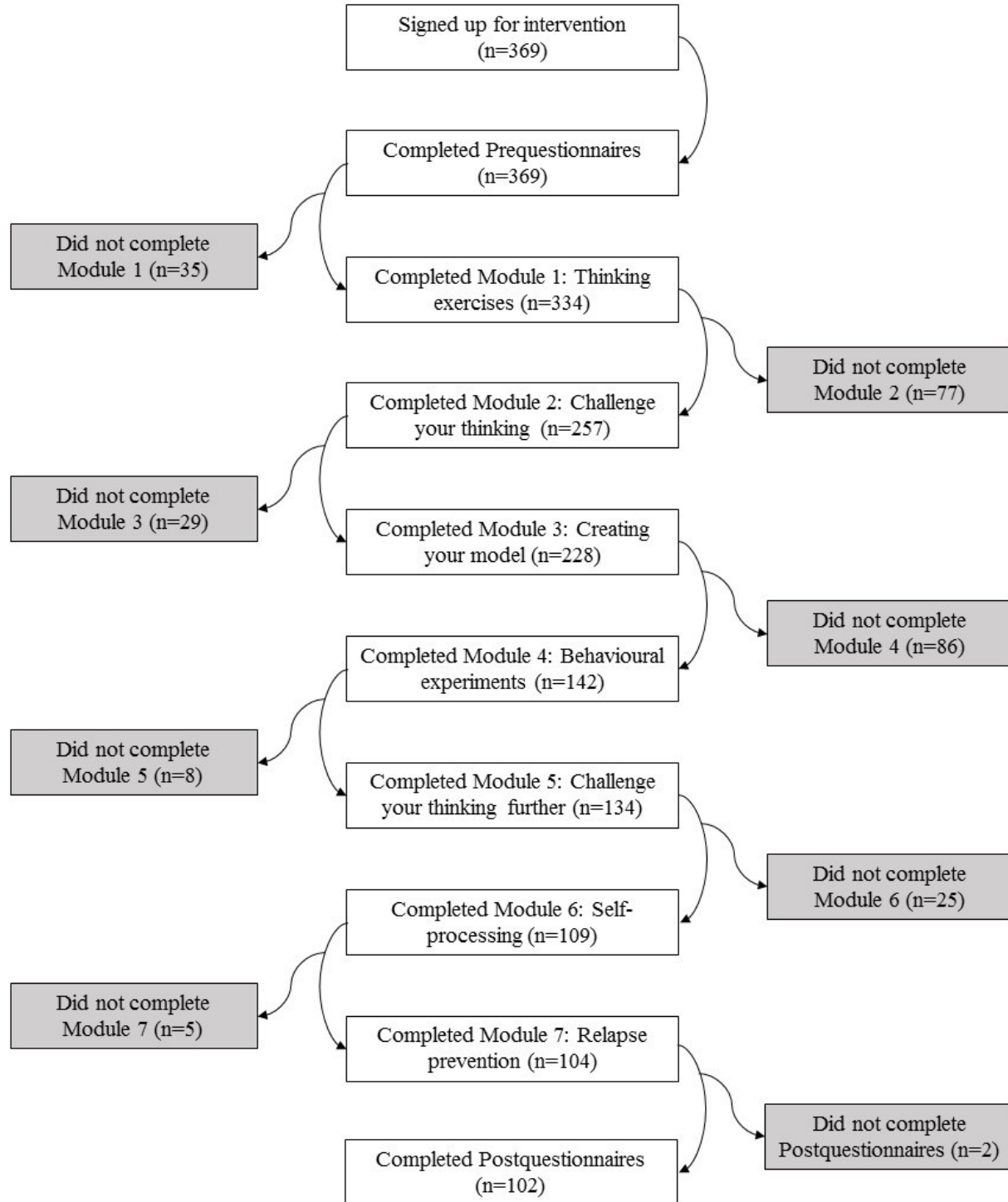
Results

Program Usage

Of the 369 users who signed up for Overcome Social Anxiety between August 2012 and April 2018, 102 users (28%) completed the intervention. The number of users who completed each module of the intervention is displayed in Figure 1. The average time to completion for each module, in minutes, was 14:42 for the Pre-questionnaires, 34:36 for Module 1, 83:42 for Module 2, 43:06 for Module 3, 103:43 for Module 4, 15:01 for Module 5, 25:03 for Module 6, 8:03 for Module 7, and 19:06 for the Post-questionnaires. Based on these times, we estimated that completers spent an average of 5 hours, 47 minutes and 2 seconds using the intervention, while non-completers spent an average of 2 hours, 11 minutes and 45 seconds, in addition to any time spent on modules they did not complete.² However, these estimates represent only the amount of time users spent logged in to the intervention. Important components of CBT, including homework exercises such as exposure activities, occur between sessions, and the overall amount of time spent is likely to be considerably higher.

Figure 1. Flowchart of user progress.

² Mean time for completers was calculated by summing the mean completion times for each module. Mean time for non-completers was calculated by multiplying the mean completion time for each module by the total number of non-completers who completed each module, summing the products of these calculations, and dividing the resulting sum by the total number of non-completers.



User Characteristics

Out of the 102 completers, 39 (38.24%) identified as female, 58 (56.86%) identified as male, and 5 (4.90%) did not report their sex. These data, in addition to those of non-completers, are displayed in Table 1. The most common countries of residence users reported during registration were the United States (105/369, 28%), the United Kingdom (55/369, 15%), Australia (55/369, 15%), Iceland (30/369, 8%), and Canada (28/369, 8%). The remaining users (96/369, 26%) were spread across 26 other countries around the world. The mean age³ of completers was 35.47 (SD 13.64).

Pre-Treatment Questionnaire Scores

The mean pre-treatment FNE score among completers was 25.91 (SD 3.99), indicating very high levels of social anxiety. This score approached the FNE's maximum score of 30, and exceeded cutoff scores defining high anxiety (20 and 22 [20]) by a considerable margin. For the DASS, completers had pre-treatment scores of 14.07 (SD 10.07) on the depression subscale, 9.93 (SD 6.84) on the anxiety subscale, and 16.28 (SD 8.05) on the stress subscale. Finally, completers' mean pre-treatment scores on the thoughts questionnaire and avoidance questionnaire were 79.72 (SD 23.4) and 51.37 (SD 14.85), respectively.

Comparison of Completers and Non-Completers

A between-subjects *t*-test revealed that completers had lower scores than non-completers on the anxiety subscale of the DASS (equal variances not assumed; $t_{217.66}=2.95$, $P=.003$, Cohen $d=-0.33$). Between-subjects *t*-tests of the DASS's depression and stress subscales, the FNE, the thoughts questionnaire, the avoidance questionnaire, and age revealed no further differences between completers and non-completers (all $P>.07$). Additionally, chi-square analyses revealed no differences between completers and non-completers in sex ratio or whether users reported previously seeing therapists for anxiety, seeing therapists for other reasons, or taking medication for anxiety (all $P>.15$).

³ Age was measured by year of birth, and our statistics on users' ages represent their ages at the end the calendar years during which they began the intervention. Additionally, only 92 out of the 102 completers reported their age.

Effectiveness of the Intervention

Completers experienced significant pre-treatment-to-post-treatment reductions in symptom severity on all measures employed: the FNE ($t_{101}=13.61$, $P<.001$, Cohen $d=1.76$), the depression subscale of the DASS ($t_{101}=7.42$, $P<.001$, Cohen $d=0.70$), the anxiety subscale of the DASS ($t_{101}=8.24$, $P<.001$, Cohen $d=0.74$), the stress subscale of the DASS ($t_{101}=9.57$, $P<.001$, Cohen $d=0.80$), the thoughts questionnaire ($t_{101}=16.47$, $P<.001$, Cohen $d=1.46$), and the avoidance questionnaire ($t_{101}=15.40$, $P<.001$, Cohen $d=1.42$). Demographic characteristics and pre-treatment questionnaire scores for all users, in addition to post-treatment questionnaire scores and symptom change analyses for completers, are summarized in Table 1.

Table 1. User characteristics and questionnaire scores.

Characteristic	Completers (n=102)	Non-completers (n=267)	Total (N=369)
Demographics			
Female, n (%) ^a	39 (40)	98 (38)	137 (39)
Age, mean (SD) ^b	35.47 (13.64)	33.88 (11.93)	34.31 (12.42)
FNE			
Pre-treatment, mean (SD)	25.91 (3.99)	25.53 (5.05)	25.63 (4.78)
Post-treatment, mean (SD)	15.06 (8.32)		
Change ^c	$t_{101}=13.61$, $P<.001$, $d=1.76$		
DASS (depression subscale)			
Pre-treatment, mean (SD)	14.07 (10.07)	16.34 (11.28)	15.72 (10.99)
Post-treatment, mean (SD)	7.57 (8.60)		
Change ^c	$t_{101}=7.42$, $P<.001$, $d=0.70$		
DASS (anxiety subscale)			
Pre-treatment, mean (SD)	9.93 (6.84)	12.42 (8.212)	11.73 (7.93)
Post-treatment, mean (SD)	5.32 (5.64)		
Change ^c	$t_{101}=8.24$, $P<.001$, $d=0.74$		
DASS (stress subscale)			
Pre-treatment, mean (SD)	16.28 (8.05)	18.14 (9.40)	17.63 (9.08)
Post-treatment, mean (SD)	10.01 (7.63)		
Change ^c	$t_{101}=9.57$, $P<.001$, $d=0.80$		
Thoughts questionnaire			
Pre-treatment, mean (SD)	79.72 (23.40)	80.66 (23.68)	80.40 (23.57)
Post-treatment, mean (SD)	44.93 (24.17)		
Change ^c	$t_{101}=16.47$, $P<.001$, $d=1.46$		
Avoidance questionnaire			
Pre-treatment, mean (SD)	51.37 (14.85)	52.35 (15.59)	52.08 (15.37)
Post-treatment, mean (SD)	29.54 (15.97)		
Change ^c	$t_{101}=15.40$, $P<.001$, $d=1.42$		

^aSome users did not report their sex. This row displays responses from the 97 completers and 255 non-completers (352 users in total) who did.

^bAge was measured by year of birth, and our statistics on users' ages represent their ages at the end the calendar years during which they began the intervention. Additionally, some users did not report their age, and this row displays responses from the 92 completers and 246 non-completers (338 users in total) who did.

^cThis row displays the results of a within-subjects t test comparing completers' pre-treatment and post-treatment scores.

Imputation of Missing Data

It has been suggested that where dropout rates exceed 20%—and the present study’s dropout rate (267/369, 72%) did so by far—“no adequate recommendation [for replacing missing data] can be provided” [24]. However, research has demonstrated that partial completion of ICBT interventions for anxiety and depression leads to symptom reduction [25], and non-completers in our sample spent an estimated average of 2 hours or more using Overcome Social Anxiety, suggesting that non-completers may have benefited from the intervention. For this reason, imputation of missing data from non-completers using a last observation carried forward approach may be conservative. A within-subjects *t*-test comparing pre-treatment and post-treatment FNE scores for all users, assuming no pre-treatment-to-post-treatment change in FNE scores for non-completers, indicated that the program was moderately effective in reducing symptoms among all users ($t_{368}=8.95$, $P<.001$, Cohen $d=0.48$). Even in the hypothetical and unlikely event that non-completers experienced an increase in social anxiety symptoms equivalent to half a standard deviation on the FNE (i.e., a score increase of 2.52; Cohen $d=0.5$), our results would show a small but statistically significant reduction in FNE scores among all users ($t_{368}=3.08$, $P=.002$, Cohen $d=0.18$).

Discussion

Principal Findings

Our primary hypothesis was that those who completed the intervention would experience a significant reduction in the severity of their social anxiety symptoms, as measured by the FNE [19]. This hypothesis was clearly supported by our results. In fact, the effect size for this reduction (Cohen $d=1.76$) was larger than the mean uncontrolled pre-treatment-to-post-treatment effect size of *human-delivered* CBT for social anxiety found in a meta-analysis ($ES=1.04$) [26].

Our results also show that those who completed the intervention experienced reductions not only in the severity of social anxiety symptoms, as measured by the FNE, but also in the severity of symptoms of depression, anxiety, and stress, as measured by the DASS, and self-reported socially anxious thoughts and avoidance behaviours, as measured by the thoughts questionnaire and the avoidance questionnaire. According to Cohen’s guidelines for interpreting Cohen’s d [27], all of these changes were large (Cohen $d>0.8$) except for the change on the depression subscale of the DASS, which was medium (Cohen $d>0.5$) in magnitude.

The completion rate (102/369, 28%) was high in comparison with community completion rates of other self-guided CP interventions. Data from community users show lower completion rates than data from trials [16], and self-guided CP interventions have lower completion rates than therapist-assisted CP interventions [28]; it is therefore unsurprising that community adherence to self-guided CP is typically low. For example, the highest completion rate found in a recent review examining community usage of self-guided CP interventions for depression, anxiety, and mood enhancement was 19.5% [16], and the intervention that achieved this completion rate, CBTPsych, was actually an earlier version of Overcome Social Anxiety targeted towards stuttering populations. Other research has shown that for self-guided internet psychotherapy interventions, over 90% of users withdraw after only two sessions [29]. By comparison, less than one third of users in our sample (112/369, 30%) withdrew before completing the Pre-questionnaires, Module 1, and Module 2, which together took users an average of 2 hours and 13 minutes.

Limitations and Future Research

There remain a number of important questions for future research to address. Firstly, although it has been shown that therapist assistance increases adherence to CCBT [28], therapist-assisted CP is not as scalable as self-guided CP. The further development of mechanisms to improve adherence to self-guided CP interventions remains an important avenue for future research. Secondly, it is a limitation of this study that we have no post-treatment data from non-completers, and therefore cannot report changes in their symptom severity following their partial completion of the intervention. Although past research shows that partial completion of ICBT interventions is beneficial [25], future research would be required to clarify the benefits of partially completing Overcome Social Anxiety. Thirdly, the intervention's apparent success cannot currently be attributed to any particular elements of its design. Overcome Social Anxiety was created to address five limitations of other ICBT interventions, but it remains unclear which of these limitations are most crucial for designers of future ICBT interventions to address. Fourthly, although Overcome Social Anxiety has now been evaluated as an intervention for university undergraduates [1] and members of its general user base, future research would be required to evaluate the intervention in a clinical setting or to compare its effectiveness with human-delivered CBT. Finally, there is currently no data indicating whether and for what length of time users maintain reductions in symptom severity following their completion of the intervention.

Conclusions

Overcome Social Anxiety was initially evaluated through a randomized controlled trial, which indicated that the intervention results in reductions in the severity of social anxiety symptoms among university undergraduates [1]. Although the present study's lack of a control condition leaves us unable to draw causal inferences, we believe that it is reasonable to assume that a considerable proportion of the pre-treatment-to-post-treatment reduction in symptom severity can be attributed to the intervention, as this was a very large effect (Cohen $d=1.76$) and research shows that social anxiety tends to be persistent when it remains untreated [6]. Given this assumption, the present study reinforces the findings of the initial trial [1] in four ways. Firstly, it replicates the finding that Overcome Social Anxiety is effective in reducing the severity of social anxiety symptoms. Secondly, its high external validity extends the initial trial's results to show that the intervention is highly effective among community users who complete it. Thirdly, it suggests that the intervention's benefits are not limited to reducing the severity of social anxiety symptoms; the program appears to alleviate symptoms of depression, stress, and general anxiety among its users as well. And finally, the present study suggests that Overcome Social Anxiety has a high completion rate compared with other self-guided CP interventions. In summary, the results of the present study converge with those of the initial trial, attesting to Overcome Social Anxiety's effectiveness as a self-guided ICBT intervention and providing further indication that future interventions may be able to draw from elements of its design.

Acknowledgments

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Conflicts of Interest

The authors FH and RM are co-founders of Overcome Social Anxiety. FH is the director of AI-Therapy, the company that created Overcome Social Anxiety. As the originators of the intervention we were evaluating, both provided critical input in conducting this study. Neither provided funding for the study or conducted any data analyses. All other authors declare no conflicts of interest.

Multimedia Appendix

Multimedia Appendix 1 Screenshot of Overcome Social Anxiety

Abbreviations

CP: computer-aided psychotherapy
 ICBT: Internet-delivered cognitive behavioural therapy
 FNE: fear of negative evaluation scale
 DASS: depression anxiety stress scales
 CBT: cognitive behavioural therapy
 CCBT: computerized cognitive behavioural therapy

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