

INTERNET-DELIVERED INDICATED PREVENTION FOR ANXIETY DISORDERS: A RANDOMIZED CONTROLLED TRIAL

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Abstract: The project aims to investigate the efficacy of a preventive cognitive behavioural intervention delivered via the Internet to individuals at risk of developing anxiety disorders. There is increasing evidence that suggests anxiety sensitivity may act as a premorbid risk factor for the development of anxiety pathology and panic disorder. Eighty-three university students with elevated anxiety sensitivity were randomly allocated to either an intervention group ($n = 43$), who worked through the Internet based program over a period of 6 weeks, or a waitlist control group ($n = 40$). Significant treatment effects were found for anxiety related cognitions and symptoms of depression, and a non-significant trend for anxiety sensitivity. These outcomes were related to expectancy but not to program utilization. Implications for the prevention of anxiety via the Internet are discussed.

Keywords: Prevention, Internet, anxiety, sensitivity, cognitive-behavioural therapy.

Introduction

Anxiety is a common and debilitating psychiatric condition, which causes considerable suffering and disability for individuals, as well as significant health costs and family and community impact. Health service utilization rates for people with anxiety disorders are higher than all other mental health disorders except for schizophrenia and bipolar disorders (Oakley–Browne, 1991).

There is increasing evidence that suggests anxiety sensitivity may act as a premorbid risk factor for the development of anxiety pathology and panic disorder (Schmidt, Lerew, & Jackson, 1997). Anxiety sensitivity refers to the extent that an individual believes that symptoms of arousal can have harmful consequences (Reiss, 1991). It is distinguished from other cognitive models of anxiety because it is considered a stable characteristic that does not require the experience of anxiety or panic in its own development (Reiss, 1991).

Research into the treatment of anxiety disorders has led to the development of demonstrated effective psychological intervention (Cognitive Behavioural Therapy, CBT). However, the recent *Mental health promotions and prevention national action plan* (DHAC, 1999) argues that treatment approaches alone cannot adequately address the high level of burden associated with anxiety and that programs that prevent the onset of anxiety disorders

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should be developed, implemented and evaluated. In addition, high prevalence of anxiety demands that the delivery of CBT be refined to increase both cost-effectiveness and dissemination (Newman, Kenardy, Herman, & Taylor, 1997).

Research indicates that AS is subject to clinical improvement with CBT for PD (Gould & Clum, 1993; Hazen, Walker, & Eldridge, 1996). Furthermore, there is preliminary evidence that AS can be effectively reduced in a non-clinical sample with brief CBT (Otto & Harrington, 1999). Based on the evidence for AS as a psychological risk factor and CBT as an effective treatment for anxiety disorders, a CB intervention that can effectively anticipate and prevent stress reactions among high risk individuals may offer promise in the domain of selective anxiety prevention.

CBT is structured and systematically implemented; consequently it is easily translated into interactive computer software (Selmi, Klein, Griest, Sorrell, & Erdman, 1990). Although there are no published studies concerning the efficacy of Internet or computer-assisted CBT in the prevention of anxiety disorders, reduced therapist contact self-help CBT (Gould & Clum, 1993), computer-assisted CBT (Kenardy et al., in press) and computer delivered self-help CBT are of demonstrated efficacy in the treatment of anxiety disorders. Thus, a totally self-administered CB program may be a useful preventative intervention when translated to an Internet platform (see Winzelberg et al., 2000).

In summary, there is evidence supporting the use of CBT, self-help therapy and computers in the treatment of anxiety disorders, and promising evidence for anxiety sensitivity as a risk factor in the development of panic attacks and other anxiety symptoms. Furthermore, resource efficient methods that promote self-management of mental health conditions through the use of technology can be readily modified and extended to a wide range of people who may otherwise be unable to access conventional services. This study aims to investigate the efficacy of a preventative CBT intervention delivered via the Internet to individuals with high anxiety sensitivity.

Method

Participants

Four-hundred-and-twenty first year psychology students at the University of Queensland completed the pre-intervention assessment across two consecutive semesters. Eight participants were excluded from the study because they were currently prescribed anxiolytic, antidepressant or anti-psychotic medications. Of the 412 remaining participants, 130 (31.6%) were male and 282 (68.4%) were female. Age ranged from 17–51 years, with a mean age of 19.92 ($SD = 4.78$). Most participants were unmarried (93%), a few were married (4%), living with their partner but not married (2%), divorced (0.7%) or separated (0.3%).

Measures

Participants were administered a battery of questionnaires at pre- and post-intervention. Participants were asked for the following demographics: age, date of birth, gender, marital status and specification of current medications. Symptoms of panic attacks were described and participants were asked if they had ever had a panic attack, and, if so, how frequent and severe the attacks had been during the past 4 weeks.

Anxiety. The Anxiety Sensitivity Index (ASI, Peterson & Reiss, 1992) is a 16-item measure that examines the extent to which a person finds anxiety-related sensations to be fearful or catastrophic in outcome. Items are rated on a 0 (very little) to 4 (very much) Likert scale, with scores ranging from 0–64. The normative mean for non-clinical subjects is 19.01 ($SD = 9.11$), whereas mean scores for clients with panic disorder range from 30.5 to 36.4 (Peterson & Reiss, 1992). The ASI has demonstrated adequate internal consistency ($\alpha = .82-.88$; Telch, Shermis, & Lucas, 1989) and test–retest reliability ($r = 0.75$; Maller & Reiss, 1992). Construct validity studies also suggest that AS is distinct from trait anxiety (Taylor, Koch, & Crockett, 1991).

Fear of bodily sensations and general fear. The Body Sensations Questionnaire (BSQ; Chambless, Caputo, Bright, & Gallagher, 1984) is a 17-item scale that assesses fear of the physical sensations associated with high arousal and panic. Items are rated on a 5-point scale ranging from “not frightened or worried by this sensation” (1) to “extremely frightened by this sensation” (5). The normative mean for non-clinical subjects is 1.52 ($SD = 0.58$), compared to agoraphobics with a normative mean of 3.05 ($SD = 0.86$). Chambless et al. (1984) report good internal consistency ($\alpha = .87$) and test–retest reliability ($r = .67$, over 31 days).

Anxiety related cognitions. The Catastrophic Cognitions Questionnaire-Modified (CCQ; Khawaja, Oei, & Baglioni, 1994) is a 21-item scale that assesses the element of dangerousness associated by a person with their unpleasant emotions, physical changes and thinking difficulties (Khawaja et al., 1994). Items are rated on a 5-point scale, ranging from “not at all dangerous” (1) to “extremely dangerous” (5). The normative mean for students for the CCQ-M is 58 ($SD = 15$), compared with a mean of 64 ($SD = 17$) for clinical subjects. The questionnaire demonstrates moderately good reliability ($r = .63$) and is able to distinguish between community, clinical and student samples.

The Agoraphobic Cognitions Questionnaire (ACQ; Chambless et al., 1984) is a 14-item scale that measures maladaptive thoughts about the possible consequences of anxiety. Items are rated on a 5-point scale ranging from “thought never occurs” (1) to “thought always occurs” (5). The normative mean for non-clinical subjects is 1.38 ($SD = 0.34$), in comparison to agoraphobics with a normative mean of 2.32 ($SD = 0.07$; Chambless & Gracely, 1989). The ACQ has shown good stability ($r = .86$ over 31 days) and internal consistency ($\alpha = 0.80$).

Depression. The Centre for Epidemiologic Studies Depression Scale (CESD; Radloff, 1977) is a 20-item scale that measures depressive symptomatology, with an emphasis on negative affectivity, in the general population. Items are rated on a 4-point scale, ranging from “rarely or none of the time” (0) to “most or all of the time” (3). The possible range of scores is 0–60, with high scores indicating more symptoms (Radloff, 1977). The normative mean for non-clinical subjects is 9.25 ($SD = 8.58$), compared with a mean of 24.42 ($SD = 13.51$) for clinical subjects (Radloff, 1977). The scale shows high internal consistency ($\alpha = .85$) and adequate test–retest reliability ($r = .53$ over 4 weeks; Radloff, 1977) with a student sample.

Program credibility and outcome expectancy. Those selected to participate in the program after baseline assessment were given a written description of their assigned condition (control or evaluation), after which time the evaluation group from the second cohort com-

pleted a measure of program credibility and outcome expectancy. On completion of the program, the evaluation group from cohort two also completed a measure of program satisfaction. This 7-item questionnaire was designed to assess participants' perceptions of the Online Anxiety Prevention Program and their expectancy of change across anxiety severity, anxiety related thoughts and avoidance behaviour prior to starting the intervention. Factor analysis was used to confirm the two factor structure. Intervention Credibility (items 1–4) was rated on a Likert scale ranging from “not at all useful, logical or confident” (1) to “very logical, useful or confident” (7). Outcome Expectancy (items 5–7) was rated on a 9-point scale ranging from “decrease dramatically” (–4) to “increase dramatically” (+4). Items were summed to form a total intervention Credibility and total Outcome Expectancy score.

Program satisfaction. This 14-item questionnaire was designed by the researcher to assess participants' overall perception of the Online Anxiety Prevention Program on completion of the intervention. It also provided additional information regarding place of access and previous Internet experience. Two factors emerged from factor analysis: General Satisfaction and Component Satisfaction. General Satisfaction was rated on a Likert scale ranging from “not at all useful or acceptable” (1) to “extremely useful or acceptable” (7). Component Satisfaction was rated on a 9-point scale ranging from “decrease dramatically” (–4) to “increase dramatically” (+4). Items were summed to form a total General and total Component Satisfaction score. This measure was only administered to the evaluation group of the second cohort.

Procedure

All participants completing the initial pre-intervention assessment were shown how to access the questionnaire on the Internet. The subjects were told that their participation at this point of the project would provide the researchers with data indicating the mean and range of stress and anxiety symptoms in students and identify students who would benefit from the program. Those selected to participate further and randomly assigned to the control group were told the program would be made available to them in 6 weeks, at which time they would be asked to complete the computer based post-intervention questionnaires. The evaluation group was taken through an introductory session to the program. They were shown how to access the website using an assigned password and were briefly oriented through the program. Beyond the first session, participants were expected to use the program in their own time, at university, home or wherever they had access to the Internet.

Participants were recommended to spend between 5 and 7 days on each of the six sessions of the program for maximum benefit. However, they were reminded that this was a guideline and they were able to work at their own pace, to promote compliance. Their progression through the program was monitored via electronic data indicating the dates and times each participant accessed each page on the website. Participants were informed that this information would be monitored so the researcher could keep track of their progress.

As participants in the evaluation group finished the sixth session, they were asked to complete the post-intervention assessment questionnaire on the same website, in addition to a satisfaction questionnaire that cohort two received by mail. Participants in the control group received the post-intervention assessment questionnaire by mail. Participants in the

control group were given passwords and allowed access to the online program. This prevented future access to comparative follow-up data.

Intervention.

The Online Anxiety Prevention Program (Kenardy, Rosa, & Bolland, 1998) is based on the SERENA software for palm-top computers used in the computer-assisted treatment of PD (Newman, Kenardy, et al., 1997) and the work of Barlow and Cerny (1988) in the treatment of panic. The six sessions incorporate psychoeducation about anxiety, relaxation training, interoceptive exposure, cognitive restructuring and relapse prevention. Each session requires participants to cover the program material, practise a set of skills and record their progress daily. This information is automatically saved and can be printed in hard copy.

Results

Participants

A cut-off of 24 was used to select participants with the top third of scores on the ASI. Thus 131 subjects were invited to participate in the evaluation and 83 (63.4%) accepted. There were no significant differences on the outcome measures, and age between those who accepted and those who declined except that the proportion of males was larger in the group that accepted than in the group who declined, $\chi^2(1, n = 18) = 4.135, p = .042$. Those who were recruited ($N = 83$) had a mean ASI score of 30.75 ($SD = 7.05$), an average age of 20.73 ($SD = 6.29$) and 38.3% ($n = 18$) were male.

Random assignment resulted in two groups: an intervention group ($n = 43$) who worked through the program on the Internet over 6 weeks, then completed the assessment again; and a control group ($n = 40$) who simply completed the assessment for a second time 6 weeks later. Participant characteristics were comparable on all outcome measures and demographic profile with the exception of marital status.

Of the 83 participants who were randomly allocated, 8 dropped out over the course of the intervention (i.e. control = 2, intervention = 6) due to time constraints and one person was excluded from the analysis due to extremely high post-intervention scores on all outcome measures (i.e., z scores > 3). Dropouts had significantly higher scores on the ASI (dropouts: $M = 35.2, SD = 30.54$, evaluation group: $M = 30.24, SD = 5.25$), $T(81) = 2.02, p = .047$, and CESD (dropouts: $M = 33.2, SD = 10.57$, evaluation group: $M = 21.53, SD = 7.16$), $F(1, 82) = 11.80, p = .001$. The final sample used for the analysis was 74 (control: $n = 38$, evaluation: $n = 36$). No differences were found between those lost to follow-up and those retained.

Intervention outcomes

The means and standard deviations for each dependent variable at each assessment phase are shown in Table 1. In each case, the post-intervention mean scores for the evaluation group were lower than the respective mean for the control group. A2 (Group) \times 2 (Time — pre to post) MANOVA assessing the impact of the intervention on the six outcome measures yielded a significant main effect for time, $F(5, 68) = 12.75, p < .001$, and a significant

effect for the interaction between condition and time, $F(5, 68) = 3.40, p = .008$. The overall effect size for the interaction was in the medium range ($\eta^2 = 0.20$). Subsequent univariate ANOVA revealed a strong interaction between group and time (i.e. pre to post) for the ACQ, CCQ and CES-D and a downward trend for the ASI and BSQ, although these results were not significant (see Table 1). No change in panic frequency or severity was observed at post-intervention.

Program usage

On average, the program was accessed by each participant on 7.76 occasions ($SD = 7.31$), with a mean access time of 90.37 minutes ($SD = 111.29$). On average, participants completed as far as session three ($M = 3.33, SD = 2.10$). Regression analysis did not detect a relationship between access time and number of sessions accessed, or between access time and outcome measures. However, those who accessed the program from home spent significantly more time using the program than those who accessed it from the university (home: $M = 66.45$ min, $SD = 29.14$; university: $M = 36$ min, $SD = 20.05$), $t(18) = 2.657, p = .016$.

Intervention credibility, outcome expectancy and satisfaction

Pre- and post-intervention change scores were calculated to assess whether intervention credibility and expectancy predicted change at post-treatment. Correlation analysis indicated that intervention credibility did not predict treatment outcome. However, outcome expectancy predicted post-intervention changes in fear of bodily sensations ($r = -.59, p < .05$) and catastrophic cognitions ($r = -.64, p < .05$). No relationship was found between intervention satisfaction and treatment outcome, with a mean General Satisfaction score of 15.2 ($SD =$

Table 1. Means (and standard deviations) by comparison group over time

Measure	Group	Pre-intervention	Post-intervention	F (1, 72) for Time \times Group interaction
ASI	Evaluation	30.58 (5.30)	21.89 (8.97)	3.04, $p = .085$
	Control	30.16 (5.47)	24.66 (9.41)	
BSQ	Evaluation	2.04 (0.53)	1.50 (0.77)	3.43, $p = .068$
	Control	1.96 (0.46)	1.70 (0.59)	
ACQ	Evaluation	1.43 (0.51)	0.96 (0.58)	7.28, $p = .009$
	Control	1.22 (0.55)	1.12 (0.69)	
CCQ	Evaluation	66.08 (12.97)	53.33 (15.14)	12.35, $p = .001$
	Control	60.79 (11.87)	58.87 (14.11)	
CESD	Evaluation	21.39 (7.70)	15.22 (4.85)	7.43, $p = .008$
	Control	22.08 (6.91)	21.03 (7.72)	

Note: ASI = Anxiety Sensitivity Index; BSQ = Body Sensations Questionnaire; ACQ = Agoraphobic Cognitions Questionnaire; CCQ = Catastrophic Cognitions Questionnaire; CES-D = Centre for Epidemiological Studies Depression Scale

2.14, possible range = 0–21) and mean Component Satisfaction score of 10.6 ($SD = 3.87$, possible range = 0–27). Correlation analysis also failed to detect a relationship between frequency of component usage and treatment outcome pre- to post-intervention.

Discussion

Summary of the study

This study set out to examine the efficacy of a preventive cognitive behavioural intervention delivered via the Internet to individuals with high AS. It was predicted that this intervention would: (a) significantly reduce anxiety sensitivity and symptoms of anxiety and depression in a non-clinical sample at risk of developing anxiety pathology; (b) extend the literature on the efficacy of totally self-administered cognitive behavioural programs in the reduction of anxiety; (c) and explore the Internet as a mode of delivery. The following section presents a discussion of the theoretical significance of the findings, limitations of the study, and areas for further research.

Is self-directed CBT delivered via the Internet to individuals with high anxiety sensitivity an efficacious intervention for reducing anxiety sensitivity, anxiety related cognitions and depression and, theoretically, reducing the risk for anxiety disorders? Results from the present study partially support a positive conclusion. A moderate global treatment effect was observed with post-intervention mean scores for the evaluation condition lower than the respective means of the waitlist control group (refer to Table 1). Subjects in the intervention condition showed significantly greater improvement than waitlist control subjects on three of the six dependent measures. Specific therapeutic effects were related to maladaptive cognitions about the consequences of anxiety (ACQ), beliefs about the dangerousness associated with unpleasant emotions, physical changes and thinking difficulties (CCQ), and symptoms of depression (CES-D). A floor effect regarding panic frequency and severity may have restricted the amount of change possible on this variable. It is likely a more meaningful result would be achieved with a larger sample over a longer period. There are no published studies of purely self-administered CBT delivered via the Internet, or studies where the sample was pre-selected for high anxiety sensitivity with which to compare these results. However, similar levels of cognitive change have been observed in brief therapist-assisted CBT and self-directed manualized CBT for anxiety in both clinical and non-clinical groups (Ghosh, Marks, & Carr, 1988; Gould & Clum, 1993; Hazen et al., 1996).

Although a downward trend was observed for measures of anxiety sensitivity (ASI-evaluation: pre-post mean difference of 8.7 points, $SD 8.97$; control: pre-post mean difference of 5.5 points, $SD 9.41$) and fear of body sensations (BSQ- evaluation: pre-post mean difference of .54 points, $SD .77$; control: pre-post mean difference of .26 points, $SD .59$), it is unclear why this between-group difference failed to reach statistical significance, given the evidence that AS is malleable to change. For example, previous research suggests ASI scores drop an average of 14 points following short-term therapist directed CBT for PD (Gould et al., 1993; Hazen, et al., 1996). One possible explanation for the result in the present study is regression to the mean since the sample was pre-selected for high anxiety sensitivity. Other studies using self-administered CBT for PD have demonstrated more modest changes in ASI scores (Gould et al., 1993; Hazen et al., 1996). In comparing a therapist directed group, a self-help group and individual use of self-help manual, Hazen et

al. (1996) found post-treatment ASI scores to be lower in the therapist led group, although all groups demonstrated clinically significant improvement. The smaller change in ASI scores in the Gould et al. (1993) study was explained by the relative short duration of the intervention (i.e., 5 weeks) compared with longer treatments (i.e. 12–14 weeks) used in other studies. Perhaps the 6 week period in this study was insufficient for individuals to gain the experience and confidence in using the techniques requisite for differentially impacting on AS. Given, on average, participants completed as far as session three, it is possible that lack of exposure to the cognitive component of the program and failure to practise strategies (e.g. interoceptive exposure) impacted on the degree to which participants' beliefs about the consequences of anxiety were changed.

Perhaps as important as its efficacy in ameliorating symptoms is the palatability of the intervention (Lidren et al., 1994). A retention rate of 86% for the intervention group compared with 95% for the control group is one indicator that the subjects found the program tolerable. Dropouts had significantly higher levels of AS and depressive symptomatology and cited time constraints as their main reason for failure to complete the program. Favourable responses to the Client Satisfaction Questionnaire (General Satisfaction: $M = 15.2$, $SD = 2.14$, range = 0–21, with a high score indicating extremely useful or acceptable; Component Satisfaction: $M = 10.6$, $SD = 3.87$, range = 0–27, with a low score indicating a moderate to dramatic decrease in anxiety, anxious thoughts and avoidance) further indicated that the Internet program appealed to subjects. Overall, intervention outcome was not related to program acceptability or outcome expectancy; however, failure to detect a relationship could have been a consequence of insufficient power as only the second cohort completed these questionnaires. Notwithstanding, those who accessed the program from home spent significantly more time using the program than those who accessed it from the university, suggesting that ease of access is an important variable when considering the efficacy of the Internet as a mode of delivery.

In summary, results from this study demonstrate that the Online Anxiety Prevention Program does reduce anxiety related cognitions (e.g. catastrophic misinterpretation of symptoms) and negative affect, supporting the hypothesis that this program is an efficacious intervention for treating anxiety symptoms. This is consistent with the literature supporting the efficacy of CBT in the treatment of anxiety disorders and, more specifically, provides support for totally self-administered CBT for anxiety delivered via the Internet. Furthermore, this study provides support for the Internet as an acceptable mode of delivery among university students. Unfortunately, lack of significant change in AS leads to the rejection of the hypothesis that this program is an efficacious means of reducing AS and thus, theoretically, the risk of PD and anxiety psychopathology. Clearly, limitations of this study must be considered in interpreting these results.

Limitations of the study

Although results from this study suggest that self-administered CBT delivered via the Internet is a promising approach for reducing anxiety in a non-clinical sample, some caveats must be noted. First, subjects had minimal researcher contact during the screening phase, during which time they were told their assessment data would be automatically downloaded into a directory that the researcher could access, that use of the program was time limited, and that they had been recruited to the program on the basis of high AS, which is thought

to be a risk factor in the development of PD. Furthermore, a technical problem with the program meant that monitoring could not be saved from session to session and therefore participants had to resort to pen and paper for recording this information. Individuals may have used the program differently and responded differently to assessment measures without these demands.

Second, subjects were first year university students who received credit for participation. Consequently, they may have differed from a non-clinical community sample in terms of their motivation, education, anxiety symptoms and computer access and skills, limiting the generalization of these findings to the general population.

Third, failure to include a treatment comparison group limits any conclusions regarding the impact of the length of the program (e.g. 6 weeks versus 12 weeks) or the potential benefits of minimal therapist contact in reducing anxiety sensitivity. Fourth, a follow-up is needed to address the long-term effects of this self-help program.

An accurate measure of compliance was also difficult to achieve. Although each time a participant logged on to the program was recorded, some participants indicated they printed sessions out and accessed the information in hard copy rather than logging onto the Internet each time. Part of the motivation for this could have been to save money or Internet access time.

Suggestions for further research

A question raised from the results of this study is whether the intervention outcomes would be improved by increased time to interact with the program or the addition of some therapist interaction. Future research could answer this question by comparing a 6-week program with minimal therapist contact, a 6-week program with no therapist contact, and a 12-week program with no therapist contact. However, the cost-efficacy declines as the amount of therapist contact increases. Alternative approaches to face-to-face contact could be telephone calls or the use of interactive feedback via email or Internet based support group. Further replication of this study with a larger sample and comparative intervention groups would also need to include follow-up to evaluate the efficacy of the program in preventing PD and anxiety psychopathology. It should be noted that this approach may not be suitable for all individuals. One participant did not respond to the approach to the extent that his data were excluded as an outlier. His pre-treatment scores were also significantly elevated, suggestive of a clinical anxiety. This indicates that the approach is not suitable for clinical disorders.

The results of this study suggest participants found the mode of delivery reasonably acceptable; however, the sample is a select group and may not provide accurate information about the type/s of individuals who might benefit most from sole computer interventions and those who may not be responsive. It would be important to explore this mode of delivery further with a community sample in a variety of settings to answer this question. Furthermore, given the program has demonstrated that brief self-directed Internet based CBT has a global treatment effect on reducing symptoms of anxiety, it could be argued that its application is wider than prevention of anxiety disorders. This program may offer the support needed for those where traditional forms of psychological treatment are not immediately available.

Further evolution of computerized self-care systems would also require careful investigation of user perceptions of the program. Areas of consideration are the participants' per-

ception of: the diagnostic screen, introduction to the program, information regarding informed consent, explanation of theory guiding problem analysis, individual application of treatment, practice exercises and monitoring and relapse prevention (Marks, Shaw, & Parkin, 1998). This information could guide program updates and perhaps improve compliance rates. Internet therapy not only provides opportunities for reaching individuals who may otherwise not have access to help, but also provides exciting opportunities for enhancing research.

In conclusion, the results from this study support the potential efficacy of totally self-administered CBT in the reduction of anxiety related cognitions and negative affect in a non-clinical sample. Although the study does not endorse the efficacy of the program in reducing AS, which was the theoretical basis for the prevention program, and its generalisation was limited because of the use of a university student sample, it does lend favourable support for the further investigation of the program in the prevention of anxiety disorders.

This study made important methodological improvements over past self-help studies by its use of a waitlist control, and a treatment of proven effectiveness. It demonstrated that the Internet is an acceptable mode of delivery among university students with high anxiety sensitivity, paving the path for further investigation of this mode of delivery across a variety of samples.

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