

Final Report

Project title

Evaluating the effectiveness of a brief mindfulness intervention to reduce early signs of compulsive internet use, and examining the crossover of relationship quality between participants and their partners during the study

Summary

The aim of this project was to develop and evaluate an effective and brief mindfulness intervention that reduces initial signs of compulsive internet use in individuals who work long-hours and to examine the impact this has on their relationship quality. Effectiveness was assessed both qualitatively and quantitatively:

- a) Quantitatively: showing reduced signs of internet addiction of participants and increased mindfulness scores
- b) Qualitatively: showing participants and partner's assessment of effectiveness of the intervention in terms of the impact on less signs of internet addiction and better relationship quality

A Randomized Controlled Trial (RCT) with baseline, immediately post intervention and follow up measures was conducted. The CONSORT guidelines were followed.

Changes to the original project

The original proposal only included the mindfulness and control group but considering the effectiveness of alternative relaxation interventions, in particular the gradual muscular relaxation practice, a third group was added:

1. Brief mindfulness intervention group (10 minutes per practice)
2. Brief muscular relaxation group (10 minutes per practice)
3. Control

The main change was in relation to the development of a brief mindfulness intervention. I am a qualified Mindfulness Based Cognitive Therapy trainer (MBCT) and my original plan was to use my own short mindfulness podcasts and develop a website that participants could use to access my podcasts during the two-week intervention. The difficulty came with the practicalities of tracking users' engagement with the podcasts. Since my ultimate aim was to detect whether the brief mindfulness intervention was effective, I had to ensure that participants in the intervention group were adhering to the treatment. After getting feedback on the difficulty of implementing the tracking system for the experiment from our IT experts, I explored the possibility of collaborating with one of the Mindfulness application companies, which seemed to have this tracking technology incorporated in their apps.

The company I targeted was Headspace, this company is widely known for the short, 10-minute mindfulness podcasts, which can be streamlined or downloaded easily accessible from the user's phone, tablet or laptop. I found out the company had a formal process for research collaboration which involved sending them a detailed outline of the project, followed by a selection process from their scientist team on the basis of rigour and potential contribution to knowledge. This process delayed the start of the project as the scientist team took longer than originally planned to get back to us but once they did they were very excited about it and keen to collaborate. Their contribution involved granting us free access for all participants during a month, and providing records of their participation during each day the study.

The actual project however was severely delayed due to the negotiations between Headspace, the market research company which was providing the participants and hosting the surveys, and my own institution. One of the issues that concerned the market research company was the fact the tracking system. In order to track participation, Headspace required participants' email address. The market research company did

not want Headspace to keep this information about their panellists due to contractual issues with them. For Headspace, the main concern was the liability of potential misuse of the codes by participants. After several weeks of negotiations, we finally came to agreements on these and other issues and thankfully received a generous extension from the Trustees to allow us to deliver the project with final report due on 14th February 2017.

Research carried out

The market research agency recruited participants through the survey designed by the lead researcher and selected those that met the criteria described in the original proposal: (1) work long hours, (2) show initial signs of internet addiction (3) live with their partners and (4) lack mindfulness experience (5) are happy for their partners to be asked questions about themselves and their relationship with them. Those that passed the screening criteria were immediately invited to complete the pre-test survey which included mindfulness scales and relationship satisfaction amongst others. After this, participants were randomly assigned to either the Mindfulness group (i.e. Headspace group), the Muscular relaxation group or the control group. The intervention lasted for two consecutive weeks, 10 working days.

The mindfulness group was given a code to access the Headspace application where mindfulness is engagingly explained to users step by step and access to the 10 minute podcasts. The application sent daily reminders to participants. The muscular relaxation group was given access to my 10-minute muscular relaxation podcasts and the control group was offered to contact the lead researcher for the duration of the intervention in relation to the brief one page on the meaning of stress and relaxation which was given to all participants at the start of the project. All three groups also received a weekly check-in and a reminder of engagement with the project from the research team.

Results and implications

I conducted ANCOVA analysis where baseline measures were controlled for when examining the changes in the key dependent variables and the impact of the intervention group. In line with the expected, the brief mindfulness intervention group experience a significant decrease on the scores on internet addiction and significant increase on two of the mindfulness dimensions (observation and non-reaction) in comparison to the control group. In view of this, the brief mindfulness intervention seemed to have been effective to reduce the early signs of internet addiction.

The post-intervention survey contained some specific questions about the views of participants and their partners (survey sent separately to their partners) on the effectiveness of each intervention (mindfulness and relaxation). This data led to some interesting insights. Both mindfulness and relaxation interventions were similarly positive in terms of:

1. Endurance of positive effects of intervention
 - a. 75% of the mindfulness group and 86% of the relaxation group claimed that positive effects were likely to endure
 - b. Their partners were slightly more optimistic, particularly the mindfulness participants' partners, with 90% claiming being optimistic about the duration of these effects on their partners.
2. Continue practicing
 - a. 80 and 86% claimed that it was likely to very likely that they would continue with mindfulness and progressive relaxation practice respectively.
 - b. This was similar to their partners' views about participants practice, with 85 and 72% for mindfulness and progressive relaxation respectively.

The key significant difference between treatments was found in partners' qualitative evaluation of the impact of the intervention in their relationship quality. I found that 65% of the mindfulness participants' partners claimed their partners' intervention had a positive impact on their relationship quality whereas only 33% of relaxation's partners claimed the same. Participants themselves did not feel the intervention had a significant effect on their relationship quality.

Contribution

The increasing intrusion of smart technology developments in our lives calls for a more mindful approach to the use of this technology in order to engage in it in a healthier way. Current mindfulness interventions are often costly and rather time demanding, hence only those who are highly motivated and have the resources can benefit from it. These findings suggest that a very small investment of time (10 minutes a day) can really make a difference in relation to our wellbeing and how we relate to technology and our meaningful others. Indirectly, employing organisations can benefit from a healthier workforce who has brief and adaptive strategies to deal with ever-increasing demands of an “always on” workplace. The finding that mindfulness participants’ partners seem to find this had a positive impact on their relationship (as opposed to relaxation, which only had self-benefits) is intriguing, and encourages future research on the practices that enhance not only our own individual wellbeing, but the wellbeing of those around us.

Details of publication

I have written a conference paper with expected findings (and promise of final findings presentation by the conference dates) which has now been accepted:

Quinones, C (2017). Testing the effectiveness of a brief mindfulness intervention for intensive technology users. Work, Stress, and Health Conference (American Psychology Association) in Minneapolis, MN, June 7-10, 2017

I will convert this paper and the feedback gathered at this conference into a journal paper for the Journal of Occupational Health Psychology. This paper will include the pre, post and follow up results as well as the partners’ data about the effectiveness of mindfulness intervention on compulsive behaviour (internet and work) mindfulness and relationship quality. An additional paper will be written building on my previous work on internet addiction strictly about the role of mindfulness on internet addiction for the Journal of Computers in Human Behaviour. All publications will acknowledge and thank the Trust for their support to carry out this project. The metadata of any publications arising from this grant will be registered on the Open University’s institutional repository – Open Research Online (ORO) at <http://oro.open.ac.uk>

Financial report

I was originally granted a total of ££9,995.71. I requested £9,354.82 for the Market Research Company. This included the recruitment of at least 200 individuals fulfilling the study requirements, their partners, and the associated incentives, scripting and hosting of the pre, immediately after and follow-up measures of the key variables of study.

The rest of the funding (£600 approx.) was originally planned to fund trips to Coventry to visit my advisor, conference fees and the development of the website. I did not work with the advisor from Coventry as there was a more suited advisor for this topic, Professor Mark Griffiths. We have worked together before and there was no need to travel, when I needed advice I contacted him by email. The website development was no longer needed after my collaboration with Headspace. Hence, this funding became available to use in the project.

Following my review of the literature I realised I needed to have three not two groups in order to offer a sounder evaluation of the brief mindfulness treatment. The addition of this third group (progressive muscular relaxation) required further recruitment of participants and associated incentives. The new quote from the Market Research company for this additional work including VAT was £11,790. Based on this I reallocated the unspent funding to the Market Research Company’s budget (£9975) and applied for internal funding to cover the rest of the costs incurred by adding the third group and the conference

costs. I was granted this funding by my Institution. A copy of the invoice to the Market Research Company with the total costs can be found attached to this email.

Thank you

I would like to sincerely thank the Trust for supporting this project originally, and also for their support and flexibility during the process which allowed me to complete the project successfully.