

Institution: 10007140 Birmingham City University		
Unit of Assessment: UoA4 – Psychology, Psychiatry and Neuroscience		
Title of case study: Mindful Construal Reflection: A novel intervention which promotes healthier eating habits		
Period when the underpinning research was undertaken: 2014 to 2020		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Dr Michael Mantzios Dr Helen Egan	Reader in Health Psychology Reader in Health Psychology	2014 to present 2011 to present
Period when the claimed impact occurred: 2014 to 2020		
Is this case study continued from a case study submitted in 2014? N		
1. Summary of the impact (indicative maximum 100 words) <p>Dr Mantzios and Dr Egan developed a novel mindfulness-based intervention to help overweight people make the necessary lifestyle changes needed in order to lose and maintain weight.</p> <p>With obesity a prevalent global concern– costing health services in excess of £1 trillion every year, Mantzios and Egan worked with clinicians to implement their Mindful Construal Reflection tool, which demonstrated a sustained change in patients' eating behaviours and attitudes towards food. Participants in trials testified that using the tool has helped them improve their diets and quality of life. The tool has been adopted into clinical practice across UK and international organisations.</p>		
2. Underpinning research (indicative maximum 500 words) <p>Responding to rising obesity levels</p> <p>Obesity is a problem across several countries. In the UK, it is estimated to affect one in every four adults, with 62 percent of the population being classed as overweight and 25 percent as obese. Obesity and obesity-related health problems can lead to potentially life-threatening conditions such as type 2 diabetes, stroke, as well as a decrease in quality of life and depression.</p> <p>Collectively, at least £5.1 billion to the NHS is spent on treating obesity and related illnesses. The main cause of obesity is an excess of calorie intake; current approaches to weight management rely on restricting eating (dieting) and have had a limited impact on reducing obesity. Mantzios and Egan's research programme responded to this issue and identified the need for alternative approaches to dieting which are easy-to-use, widely available and support self-regulation in eating and weight maintenance. They thus developed novel self-help interventions that were easily embedded within existing clinical practices.</p> <p>The research identified the significance of mindfulness-based constructs in application to eating behaviours and weight loss, specifically the benefits of mindfulness meditation (i.e., focusing on the present moment) and mindful eating (i.e., focusing on the present meal), and the potential of combining it with self-compassion (i.e. a tendency to respond to personal feelings of distress in a kind and understanding way) to assist weight loss.</p> <p>The team highlighted the need for the inclusion of alternative non-meditative practices in weight regulation, and exemplified the need for further development of mindfulness-based</p>		

training that is easily implemented and cost-effective (**R01**), leading to different strands of research. Their synthesis of key findings (**R02**) on mindfulness and eating behaviour identified the need for the standardisation of investigatory methods in order to compare findings and facilitate the replication of research. **They emphasised the importance of such an approach to ensure the quality of their evidence base and its subsequent impact on eating interventions and clinical guidance.**

Establishing links between mindfulness and weight regulation

Mantzios and Egan were the first (**R03**) to explore mindfulness, mindful eating and self-compassion constructs in relation to fat and sugar consumption. They found that mindfulness was a stronger correlate of lower fat and sugar consumption, and that self-compassion showed no relationship.

They then identified that self-kindness (measured within a subscale of self-compassion) as a construct related to eating behaviours was not widely understood (**R04**) and that individuals often associated self-kindness with self-indulgence (e.g. a negatively connoted concept) and not with healthy eating behaviours. **They suggested that this problematic association between self-kindness and self-indulgence should be investigated further in order to successfully integrate self-kindness into practical programs for weight regulation.**

They were the first to modify a novel version of the 'raisin exercise' (where participants are asked to practice mindful eating while consuming a raisin), but given that raisins are not a target food for restriction, they used chocolate to investigate the impact of mindfulness as it is a highly palatable food which is frequently overconsumed (**R05**). **The team showed that the mindfulness condition resulted in less chocolate consumption during the experiment, and importantly the findings demonstrate a sustained positive effect of mindfulness post experiment. This is important as overeating typically occurs after a period of restraint (dieting) and is a major factor in rising obesity prevalence.**

Developing effective new tools for mindful eating

Building on their previous work utilising a paper based written diary (Mindful Construal Diary), the team created the Mindful Construal Reflection tool (MCR) which eliminates the need for written answers and is therefore more user friendly, increasing likelihood of continued engagement with the tool. They investigated how it could be used with two different self-kindness interventions to promote healthier eating. They found that participants in the self-kindness to body and mind who were usually low consumers of fruit in both self-kindness conditions consumed significantly more fruit than participants in the control condition, and therefore showing the MCR encourages healthier eating. (**R06**)

The team recommended the MCR, MCD, and mindful eating practices as effective tools in the aim of moderating the intake of calorific foods. Additionally, they suggested **the MCR should be utilised as an alternative practice to the typical meditation-based interventions, offering patients and clinician's choice in using meditative and non-meditative mindful eating tools.**

The team developed the online Mindful Construal Reflection tool (MCR) to replicate the effects of more time consuming and effortful mindfulness meditative practices and to enhance self-regulation of eating for a group of bariatric and obesity patients to test accessibility and efficacy.

3. References to the research (indicative maximum of six references)

R01. Mantzios, M., & Wilson, J. C. (2015). Mindfulness, eating behaviours, and obesity: A review and reflection on current findings. *Current Obesity Reports*, 1-6
<https://doi.org/10.1007/s13679-014-0131-x>

R02. Mantzios, M. (2018). Mindfulness and eating behaviour: New directions and exciting opportunities for mindfulness-based research, interventions and practices. *Frontiers in Psychology*, 9. <https://doi.org/10.3389/fpsyg.2018.01986>

R03. Mantzios, M., Egan, H., Hussain, M., Keyte, R., & Bahia, H. (2018). Mindfulness, self-compassion, and mindful eating in relation to fat and sugar consumption: an exploratory investigation. *Eating and Weight Disorders-Studies on Anorexia, Bulimia and Obesity*, 23, 833–840. <https://doi.org/10.1007/s40519-018-0548-4>

R04. Egan, H., & Mantzios, M. (2018). A qualitative exploration of self-kindness and “treating oneself” in contexts of eating, weight regulation and other health behaviors: Implications for mindfulness-based eating programs. *Frontiers in Psychology*, 9. <https://doi.org/10.3389/fpsyg.2018.00880>

R05. Mantzios, M., Egan, H., & Asif, T. (2020). A randomised experiment evaluating the mindful raisin practice as a method of reducing chocolate consumption during and after a mindless activity. *Journal of Cognitive Enhancement*, 4, 250–257. <https://doi.org/10.1007/s41465-019-00159-y>

R06. Hussain, M., Egan, H., Keyte, R., & Mantzios, M. (2020). Exploring the Role of Self-Kindness in Making Healthier Eating Choices: A Preliminary Study. *International Journal of Behavioral Medicine*, 1-6. <https://doi.org/10.1007/s12529-020-09942-0>

4. Details of the impact (indicative maximum 750 words)

The team’s Mindful Construal Diary and online version, the Mindful Construal Reflection tool has been adopted for clinical use across the UK, by organisations including University Hospitals Birmingham NHS Foundation Trust. Beyond the UK, Mantzios and Egan’s work has influenced clinician’s practice of care internationally:

Mindful Construal Reflection (MCR) Clinical Trial:

Mantzios and Egan partnered with clinicians at University Hospital Birmingham Foundation Trust’s Heartland’s Hospital to explore how 60 patients’ responded to clinicians adopting the MCR into practice (**S01**). Results from these trials conducted within the bariatric clinic, found that patients who engaged with the MCR at least 3 times a day were statistically more likely to think about what they were eating and how snacking made them feel (on the emotional sub-scale). The results of the trial also revealed that engagement with the MCR raised participants’ awareness to when their eating was a response to emotional stressors. Moreover, patients’ reported significantly engaging more frequently with mindful eating practices, including lower non-distractibility and unstructured eating and higher non-reactivity and acceptance behaviour. These effects were medium in size and ranged from $d = 0.46$ to $d = 0.59$. Such findings laid the foundations for participants and users of the MCR to identify and modify their own eating behaviours – in particular with grazing and how frequently they comfort ate unhealthy foods. (**S02**)

Qualitative trial data showed that the tool changed patients’ eating behaviour and relationship with food, regardless of how frequently they used the MCR. These changes included a renewed enjoyment and pleasure in eating, and an increased intake of healthier foods in both patient groups. Patients noted the utility of the MCR in helping them to embed mindful eating practices into their routine, through enabling them to evaluate the taste, smell and texture of their meals and their food intake (**S03**, **S04**):

“That [MCR] card is brilliant because I can hear it in my head saying ‘how does it taste, how does it smell and you can smell it which I can I really can smell the smells

better and taste it better, whereas [before] I [would] just wuff it [eat it very fast] and think that was alright and I didn't taste it" - Participant 11b (S03).

"[using the MCR was] [b]etter because I was in control. You would eat but you didn't realise that you were eating...so you were overeating but being mindful you know yeah I've had this so you are more in control of what you need to do" – Participant 4 (S03)

Such comments demonstrate that the MCR is changing clinicians' practice of care and this is improving patients' experience of such care.

Changing practice and improving health outcomes

Clinicians outside the UK have also engaged with the tool and found it beneficial to their practice and their patient's outcomes.

"I am a dietitian, and I utilise Dr Michael Mantzios' research findings in my practice, which allows me to exploit the most effective elements in designing mindful eating groups. In particular, I utilise the Mindful Construal Diary (e.g., Mantzios & Wilson, 2015; Mantzios, 2018; Mantzios, Skillett, & Egan, 2019) with clients to foster mindful eating. I regularly see in my practice that the mindful eating diary is appraised as very helpful by my clients in aiding them to change their diet behaviour" – Dietitian from Corfu (S05)

"I have including mindful eating practices (specifically, MCR) in my services. I've also held workshops on mindful eating". – Spanish Healthcare professional (S06)

Feedback on the use of the tool with clinically obese patients has proven to have directly contributed to the healthcare professional's own practice. Implementation of the tool helped service users to support their weight regulation and established a change in their eating behaviours.

Based on research findings of prof. M. Mantzios I have designed [sic] and run a 8-week mindful eating intervention, called EATT [...]The EATT intervention had helped, since 2016, more than 70 people to change their relationship with their food and their body. The EATT intervention still running twice per year. – Greek dietician (S06)

"Dr Mantzios' work has greatly informed my clinical practice, including both the assessment, diagnosis and treatment of eating disorders. Dr Mantzios' published work had encouraged my use of mindfulness and compassion-focused therapy approaches for clients with eating disorders" – Clinical psychologist in Australia (S08)

Patients reported benefits in the way they ate and successfully reshaped maladaptive eating behaviours that were responsible for gaining weight:

My portion sizes have gone down a lot er:m and like (.) the takeaways and stuff I could demolish one on my own (.) which I don't do anymore – Participant 47 (S03)

The MCR tool was provided online free of charge and directed to a small number clinicians (N=9), who were then invited to complete a survey to evaluate the usefulness of the tool for their practice. We discovered that all the clinicians surveyed found the tool useful and after reviewing the tool have already begun to adopt the MCR into their own practice and research:

"By giving scientific knowledge and useful tools wich [sic] helps me to support my mindful approach to eating behaviour [sic] and to introduce and implement practices in my one on one and group sessions." – UK healthcare professional (**S06**)

"It has provided scientific support to some of the mindful eating practices I was already using and it provided me with new tools to use." – Spanish healthcare professional (**S06**)

Obesity is a global health problem and the work of Dr Mantzios and Dr Egan has changed clinicians' practice of care, enabling them to adopt new easy to use approaches focussing on mindfulness, and implement an innovative evidence based practical tool in the MCR , with a view to improving the lifestyle and wellbeing experiences of obese and overweight people.

5. Sources to corroborate the impact (indicative maximum of 10 references)

S01 Official NHS website detailing the basic components of the trial

S02 Preliminary report on 'Exploring the effectiveness of the Mindful Construal Diary on mindfulness, mindful eating, dietary fat and sugar intake, eating behaviour and BMI in clinically obese patients: A randomised controlled pilot trial.'

S03 Summary of data from interviews with clinically obese patients

S04 Summary of data from interviews with bariatric patients

S05 Testimonial letter from a dietician based in Corfu [**Named corroborator 001**]

S06 Questionnaire showing feedback from clinicians on the mindful eating tools

S07 Questionnaire showing feedback from the public on the mindful eating tools

S08 Testimonial letter from a clinical psychologist based in Australia [**Named corroborator 002**]