Professional Doctorate in Health Psychology

Thesis Portfolio:

Obesity and Uncontrolled Eating from a Health Psychology Perspective

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Contents

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Authors Declaration

I, Sophie Edwards, declare that while registered as a student for the University's research degree, I have not been a registered student or enrolled student for another award of a UK university or other academic or professional institution. I declare that no material contained in the thesis has been used in any other submission for an academic award and I declare that my research complies with UK legislation governing research.

Preface

This portfolio and the accompanying competency folders contain over three years of reflective practice logs and demonstrate evidence of how I have met the required competencies for the Professional Doctorate in Health Psychology. In the form of four case studies, one systematic review and a research thesis conducted over a period of two years, it shows my range of knowledge and skills gained within Health Psychology. Further to this, it demonstrates how I have learnt practically to apply health psychology theory to a commissioned health improvement service in order to become a skilled Health Psychology Practitioner.

The largest section of this portfolio is that of my research study (section C3) and reflecting back on the process of undertaking this, I can certainly see significant growth in skills as a researcher. I originally undertook the study because, as a weight management practitioner, I often came across obese patients who believed that they were food addicts. However, despite there being a large body of research looking at the topic, very little qualitative research existed which attempted to explore the experience of perceived food addiction in those trying to lose weight. Such research as was available took the approach that 'food addiction' could simply be mapped onto the existing criteria for substance use disorder rather than approaching it from a neutral standpoint which might allow unique features of the experience to come to light. During the process I found myself influenced by previous research and had repeatedly to remind myself of my original aims. The results of this study identified extreme uncontrolled eating behaviours that are not currently targeted in standard weight management interventions and which participants interpreted as food addiction. They also reported feeling stigmatised due to their belief in food addiction which posed as a barrier to seeking help. I believe that these are important findings and have implications both for those designing weight management interventions and for health care professionals in general.

The systematic review I undertook (section C3.1) was particularly challenging for me because I had never undertaken one before. Although protocols do exist, I had to make some key preliminary decisions myself and often doubted my judgement. My review looked at the effectiveness of mindfulness-based interventions a range of physical and psychological measures relating to people with HIV. One decision I had to make was

whether to include unpublished studies in my review. This was a difficult decision as in many ways it would have been simpler not to. However, given the existence of publication bias, I decided that I should include unpublished work in order to draw more balanced conclusions as to the effectiveness of these therapies. My review concluded that there is not enough evidence to recommend these interventions over the standard treatment as yet. I believe this, is itself an important finding as mindfulness is currently very popular in the media and this may mean individuals seek it out when it is not necessarily the most effective treatment option available to them.

The competency which came most naturally to me was that of behaviour change interventions. I develop, implement and evaluate these regularly as part of my professional duties and believe that I am skilled in this area. The case study detailed in this portfolio (C2) was undertaken very early on in my training and was the first time I had decided upon the assessment, content of the intervention and evaluation process myself. I was pleased with the outcome of the intervention which targeted emotional eating and it has since been embedded in the standard weight management intervention provided by my employer. I have since gone on to develop other interventions in and out of my current job role and the processes set out in this competency have provided me with a framework for doing so effectively.

I also very much enjoyed the teaching and training competency (section C5). The case study outlines a lecture I undertook at London Metropolitan University for MSc Health Psychology students. I developed my skills in creating teaching materials, such as PowerPoint presentations, significantly during this process as previously I had underestimated the importance of these in keeping students engaged. I learnt to take all different learning styles into account when planning a teaching session as I had previously assumed that the approach to which I respond well would suit everyone. I found the evaluation process challenging, particularly watching back footage of my teaching. However, this has allowed me to become more relaxed and natural during teaching which means that I can concentrate on the reactions of the students to the subject matter rather than worrying about how I personally am coming across to them.

The consultancy competency (section C4) proved the most challenging for me but also allowed for the most development. The case study outlined in this portfolio was

particularly difficult due to the unwillingness of the manager to be fully involved with the consultancy process. In hindsight I should have set clearer expectations at the outset and insisted that he met these throughout. I believe that it was also a mistake not to charge for my time; he may have valued the process and been more involved if he had been paying for it. This highlights how much I have developed since then in that I did not value my skills and time sufficiently, which is not the case today. I have since been involved in several pieces of consultancy work and have always charged for my time and have drawn up a clear contract before undertaking any work. These have been much more successful pieces of work and although the case study in this portfolio does not outline the most positive piece of consultancy work I have been involved in, it is certainly the one from which I learned the most.

Section C1 outlines how I have developed my generic professional skills throughout my training to become a proficient Health Psychologist. I have been very fortunate to have been employed by such a supportive and innovative healthcare provider as they have given me the opportunity to gain experience in many areas and to work with a wide range of professionals.

I can see a vast improvement in my skills and confidence between when I first undertook my training in 2014 and today. Reflective practice and supervision have been key in my development as well as continuing to take part in training and learning; I will maintain these practices during the entirety of my professional career.

SECTION C1

GENERIC PROFESSIONAL SKILLS

Contents

Introduction

I have had two job roles during my time as a trainee. The first was a Weight Management Practitioner (WMP) at a Tier 3 weight management service. This primarily involved the delivery of a weight management intervention to groups of between 10-18 individuals who had a BMI over 35 and obesity-related health conditions. I was also the lead for stakeholder engagement at this time, which meant that I had to coordinate engagement with potential referrers (predominantly GPs, nurses, and other healthcare professionals). For the latter part of my time as a trainee, I was the Psychological Lead for a Tier 2 weight management service for adults and children, working under the Clinical Lead, a Psychotherapist. This involved training the WMPs, overseeing peer supervision sessions, evaluating the effectiveness of the intervention, and ensuring that patients with complex needs were given appropriate support.

1.1a To be able to practice within the legal and ethical boundaries of the profession

As a member of the British Psychological Society (BPS) and, within this, a member of the Division of Health Psychology (DHP), I abide by the BPS Code of Ethics and Conduct (2009) and its four ethical principles: respect, competence, responsibility, and integrity. An example of me having to enforce this occurred when my organisation changed the format of the groups from being co-facilitated by two WMPs to having a single WMP lead. This, I felt, compromised my own safety, which is outlined in the ethical principle of 'responsibility'. I discussed this with my university supervisor and then with my line manager and placement supervisor. As a result, a lone worker policy was created, and appropriate safety measures were put in place.

I also abide by the Health and Care Professions Council (HCPC) standards of conduct, performance and ethics (2016) which includes standards of managing risk, being open and honest and protecting service users amongst others. Setting professional boundaries is listed within these and is something I have always endeavoured to attain. Often patients in the service want to build a friendship with you as a practitioner and using communication systems such as text messages mean that boundaries could be easily blurred. I was always mindful to keep language professional in all forms of communication and made clear that I would not link up with any patients on any social media platforms. I also kept conversations focussed around topics impacting their weight

and directed them to other health and social care professionals if they wanted to discuss other topics. This meant that I never ran into any issues related to professional boundaries.

Protecting service users' privacy is also an important standard and whilst I was a WMP, the group sessions were held in the same location as the main office. This meant that group folders (which contained confidential client information) could be locked away immediately after a group finished and did not have to be taken off site. When I began working as the Psychological Lead, WMPs used the same group folder; however, they held groups all over the county, which meant that they were carrying confidential information offsite for extended periods of time. I deemed this unacceptable and implemented a new system whereby group folders only contained the clients' identification numbers and initials so that they could not be identified, thus preventing any potential data breaches.

During my time as Psychology Lead of the service, I mostly worked with the WMPs, but I also provided support to the engagement team, the stop smoking team, and the triage team. Everyone was made aware of their roles and responsibilities; however, there were times when people went beyond their remits, and I had to take appropriate action. For example, it came to my attention that members of the triage team were giving out dietary advice to potential clients despite having no qualifications or training in nutrition. I organised a training workshop for the triage team, where we discussed how they could use good communication skills without giving advice. I also covered when and how to refer on to an appropriate professional. The outcome of this was that the team felt more supported and were able to continue their roles without giving advice that they were unqualified to provide.

1.1b To be able to practice as an autonomous professional and exercising one's own professional judgement

Working in a multi-disciplinary team was generally a good experience. However, there was a time when it caused the limits of my practice to become blurred. At one stage, while I was a WMP, there were two practitioners who were psychotherapists. A great deal of our clients had mental health conditions, as well as suffering from obesity, and the psychotherapists had a lot of experience in this area. During peer support sessions, they

suggested activities and approaches that I took on board and used in my groups. However, I found that some of the activities related more to clients' mental health issues than their weight management issues, and the resulting discussions revolved around ways of coping with depression and anxiety beyond the context of how it impacted on weight loss. I felt that I was in danger of stepping outside of my professional limits and refrained from using such activities. I also discussed this with my workplace supervisor. I am now very vigilant of not overstepping my boundaries and of referring to the mental health services when appropriate.

Whilst I was a WMP, I took part in regular peer supervision with my colleagues, one-to-one supervision with my workplace supervisor, peer support sessions with other trainee health psychologists, and regular catch ups with my university supervisor. This enabled me to share good practice, develop as a practitioner, and discuss clients so that I could make the best decisions regarding their care. It also allowed me to assess my own wellbeing and fitness to practice, particularly during times when I had a heavy caseload. When I became Psychological Lead, I ensured that all Tier 2 practitioners had monthly peer supervision and one-to-one supervision with me in order for them to reap the same benefits.

In order to assess my effectiveness as a practitioner, I was observed monthly by other practitioners and quarterly by my workplace supervisor while I was a WMP. I also evaluated my outcome data monthly to ensure that I was meeting the key performance indicators specified by the commissioners (such as retention rates and percentage of clients achieving 5% weight loss). This were also used to compare different demographics, such as those from a lower layer super output area compared to those in more affluent areas. These observations were used to inform changes to the intervention in order to best meet the client group's needs.

The importance of regular supervision became particularly evident when I began working with families. I had, until then, always worked with adults, and I found it natural to be empathetic and non-judgmental when discussing their behaviour and motivation to change. However, when working with families, I sometimes found myself feeling rather judgmental towards parents who had little desire to make changes that would benefit their overweight children. Talking this through with my supervisor regularly allowed me to

understand my own preconceptions and put them aside so that I could still work effectively and non-judgmentally with the clients.

1.1c To demonstrate the need to engage in continual professional development

As a member of the BPS and DHP, I have found that the website and magazine have helped keep me up to date with health psychology research. I also ensure that I read papers published in both the 'Journal of Health Psychology' in Sage journals and 'Health Psychology' of the American Psychological Association. I also ensure that I am familiar with policy documents such as NICE guidance and Public Health England's guides to commissioning and delivering weight management services. I have used this knowledge to inform practice in my workplace, an example of which is when another practitioner was setting up a mindful eating intervention. A recent systematic review had suggested that mindful eating could be effective in reducing binge eating, but there was little evidence that it consistently produces weight loss. I suggested that we offer the group to those who had scored highly for binge eating on questionnaires in assessment rather than rolling it out for all clients. It was also offered as an 'add on' rather than the sole intervention, as I felt that we should not be spending public money on an intervention that was not supported by either research or commissioning guidelines.

Based upon feedback and needs that I have identified myself, I have taken part in regular CPD activities. Some of these have been internal training events facilitated by either a psychotherapist or clinical psychologist, such as basic counselling skills, working with individuals with learning disabilities, an introduction to common mental health conditions, and Acceptance and Commitment Therapy. Others have been external training days such as 'Developing a Mindful Eating Practice' with the BPS and 'Therapeutic Skills for Health Psychologists' run by an independent health psychology training organisation. However, I do not think that I have attended enough external events, such as conferences, during my time as a trainee. There are two reasons for this; firstly, my organisation provides a robust training programme delivered by a range of professionals, and I have been satisfied with the learning I have achieved via this set up. Secondly, I find these types of events intimidating. Moving forward, this is definitely an area that I need to work on, as I believe that liaising with other health psychologists will be important for my continued development.

1.2a To communicate effectively

I believe that I have been able to develop my communication skills with service users very well during my time as a WMP due to my workplace supervisor's background as a psychotherapist. He provided a lot of training in basic counselling skills, such as building rapport, active listening, reflecting, and paraphrasing. He observed my practice several times and was able to provide constructive feedback on how to improve these skills.

I have also learned how to tailor these skills to meet the needs of various groups of individuals. For example, it has been identified that people with learning disabilities (LD) have very poor outcomes in terms of weight loss. I sought out the advice of a specialist dietitian who works with individuals with LD, and she was able to inform me of ways to alter my language and resources to better engage this population. As a result of this, we were able to set up specialist LD groups that had improved weight loss outcomes for clients. This was extremely encouraging, and, as a result, working with LD clients has become a passion of mine. Such individuals are often neglected by health services because their outcomes are generally not as good as those without LD and, therefore, it is felt that they can negatively skew outcome data. Again, this is not an ethical way of working, and I am very proud that my organisation works so hard to engage with this group.

I found it more challenging, sometimes, communicating with other professionals. For example, I was asked to undertake a piece of consultancy work for a gym, which involved designing a training package for exercise professionals in order to improve the retention and sign-up rates of gym users. Firstly, I found it difficult to induce the gym's manager to work collaboratively with me when I was assessing the training needs. I did not, at that stage, have the confidence to insist that the working agreement be honoured, and I did most of the work without the necessary input from the exercise professionals and the gym users; because of this, the effectiveness of the training suffered. This was a very good learning experience, and I have since, within my role as Psychology Lead, had requests from other services asking that I collaborate on interventions and training packages. I now always set out a working agreement before undertaking any work, and the outcomes have been much more favourable.

I found that I lean towards a more aggressive communication style when I am talking to another professional who has views that differ greatly from my own. This came to light during peer supervision sessions with colleagues who were psychotherapists and had strong opinions on the causes of overeating. In situations like this I tended to have a low frustration tolerance, could sometimes interrupt others, and generally got very tense which must have been apparent to the rest of the team. This had the effect of causing a rift in the team which meant decisions took longer to make and we were generally less productive as an MDT. Over time I have learnt to become less aggressive and more assertive in style. I try to remain relaxed and listen fully to the opinions of others before giving my own. Where possible I offer compromises to situations being discussed rather than insisting that my ideas are always used. This has meant that I can work better in teams and has resulted in a much less stressful work environment.

Another area I struggled with was that of consistently communicating with my university supervisors, especially when it came to undertaking pieces of work that I was inexperienced in, such as the systematic review. I was labouring under the misapprehension that I should be able to carry out projects without the need for external input. This meant that work often took much longer than it need have done, and mistakes only came to light after I had submitted write-ups for marking. I now understand that input from others, especially those with more experience, is essential for ensuring projects are of a high quality; I will endeavour to remember this in the future.

1.2b To provide appropriate advice and guidance based on concepts and evidence derived from health psychology

During my time as a WMP, I attempted to have as much input from a health psychology perspective as possible when informing our practice. One example of this being done successfully was when it was identified that clients often cited emotional eating as a barrier to weight loss, and many of the other practitioners, being from a non-psychological background, felt unable to manage these clients effectively. I offered to design an intervention as an add-on to our usual treatment for these clients, specifically targeting their emotional eating. Although a fairly new approach, evidence suggests that Acceptance and Commitment Therapy (ACT) techniques could be effective in reducing emotional and binge eating and helping individuals to manage cravings.

I designed, implemented, and evaluated a three-session intervention based upon ACT principles and using open-access resources found on the 'ACT Mindfully' website, the official website of the creator of ACT, Dr Russell Harris. These resources were clear and simple and made difficult concepts accessible to clients of all educational levels. I also received training around ACT from my organisation's clinical psychologist around how to deliver the concepts. Participants showed improvements in measures of acceptance and awareness regarding urges to eat, and they also lost weight over the course of the intervention. As a result, some of the ACT techniques used were incorporated into the main intervention used by my organisation. I was asked to carry out a presentation to my whole organisation in order to outline my intervention and findings, and I also presented it at the Faculty Employer Network and Enterprise day at London Metropolitan University.

I also designed and implemented a two-part assessment process based on health psychology models for the triage and weight management teams of a Tier 2 lifestyle service to use. The first, a general assessment based on the Biopsychosocial approach (George & Engel. 1980) which was used by the triage team to get an understanding of the patient's medical issues including comorbidities and medication, social situation including the family responsibilities and support system as well as psychological aspects such as mental health conditions and motivation levels. The second part of the assessment was based upon the Theory of Planned Behaviour (Ajzen, 1985) and was undertaken by weight management practitioners to explore beliefs around weight loss that may influence the patient's motivation and progress over the course of the intervention. This assessment process was very successful and gathered a lot of information that the practitioners were able to use when designing effective sessions for their patients.

During my role as Psychology Lead, I was able to provide training to the WMPs on a range of topics derived from health psychology, such as how behaviour change models can be used to inform our practice. This was my favourite part of any of my roles and, I believe, one of my biggest strengths. Teaching practitioners about models such as the theory of planned behaviour and helping them make connections with their own practice, which, in turn, makes them more effective in their roles, was extremely rewarding.

1.2c To build alliances and engage in collaborative working effectively

Whilst in the role of Psychology Lead, I worked as part of a multi-disciplinary team and contributed to decision making, including having input into marketing campaigns. For example, we were running a campaign designed to help us drive referrals into our child weight management service. When I got involved in the project, a lot of the marketing material focused on informing parents of the consequences of childhood obesity (poorer mental wellbeing, educational attainment, etc.). Using health psychology research, I was able to contribute, firstly, that parents do not respond well to the word 'obese' (and, in fact, the correct term is now 'very overweight'), and secondly, parents often do not recognise that their child has a weight problem. As a result of my input, a resource was designed that showed diagrams of children's torsos, asking which ones may be at risk of future weight problems (the answer was all of them, as they were all in the overweight or very overweight categories) in order to help parents understand that excess weight is often not obvious with children. In addition, it came with a step-by-step guide for calculating and interpreting a child's BMI.

I also organised focus groups to be run to evaluate the impact of our marketing material. This had never been done, or even considered, in the past, but I understand the importance of evaluating any kind of intervention. It transpired that potential service users found the language quite complex and did not understand some of the terms used. As a result, the language was simplified, making our material more accessible for a wider audience.

I have also built several good alliances with other professionals such as a local diabetes specialist GP. We met at a networking event and collaborated on a project that set up a weight management group specifically for individuals recently diagnosed with type 2 diabetes. He provided input on medications and I provided the psychological and nutritional support. This collaboration was extremely interesting for me to learn the benefits of early intervention when a patient is first diagnosed compared to waiting until the diabetes is having a big impact on health. The intervention focussed on increasing the patients' self-efficacy around improving their diabetes and the group had both high retention and weight loss rates. In addition, a large proportion had managed to send their diabetes into 'remission' by the end of the intervention.

However, I did not always find working with other people easy, particularly when working with professionals that have never worked on the ground with clients before. This was sometimes true of commissioners and senior members of our own team. Individuals such as these made judgements about our client group that were unhelpful. One common misconception was that overweight individuals have no knowledge of nutrition and just need education in order to lose weight. I know, from both experience and research, that this is not the case for many. I did not always handle differences of opinion such as these well, and I let others know that I was frustrated. I have, over time, learned to see it from others' points of view, but also how to effectively get my opinion across without causing unnecessary tension.

1.2d To lead groups or teams effectively

When I transitioned from WMP to Psychological Lead, I had my first experiences leading a team. The WMPs had a separate operations manager, who was responsible for items such as sickness records, holidays, etc., and I was responsible for meeting their clinical needs, such as training and supervision. I found this challenging at the beginning as I, initially, did not have any management training. I also had to establish the correct professional relationships with the WMPs, as they needed both to respect me but also be comfortable enough to discuss their worries and training needs with me. Luckily enough, my own workplace supervisor had provided me with an excellent role model, as I believe that he and I had an excellent working relationship. He provided me with a lot of guidance over this period, and I became very confident in maintaining the appropriate professional boundaries with the WMPs.

One lesson I learned very early on was that I did not need to be an expert in all fields to be an effective leader. When the WMPs asked me questions that I did not know the answer to, I would feel as if I had failed in my role. I have since learned that deferring questions to other professionals within the central multi-disciplinary team is an essential part of my role, and this has led to training days, such as nutrition training delivered by the central dietitian, being set up, which has further led to improved practice by the WMPs.

Skills that I have developed that have helped me to become an effective leader included giving constructive feedback. I learnt to regularly meet with team members to set goals

for the coming month and comment on how effectively they had met the last month's goals. I also observed their practice regularly and wrote up my observation notes which included both what they had done very well and areas for development. Another skill was that of being a good motivator. I did this by trying to allow staff to take on projects that were most appropriate for their skill sets and areas of interest. I allowed them to make decisions (where appropriate) so that they felt a sense of pride and ownership over their work. I learned how to effectively communicate with staff by scheduling in regular meetings and sending out weekly newsletters.

Reflections on my journey and future directions

Looking back on the progress I have made, I can really appreciate the skills I have developed during my time as a trainee. I am extremely passionate about working with individuals from all walks of life and ensuring that health services, such as mine, are accessible to all. I believe that one of my biggest strengths is inspiring others to have the same level of commitment, and I am extremely proud of the team I have built in the Tier 2 weight management service. I am also very pleased with the support system and evaluation process I set up within that service and believe that it has vastly improved the quality of intervention being delivered.

I still have areas I need to work on, particularly with regard to attending CPD events and Health Psychology conferences. I am a very independent person by nature and can often find myself trying too hard to develop skills alone, when it would be much more efficient to ask others to share their knowledge and experience. Moving forward, I will endeavour to attend more external training events to ensure that my skills and knowledge are kept up to date.

I have also struggled with balancing my work, studies, and personal life. Due to uncertainties regarding commissioning, I have faced the threat of redundancy several times over the last three years, and the stress has impacted on me. I suffered from a bout of very poor mental health in 2016 and found myself unable to make any progress on the doctorate at this time. However, rather than discuss this with my supervisors, I kept it to myself, which just worsened the situation. Finding appropriate coping strategies to deal with stress in the future is essential for me.

I have learned that I am far less enthusiastic about the ‘behind the scenes’ aspects of delivering health services, such as commissioning and operational management. Therefore, in the future, I would like to continue to train and supervise those working ‘on the ground’. I believe that this is where my skills lie and where I will find the most satisfaction.

References

Acceptance and Commitment Therapy. (n.d.). Retrieved from https://www.actmindfully.com.au/

Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In *Action control* (pp. 11-39). Springer, Berlin, Heidelberg.

Ethics Committee of the British Psychological Society. (2009). Code of ethics and conduct. Leicester, UK: The British Psychological Society.

George, E., & Engel, L. (1980). The clinical application of the biopsychosocial model. *The American journal of psychiatry*, *5*, 535-544.

Health and Care Professions Council. (2016). *Standards of conduct, performance and ethics*. HCPC.

SECTION C2

BEHAVIOUR CHANGE INTERVENTION COMPETENCY

Contents

Intervention Report: An Acceptance and Commitment Therapy based Intervention for obese adults

Introduction

In order to fulfil the competence of 'Interventions in health psychology' as part of the professional doctorate programme I had to design, deliver and evaluate an intervention to change health behaviour. The following is a report on the process including how I determined the target population and behaviours, developed and implemented a baseline assessment in order to formulate a working hypothesis on the target behaviours. It goes on to outline how I used this hypothesis to design and deliver the intervention considering the possible barriers and facilitators to change. I systematically evaluated its effectiveness and reflected upon the whole process carrying out a comparison between my chosen approach to the intervention design (acceptance and commitment therapy) to that of a cognitive behavioural approach.

Determining the target population and behaviours

Obesity is a rising worldwide problem: in 2014, 39% of adults aged 18 years were overweight and 13% were obese (World Health Organization [WHO], 2015). Traditional obesity interventions have focused on the 'energy in, energy out' model, in other words decreasing food intake and increasing physical activity (Hill, Wyatt & Peters, 2012). However, while these types of interventions have been shown to produce weight loss (Hill & Wyatt, 2005) the results have been difficult to sustain over the long term and many of the barriers to weight loss that have been identified are unrelated to nutrition knowledge (Mauro, Taylor, Warton & Sharma, 2008). Accordingly, research has been conducted into other factors that affect a person's weight, one of which has been eating in response to emotions. It has been found that individuals who eat in response to stress and emotions are more likely to be overweight or obese than those who do not (Orzier et al., 2008).

Eating in response to psychological distress, such as stress, anxiety or anger, rather than the physiological cue of hunger can be termed 'emotional eating' (Spoor, Bekker, Van Strien & Van Heck, 2007). Depression has been found to be associated with disordered eating (Masheb & Grilo, 2006) and anger, guilt, disgust and loneliness have been linked with the desire to binge eat in obese adults (Zeeck,Stelzer, Linster, Joos & Hartmann,

2010). Moods have also been linked to the types of food an individual chooses to consume, for example, anxiety and stress have been associated with a desire for food high in sugar and fat (Elfhaq & Rossner, 2005).

There are several theories as to the mechanisms behind emotional eating but most agree that it is an attempt to regulate emotions in order to avoid unpleasant experiences associated with negative feelings. Escape theory posits that whilst engaging in eating, individuals are able to disconnect with negative emotions and thoughts (Heatherton & Baumeister, 1991) whereas the Affect Regulation Theory describes improvements in mood occurring after eating has taken place (Polivy & Herman, 1993).

Lifestyle-based interventions have been shown to be effective in producing weight loss in some individuals, however, around 80% of these will regain the weight (Ulen, Huizinga, Beech, & Elasy, 2008). Research has also focused on which factors contribute to the regain of weight and eating in response to stress or emotions has been found to be one such factor (Elfhaq & Rossner, 2005).

The Tier 3 weight management service for which the current intervention was designed had identified emotional eating as a barrier to successful weight loss in some of their patients. In feedback forms completed by participants answering questions regarding how the intervention could be improved, more support around emotional and binge eating was often cited. In addition to this, during peer support sessions, practitioners at the service often stated that they felt ill equipped to support patients with their emotional eating and required information on strategies to help them overcome negative emotions without eating.

Emotional Eating in the Context of Health Psychology Theory

A key health psychology theory that has been used to predict health behaviours including eating (Chang & Fong, 2015) is the theory of planned behaviour (TPB). It was developed as an extension of the theory of reasoned action (Ajzen & Fishbein, 1980) by Icek Ajzen in 1985. The theory of reasoned action posits that if an individual evaluates the outcome of a given behaviour as positive and they believe that their significant others have a positive view on their partaking in a behaviour then intention to carry out the behaviour will increase and, therefore, the individual will be more likely to engage in the behaviour.

The TPB extended the model to include perceived behavioural control, the degree to which an individual believes that they have control over their ability to carry out a given behaviour. This concept is very similar to that of self-efficacy (Bandura, 1977).

Attitudes is a culmination of the behavioral beliefs, beliefs about what the outcome of the behaviour will be, and the outcome evaluation, whether the individual perceives this outcome as positive or negative. This can either increase or decrease behavioural intention. It has been found that anticipated emotions have a role to play in outcome evaluation (Perugini & Bagozzi, 2001) and individuals who eat in response to negative emotions do experience an improvement in mood (albeit temporary) due to eating (Turner, Luszczynska, Warner & Schwarzer, 2010). Therefore the attitude towards emotional eating may be that it will have a positive outcome due to the anticipated improvements in mood it will bring about and attempts to resist may be perceived as negative.

Perceived behavioural control is the culmination of control beliefs, perceived barriers to, or facilitators of the behaviour, and the influence of control beliefs, how often these barriers occur and how powerful the control factor is. Emotional eating is often associated with feeling of loss of control and binge eating (Byrne, Cooper, & Fairburn, 2013) and therefore may pose a significant barrier to weight loss to those who experience it in that if they believe that they have very little control over their eating, they may conclude that there is little value in attempting to engage with restrained eating. In addition to this, interventions that have specifically targeted emotional eating lead to increased perceived control around food intake and greater weight loss success in obese individuals (Braden et al., 2016).

In order to increase perceived behavioural control over emotional eating the intervention should seek to teach participants strategies to deal with negative thoughts and emotions which they can employ in place of food. In order to encourage positive beliefs regarding refraiming from emotional eating, it should seek to connect participants to their long term goals that connect to their weight. In order to fulfil these aims, an effective approach to dealing with emotions was sought.

Acceptance and Commitment Therapy (ACT) is a mindfulness based therapy that aims to increase psychological flexibility: the ability to ditach from difficult thoughts and accept

difficult feelings while persisting in values-based action (Hayes, Luoma, Bond, Masuda, & Lillis, 2006). In the context of emotional eating this would mean being able to cope with negative mood states without overeating and, indeed, mindfulness interventions have been found to effectively reduce emotional and binge eating and lead to weight loss (Katterman, Kleinman, Hood, Nackers & Corsica, 2014).

One of the main elements of ACT is teaching individuals to deal with negative emotions more effectively through the use of mindfulness skills (mindfulness can be thought of as 'paying attention with flexibility, openness and curiosity' (Harris, 2009, pg. 8)). A lack of mindfulness can give rise to cognitive fusion and experiential avoidance. Cognitive fusion is when attention is focused on cognitions such as thoughts and memories rather than on what is being experienced by the five senses. Experiential avoidance is when an individual attempts to avoid unwanted private experiences (any experience one has that no one else knows about unless informed, for example, thoughts, feelings, urges, sensations (Harris, 2009)). In addition to cognitive fusion and experiential avoidance, ACT proceeds from the basis that there are four other processes which make up the six core pathological processes that bring about psychological inflexibility and take individuals away from a rich fulfilled life and increase their struggles. These are:

- a lack of values clarity/content- when an individual is detached from their values and their behaviour is more driven by fusion and experiential avoidance
- dominance of the conceptualised past and future - when an individual is detached from the here and now and dwells on the past or fantasises about the future
- attachment to a conceptualised self- when an individual fuses with a particular concept of themselves e.g. 'I am lazy' and with behaviours in accordance with this concept, and
- unworkable action- when a pattern of behaviour pulls an individual away from mindful, valued living.

Informing the Assessment

Participants

The standard intervention for the weight management service consists of a 12 week lifestyle intervention that includes education around nutrition, physical activity and basic behaviour change (for example goal setting, trigger identification). This is followed by monthly drop in sessions as part of the maintenance phase. Participants were recruited for the current intervention via the weight management practitioners of the service who asked service users who struggled with emotional eating to identify themselves after the 12 week intensive phase. Seven individuals identified themselves and a start date and time was identified to suit them all and assessment forms were completed by them four weeks prior to commencing the intervention.

Assessment questions (see appendix 1, p. 43) were devised in order to determine whether participants were engaging in cognitive fusion, dominance of the conceptualised past and future and a lack of clarity around values (although all of the processes overlap considerably so that many behaviours cannot always be definitively categorised). The question of whether the behaviours impacted negatively upon their lives indicated whether these were unworkable actions. Questions as to how often they these thoughts and behaviours occurred were asked to ascertain frequency and all questions were limited to events in the past month to ensure that this was a current problem. Questions around clarity of values' were also asked in order to ascertain whether these were guiding current behaviour.

Medical information was available for the participants and their BMIs were recorded, as were the obesity related co-morbidities- type 2 diabetes, sleep apnoea and heart disease (see appendix 2, p. 44). Clients with severe depression or anxiety, borderline personality disorder, schizophrenia or current substance use disorder were excluded from the group intervention in my organisation, so this was not an issue when assessing participants. Participants with a learning disability were also excluded: although ACT has been found to be an effective treatment in this population, the treatment needs to be heavily individualised, is labour intensive and time consuming (Hwang, Y. S., & Kearney, 2013). As this intervention had severe time restraints, it would not have been suitable for this group.

Working Hypothesis

Cognitive fusion can cause an individual to feel emotional distress without the necessity for any outside stimulus. They may then use eating as a method of experiential avoidance in order to get rid of these negative private experiences. Research has demonstrated that those who fail to lose weight or maintain weight loss use avoidant coping strategies and tend to eat in response to emotions (Byrne, Cooper, & Fairburn, 2003). If food helps individuals to avoid negative emotions, attempts to restrain their eating may be evaluated as having negative outcomes and, therefore, they may not attempt to regulate their food intake. Those who eat in response to emotions often feel that they have no control over the amount they eat and, therefore, may perceive that they have little behavioural control over their intake.

If behaviour is increasingly driven by fusion and experiential avoidance, an individual's values can be lost. For example, a value of 'Health and Wellbeing' can be forgotten as an individual becomes entrenched in thoughts that they are useless, lazy and destined to be fat. If values are forgotten then it is impossible to use them in order to guide behaviour (particularly as acting in accordance to values is often the more difficult option in the short term). Having clear values with regards to health will mean that behaviours such as regulating food intake will be perceived as having a more positive outcome and, therefore, individuals will be more likely to attempt to engage with it.

Checking for consistency between the working hypothesis and assessment information

Participants assessment question answers were considered (see appendix 3, p. 45) and they seemed to indicate that participants were engaging in cognitive fusion; five of the seven spent time dwelling on the past and six out of the seven spent time fantasising or worrying about the future. Examples of these were ruminating on negative past events and worrying about 'getting worse'. All seven of them admitted to using food to avoid uncomfortable feeling/emotions/memories; anger, depression, stress and sadness were all cited as examples of these uncomfortable private experiences.

Answers also seemed to suggest that participants were disconnected from their values, with only one answering 'yes' to the question: 'Do you have a clear understanding of

what is really important to you in life?'. However, when asked: 'Do your actions ever undermine your 'values'?' six out of the seven mentioned either their eating habits, their weight or the effects of their weight on their life. This seemed to indicate that though they did not have a clear idea of what their values were, they were vaguely aware that their eating/weight was inconsistent with them.

The Clinical Lead for the service was consulted and gave feedback on the assessment and working hypothesis. He agreed that cognitive fusion was indicated in the participants and that this did seem to be a contributing factor to their eating behaviours and, therefore, their weight. He also agreed that participants' answers seemed to indicate that they were disconnected from their values; however, he felt that the participants may not have understood fully what was being asked of them in the values-related assessment questions. We did not feel that further information needed to be gathered because of this, but it was noted so that when discussing values during the intervention, the facilitator would need to be mindful to ensure that all participants fully grasped the concept.

To summarise: Participants' BMIs ranged from 37.4 to 42.5 which meant that they were all classed as obese which is a major risk factor for many chronic diseases, including diabetes, cardiovascular diseases and cancer (WHO, 2015). In fact, six of the seven participants had at least one obesity-related condition for which they were receiving treatment. All participants reported that they used food as a means of distracting them from negative private experiences and all reported that their weight caused them to have negative private experiences. The majority reported engaging in cognitive fusion which, again, led to negative private experiences and only one participant reported being aware of clear values in life, though the majority cited their weight as an impediment to acting in accordance with their values.

That so many clients reported having obesity related co-morbidities meant that their ability to participate in the intervention needed to be considered. For example, the participant with chronic back pain might not be able to sit comfortably for the duration of the intervention. The intervention would involve mindfulness meditation which could have posed a problem for those with sleep apnoea: a side effect of this condition is tiredness and they might have found it difficult to remain awake during the meditations. To remedy this, participants would be given a short description of what was involved in

the intervention prior to taking part and would be asked whether their medical conditions would pose a barrier to taking part. If they answered yes, this would have to be considered further and if nothing could be done to make their participation practical, they would have to be excluded from the intervention. The clinical lead had agreed to see such participants on a one-to-one basis to talk about their emotional eating.

Clients at MoreLife are clinically screened when they enter the service and are referred on to appropriate professionals if necessary. For example if we discover that their diabetes is uncontrolled or they do not understand their condition, we refer them to their local diabetes services. This screening had already taken place with these participants and so, unless any new information was to be disclosed, further referral would not be necessary.

The Intervention

The intervention was carried out weekly over four weeks (one telephone introduction and three group based sessions). The induction was a brief, 15 minute, phone call and each group session lasted one and a half hours.

The objective of this intervention was to enable clients to stop or reduce their emotional eating. This particular objective was a subsection of an overall objective of helping clients to lose weight as part of their service at MoreLife. In order to reduce emotional eating the intervention would:

- teach participants mindfulness skills to deal with negative private experiences, and,
- connect with their values in order that they can act in accordance with them.

During each session the following behaviour change techniques were employed as recommended by Public Health England (2017):

- Goal setting- goals were set around mindfulness practice at the end of each session and reviewed at the beginning of the next.
- Behavioural instruction- Participants were taught specific strategies they could employ to overcome uncomfortable thoughts and emotions.

- Problem solving- barriers to applying techniques learned in group to everyday situations were discussed and solutions generated by the group.
- Social support- the intervention was group based so that participants could support each other.

Full session plans can be seen in appendix 4 (p.47). In Summary the session content was as follows:

Introduction

Participants were phoned two weeks prior to commencing the intervention. They were given a brief description of what the intervention entailed and were sent a Food Acceptance and Action Questionnaire ([FAAQ] Juarascio, Forman, Timko, Butryn & Goodwin, 2011) for them to bring to their first session (see appendix 5, p. 56).

Session 1

Participants would be weighed and invited to give a one word description of how they were feeling about being there as a check in. ACT would be introduced and participants asked about their expectation of the intervention. An exercise would be completed to examine past attempts at avoiding uncomfortable thoughts/feelings and the concept of fusion would be introduced. The idea of defusion was then to be explained and defusion techniques practised - with more given as homework. The session would finish with a mindfulness meditation (see appendix 6, p. 57) aimed at defusion and a one word check out to describe how they felt at that moment.

Session 2

Participants again weighed and checked in. The week would be reviewed, particularly focusing on whether they had practiced defusion skills. The topic of feelings and emotions would be introduced and clients would identify strategies they were using in order to avoid uncomfortable emotions/feelings. The ‘Demons on a boat’ metaphor would be described and discussed. The concept of acceptance was to be introduced and the ‘struggle switch’ exercise carried out as a strategy to aid acceptance. Clients were to be asked to practice this for homework. A mindfulness exercise around emotions acceptance and a check out would be done to finish.

Session 3

Participants weighed and checked in. The week would be reviewed, particularly whether they had practiced the acceptance exercises. The topic of values would be discussed before participants were given an explanation of what was meant by values. A worksheet was to be used to help participants to identify their values. These would be discussed, particularly how it felt to act in accordance/at odds with values and how their weight impacted on their ability to act in accordance with these values. The concepts of consistent behaviours and committed actions would be introduced and discussed before participants were asked to set some committed actions for the coming week. Participants' feelings about the intervention ending were to be discussed before a mindfulness exercise and check out to finish.

Follow up

Participants to come in one week after the intervention had finished for evaluation data to be collected from them.

Evidence to support intervention content

The intervention content was selected as ACT has been shown to be effective for overweight patients in terms of weight loss and other quality of life indicators. For example, in one study, overweight women who had participated in an ACT intervention showed decreased BMI and increased physical activity levels compared with a control group (Forman, Butryn, Hoffman, & Herbert 2009). However, it should be noted that this effect was only present when participants practised the ACT techniques taught to them. For this reason, participants in this intervention were given homework to practise techniques and they were asked to log such practice.

It was important that this intervention was suitable to act as an 'add on' to the lifestyle intervention in which these participants had already taken part and ACT had been shown to lend itself well to this effect. One study showed that an ACT based intervention (aiming to decrease avoidant behaviour and increase psychological flexibility) targeting overweight individuals who had already taken part in a six month, traditional weight loss programme, showed improvements in weight loss and maintenance, blood pressure, weight related stigma, quality of life, and physical activity as compared to those who only

received the weight loss programme (Lillis, Hayes, Bunting & Masuda, 2009). This intervention taught acceptance mindfulness, and defusion skills as applied to uncomfortable thoughts, feelings, and bodily sensations as well as helping participants to define their values and overcome barriers to committed actions. This content is very similar to what the present interventions hoped to achieve.

Another intervention that took on a similar format to the present one was used in a study by Weineland, Arvidsson, Kakoulidis & Dahl (2012) which specifically targeted emotional eating by bariatric surgery patients. The ACT based intervention sought to clarify values, teach defusion and acceptance. However it comprised of six sessions and also did work around overcoming obstacles building a non-judgemental attitude towards body and weight which the present intervention did not. The participants in the ACT intervention showed improvements in disordered eating, body dissatisfaction, quality of life and acceptance for weight related thoughts and feelings.

Barriers and Facilitators

One of the main potential barriers to engagement identified in advance was an expectation that the intervention would help participants to change their emotions. If this were to be the case, it would be difficult for them to grasp the concept of acceptance. In order to assess whether this was going to be a barrier, clients were to be asked about their expectations during session one. To overcome this as a barrier, time was to be given to facilitating the understanding that controlling or avoiding one's emotions is not an effective strategy in the long term. The 'Join the dots' exercise would help them explore strategies for control that they had used in the past and what they had cost them in terms of time, energy, health etc. Analogies such as 'the struggle switch' and the visual explanation of ACT would also serve to show participants that avoiding emotions was not conducive to living in accordance with their values.

Similarly, participants might not have been open to the idea of defusion as it might have been difficult to admit that they had a 'voice in their head' and the social implications of such an admission. To overcome this, the facilitator was to emphasise the fact that everyone had this voice and that it was a 'normal' phenomena.

Another barrier identified was the length of the intervention; due to time/monetary constraints, the intervention was rather short, comprising of just three sessions spanning three weeks. In order for the participants to learn the defusion, acceptance and mindfulness skill that necessitated a change in behaviour in relation to their emotions, they needed to practise these skills between sessions. Participants were to be provided with a mindfulness meditation CD as well as defusion and acceptance exercises to practice at home and logs to record how often they did the exercises.

The participants were all current clients of MoreLife and had all completed an intervention that taught them about nutrition and exercise. That they were keen to attend another intervention in the same setting indicated that they had confidence in MoreLife as an organisation; this would help them to feel comfortable in the group setting and to be open to the activities of the intervention. For this reason the structure of the sessions was based loosely around that of the previous interventions, in that they were weighed on arrival, checked in with the group, reviewed the previous week before tackling the session's main content and, finally and formally, checked out again as the session closed. That they had all attended MoreLife in the past (though not all in the same group) meant that they would all have something in common and this was likely to help them to connect as a group and facilitate open communication.

Evaluation

Several indicators were used in order to measure the efficacy of the intervention and these can be seen in Table 1:

Table 1: Intervention evaluation results

Client	FAAQ 1	FAAQ 2	Weight 1	Weight 2	Days used techniques 1-2	Times used techniques 2-3	Times used techniques 3-4
1	21	36	105.4	103.8	7	7	5
2	14	32	153.8	149.0	7	7	4

3	40	44	121	121.2	7	7	2
4	26	26	124.7	123.6	7	6	5
5	32	40	99.4	98.0	4	6	5
6	12	38	105.1	105.1	7	5	4
7	16	22	138.1	135.2	7	7	3
Mean	23	34	121.1	119.4	6.6	6.4	4

First, the frequency of the participants practising techniques taught in the sessions (defusion, acceptance or mindfulness) was measured between sessions one and two, two and three and in the week that followed the third session. Between sessions one and three participants were asked to practice daily, which most of them managed to achieve, indicating good engagement. After session three the number of days they practised dropped quite dramatically. This indicates that having the tasks set as 'homework' and being checked in as a group may have served as motivation. In future, a possible solution to this fall-off in motivation post intervention might be to provide follow-ups or a continuing online resource where participants can log their technique practice.

The FAAQ measures acceptance of urges and cravings to eat or the extent to which individuals might try to control or change these thoughts (Juarascio, Forman, Timko, Butryn & Goodwin, 2011). This would serve as a good measure of the efficacy of the intervention as it was aimed at teaching participants to accept urges and to distance them from, rather than attempt to control, their thoughts. Participants were given the questionnaire as part of their introduction pack and were asked to bring it, completed, to their first session. They were then issued it to fill out one week after the final session. Higher scores indicated higher levels of acceptance of the thoughts and urges around food and the mean score went up by 11 after the intervention. The sample size is too small for statistical analysis; however, this seems a useful indication of the efficacy of the study.

Participants' weights were taken at each session and one week after the third session. On average clients lost 1.2kg. However, they had previously taken part in a nutrition and physical activity intervention and so it is impossible to say whether the weight loss was due to that or to the present intervention.

Participants were given feedback forms (see appendix 7, p. 58) consisting of five questions. Question one to four were marking particular aspects of the intervention out of 10 (effectiveness for dealing with thoughts, emotions, clarifying values and aiding weight loss) and question five was asking for general feedback comments. A summary of results can be seen in table 2.

Table 2: Feedback summary

Client	Q1	Q2	Q3	Q4	Q5
1	7	8	6	7	Brand new perspective, good teacher. Wish it had lasted longer.
2	6	8	7	8	Really enjoyed it. Feel like I have no excuses now!
3	8	7	7	8	Good but a bit rushed.
4	7	8	6	7	Sophie is great, very patient and explained ideas clearly.
5	6	6	8	6	Not something I would usually do but it was far more factual and practical than I imagined. I do not like meditation but apart from that it was quite helpful.
6	5	6	5	6	I liked the relaxation. Found other bits a bit confusing.
7	6	6	6	6	Difficult to understand, but useful.
Mean	6.4	7	6.4	6.9	

Satisfaction ratings were all relatively high indicating that clients felt that they had got what they had wanted to get out of the intervention. The comments were generally good; however, one felt that the intervention felt rushed, and another felt that they wanted it to last longer. One client commented that they found it 'difficult to understand' and another that it was 'a bit confusing'. In the future, an intervention spanning more weeks may be a

good idea in order to remedy these points as the facilitator would not have to rush and would be able to ensure participants' understanding of concepts and go over them again if necessary.

Comparing the current intervention to one designed by Cognitive Behavioural Therapy

ACT has been described by some as one of the 'third wave behaviour therapies' (Hayes, 2004), which is distinctly different from Cognitive Behaviour Therapy (CBT) whereas others believe that while the 'new wave' therapies have a different theoretic approach to cognitions, the therapeutic techniques themselves, including those of ACT, are actually consistent with the CBT approach (Hofmann, Sawyer, & Fang, 2010). This report seeks to compare and contrast the approaches in relation to the theory, assessment and design of the current intervention.

Philosophical Foundations and Core Concepts

CBT is not a singular method of psychotherapy; there are several therapies to which the label CBT could apply, However, they share the core assumptions that maladaptive cognitions are linked to emotional distress which is in turn linked to maladaptive behaviours (Dobson & Dozois, 2001). Therefore in order to improve emotional distress and alter maladaptive behaviours, one must modify the maladaptive cognitions. The therapy itself has been described as 'structured, short-term, present-oriented psychotherapy…directed toward solving current problems and modifying dysfunctional (inaccurate and/or unhelpful) thinking and behaviour' (Beck & Beck, 2011).

CBT is not linked with any particular philosophy but it should be noted that is broadly resembles critical rationalism (Hofmann, & Asmundson, 2008) which assumes that information is gained by testing hypotheses that have arisen from scientific theories. This is reflected in CBT as patients are encouraged to develop and test hypotheses based upon their beliefs. ACT, on the other hand, has its theoretical foundations rooted in Relational Frame Theory (RFT; Hayes, S. C., Barnes-Holmes, D., & Roche, 2001) which is derived from the philosophical stance of functional contextualism. RFT is a psychological

account of human language and cognition where 'cognitions (and verbally labelled or evaluated emotions, memories, or bodily sensations) achieve their potency not only by their form or frequency, but by the context in which they occur.' (Hayes, Masuda, Bissett, Luoma, & Guerrero, 2004, p. 45). Thus ACT does not attempt to change the content of cognitions, but how they are experienced.

As stated, the main conceptual difference between ACT and CBT is with regards to cognitions; ACT is only interested in identifying and altering the function of cognitions whereas CBT is interested in altering both the content and the function of cognitions. This means that during therapy, CBT will attempt to challenge thoughts in order to alter the emotional response to them whereas ACT will attempt to increase mindfulness and acceptance of thoughts whether they are maladaptive or not. This was reflected in the current intervention and discussed further below.

Approach to Assessment

As the label of CBT encompasses many therapies, there are many approaches to assessment. One CBT model for assessment was proposed by Williams (2002) and is concerned with five areas which are given below and compared to the assessment used in the present intervention as informed by ACT:

- Situation, relationships and practical problems.
- Altered thinking. This would include the identification of 'negative automatic thoughts'. It is comparable to the assessment that took place in order to identify cognitive fusion.
- Altered emotions. This identifies negative emotions such as low mood. This is different from the ACT assessment that took place as it sees these emotions as symptoms that need to be reduced whereas in ACT we view these negative emotions as 'normal' and are only concerned with how patients respond to them.
- Altered physical symptoms. Again, ACT would not seek to reduce physical 'symptoms' but would be concerned with how patients responded to them.

- Altered behaviour. This seeks to identify ‘unhelpful’ behaviours, such as avoidance, patients have used in response to ‘symptoms’. This is similar to assessing whether participants behaviours were at odds with their values in the ACT assessment used.

The assessments are concerned with similar areas; the primary difference is how the information gained is formulated and other differences seem more semantic than substantive.

Intervention Content

In comparing the content of the intervention to that of a traditional CBT approach, as expected, the most striking difference is in how cognitions are approached. In dealing with thoughts, CBT would use the technique of cognitive restructuring. This refers to techniques used to identify and challenge negative thinking patterns. The technique involves altering ‘negative automatic thoughts’ with the objective that as the thoughts are challenged, their ability to cause negative emotions are weakened. The major difference between this approach and defusion is that defusion never attempts to alter the content of thoughts but merely seeks to distance oneself from them. In cognitive restructuring thoughts may be viewed as hypotheses and patients view them from an outside perspective, gathering evidence for and against them in order to test their validity. ACT would not be concerned about whether the thought was true or not but how ‘workable’ it is; whether acting on that thought contributed to values living. It has, however, been argued that the CBT technique of looking at thoughts from an outsider's perspective (for example, the question ‘what would you say if a friend expressed this belief’ is often asked) is similar to defusion in that it encourages patients to distance themselves from their thoughts (Heimberg & Ritter, 2008).

Another example of a crossover in techniques is that during cognitive restructuring, patients will often have to keep a thought diary. In order to do this they will have to have an awareness of their thoughts which is comparable to mindfulness as advocated by ACT. Also, writing thoughts down is, in itself, a defusion technique as it involves distancing oneself from such thoughts.

Studies have compared the efficacy of cognitive restructuring and cognitive defusion when applied to food cravings with results indicating that the effects of the approach are dependant, in part, on certain traits of the individuals taking part. For example, cognitive defusion was found to be most effective, when applied to chocolate craving, in participants who scored highly on a scale that measured sensitivity to the food environment (Forman, Hoffman, McGrath, Herbert, Brandsma, & Lowe, 2007). Another study, also comparing the effects of the two approaches with regards to chocolate cravings, found that cognitive defusion was more effective than cognitive restructuring in individuals who reported high levels of cognitive distress (Moffitt, Brinkworth, Noakes, & Mohr, 2012).

The second session in the present intervention had the aim of promoting acceptance around unpleasant emotions in order that participants ceased to engage in experiential avoidance. This differed from a traditional CBT approach in that CBT would target the emotion-eliciting stimulus itself, be this a situation or maladaptive cognitions. To summarise; CBT seeks to develop adaptive antecedent-focused emotion regulation strategies, whereas ACT seeks to facilitate the cessation of maladaptive response-focused emotion regulation strategies (Hofmann& Asmundson, 2008).

To summarise, the differences between ACT and CBT seem to be at a theoretical level which may be due to their differing philosophical foundations. However, in practice they share a lot of therapeutic processes, with the most obvious differences being of a semantic nature.

Reflections

Although I deliver weight management programmes on a daily basis as part of my job, this was the first that I had designed, carried out and evaluated from start to finish. I found that I had a tendency to identify session content that I wanted to include before I had identified the outcomes I wanted to achieve. This, I believe, was due to the fact that I have a lot of experience as a group facilitator and have a good idea of which exercises will engage participants. However, as a strategically designed health psychology intervention, the design of the assessment and content must be driven by the targeted outcomes.

I found the design of the assessment rather challenging as I usually use weight loss as the most important outcome. It was actually rather refreshing to look at other measures. If this had been a longer intervention I would have liked to look at outcomes such as quality of life and body image as I believe that improving these will have an impact on participants' long term health but are often overlooked in favour of physical outcomes.

I found it frustrating when participants did not describe the target cognitions/behaviours and, on reflection, may have been looking for examples of fusion and experiential avoidance a little too hard. This was where having my supervisor give his opinion was helpful. I had not really wanted to ask him to look over it as, I now realise, I like to work alone. I think that maybe this is a sign of insecurity or fear of criticism on my part that may need to be addressed.

I think that, ideally, I would have had someone else carry out the evaluation. I am biased and am going to find it more difficult to find fault with the intervention than an outsider may. I found that I became rather protective over the intervention and would have felt hurt if someone were to have criticised it, even though I realise that, in order to develop, I must accept suggested improvements where necessary.

Carrying out the intervention itself was also challenging in that my past experience in facilitating weight management groups meant that I felt the urge to go off on tangents rather than follow the session plans and stick to the ACT principles. For example one of the participants gave an example of one of her thoughts that was a prime example of 'mind reading' as described by cognitive behavioural therapy (CBT). My natural urge was to ask questions about this thought in order to guide the participant through the evidence for and against it. However, in ACT one does not become entrenched in thoughts and whether they are true or false but accepts them and defuses from them. I have never been a staunch advocate of CBT so it was surprising for me to realise how much my practice had been influenced by it.

I believe in retrospect that I would have benefitted from using a facilitator rather than carrying out this role myself; this would have given me an indication as to the clarity of my ideas/plans. If I were ever to design an intervention in the future as a piece of consultancy work, the session plans would need to provide sufficient information so that there was consistency in delivery across different facilitators.

References

Beck, J. S., & Beck, J. S. (2011). *Cognitive behavior therapy: Basics and beyond*. New York: Guilford Press.

Braden, A., Flatt, S. W., Boutelle, K. N., Strong, D., Sherwood, N. E., & Rock, C. L. (2016). Emotional eating is associated with weight loss success among adults enrolled in a weight loss program. *Journal of behavioral medicine*, *39*(4), 727-732.

Byrne, S., Cooper, Z., & Fairburn, C. (January 01, 2003). Weight maintenance and relapse in obesity: a qualitative study. *International Journal of Obesity*, *27*, 955-962.

Chung, L. M. Y., & Fong, S. S. M. (2015). Predicting actual weight loss: A review of the determinants according to the theory of planned behaviour. *Health psychology open*, *2*(1), 2055102914567972.

Craske MG (2010). *Cognitive-behavioral therapy*. Washington, DC: American Psychological Association.

Dobson, K. S., & Dozois, D. J. A. (2001). In K. S. Dobson (Ed.), *Handbook of cognitive-behavioral therapies* (2nd ed., pp. 3–39). New York: Guilford Press.

Ozier, A. D., Kendrick, O. W., Leeper, J. D., Knol, L. L., Perko, M., & Burnham, J. (January 01, 2008). Overweight and obesity are associated with emotion- and stress-related eating as measured by the eating and appraisal due to emotions and stress questionnaire. *Journal of the American Dietetic Association*, *108*, 1, 49-56.

Elfhag, K., & Rössner, S. (February 01, 2005). Who succeeds in maintaining weight loss? A conceptual review of factors associated with weight loss maintenance and weight regain. *Obesity Reviews*, *6*, 1, 67-85

Forman, E. M., Hoffman, K. L., McGrath, K. B., Herbert, J. D., Brandsma, L. L., & Lowe, M. R. (January 01, 2007). A comparison of acceptance- and control-based strategies for coping with food cravings: An analog study. *Behaviour Research and Therapy*, *45*, 10, 2372-2386.

Forman, E. M., Butryn, M. L., Hoffman, K. L., & Herbert, J. D. (May 01, 2009). An Open Trial of an Acceptance-Based Behavioral Intervention for Weight Loss. *Cognitive and Behavioral Practice, 16,* 2, 223-235.

Hayes, S. C., Barnes-Holmes, D., & Roche, B. (2001). *Relational frame theory: A post-Skinnerian account of human language and cognition*. New York: Kluwer Academic/Plenum Publishers.

Hayes, S., Masuda, A., Bisset, R., Luoma, J., & Guerrero, L. (March 08, 2005). DBT, FAP, and ACT: How empirically oriented are the new behavior therapy technologies?. *Behavior Therapy, 35,* 1, 35-54.

Hayes, S. C., Luoma, J. B., Bond, F. W., Masuda, A., & Lillis, J. (January 01, 2006). Acceptance and Commitment Therapy: Model, processes and outcomes. *Behaviour Research and Therapy, 44,* 1, 1-25.

Heatherton, T. F., & Baumeister, R. F. (January 01, 1991). Binge eating as escape from self-awareness. *Psychological Bulletin, 110,* 1, 86-108.

Heimberg, R. G., & Ritter, M. R. (December 01, 2008). Cognitive Behavioral Therapy and Acceptance and Commitment Therapy for the Anxiety Disorders: Two Approaches With Much to Offer. *Clinical Psychology: Science and Practice, 15,* 4, 296-298

Hill, J. O., & Wyatt, H. R. (January 01, 2005). Role of physical activity in preventing and treating obesity. *Journal of Applied Physiology (bethesda, Md. : 1985), 99,* 2, 765-70

Hill, J. O., Wyatt, H. R., & Peters, J. C. (January 01, 2012). Energy balance and obesity.*Circulation, 126,* 1, 126-32.

Hofmann, S. G., & Asmundson, G. J. G. (January 01, 2008). Acceptance and mindfulness-based therapy: New wave or old hat?. *Clinical Psychology Review, 28,* 1, 1-16.

Hofmann, S. G., Sawyer, A. T., & Fang, A. (2010). The Empirical Status of the "New Wave" of CBT. *The Psychiatric Clinics of North America*, *33*(3), 701–710. doi:10.1016/j.psc.2010.04.006

Hwang, Y. S., & Kearney, P. (January 01, 2013). A systematic review of mindfulness intervention for individuals with developmental disabilities: Long-term practice and long lasting effects. *Research in Developmental Disabilities, 34,* 1, 314-326.

Juarascio, A., Forman, E., Timko, C. A., Butryn, M., & Goodwin, C. (August 01, 2011). The development and validation of the food craving acceptance and action questionnaire (FAAQ). *Eating Behaviors, 12,* 3, 182-187.

Katterman, S. N., Kleinman, B. M., Hood, M. M., Nackers, L. M., & Corsica, J. A. (2014). Mindfulness meditation as an intervention for binge eating, emotional eating, and weight loss: a systematic review. *Eating behaviors, 15*(2), 197-204.

Lillis, J., Hayes, S. C., Bunting, K., & Masuda, A. (January 01, 2009). Teaching acceptance and mindfulness to improve the lives of the obese: a preliminary test of a theoretical model. *Annals of Behavioral Medicine : a Publication of the Society of Behavioral Medicine, 37,* 1, 58-69.

Masheb, R. M., & Grilo, C. M. (January 01, 2006). Emotional overeating and its associations with eating disorder psychopathology among overweight patients with binge eating disorder. *The International Journal of Eating Disorders, 39,* 2, 141-6

Mauro, M., Taylor, V., Wharton, S., & Sharma, A. M. (January 01, 2008). Barriers to obesity treatment. *European Journal of Internal Medicine, 19,* 3, 173-80.

Moffitt, R., Brinkworth, G., Noakes, M., & Mohr, P. (January 01, 2012). A comparison of cognitive restructuring and cognitive defusion as strategies for resisting a craved food.*Psychology & Health, 27,* 74-90.

Perugini, M., & Bagozzi, R. P. (2001). The role of desires and anticipated emotions in goal-directed behaviours: Broadening and deepening the theory of planned behaviour. *British Journal of Social Psychology*, *40*(1), 79-98.

Public Health England (2017). *Changing behaviour: techniques for tier 2 adult weight management services*. [online] The Centre for Translational research in Public Health. Available at: https://www.gov.uk/government/publications/adult-weight-management-changing-behaviour-techniques [Accessed 4 Jan. 2018].

Spoor, S. T. P., Bekker, M. H. J., Van, S. T., & van, H. G. L. (May 01, 2007). Relations between negative affect, coping, and emotional eating. *Appetite, 48,* 3, 368-376

Turner, S. A., Luszczynska, A., Warner, L., & Schwarzer, R. (2010). Emotional and uncontrolled eating styles and chocolate chip cookie consumption. A controlled trial of the effects of positive mood enhancement. *Appetite*, *54*(1), 143-149.

Ulen, C. G., Huizinga, M. M., Beech, B., & Elasy, T. A. (July 01, 2008). Weight regain prevention. *Clinical Diabetes, 26,* 3, 100-113.

Weineland, S., Arvidsson, D., Kakoulidis, T. P., & Dahl, J. (January 01, 2012). Acceptance and commitment therapy for bariatric surgery patients, a pilot RCT. *Obesity Research & Clinical Practice, 6,* 1.)

World Health Organization. (2015). *Obesity and overweight [electronic version] , Factsheet No 311*. Retrieved Feb 2015, from http://www.who.int/mediacentre/factsheets/fs311/en/index.html

Zeeck, A., Stelzer, N., Linster, H. W., Joos, A., & Hartmann, A. (January 01, 2011). Emotion and eating in binge eating disorder and obesity. *European Eating Disorders Review : the Journal of the Eating Disorders Association, 19,* 5.)

Appendix 1-Assessment questions

1. Do you spend time dwelling on the past?

If Yes, how often do you notice this?

1-Monthly 2-Between two and three times a month 3-Weekly 4-Between two and three times per week 5-Daily

2. Do you spend time fantasising or worrying about the future?

If Yes, how often do you notice this?

1-Monthly 2-Between two and three times a month 3-Weekly 4-Between two and three times per week 5-Daily

3. Do you use food to avoid uncomfortable thoughts/feelings/memories?

If Yes, how often do you notice this?

1-Monthly 2-Between two and three times a month 3-Weekly 4-Between two and three times per week 5-Daily

4. Do you have a clear understanding of what is really important to you in life?

5. Do your actions ever undermine your 'values'?

Appendix 2- Demographic information

Client	Gender	Age	Weight	BMI	Weight Related Health Condition
1	F	50	105.4	44.4	Type II diabetes, Sleep Apnoea
2	F	36	153.8	56.4	
3	M	55	121	40.9	Type II diabetes, Hypertension
4	F	34	124.7	48.5	Type II diabetes
5	F	52	99.4	40.3	Type II diabetes
6	M	63	105.1	35.5	Heart disease, hypertension
7	F	59	138.1	48.4	Sleep Apnoea, Chronic back pain

Appendix 3- Assessment outcomes

Client	Question 1		Question 2		Question 3		Question 4	Question 5
1	Yes. Relives bullying at school and runs 'over and over' conversations from the day.	5	Yes. Imagining a future when thin.	4	Yes. When depressed.	4	Not sure.	She is always 'bottom of the pile'. Looks after everyone else first.
2	Yes. Thinks of 'what I should have said'.	5	Yes. Worry about children's future.	5	Yes. When depressed and insecure.	5	Being a parent takes over.	Children would be 'happier if thin'.
3	Not really. Reviews day but doesn't 'dwell'		Worries about work.	4	Eats more when stressed.	3	Yes.	Feels being overweight looks 'bad' in meetings.
4	Yes. Often wonders what made her 'this way'.	4	Yes. Imagining a future when thin.	3	When sad about her weight.	4	Not really.	Eating too much. Would be 'happier' if thin.
5	Yes. Can name EVERY occasion someone has called her fat.	3	Yes. Worries constantly about getting worse.	4	Yes. Any emotion at all.	5	Not on an individual level. Having a good relationship with husband.	Is insecure and pushes husband away.

6	No. ‘What would be the point?’		Not really.		Yes. When angry about lack of mobility.	3	Being a good grandfather.	Not as mobile as would like.
7	Yes. Thinks about what she could have done differently.	4	Yes. Dwells on the fact she has ‘wasted’ her life.	4	Yes. Any negative emotions and when a diet attempt fails.	4	Can’t imagine until slim.	Over-eating.

Session 1: 'Introduction to ACT and fusion/defusion'

Behavior Change techniques	**Materials Needed**
Psychoeducation Self-monitoring Skills training Goal setting	Flipchart Pens Join the dots hand-out Fusion exercise sheet CDs

Timing	**Content**	**Purpose**
5 minutes	Participants are weighed on arrival (they are familiar with this protocol).	This will remind clients that this is part of an overall weigh-management programme.
5 minutes	Check in: The facilitator welcomes the group and introduce themselves and asks participants to introduce themselves and use one word to describe how they are feeling right now.	This encourages them to be mindful about how they are feeling in the moment and stop them from telling a long story about their past/difficulties etc. which would prevent them from being present.
10 minutes	The facilitator gives 'ACT in a nutshell' metaphor to help explain the principles of ACT	This is done both to help participants understanding, but also to help them relax and build a rapport with the facilitator.

	(adapted from Harris, 2006, pg. 13-16) with the aid of a volunteer from the group.	
10 minutes	The facilitator reiterates that this is an intervention designed to help participants with their emotional eating and asks participants what their personal aims are.	This will establish whether clients are seeking to 'get rid of' difficult emotions or control their feelings.
15 minutes	Participants will be given the 'Join the dots' worksheet (taken from Harris, 2006, pg. 85) to identify strategies they have used in the past in an attempt to control their emotions and whether these have been useful in the long term.	This exercise help the clients realise that attempts to avoid negative emotions are usually unhelpful in the long term.
15 minutes	Introduce the concept of fusion, then reveal some example thoughts on the flipchart and discuss with the group what would happen if you were fused with each thought; how may it affect how you feel/behave?	To understand what fusion is in order that the can recognise it in themselves and to realise that fusion can have a negative impact upon their behaviour.
5 minutes	Introduce defusion as a process of distancing oneself from thoughts with view to not allowing them to control ones behaviour.	This will allow participants to realise the value of defusion in breaking the thought-behaviour cycle.
10 minutes	Fusion exercise example 'I'm having a thought that…' adapted from Hayes et al., 1999). Give more exercises and ask them to set a goal around a) monitoring their thoughts this week in order to identify fusion and b) practice defusion techniques.	This will give help participants to develop the skills needed to aid defusion.

5 minutes	Meditative defusion technique: Leaves on a stream (See appendix 6, p. 57). Give clients a CD and ask to use every day as homework.	This gives an alternative defusion which will be particularly helpful to clients who are good at visualisation.
5 minutes	Check out: Ask participants to once again give one word to describe how they are feeling right now.	This brings participants back to the present moment and promotes mindfulness around feelings.

Session 2: 'Review and introducing acceptance'

Behaviour Change skills	Materials Needed
Psychoeducation Self-monitoring Skills training	Flipchart Pens Struggling vs. Opening up hand-out

Timing	Content	
5 minutes	Weigh participants on arrival	
5 minutes	Check in, as session 1.	
10 minutes	Review of the week: Did they achieve their goals? How did they find identifying fusion? How useful were the defusion techniques?	This will promote the completion of future goals. It will also ensure that the concept of fusion/defusion was understood. It is also an opportunity to remind clients that the aim of defusion is not to get rid of thoughts but to distance one's self from them and that this is a process that will need practice.
10 minutes	Bring in the toping of feelings/emotions. Do this '9 emotions exercise' and then ask 'So what do we do about these distressing/ uncomfortable feelings?' Refer back to join the dot exercise and talk about the costs of trying to avoid such feelings.	This aims to start getting clients to view emotions nonjudgmentally by emphasising that uncomfortable emotions are normal. We then reiterate the fact that attempts to avoid these emotions usually has a long term cost
15 minutes	Ask clients to work in pairs to make a list of emotions/urges/sensations that they are attempting to avoid with food.	This will bring the focus of the session back to clients' eating behaviours. It will also show them that eating is often an attempt at experiential avoidance even when it may not appear to be so.

	List these on the board. Then ask whether there are any other reasons that they eat over and above what they need to in order to lose weight. Where possible show how these are attempts to avoid uncomfortable feeling even when it is not obvious Eg. 'I eat because it's there' can be thought of as eating to get rid of the uncomfortable feeling that the urge to eat what 'is there' produces.	Working in pairs and sharing ideas as a group show serve to show participants that their feelings are not 'abnormal' and again, may help them to view them non-judgementally.
10 minutes	Give metaphor 'Demons on a boat' (Harris, 2009, pg. 148). Ask clients what the solution could be and discuss.	To give a more visual representation of how experiential avoidance can hinder ones progress towards ones goals and to steer clients towards the a idea of acceptance as a solution (ie. Continue on the journey DEPSITE the threats from the demons)
5 minutes	Introduce topic of 'Acceptance' as a process of 'making room' for uncomfortable emotions, urges and sensations. Use 'Wade through the swamp' (Harris 1999)	Although this overlaps with the previous metaphor it should facilitate understanding of the function of acceptance and give a name to the process.
15 minutes	Acceptance exercise" 'The struggle switch' (Hayes et. Al., 1999) Give out 'Struggling vs. Opening up' hand-out (Harris, 1999) for homework and ask participants to set a specific goal around practicing acceptance this week. For example, I will practice 'turning off the struggle switch' this week if I feel stressed and have the urge to eat.	This will give help participants to develop the skills needed to aid acceptance and will help the, to be mindful of their struggles with emotions during the coming week.

10 minutes	Do mindfulness exercise ‘Acceptance of emotions’ (Harris, 2009, pg. 137-139)	This gives an alternative defusion which will be particularly helpful to clients who are good at visualisation.
5 minutes	Check out, as session 1.	

Session 3: Values

Behaviour Change skills	Materials Needed
Psychoeducation Self-monitoring Skills training	Flipchart Pens Compass hand out Committed actions hand-out

Timing	Content	Purpose
5 minutes	Weigh participants on arrival	
5 minutes	Participants are asked to use one word to describe how they are feeling right now.	This encourages them to be mindful about how they are feeling in the moment
10 minutes	Review of the week: Did they achieve their goals? How did they find practicing acceptance? How useful were the techniques?	This will promote the completion of future goals. It will also ensure that the concept of acceptance was understood. Ensure the clients are not 'tolerating' or 'putting up with' negative emotions but accepting them as part of the process of achieving their goals.
5 minutes	Ask clients what they understand by the term 'Values'. Write up answers on the board.	This is a good opportunity to gauge the participants understanding of the concept and may also begin to reveal what is important to them

5 minutes	Explain what we mean by values and emphasise the difference between goals and values and give clear examples.	To ensure that clients understand the concept of values before moving on with the session.
10 minutes	Give out the compass hand-out and ask clients to fill this in.	This will help participants to connect with their own personal values. The task is completed alone to minimise the group influence.
15 minutes	Ask participants to discuss how their weight impacts upon their ability to live in accordance with these values. Give examples as necessary. For example: weight may impact upon confidence to socialise and therefore may impact upon values around friendships.	Relate the topic back to weight, this will help clients realise the cost of their eating in terms of their values.
10 minutes	Introduce 'consistent behaviours'. Explain that these often cause a level of immediate discomfort but bring about long term benefits in terms of valued living. Eg. Resisting the urge to eat will bring about short term discomfort but will contribute to weight loss and therefore be consistent with a value of 'Health and wellbeing'	This will reinforce the process of 'acceptance', that participants should make room for unpleasant feeling in order to act in accordance with their values and to live fulfilled lives.
10 minutes	Introduce 'Committed actions' as specific goals set in accordance with a particular value. Ask participant's to discuss these in pair and set one or two related to their values for the coming week.	This will give participants something concrete to work with.
5 minutes	Discuss how participants feel about the intervention coming to an end.	

5 Minutes	Mindfulness exercise: Breathing exercise (Harris, 2009, pg. 160-161)	This will help to bring clients awareness back to the room after discussing the past and future. It will also serve as a useful and quick way of practicing mindfulness in their lives.
5 Minutes	Check out	This brings participants back to the present moment and promotes mindfulness around feelings

Appendix 5- FAAQ

Food Acceptance Questionnaire (modified from the Chronic Pain Acceptance Questionnaire)

Directions: below you will find a list of statements. Please rate the truth of each statement as it applies to you. Use the following rating scale to make your choices.

		1	2	3	4	5	6	7
		never true	very seldom true	seldom true	sometimes true	frequently true	almost always true	always true
1	I continue to eat a healthy diet, even when I have the desire to overeat or make poor eating choices.	①	②	③	④	⑤	⑥	⑦
2	It's OK to experience cravings and urges to overeat, because I don't have to listen to them.	①	②	③	④	⑤	⑥	⑦
3	It's not necessary for me to control my food urges in order to control my eating.	①	②	③	④	⑤	⑥	⑦
4	I need to concentrate on getting rid of my urges to eat unhealthily.	①	②	③	④	⑤	⑥	⑦
5	I don't have to overeat, even when I feel like I want to overeat.	①	②	③	④	⑤	⑥	⑦
6	Controlling my urges to eat unhealthily is just as important as controlling my eating.	①	②	③	④	⑤	⑥	⑦
7	My thoughts and feelings about food must change before I can make changes in my eating.	①	②	③	④	⑤	⑥	⑦
8	Despite my cravings for unhealthy foods, I continue to eat healthily.	①	②	③	④	⑤	⑥	⑦
9	Before I can make any important dietary changes, I have to get some control over my food urges.	①	②	③	④	⑤	⑥	⑦
10	Even if I have the desire to eat something unhealthy, I can still eat healthily.	①	②	③	④	⑤	⑥	⑦

To score, add up the total for all items.

Appendix 6-Mindfulness meditation exercises

Leaves on a stream (Adapted from Harris, 2009)

Sit in a comfortable position and either close your eyes or rest them gently on a fixed spot in the room.

Visualise yourself sitting beside a gently flowing stream with leaves floating along the surface of the water. *Pause 10 seconds.*

For the next few minutes, take each thought that enters your mind and place it on a leaf… let it float by. Do this with each thought – pleasurable, painful, or neutral. Even if you have joyous or enthusiastic thoughts, place them on a leaf and let them float by.

If your thoughts momentarily stop, continue to watch the stream. Sooner or later, your thoughts will start up again. *Pause 20 seconds.*

Allow the stream to flow at its own pace. Don't try to speed it up and rush your thoughts along. You're not trying to rush the leaves along or "get rid" of your thoughts. You are allowing them to come and go at their own pace.

If your mind says "This is dumb," "I'm bored," or "I'm not doing this right" place *those thoughts* on leaves, too, and let them pass. *Pause 20 seconds.*

If a leaf gets stuck, allow it to hang around until it's ready to float by. If the thought comes up again, watch it float by another time. *Pause 20 seconds.*

If a difficult or painful feeling arises, simply acknowledge it. Say to yourself, "I notice myself having a feeling of boredom/impatience/frustration." Place those thoughts on leaves and allow them float along.

From time to time, your thoughts may hook you and distract you from being fully present in this exercise. This is *normal.* As soon as you realise that you have become sidetracked, gently bring your attention back to the visualisation exercise.

Appendix 7-Feedback form

1. On a scale of one to ten, how useful did you find session one in dealing with your thoughts and how they affect your eating?

2. On a scale of one to ten, how useful did you find session two in dealing with your emotions and urges and how they affect your eating?

3. On a scale of one to ten how useful was session three in helping you to clarify what is most important to you in life?

4. On a scale of one to ten how helpful has the course been for your weight loss journey?

5. Comments

SECTION

C3

EMPIRICAL RESEARCH PROJECT

Contents

The lived experience of obese people who feel they are addicted to food

Abstract

Aims: Obesity has a negative impact both on the individual and on society. Current weight management interventions are only modestly effective and uncontrolled eating, including binge and emotional eating have been identified as barriers to weight loss. Many obese individuals ascribe their inability to lose weight to medical causes including an addiction to food and this belief can have implications for their perceived control over their eating. Though research has taken place to attempt to deduce whether food addiction (FA) should be classified as a diagnosable condition, very little research has taken place to investigate the experience of being an obese, self-perceived food addict. This study used a qualitative design to do so including looking into which behaviours they believe to be indicative of an addiction and how their self-diagnosis has impacted on attempts to lose weight.

Methods: Semi-structured interviews were carried out with six obese, self-identified food addicts. Verbatim transcripts of the interviews were then analysed using Interpretative Phenomenological Analysis (IPA).

Results: Four superordinate themes emerged: 'I breathe food', which describes a life that has been completely overtaken by thoughts of food and uncontrolled eating; 'Isolation', feelings of being alone which are driven by experienced weight stigma, an inability to function in a food-obsessed world and having an addiction that is viewed as somewhat of a joke; 'Identity', how shame about weight and eating habits have meant that they feel as if they have lost their real selves and 'Diagnosis and treatment', a desire to have their perceived condition formally recognised in order to receive appropriate treatment but with no clear ideas of what form effective treatment would take.

Conclusions: Uncontrolled eating and its related bingeing, grazing, obsessional thoughts, cravings and secret eating were all identified by the participants as evidence of their addiction and posed significant barriers to them moderating their food intake. The belief that they had an addiction functioned as a way of absolving self-blame and responsibility and also coping with weight related stigma, however, it also served to make them feel less hopeful that they could ever moderate their food intake. Interventions are desperately needed to help individuals such as these manage aspects of their uncontrolled eating and increase

their self-efficacy around their ability to moderate their food intake. Whether or not FA is officially recognised in the future, healthcare professionals should be aware of the uncontrolled eating behaviours associated with self-perceived FA and the barriers to weight loss that they can pose in order to give them the best chance of managing their weight.

Introduction

Obesity has a negative impact upon both the individual, with regards to physical health (World Health Organisation (WHO), 2016) and mental health (National Obesity Observatory, 2011) and on society, in terms of increased health care costs, which are projected to reach £9.7 billion by 2050 (Public Health England, 2017) plus the cost of supporting those whose obesity-related issues have rendered them unable to work (Black, 2016). Obesity is linked with a number of health conditions such as type 2 diabetes, coronary heart disease, some types of cancer, such as breast cancer and bowel cancer, depression and stroke (Public Health England, 2017). In the UK in 2016, 58% of women and 68% of men were found to be overweight or obese, and 26% of all adults were classified as obese. This is an increase from 15% in 1993 (Department of National Statistics, 2018). Both treatment and prevention programmes are needed to stop rising obesity rates in order to avoid an escalation of the current crisis in terms of both the health and financial burden.

Traditional treatment for obesity usually involves a structured programme of nutrition education, physical activity, and behaviour change techniques: however, while these can produce weight loss in the short term, most individuals will experience weight regain over the longer term (Montesi et al., 2016). Thus, the causes of obesity and the barriers to a person's ability to lose weight need to be investigated in order to develop effective long-term interventions and to implement preventative measures. Barriers to weight loss have been found to include a history of weight cycling, disinhibited eating, binge eating, more hunger, eating in response to negative emotions and stress (Elfhag & Rössner, 2005). While this has been known for some time, as yet little has been done to address these issues within the recommendations for weight management interventions (National Institute for Clinical Excellence (NICE), 2014). Repeated failure to control eating can cause obese individuals to seek out explanations that may rationalise their behaviour, such as medical causes (McVay, Steinberg, Askew, Kaphingst, & Bennett, 2017), or an addiction to food (Meadows, A.,

Nolan, L. J., & Higgs, 2017). It is essential to understand the behavioural and cognitive aspects of uncontrolled eating; which aspects of their eating behaviour has caused individuals to attribute it to an addiction; and whether this belief impacts their ability to lose weight.

Eating behaviour in humans is a very complex process that is influenced by not only homeostatic processes which lead to physical hunger but also by environmental, social and psychological factors (Butland et. al., 2015). Nearly all food intake is associated with some degree of pleasure (Cameron, Goldfield, Finlayson, Blundell, & Doucet, 2014) and in the current environment, where food is plentiful and relatively affordable, eating frequently occurs in the absence of physical hunger (Espel-Huynh, Muratore, & Lowe, 2018). The desire to consume food for pleasure rather than due to a calorie deficit is termed hedonic hunger (Lowe & Butryn, 2007) and can occur in response to many triggers such as low mood, smelling food or seeing food advertisements. Neurobiological research has identified a possible means by which intense and frequent hedonic hunger may occur in some individuals in dopamine pathways. Dopamine is released as a result of eating palatable foods and, over time, begins to be released in anticipation of eating rather than just when engaging in the act of eating itself (Stice & Yokum, 2016). This is known as the incentive salience: the same process which can lead to powerful cravings in drug users in response to drug related cues (Robinson & Berridge, 1993).

Developers of the concept believed that increased hedonic hunger may help to explain why many individuals gain weight in the current environment and endorsed the Power of Food Scale (PFS; Lowe et. al., 2009) for its measurement. The PFS looks at individuals' responses to food cues rather than their actual eating behaviour and has been used in numerous studies aimed at establishing whether hedonic hunger is linked to increased calorie consumption and the development of obesity. A recent review of these studies (Espel-Huynh et. al., 2018) found that results were mixed and hedonic hunger does not always lead to food consumption and is only weakly linked with obesity. They did find, however, that when other factors, such as impulsivity, were considered, hedonic hunger did lead to increased calorie consumption. These results indicate that certain individuals are more influenced than others by food cues which are common in the current environment and that this, in combination with traits that hinder control of food intake (such as impulsivity), may lead to overeating and an increased

risk of obesity. What these other traits or risk factors are must be considered in order to understand the eating behaviours associated with obesity.

Impulsivity is a personality trait that can be categorised by the seeking out of rewards and acting spontaneously without considering the consequences (Dawe & Loxton, 2004) and has been linked with obesity (Gerlach, Herpertz, & Loeber, 2015). Dawn and Loxton (2004) argued that highly impulsive individuals who find food very rewarding may repeatedly experience urges to eat and will not consider the consequences in terms of weight gain. This will lead to a loss of control over food in the long term. Impulsivity has also been linked to emotional eating in obese individuals (Elfhag & Morey, 2008) and it is thought that those higher in impulsivity may be more likely to seek out food rewards in response to negative mood. However, impulsivity has been found to lead to compulsive eating in participants of a healthy weight so does not necessarily lead to consuming excess calories (Guerrieri, Nederkoorn, & Jansen, 2007) and emotional eating has been found to be a stronger predictor of increased BMI (Nicholls, Devonport, & Blake, 2016).

Emotional eating can be defined as 'the tendency to overeat in response to negative emotions such as anxiety or irritability' (van Strien et al., 2007,p. 106) and is a concept that has received much attention both in research and in various media outlets (Close, 2013). Obese individuals have been found to use food to regulate emotions more often than their non-obese counterparts (Rommel et al., 2012) and a systematic review of the literature found that this was more pronounced in obese individuals who regularly binge eat (Leehr et al., 2015). Common emotions cited by obese individuals as a trigger for emotional eating have been found to be stress, depression and sadness and eating in response to negative emotions is associated with more unhealthy food choices (Devonport, Nicholls, & Fullerton, 2017).

There are several theories as to the mechanisms behind emotional eating but most agree that it is an attempt to regulate emotions in order to avoid unpleasant experiences associated with negative feelings. Escape theory posits that whilst engaging in eating, individuals are able to disconnect with negative emotions and thoughts (Heatherton & Baumeister, 1991) whereas the Affect Regulation Theory describes improvements in mood occurring after eating has taken place (Polivy & Herman, 1993). Several measurement tools have been developed in order to operationalise emotional eating (for example the Dutch Eating Behaviour

Questionnaire (DEBQ; Van Strien, Frijters, Bergers, & Defares, 1986) and the Three Factor Eating Questionnaire- R18 (TFEQ-R18; Stunkard & Messick, 1985)) and a lot of quantitative research has been undertaken looking into its association with obesity and binge eating (Leehr et al., 2015). However, relatively little qualitative research has been undertaken into how individuals actually experience emotional eating.

One study which sought to do so was undertaken by Close (2013) and used an IPA approach to explore overweight women's experience of comfort eating. It was found that participants used eating to both escape from and change negative emotions but this led to feelings of shame and was a private and often secret experience. Participants also described an internal battle caused by ambivalence around eating; they experienced strong desires for food but also tried to resist because of shame around their weight. Participants could trace the development of their comfort eating back to childhood via both learned positive associations with eating and overly strict rules about how one should eat. Comfort eating was often preceded by a period of restricted food intake that had been undertaken in an attempt to lose weight. This study highlighted the complexity of emotional eating and shortcomings in the current standard weight management interventions for which 'emotional eating' is not, at present, a recommended area to address NICE, 2014). In fact, if restrained eating is a trigger for emotional eating, there is a possibility that current interventions which encourage reducing food intake may exacerbate the problem for those prone to comfort eating.

Another study also using IPA undertaken by Green, Larkin and Sullivan (2009) found that participants described eating in response to negative emotions but blamed the external factors that caused the negative mood rather than their own emotional response for their overeating.They indicated that they believed that their external situations needed to change if they were to control their food intake and did not consider that they could take action to manage their reaction to stressful situations. This is significant because it implies that they believed that their eating was not within their own locus of control and, therefore they might be less likely to attempt to address it. Participants also described attempts at dieting as a source of stress in itself that can trigger emotional, or rebellious, eating. Again, this suggests that dieting in itself may play a role in the maintenance of uncontrolled eating behaviours.

One factor that has been found to be associated with emotional eating in obese individuals is that of stigma. Obese individuals are stigmatised and face discrimination because of their weight, often being thought of as lazy, unintelligent, and lacking in self-control (Puhl & Heuer, 2009). This stigma can impact their employment outcomes (Puhl & Heuer, 2009) and the care they receive from healthcare professionals when seeking medical help (Phelan et al., 2015). Stigma may also perpetuate obesity by causing isolation and emotionally driven eating (Brewis, 2014) and prevent individuals from taking part in exercise (Vartanian & Novak, 2011). It is the belief of many that obese individuals are responsible for their condition and therefore are worthy of less sympathy (Puhl et al., 2015). A large scale qualitative study looking at the experience of stigma was conducted by Lewis et al. (2011) with 141 obese adults and the experience of stigma was found to be an almost accepted part of life for an these individuals. When looking at the experience more closely, three types of stigma have been described; direct stigma when they experience abuse from other people, environmental stigma, for example when they cannot fit into an aeroplane seat and indirect stigma, for example when others stare at the contents of their plate at a restaurant. Participants reported blaming themselves for the stigma and rarely confronted it but did avoid situations where they believed they were more likely to be stigmatised.

The experience of stigma can increase the number of calories consumed in obese individuals (Schvey, Puhl, & Brownell, 2011) and this is thought to be the result of the stress stigma produces leading to emotionally-driven eating (Tomiyama, 2014). However, not all individuals who experience weight bias overeat and it has been suggested that only those who internalise the stigma are at risk of significant lowering of mood and the emotional eating associated with this(Puhl, Moss-Racusin, & Schwartz, 2007). Why some individuals internalise the stigma experience and some seem to be protected from such internalisation seems to be related to factors such as self-esteem and depression (Puhl et al., 2007) but also to the individual's own views on obese people. If they view being overweight as a negative attribute, they are more likely to internalise experienced stigma (Vartanian & Novak, 2011). The cognitive and emotional processes behind the internalisation of stigma and how this impacts on eating behaviour need to be understood in more depth as some public health campaigns have been found to be stigmatising in themselves (Major, Hunger, Bunyan, & Miller, 2014) and may be exacerbating overeating in some individuals.

For some, emotional eating takes the form of binge eating which, in its most pronounced form, can lead to a diagnosis of binge eating disorder (BED), an eating disorder typified by recurrent binge-eating episodes that lead to negative psychological and social consequences (Grilo, 2002). It is distinct from bulimia nervosa in that binges are not followed by purging behaviours such as self-induced vomiting. It is a relatively newly defined disorder, added to the *Diagnostic and Statistical Manual of Mental Disorders, 5th Edition* (DSM-5) (American Psychiatric Association [APA], 2013) Binge eating is more common in obese samples with up to 30% of those seeking weight loss treatment meeting the threshold for BED and over 50% reporting some form of binge eating (Hudson, Hiripi, Pope, & Kessler, 2007). Obese binge eaters, when compared to non-binge eating obese controls, report poorer emotions related to relationships in their lives (for example loneliness) and higher rates of emotional eating (Zeeck, Stelzer, Linster, Joos, & Hartmann, 2011). There is also evidence to suggest that binge eaters have lower self-esteem and experience more distress when encountering stigmatising situations and are likely to binge as a result (Brauhardt, Rudolph, & Hilbert, 2014).

There is surprisingly little qualitative research describing how a food binge is experienced : however, this may be explained by the theory that binge eaters do so as a way of disconnecting from negative thoughts and emotions and are not fully conscious of their experience whilst they are bingeing (Strien, Engels, Leeuwe,& Snoek, 2005). Mindfulness-based therapies aimed at acceptance of negative emotions and increasing awareness of present experiences have been found to reduce binges effectively, however, while this treatment is successful in reducing binges and emotional eating, it has not been found to produce significant weight loss (Godfrey,Gallo, & Afari, 2015). Further understanding of binge eating in obese individuals may be needed in order to enable them to lose weight.

A pattern of eating that differs significantly from binge eating but still may be thought of as uncontrolled is that of grazing, or compulsive grazing (Davis, 2017). This can be described as the repetitive consumption of modest amounts of food accompanied by a sense of loss of control and has been linked with poor weight loss in obese patients undergoing surgical weight loss treatment (Concei çãoet al., 2014). It is easy to see that engaging in this type of eating may contribute to weight gain but does not fall into the binge eating category, of

which we have a greater understanding. Research into this type of uncontrolled eating has largely focussed on its association with bariatric surgery outcomes but more recent research has found that it is linked to increased BMI (Conceição et al., 2017). Whether this type of eating poses a significant barrier to weight loss in non-surgical obese patients is unknown as are the causes and cognitions surrounding its manifestation. These would need to be understood should this behaviour need addressing in weight management interventions.

The question as to whether attempts to lose weight, or dieting, can worsen feelings of loss of control in overweight individuals is not a new one. It was first described by Herman and Polivy in 1980 and they suggested that attempts not to eat (or restraint) contributed to overeating (or disinhibited eating). This was supported by research by Wardle and Beales (1988) who found that obese women asked to restrict food intake were more likely to overeat than both those in an exercise group and those in a no-treatment group. Herman and Polivy (1984) put forward the 'boundary model' in an attempt to explain this which suggests that those on a diet had a predetermined quota of food that they could have each day. Should they surpass this, they then go on and eat in an unrestrained way, consuming more calories than they physically need.

Some qualitative research was conducted into this type of eating including a mixed model study by Ogden and Wardle (1991) who found that some individuals' transition from restrained to disinhibited eating was preceded by passive thoughts such as 'I can't be bothered, it's too much effort to stop eating' (p. 306) whereas some were more rebellious in nature such as 'I don't care now…I'm just going to stuff my face' (p. 306). More recent reviews have indicated that restrained eating does not necessarily cause overeating but that individuals prone to overeating are more likely to attempt dietary restraint because of their increased weight (Johnson, Pratt, & Wardle, 2012). Whichever the direction of causality, understanding the cognitive processes involved when dieters stop attempting to regulate their intake is important as it may increase our understanding of why the majority of weight management interventions fail.

In the early 2000's there were several studies of a qualitative nature undertaken aimed at understanding the experience of obese individuals engaging with weight management services with a view to better understand why many drop out or regain weight. A synthesis

of findings from these studies was conducted by Garip and Yardley (2011) and identified a number of perceived barriers and facilitators to weight loss. The availability of unhealthy food as well as social and cultural pressures to eat was cited as a barrier to many participants as well as eating for reasons other than hunger. This links back to the concept of hedonic hunger and may imply that these individuals are highly receptive to food cues which make weight loss difficult. Emotional eating was also identified as a barrier to weight loss and was viewed as a factor that was out of an individual's control. Indeed, there seemed to be a split in participants' views on their ability to change their behaviours: patients who attributed their weight to physical or mental health factors (such as genetics, depression) believed their weight to be uncontrollable, whereas those who attributed it to behavioural factors (such as unhealthy food choices) viewed weight as a controllable factor that was their personal responsibility to change.

Similar findings have come from research into the experience of having bariatric surgery. In one study conducted by Ogden, Clementi, and Aylwin (2006), formerly obese individuals described feeling hopeless after countless failed diet attempts. They did not believe that they had any control over their eating which led them to attribute their obesity to medical rather than behavioural causes. This, in turn, led them to seek a medical intervention (surgery) and they were keen to hand over control of the situation to a health care professional. Thus, it would seem that how individuals explain their obesity may have important implications for their help-seeking behaviour and self-efficacy with regards to losing weight. This is particularly of note when the concept of FA, a contentious theory that has received much attention in recent years (Meule, 2015) and which up to 52% of the population endorse (Meadows et al., 2017), is considered: an addiction is widely accepted as a 'disease' (Meurk et al., 2014). It is conceivable that obese individuals who attribute their weight to an addiction may believe that their eating is, therefore, out of their control. The perception of what FA is and what it means in terms of treatment needs to be examined in order to determine whether it is a significant factor in certain individuals' struggle to control their eating.

FA is not a classified medical condition; however, it is a concept that exists in the public domain. There are countless websites and books dedicated to the topic, for example,

Obsessed: America's Food Addiction—and My Own, written by Mika Brzezinski (2014), a well-known American newsreader. These books often discuss FA as if it were already a diagnosable condition and detail symptoms, causes, and treatment options. On top of this, the concept of 'detox diets' have become popular in recent years and many warn that symptoms such as fatigue, headache and bloating will occur due to "sugar withdrawal" (Klein &Kiat, 2015). Words such as 'detox' and 'withdrawal' are often used in conjunction with drug or alcohol addiction so hearing them associated with food may increase the publics belief in food addiction. The impact the media have had on shaping the public's view of FA has not been researched in detail but one study found that after reading a bogus news article stating that FA was scientific fact, self-diagnosis was significantly higher than in those reading articles stating that it did not exist (Hardman et al., 2015). Thus, that FA is discussed frequently in the media will have caused individuals to self-diagnose and attribute uncontrolled eating behaviours to their 'addiction'. In many cases, those who are self-diagnosed food addicts may be of healthy weight and their supposed addiction has no serious impact on their life. In such cases, aside from spending money on dubious literature, the media's influence may do no real harm. However, those who believe they have an addiction to food and are experiencing severe consequences, such as those with obesity, may use these self-help treatments in place of real medical support as their supposed condition is not recognised by healthcare professionals.

Whilst FA is discussed in the media, it is important to consider whether features of uncontrolled eating are comparable to those of drug use as it may have implication for treatment options in that interventions that are successful in the field of addiction may be applied to obesity. In terms of the neurobiology of addiction, it has been accepted for a long time that the key pathway that is involved in reward for almost all drugs is the midbrain dopamine system in the nucleus accumbens, the neurons of which release dopamine in response to drug use (Koob& Bloom, 1988). Similar releases of dopamine have been found in response to eating but the effects can be as much as five times weaker than for drug use (Wise, 2002). Eating also involves numerous other pathways that overlap with those involved in drug use including the opioid (Kelly et al., 2002), nicotinic (McFadden, Cornier & Tregellas, 2014), and serotonin systems (Leibowitz & Shor-Posner, 1986). Although the responses in the brain tend to be less pronounced for food than for drugs, there does appear

to be sufficient overlap in the action of food and drugs on the brain for it to be conceivable that food, or certain types of food, can be addictive or at least bring about loss of control around eating that may be very interpreted by those experiencing it as an addiction.

Whether specific food types can trigger uncontrolled eating and contribute to obesity is a significant area of research because, should they be identified, it may be helpful for those who do struggle to control their intake to reduce or avoid these foods. Studies have used sugar (Avena, Rada &Hoebel, 2008), or a combination of high-fat, high-sugar foods (Johnson & Kenny, 2010) in experiments based on substance addiction studies in place of drugs and have food that sugar alone can cause addiction-like consumption and high-fat high sugar foods cause the same pattern but also cause weight gain. Ifland et al., (2009) refer to a "refined food addiction" and posit that the method of processing used to produce food means that concentrations of sugar, salt, carbohydrates, and fats from these foods are unnaturally increased and this renders individuals unable to regulate their consumption of these products. Schulte, Avena, Gearhardt, & Weir (2015) build on this, claiming that processed food is absorbed faster than natural food and the exaggerated effect this has on factors such as blood glucose levels can lead to addictive-like eating. There is, at present, no consensus as to which elements, if any, of food are potentially addictive in the same way drugs are. There is also preliminary evidence to suggest that different individuals physically respond to different types of food differently (Zeevi et al., 2015) so it may be that certain individuals are at risk of being unable to control intake of high-sugar foods whereas other have the same effect with high-salt foods. Some researchers also believe that the type of food is less important than the way in which it is administered, particularly with regards to episodes of restriction, (Westwater, Fletcher, & Ziauddeen, 2016) which relates back to Herman and Polivy's restraint theory (1980) in that periods of restriction lead to overeating. A more in-depth understanding of the cognitions associated with certain types of food and overeating after a period of restriction may be needed in order to deduce whether it was caused by an addictive response rather than cognitive processes such as crossing pre-set dietary 'boundaries'. That certain foods can produce behaviours that resemble those of addiction may influence those who experience these behaviours into attributing their eating to a FA and such behaviours should be considered in order to understand how an individual experiences a perceived addiction to food.

One of these behaviours is that of craving which can be described as an intense desire to consume specific drugs or food (Rogers & Smit, 2000) and is a key feature of substance use disorders (SUDs; Tiffany & Wray, 2012). Cravings are generally a subjective construct; however, during MRIs a similar pattern of neural activation has been found during craving across various substances including food (Tang, Fellows, Small, & Dagher, 2012). The most frequently craved food in Western societies has been found to be chocolate but savoury foods such as bread, crisps, cheese and other sweet foods such as sweets and cakes are also craved (Massey & Hill, 2012). Rogers and Smit (2000) proposed that foods such as these were craved due to the collective social view that they are desirable but should only be consumed in small amounts. This imposed restraint leads to stronger desires to consume the foods in a similar way that Tiffany (1995) suggested that most drug use was carried out automatically and that cravings only occur as a result of attempts to curtail use.

Another phenomenon that may be observed in both drug addiction and food consumption is that of priming. Drug users report that the administrating of a small amount of their addicted substance creates a large increase in motivation to use and the presentation of food-related stimuli has been found to have a similar effect on motivation to eat (De Wit, 1994). This is thought to be a biological advantage in eating as it helps to ensure that sufficient food is consumed without individuals becoming distracted (Wiepkema, 1971) but may have a negative impact now that food is plentiful as it encourages eating beyond physical fullness. Priming is talked about by laypeople in terms of "getting the taste for" any given food/drink and is one of the main reasons that abstinence is the generally accepted treatment option for those addicted to drugs and alcohol. This may impact upon those who believe themselves to be addicted to food as it may diminish their belief in their ability to moderate their food intake where abstinence is not possible.

A further characteristic often seen in drug use is the abstinence violation effect (AVE), which was first described by Marlatt & Gordon in 1985 as part of the relapse process in substance abuse. It refers to the negative cognitions and emotions experienced by a drug user if they return to substance use after a period of abstinence. After using even a small amount of their substance of choice, they may attribute their lapse to an unalterable flaw within themselves, which leads to feelings of shame and hopelessness that, in turn, leads to

continued substance use. Rogers (2017) describes how this effect is echoed in relation to eating in that dieters often state that once they imbibe any foods that they have been actively avoiding, they give the diet up completely and splurge on these foods. Indeed, AVE has been shown to be a factor in individuals discontinuing a very low-calorie diet (Mooney, Burling, Hartman, & Brenner-Liss, 1999) and also in the commencement of binges in binge eating disorder (although it was not the most frequently cited cause, which was mood) (Stein et al., 2007). Managing the AVE is also one of the key aims of mindfulness-based eating awareness training (MB-EAT) (Kristeller&Wolever, 2010), which has been shown to reduce the frequency of binges in those with BED (Godfrey, Gallo, & Afari, 2015). The cognitions associated with the AVE in those attempting to lose weight (if, indeed, it is occurring) have not been explored in depth and would need to be understood better to ascertain whether it is a significant barrier to weight loss in certain individuals. These similarities between uncontrolled eating and substance addiction has led some researchers firmly to believe that it was a valid construct and should be a diagnosable condition (Ifland et al., 2009) and to determine that a tool was needed in order to measure it during research (Gearhardt & Corbin, 2009).

The most popular tool created in order to measure FA is the Yale Food Addiction Scale, version 2.0 (*YFAS2.0*: Gearhardt et al., 2016). This was created using the criteria from the DSM-5 (APA, 2013) for SUD as a guide. Studies using the *YFAS2.0* have found that higher scores are associated with obesity, binge eating, and impulsivity (Gearhardt et al., 2016; Pursey, Stanwell, Gearhardt, Collins, & Burrows, 2014). The prevalence of FA, using the *YFAS2.0* as a measure, has been found to vary among populations: around 15% of adults seeking weight loss treatment (Eichen, Lent, Goldbacher, & Foster, 2013), up to 57.8% of pre-bariatric surgery patients (Sevinçer, Konuk, Bozkurt, & Coşkun, 2016), 57% of obese patients with BED (Gearhardt et al., 2012), and around 5% of the general population (Pedram et al., 2013). Although widely accepted as a tool to measure FA, the *YFAS2.0* makes the assumption that an addiction to food, should it exist, can be mapped directly onto the criteria for SUD and does not, therefore, have any of its own unique features. This may not be the case as with the behavioural addiction gambling disorder, which has been classified in the DSM-5 (APA, 2013) with its own set of, similar to but unique, criteria. The *YFAS2.0* also makes the assumption that the definition of addiction used by the DSM-5 is

correct which is unlikely to be the case given that the criteria change with each new addiction of the manual.

Another issue with the *YFAS2.0* is that there appears to be a discrepancy between what it is being measured and what individuals perceive FA to be. A study by Meadows et al. (2017) of 653 participants found that 342 identified themselves as being addicted to food but of these only 56 met the criteria for FA according to the *YFAS2.0*: of these 56, 13 did not identify as being addicted to food. It is possible that the *YFAS2.0* is measuring a form of uncontrolled eating that occurs frequently in the population and only those who partake in its most extreme forms are identified as 'food addicts'. Self-perceived FA may, therefore, be just a result of the cause to which individuals attribute their eating behaviours and can happen in those who display only a moderate amount of uncontrolled eating behaviour. Again, in order to understand what a self-perceived food addict believes to constitute an addiction is not well understood and may need to be looked into further, without being guided by theories of addiction, in order to establish whether any associated behaviours or beliefs are contributing to obesity in this population.

Many individuals identify as being addicted to food yet there are no formal diagnostic criteria so the question of how they came to decide that addiction was the best explanation of their eating behaviour should be explored to understand whether this belief and/or its associated behaviours are contributing to obesity in some individuals. Some studies have attempted to explore this such as one that interviewed 210 participants online, first asking them whether they believed themselves to be addicted to food and then asking them to explain their answer (Ruddock, Dickson, Field, & Hardman, 2015). Responses from participants who answered "yes" and "no" were thematically analysed; those who answered, "I don't know" were excluded. Six themes emerged: reward-driven eating (for example, emotional eating), preoccupation with food, lack of self-control, cravings, health issues, and specific foods. These findings are not dissimilar to those found in qualitative research looking at unsuccessful dieters (Byrne, Cooper, & Fairburn, 2013) which found that overweight individuals who regained weight after dieting reported emotional eating and a perceived lack of control around food whereas successful dieters did not eat to regulate mood and believed that they were in control of their food intake. This indicated that some of

the features people ascribe to FA may be detrimental to weight loss attempts. It also implies that there are shared features between those who believe themselves addicted to food and those who do not; it may be that both groups are simply displaying uncontrolled eating but some are ascribing it to an addiction whereas others are attributing their behaviour to other factors.

The methodologies used by the Ruddock et al. (2015) may, however, have been problematic; first, they collected data via short internet-based questionnaires. This meant that they were unable to obtain rich, detailed accounts of the perceived characteristics of FA. Had they used a more in-depth design, they may have identified features that are unique to those who perceive themselves as addicted to food. Secondly, the study took a random sample of students, the majority of whom were of a healthy weight so this study could not reveal anything about whether the beliefs about FA posed a barrier to weight loss. Thirdly, the researchers also used both addicts and non-addicts in the thematic analysis; hence, they were examining both the experience and the social perceptions of FA. This is not necessarily a bad thing, in fact, it is important to understand the influence the media has had on the general public. However, if we are interested in whether perceived addiction to food impacts individuals' ability to lose weight then we must disentangle the socially constructed view of food as an addiction to the lived experience of those believing themselves to be addicted.

Another study looking into the social perception of FA involved low-income women's perceptions of food craving and addiction (Malika, Hayman, Miller, Lee, & Lumeng, 2015). The participants revealed that food cravings were common, acceptable, and not always indicative of FA, which is an uncontrolled craving and the need to have food readily accessible even if this meant participating in less-acceptable behaviour such as borrowing money. They also believed that children would only become addicted to food if their parents let them. This study is useful in that it gives insight into the perceptions of FA in the absence of a theory guiding individual's responses, showing that FA is a generally accepted social construct that differs from the more common experience of food craving and has negative consequences. There is also the indication of stigma in that parents of food-addicted children are felt to be to blame in some way. However, the participants of this study were only selected on the basis of their gender and socio-economic status. It does not, therefore, give

an account of the perceived addictive nature of eating from the viewpoint of those experiencing it.

A study using IPA conducted by Green, Larkin and Sullivan (2009) looking at the experience of dieting failure in overweight individuals, found that participants used the analogy of an addiction to explain their thinking and behaviour around food despite not being selected because they were self-perceived food addicts. Participants explained the 'addiction' in terms of neurochemistry or biological factors which were seen as outside of their individual control. Explaining their eating behaviour in this way may be a strategy used to absolve themselves of responsibility and blame for their weight. Indeed, it has been found that using biological explanations of obesity (such as genetic models) have been found to reduce self-blame amongst patients (Conradt et al., 2009). Pearl and Lebowitz (2014) also found that biological explanations of obesity were associated with less self-blame; however, they also found that this was accompanied by beliefs that individuals had little control over losing weight. This theme - that the cause to which individuals attribute their eating behaviours and the impact this has on their beliefs about their own personal control - seems to be common to many studies into barriers to losing weight. Although it has come up in studies such as Green et al's (2009), no work has, as yet, used a similar design to explore these beliefs in more detail among a cohort who all believe themselves to be addicted to food.

Uncontrolled eating takes many forms and despite progress in understanding how it impacts on obesity, treatments are still relatively ineffective at changing these behaviours long term in order for individuals to lose weight. Explaining obesity and uncontrolled eating in terms of medical models appears to reduce individuals perceived control over their behaviour and the concept of FA, which is growing in popularity, is used as an explanation of overeating in many individuals, particularly those who are overweight or obese. Self-perceived FA is not fully understood and more research into how individuals believe they experience FA is needed to understand its possible role in obesity.

Rationale for Current Study

Due to the poor efficacy of current interventions for obesity, much of the qualitative research in the area of uncontrolled eating in obese individuals has focussed on individuals' attempts to lose weight with a view to identify the barriers that they face and how to overcome them. However, it would seem that a more logical approach would be to better understand the behaviours and experience of those who find it difficult to control their food intake rather than to study their attempts to lose weight using methods that we already know are likely to fail. If the behaviours are better understood then, ultimately, more effective interventions targeting them can be designed.

FA is a concept that has gained in popularity over the last few years, both in academia and the media. Many individuals attribute their uncontrolled eating to an addiction but how exactly they define an 'addiction' is not well understood. How they experience and make sense of their uncontrolled eating and their belief that it is caused by an addiction may be helpful, particularly given that individuals who ascribe their weight problems to medical factors tend to have lower self-efficacy for controlling their food intake that those who believe it is due to behavioural factors.

How the belief that they are addicted to food impacts upon experiences that are common in obese patients, such as stigma, self-blame and help-seeking, are also not known and, therefore, we do not understand whether they play a part in attempts to control food intake and weight. Similarly, no research has ever gone into finding out what type of treatment (if any) individuals who believe that they are addicted to food imagine would be effective for them.

Due to the explorative nature of these questions, and that they involve understanding how the obese individuals themselves experience and make sense of their uncontrolled eating behaviours in the context of a perceived FA, an IPA study will be undertaken with obese participants who believe that they are addicted to food with the aims of investigating:

- How uncontrolled eating manifests for them and how it has impacted on their weight
- Which aspects of their eating behaviour they attribute to a food addiction and why

- Whether the belief that they are addicted to food has impacted on any attempts to control their weight
- Their views on whether FA should be a classified condition and how that would impact them, and
- Treatment options they believe may be effective in helping them to lose weight.

Methods

Design

This study sought to explore the experiences of obese individuals who believe they are addicted to food. The research was exploratory, and so a semi-structured interview-based phenomenological approach was selected. IPA is an approach to qualitative analysis that seeks to explore how people make sense of life events, and was therefore deemed appropriate for this study. It is a relatively new approach developed by Jonathan Smith in a paper published in *Psychology and health* in 1996.

IPA is phenomenological in that it is concerned with experience. IPA draws on phenomenologists such as Edmund Husserl, who encouraged phenomenologists to 'go back to the things themselves' (Husserl, 1927). In this way, IPA strives to examine experience on its own terms, rather that attempting to fit experiences into predefined categories. This makes it particularly appropriate for the current study because it aims to explore the experience of FA without being guided by any existing theories or models. IPA tends to look at experience in terms of when the everyday life takes on a particular significance for an individual; it is concerned with how an individual attempts to make sense of their experience.

IPA is informed by hermeneutics – the theory of interpretation. It acknowledges that the researcher's understanding of participants' experiences will be dependent on their own conceptions, which are required to make sense of those of others through a process of interpretative activity. This is known as double hermeneutics – the researcher making sense of the participants making sense of their experience. Again, this is important to the current study because the researcher is well versed in addiction theory; therefore this level of

reflexivity is necessary in order to ensure that the analysis generates themes that have come for the participant themselves.

IPA is ideographic; it examines each case in great detail and attempts to discover what a particular experience means to a specific individual. IPA studies, therefore, usually have a small number of participants and use a homogenous group. Claims from a study are bounded to this group, and researchers usually do not tend to generalise findings to the wider population. Past studies in the field of FA have generally used large numbers of participants and relied upon online questionnaires so have not gathered rich and detailed data. Qualitative data into the experience of obesity has collected such data but has not focussed on those who believe that they are addicted to food; by using a small, homogenous group, this study attempts to gain insight into the experience of this specific group.

Ethical considerations

The study was given ethical approval by the Research Ethics Review Panel of London Metropolitan University, and was overseen by an experienced research supervisor. One ethical issue identified was that the researcher was alone with each participant during the interviews, and so safety had to be considered. To protect the safety of both the researcher and the participants, interviews took place in public places, namely public library study rooms and spare rooms in a church hall.

Participants were given an information sheet (see appendix 1, p. 146) that provided an outline of the study and information about the researcher and project supervisor to read before deciding whether to participate. They were then required to sign a consent form (see appendix 2, p. 148) that highlighted that participation was completely voluntary and that participants were free to withdraw from the study at any time. After the interview, participants were given a debrief sheet (see appendix 3, p. 150) that thanked them for their involvement, gave them further details about the study, and provided contact details of relevant services that could help them with any issues that could have arisen during the interview.

Another ethical consideration was that participants may be asked to talk about sensitive subject matters. This was overcome by making each participant aware that they had the right to withdraw from the study and terminate the interview at any time. If any participant had become distressed, the researcher would have terminated the interview.

Participants were not recruited from the researcher's own patient group for two reasons: 1), a prior relationship could have impacted on the dialogue and analysis; and 2), the patients may have felt pressured into taking part in the study. This would have had ethical implications, and therefore was avoided.

The personal data collected were amended, with all references to real names and geographical locations changed. All participants were given the right to withdraw from the study at any time, and also to have their data withdrawn at a later date.

Recruitment

Participants were recruited through the researcher's workplace, a Tier 3 weight management service. This meant that all participants had a BMI of over 40, had failed to lose weight on at least one Tier 2 programme (Slimming World, Weight Watchers, etc.), and had been put forward for bariatric surgery. Eating disorders, including BED, are part of the exclusion criteria for the service so none of the participants will have received a diagnosis of this at any point. Participants were at various stages of the Tier 3 weight management programme, which is a 14-week, largely psychological intervention based on cognitive behavioural therapy. The programme makes no mention of FA at any point.

Information sheets were given out at the end of sessions (see appendix 1, p. 146), asking patients 'Do you believe yourself to be addicted to food?' and outlining what would be involved in the study. Those wanting to take part passed on their contact details to the researcher, and interviews were arranged. The participants were not the researcher's direct patients, but were all aware that she worked for the organisation.

Participants

All six participants were female (not by design; only females responded to the leaflets), and the ages ranged between 32 and 64. All were obese and believed themselves to be addicted

to food, and all had been put forward for bariatric surgery; four had put themselves forward and two had been put forward by their GP. BMI ranged from 43-55 and all participants were white British.

Interviews

Data were collected via semi-structured interviews with the six participants. Interviews were conducted one-on-one with each participant, and took place in quiet rooms with only the interviewer and the participant present. The interviews were recorded on a Dictaphone. The researcher made an interview schedule but the interviews were led in part by the participants' areas of concern. Semi-structured interviews were used in order to gain a more fluid and in-depth narrative from the participants; this is something past studies have failed to do, so was an ideal method to fulfil this study's aims.

Analytic process

The interviews were transcribed and systematically analysed by the researcher, one at a time. The first stage in the IPA process was the reading and re-reading of the transcript. This was done to ensure familiarity with the actual words, get a sense of pace and tone, and ensure that the researcher was neither summarising nor seeing what they had expected to be in the text, rather than what was actually there.

The next stage was the notation of the transcript. This was a free textual analysis done so that anything of interest is noted down. It consisted of: descriptive notes, summing up what the participant experienced; conceptual notes, which question the text and note any models of understanding the participant uses to make sense of their experience; and notes on the language, including tone, repetition, use of swearing, laughter, and pauses. An example of such notes can be found in appendix 4 (p. 152).

The next stage was the development of the emergent themes. The researcher attempted to reduce the initial notations into shorter phrases without losing any patterns, connections, and relationships identified in the notes. These phrases were the emergent themes and sought to capture the essence of the text.

Once all the notations had been converted into emergent themes, they were examined for connections between them. They were grouped according to similarity, and superordinate themes were created. This was done in two ways: abstraction, when a new name was created for a cluster of themes; and subsumption, when one of the emergent themes within a group was given the status of superordinate theme. A superordinate theme is of a higher level than the emergent themes and identifies what holds all the themes in that group together.

A table of superordinate and emergent themes was then created, before repeating the process with the other transcripts. Once all the transcripts were analysed, patterns were identified across cases. During this process, some themes were relabelled and restructured, and a list of themes and superordinate themes produced for the group as a whole. A table was created with quotations from the original transcripts to ensure that the themes were grounded in the actual text.

Reflexivity

The inspiration for this study came from my work as a practitioner at a Tier 3 weight management service. Although not a daily occurrence, I would regularly come across patients who would tell me that they were addicted to food. Often, they would say that once they begin eating they cannot stop and, therefore, did not believe that the standard advice (calorie/portion-controlled diet) would work for them. They did not, however, seem to be able to conceive of a treatment pathway that would work for them. I found it difficult to work with these individuals and rarely had much success at helping them to lose weight. If they did lose weight, it was often very fast and mostly followed by equally rapid weight regain. I spoke with my workplace supervisor about these patients on several occasions and consulted literature on the topic. I found a great deal of research into the classification of FA and a lot of argument between professionals as to whether it is a true 'addiction' or even a useful concept but very little on how an obese individual experiences what they believe to be an addiction and how this impacts on their weight loss attempts. There were also no evidence-based recommendations for working with these individuals.

Very little of the current literature provided any help to me as a practitioner. Whether the professionals believed FA to be a valid concept or not, I regularly had to meet with patients

who were telling me that they were addicted to food and asking for help to overcome it. My approach, therefore, was to try to find out what these individuals meant when they said they were addicted to food and to attempt to put aside all past attempts to operationalise it; I was interested only in what the experience of FA is for these patients.

This would prove to be challenging in several ways. First, I have experience in overcoming addictions myself and have also worked in a drug and alcohol treatment centre in the past. It was difficult for me not to make comparisons with stories I have heard in the past, both personally and professionally. This sometimes blocked me from understanding what the current participants actually meant. I came back to these stories several times in an attempt to separate what the participant was describing and what I was attributing to the experience based on past cases.

Second, as stated, the inspiration for this study came from a need I had identified in my own practice. I found myself spending more time developing themes that I thought may be 'useful' to practitioners than those that would not have any direct implications for practice but may be just as important in the experience of FA. Again, I noted down when I noticed this and attempted to look at themes through the participant's eyes rather than those of a practitioner.

Third, whilst reading the literature on FA, I became entrenched in the notion that it is an addiction and should be classified as such using the DSM-5 (APA, 2013) criteria for SUD as a guide. I became slightly detached from the original aims of the study and began mapping the data I had collected onto the criteria as if I were attempting to validate the concept rather than explore the experience of self-perceived food addicts. This was not what I had set out to do and had it been, IPA would not have been an appropriate design. The stance I was taking was pointed out to me by my supervisor and I had to take a step back and approach the data anew, making every effort to put aside past attempts that have been made to operationalise FA. This was not always easy; however, I reflected upon my analysis and interpretation of the results frequently and was subsequently able to fulfil my original aims to the best of my ability.

Results

Analysis revealed four main themes: I breathe food, isolation, identity and diagnosis and treatment; within these were several sub-themes. Table 1. gives an overview of these themes and discussion follows using quotations from the transcripts to illustrate the analytical arguments for these themes. A full table of themes with quotes from the original transcripts can be found in appendix 5 (p. 156).

Table 1: Master List of Themes

Superordinate Themes	**Themes**
I breathe food	**I've got to have food in the house but if it's there I will eat it**
	'Just a click of the fingers'
	'It's always there'
	Why do I eat…?
	As soon as I have some, that's it
Isolation	**Being 'fat'**
	A food centric world
	Solitude
	'It's a joke'
Identity	**The real me**
	Less than human
	'When I look in the mirror I can't see myself as big as I am'
Diagnosis and treatment	**Diagnosis: a starting point**
	Being noticed
	No 'treatment'
	Hope

I breathe food

A superordinate theme that emerged was that of "I breathe food". This included the participants' constant need for proximity to food *and* the discomfort this proximity engendered, the way cravings can appear as if from nowhere and details an obsession with food that endured whether they were attempting to control their eating or not. It also covers what food gives the participants; what drives their eating, and why it become out control once it has begun.

I've got to have food in the house but if it's there I will eat it

The proximity to food was something that participants reported needed. For example, Leanne states:

> *You could class that as an addiction because you are waiting for your next cigarette, you are waiting for your next drink or you've always got to have something near you, you've always got to know there's drink in the house. Or, you know, you've got to know there's a pack of cigarettes somewhere. I've gotta know there's food in the fridge. (Leanne, 12, 20-25)*

She believes that this need for constant access to food, almost an inability to function if it is not standing by, can only be explained in terms of an addiction. She seems to make sense of her behaviour by comparing it to that of the accepted addictions of smoking and alcohol.

Similarly, Shelly says:

> *I panic if I don't have it in the house and, um, like, for example, on Sundays when, you know, the shops are gonna close I have to go – I mean, I've left friends' houses early and stuff because I've thought, 'I haven't got any of that in the house' or 'I haven't got ENOUGH'.(Shelly, 1, 14-18)*

She seems to be using the example of leaving friends' houses early as a way of explaining how powerful the need for access to food is. She seems to want to convey that she has no choice but to ensure that her house is sufficiently stocked rather than it being a mere desire.

Meanwhile, Naomi describes hiding food not only because she is embarrassed about her eating habits but also because she fears not having food to hand*: 'Which is why I hide things*

because then, as soon as I feel like that, I know I've got something I can fall back on.'(Naomi, 14, 19-20). Again, her desire to have food close by is more powerful than her feelings of shame at hiding food, which she also talks about during the interview.

On the flip side, as well as being a comfort, the proximity to food also seems to bring some discomfort. For example, Leanne describes a time when she had a bag of chocolates in her handbag and found herself preoccupied by it:

> *I have known that they're in my bag and I've tried to leave it as long as I can before… just forget about them, but they're there, forget about them… I couldn't. I was completely, 'Yeah, but they're there, they're calling me'; they're there. And I couldn't settle until I'd eaten them and they were gone.(Leanne, 4, 24-28)*

This highlights the internal struggle that is brought about by being close to food. That she gives the food a voice indicates that the discomfort feels like it is being imposed upon her rather than coming from within. It also demonstrates that there is a sense of relief after she has eaten them and they are 'gone'.

This knowing 'it's there' was something also voiced by Sue – *'It's there, then it needs to be eaten and I need to eat it' (Sue, 3, 1-2)* – and Olivia, who, like Leanne, gives a voice to the food:

> *And there's just no question of saving it because it will just be there talking to you. I'm on the sofa and I'm like, 'I'll have that tomorrow' [sighs] and I can't! Because I'm watching the telly, trying to focus but there's one part of my brain that's just, can hear that, knows the ice cream's there. (Olivia, 2, 2-6)*

Again, describing the food as 'talking' to her seems to be a way of conveying how powerless she is in the presence of food and that her 'brain' and the food seem to be conspiring against her so that she has no choice but to relent.

Overall, the proximity to food seems to be a source of both comfort and disquiet. The participants seem to have a fear of not having food to hand while, conversely, when they know it is close by, they find it difficult to relax until it has been eaten.

‘Just a click of the fingers’

Another emergent sub-theme is one related to how the addiction is ‘just a click of the fingers’ away and when it calls for them they have no choice but to obey.

One way this emerges is, as with Sue and Shelly, via the use of the word ‘need’ rather than ‘want’ when describing their desire for food, suggesting there is no choice involved. Olivia echoes this and makes a direct comparison to those who, she believes, are not addicted to food saying, *‘maybe some people just like food but they don’t need it like I do’ (Olivia, 12, 4-5)*. Meanwhile, Leanne talks about having food in the house in case *‘it catches me’ (Leanne, 1, 24-25)* referring, presumably, to her addiction, indicating that when it “catches” her she is at its mercy and is not in control of herself.

It is, however, most pronounced when participants describe how the urges for food can hit them completely out of the blue with no apparent trigger at all and how, in these situations, they have no choice but to comply with the craving. For example, Shelly says:

> *You just feel like, ‘Yes! Today’s the day I’m gonna start, I’m gonna do it’, and I have done it before; I have been able to leave it… You feel SO good and you believe you can do it right up to the last minute and then something changes [CLICKS FINGERS] and it’s like ‘chocolate bar’ and you go and eat it. (Shelly, 7, 14-21)*

She describes a very dramatic change in thinking patterns, from believing she has overcome her addiction to giving in to it at a click of the fingers. The act of clicking the fingers indicates how instant and out of the blue she feels it is. It also seems to indicate that she feels the thought ‘chocolate bar’ is intrusive and she cannot explain where it came from.

Similarly, Naomi groans, *‘why can I do it then and just, just a click of the finger and I’m off and running (Naomi, 16, 2-3)’*, while Olivia explains, *‘I’ll be eating healthy foods and counting calories and I’ll be losing weight and I’ll be… I don’t know what happens, I’ll just think, “Sod it, oh just have the night off. Have the night off”, and that’s it’(Olivia, 7, 30-32).* In these and other examples given, the craving appears to be preceded by a period of time that the participants are ‘being good’ by restricting their calorie intake and the unexpected craving serves to ruin their efforts.

Elsewhere, Sue describes how just the sight of food causes her to 'have to' buy it despite the immediate negative consequences:

> *But, I walked past Thorn… I don't eat a lot of chocolate – I can walk past Thornton's and think 'Ooooh' and I go in and buy them. I may not have enough money then to put petrol in my car but I have to buy the food… for me to eat.(Sue, 2, 9-12)*

In all these examples, the common theme seems to be that a craving can come out of the blue or just because they have encountered food and immediately change one's mindset. Once this has happened, resistance is futile and food must be consumed whatever the consequences.

'It's always there'

An obsession with food emerged as a sub-theme in that the participants described being preoccupied with eating and food-related activities even when they were not physically consuming food. This obsession was present whether they were actively trying to lose weight or not and sometimes manifested itself as an infatuation or a love of food.

The participants talk about how they constantly think about food. For example, Sue makes sense of this obsession by attributing it to an addiction and explains this by comparing her thought to that of some who is not addicted to food :

> *Not waking up thinking about it, not going to bed thinking about it. Not, sort of, buying certain magazines from the shelves and the pictures on the front because there's a nice roast or chicken dinner or cake or dessert or… I just visualise myself eating them where somebody that is just overeating… I would say has just got that thought, they've eaten too much, where I breathe in food.(Sue, 11, 11-16)*

Sue paints the picture of herself as almost in a trance-like state, with food as a constant and intrusive obsession. She clearly thinks that this constant obsession with food is a defining feature of her addiction and sets her apart from non-addicts. Her use of the metaphor 'I

breathe in food' conveys that, like oxygen, food is something that is essential to her survival, that she has no choice but to constantly seek it out.

Elsewhere, Naomi paints a similar picture, saying, *'I wake up and I think, "What am I going to have to eat in the morning?" It's like it's always there.'(Naomi, 2, 17-18)*

This obsession is present when they are attempting to lose weight too. For example, Olivia explains:

> *My whole day goes around food. I think about food in the car, I think about food before I go to bed. When I'm trying to sleep at night I… even if I'm being healthy and losing weight and being good – I'm still thinking about food constantly. So, when I'm trying to sleep at night, I review the day and think about what I ate that day and whether it was good or bad and how many calories I ate. And then I think about what I'm going to have tomorrow and when… When I'm bad I just eat.(Olivia, 1, 6-15)*

This constant preoccupation with food when trying to restrict her intake reflects the huge effort it is on her part to do so. It would appear that she is in a state of constant vigilance to ensure that she does not go off track and 'just eat'. When she is not trying to restrict her intake, these thoughts are not needed because she just eats.

Indeed, some of the participants talk about their love for food in an obsessive way that borders on infatuation. For her part, Leanne says either '*I love food'* or '*I love [a particular food type]'* 14 times during her interview, while Sue echoes this sentiment by stating, *'I just live and breathe for food… um, just love it, it's my life' (Sue, 1, 3)*. There also seemed to be some distraction when describing this love of food, which often included a vague listing of different foods they loved. For example, Naomi exclaimed, *'Bread. Bread. I love bread. Cheese, any cheese, which is the wrong thing to love. And ice cream.'(Naomi, 10, 12-13).* Olivia had a similar line of thought, saying, *'I just love food… I just love food... cheese, chocolate, garlic bread, mmm.'(Olivia, 3, 13)*. Again, it felt as if this obsessive infatuation takes up a great deal of time and space in their lives.

Why do I eat?

Participants attempt to explain what benefit they get out of eating during the interviews. Some describe it in terms of 'need vs. want', some the sensory experience of eating, some in terms of the rituals they have around eating and just eat simple to relieve themselves of the uncomfortable feeling that comes from attempts to resist.

The fact that they "need" food is a common rationale, for example, Sue states that she "needs" food countless times during her interview and compares it to the need for oxygen when she says, 'I breathe food'. She also uses the argument that she 'needs' it to explain some of her secretive behaviour around food:

> *I put me bag of whatever I've, whatever it is – cake or sandwich or fruit or whatever it is – and I'd hide it under there and I'm sort of – nobody walking past – I'll have some. Then I hide it right at the bottom of the bin… because I just need it. It's something that I need.(Sue, 16, 5-8)*

This rationale that there is a "need" for the food rather than simply a "want" almost allows her to absolve herself of blame around her deceptive actions, which would ordinarily be deemed socially unacceptable.

Some participants focus on the sensory pleasure that they get from food. Sue describes:

> *I just have to have that food fix, it doesn't matter what it is, it can even be something I don't really like. But that taste and that feeling of…in my mouth. (Sue, 2, 20-22)*

This really hints at a belief that she enjoys just enjoys the act of eating rather and the associated feelings and sensations. The specific content of the food seems less important that the act itself. She uses the word 'fix' to describe it, a common way to describe drugs, in order to emphasise that her need for food is almost biological in nature and not the result of a mere fancy.

Some describe the pleasure they get from food more from the perspective of the comfort they feel when undertaking the rituals associated with their eating. Janine sets the scene as follows:

> *It's so much easier to come home from a stressful day with my daughter and just get in my dressing gown and snuggle down, put the telly on and ring the Indian. Much easier.(Janine, 2, 22-24)*

These rituals seem to be part of a type of habitual eating that is source of pleasure or relief in itself.

Some participants seem to use eating as a way of disconnecting from thinking. Indeed, Shelly paints a picture of an almost mindless state whilst she is eating:

> *I think it's… you just eat one and then, to be honest, after a while you just keep shoving it in, you're not even paying attention to what you're doing.(Shelly, 9, 17-19)*

Olivia also enjoys the feeling of disconnect food gives her:

> *I'll just think: 'Sod it, oh just have the night off. Have the night off', and that's it. I want the night-off life. I just want the night-off real life and just go and eat everything and buy a pizza and… I like to eat on my own.(Olivia, 7-8, 32-3)*

Food allows her some sort of freedom from the responsibility of everyday life. That she likes to eat on her own really paints a picture of her locking herself away from the world and using food as an escape for the evening.

There seems to be an almost unconscious comfort and sense of relief at the habitual eating described by participants and this seems to be a very important factor in the participants' experience of their addiction.

<u>As soon as I have some, that's it</u>

If 'if it's there I eat it' describes participants inability to resist food when it is close at hand, 'as soon as I have some, that's it' portrays the loss of control they experience as soon as they start eating which comes across as an unstoppable and chaotic experience. Janine outlines this and explains that, to her, this is evidence of and addiction:

> *Because I can't eat a couple of biscuits out of a packet; if I know the packet of biscuits are there I will eat them, I will HAVE to eat them all.*

> *Even if I, even if I think 'Right, I'll have half a packet and save the other half the packet for when the grandchildren come' they're not there. The grandchildren come, cause I've bought another packet and then they come again and go 'Where are the biscuits?' and 'Oops, run out' cause I've eaten them all cause I just can't do it. And it's the same with crisps, anything that I really, really like I can't have in the house because it's, it is just an addiction.(Janine, 1, 13-21)*

It sounds from her description that she has tried and failed on any occasions to have 'half a packet' and has come to the conclusion that she should not even try to control her intake. Her confusion over her behaviour, in her eyes, can only be explained by an addiction.

Olivia hints at the cognitive aspect of the behaviour whilst describing an uncontrollable binge:

> *But not just a pizza but a pizza with extra cheese and dips and garlic butter and everything and then I'm gonna have a tub of Haagen-Dazs. And then, I might even, like, start making shit. Like, if I haven't got food in the house…and I, like, have a craving; maybe I've tried to be good that day so I've got nothing in, and then I think 'Sod it, I'm going to eat something'. So I might stop on the way home for a McDonalds but I didn't buy anything sweet. Once I've had the burger and that…it's like 'Well, you've ruined it now. You might as well, like ruin it properly'. But if I haven't, like, got anything in I'll start making crazy stuff like pancakes with butter icing, buttercream icing. I've make, like, a whole bowl of buttercream icing before and eaten it. Like, it's disgusting, most people couldn't do that but I don't think it's disgusting, I like it. (Olivia, 5-6, 25-6)*

The feeling that once she has 'ruined' her diet she may as well continue and will even create foods that other people may find unpalatable in order to comply with the urge to continue eating. The way she describes it and the way both her and Janine become animated during their description of these binges brings to mine a frantic affaire that they are almost the unwilling witness to.

Not all participants describe bingeing when talking about their controlled eating, Naomi explains:

> *And I have really been trying and I've used the main word 'choice' but something just seems to take over as soon as I start and then again back I am picking and picking all day and easter eggs and surrounded by them with all these grandchildren I've got and it's just- I fall back into that pattern again. And it's, it's crazy absolutely crazy. Because like I say, really and truly, I think it's ruined my life. And it's, well, it seems as if it's beyond my control.(Naomi, 1-2, 25-2)*

Like the others, the commencement of eating does seem to set in motion a period of eating that is beyond her control, however, unlike some others the period of time appears to be longer and her eating 'picking' rather than gorging.

Whilst the participants believe that the loss of control happens after they begin eating, many of them do talk about preparing for a binge, which happens before they actually start eating. For example, Shelly says:

> *And the thing is I won't just buy a bar of chocolate, I'll buy maybe a bar of chocolate and some toffee crisps and some twix and a 24 pack of crisps to make sure that I'm not going to run out.(Shelly, 1, 18-21)*

Running out once they have started eating seems to be a big concern, similar to their fear of not having it in the house when they experience a craving. Again it seems to illustrate the unpleasant feeling that they experience if they have to leave a craving unfulfilled.

Other participants indicate that they need to consume all food present in order to begin eating healthily the next day. Olivia sums this up as follows:

> *That's the same with everything – smoking, drinking, food. Like, you've got to go out with a bang too. Smoke everything, drink everything, eat everything, 'cos tomorrow you'll wake up as a new person. Ha! All you did was go to sleep and wake up – of course you won't be a new person. It's crazy. Logically, I know it's crap. But that's what you think.(Olivia, 14, 3-9)*

This makes it sound like she is having a "final fling" with food and is almost trying to satisfy her cravings to the extent that she will never need to overeat again and will thus emerge a new person. She is, however, very much aware that this is just an excuse so that she can eat without any feelings of culpability. It is almost like there are two Olivias: the rational one in the interview and the irrational food addict.

Shelly also says, *'I try to eat it all up so that I can start afresh tomorrow' (Shelly, 7, 11-12)*, while Janine suggests, *'you must eat it all up and then tomorrow you can start with a clean slate' (Janine, 17, 28-29)*. Again, they make it sound like there are "rules" surrounding a binge that must be followed in order to "start again".

Isolation

Being isolated as a result of their uncontrolled eating was also a superordinate theme that emerged across all interviews. This included the real or imagined judgement they felt from those who are not reliant on food, the solitude resulting from the shame surrounding their behaviour and its consequences, and that FA is seen as something of a joke.

<u>Being 'fat'</u>

All the participants talk about the stigma attached to being overweight at some point during their interview. This ranges from the real or imagined judgements they face from members of the public to their own judgements of other overweight people.

Sue talks about how when she is out food shopping and sees someone looking in her trolley:

> *When you're out and about, I feel everyone's looking at you because you're a larger person; I think, 'They're judging you' – 'Oh, what's that fat cow doing having that? She doesn't need that' [or] 'Oh, no wonder she's fat, look what she's got in her trolley'.(Sue, 8, 15-18)*

Similarly, when Shelly is eating in public, she believes people are thinking negatively of her:

> *And if I'm walking along and two people walk past me laughing, I think, 'Yeah, I know, they're laughing at me'. Or if I eat, I dunno, McDonald's [burgers] or something I think people are looking and going, 'That's why*

you're fat'. And if I'm eating something good like, I dunno, an apple or something… I can think… [they're] looking at me and thinking, 'Yeah, that's not gonna work – it's too late'. (Shelly, 5, 4-9)

Both make it sound as if the perceived stigma is relentless and that being in public, particularly when food is involved, is very challenging. However, it also sounds as if they are projecting some of their own thoughts on to others around them. Either way, a constant stream of negative feedback appears to be fairly normal in their experience.

Olivia believes that her partner is being dishonest when he says that he finds her attractive:

He says he loves me… but then I know he doesn't, like. I know when I was thin he used to… he'd… I'd say, like, 'What do you think of her?' and he'd say, 'She's fat'. And now I'm bigger than some of those people... he used to call Marilyn Monroe fat and [sighs] I'm bigger than her. (Olivia,7, 15-20)

This demonstrates a belief that being 'fat' equates to being unlovable. That her boyfriend has called women fat in the past is very significant to Olivia and she seems to use it as a measure to compare herself with other women.

Leanne discloses that when she first married her husband he did not want to have sex with her:

When I first met me second husband he had an issue, ah no. I met him, obviously, started going out, blah blah blah, he had an issue, um, with, um, sex – didn't wanna do it because it put him off. And I said, 'Is it my weight?' and he said, 'Yeah, I do have a bit of an issue'. We got over that, okay. We got over that, got married, blah blah blah blah blah um, I know it's still an issue deep down inside; I know it is still an issue with him.(Leanne, 14, 11-17)

Leanne has had to face the reality that her husband is less attracted to her because of her weight and although she says they got past it, her use of the phrase 'blah blah blah' indicates that she wants to skim over the details because she still finds it painful. Her admission that it

is, in fact, still an issue intimates that, rather than dealing with it, they simply pushed it aside and it is still a source of discomfort to her.

Some participants display judgmental thinking towards other overweight people. For example, Leanne says:

> *Some people get fatter and fatter and fatter because they eat and they deserve to be that fat because they shove god knows how many burgers down their throat each week. (Leanne,12, 6-8)*

The implication here is that some people are, in fact, overweight because they are greedy whereas food addicts do not fall into this category since they cannot help but overeat and, therefore, should not be subjected to judgements. Leanne does not seem to see any irony in what she is saying here and it comes across as somewhat of a defence mechanism to separate herself from the 'fat' people who 'deserve' it.

A food-centric world

The participants describe how having difficulty controlling food intake is more difficult to live with than other addictions because not only do you have to eat in order to survive but you have to live in a world where you are surrounded by food since, for other people, it is normal and enjoyable to have food at the centre of social events.

Leanne describes how she has to organise the food in her household:

> *I think it's more difficult for someone that is struggling with weight to do those daily chores, you know, having to arrange meals. Because it is constantly on your mind.(Leanne, 2, 22-25)*

In her experience, these daily tasks are quite challenging because they force her to engage with food, which she finds very difficult to resist, whereas someone with a healthy relationship with food would do them without having to think too much about them.

Naomi agrees, saying that although she loves having a house full of guests, the expectation is that she has food available for them and, again, for her this poses a challenge because she finds it so difficult to be around food and not eat it:

> *I have to have things when they all come over. So, therefore, food you have got to have in your home. And it's just… it's like a big, vicious circle.(Naomi, 2, 26-29)*

Here, both seem to feel that in order to fulfil their role as a wife or hostess, they have to engage in tasks that make it more difficult to control their eating.

Participants one and four discuss how social events that are easy for most people are difficult for them since they can't take part in them without overeating. Janine describes how a casual invitation to go for a coffee and cake can wreak havoc on her eating plans for the day, which need to be meticulous in order to prevent overeating:

> *Friends will say, 'Oh come on, let's go in coffee and cake' and I'm thinking, 'No, I really don't want [to]'. Then you feel really bad because [I'd think], 'Oh! I could have had a dinner for that. With chips! What a waste.' (Janine, 7, 24-29)*

Again, the desire to not overeat and the desire to be social are at odds with each other while they seem to believe that their social obligations need to take precedent.

In fact, Olivia imagines what life would be like if she had bariatric surgery, which would mean she could not eat, but would still have to live in a world that is centred around food:

> *'Cos you can only eat little bits of meals… little bits, a couple of bites here, a couple of bites there. If someone said to me, 'You've got to drink a small glass of wine with breakfast, lunch and dinner'. Woah! No way! That would be absolute torture; that would be hell. And, you know, going out for dinners and stuff – I'll be there and I'll have… I won't be able to eat it. I'll be watching other people eat and that'll be torture.(Olivia, 10, 13-17)*

She directly compares food to alcohol here, imagining that being restricted in the amount she could have but still having to live with and eat small bits of food would be the same as having to have small amounts of alcohol: torture, in her eyes. Being a recovering alcoholic, she is completely abstinent from alcohol and cannot imagine equivalence for food.

This all shows that food is inescapable, even if one is physically prevented from indulging. The participants all agree that, unlike addictions to drugs and alcohol, one cannot escape food. Leanne sums this up very nicely when she says, *'We have kitchens, not smoking rooms'. (Leanne, 6, 24-25)*

Solitude

The participants find that their out of control eating and its consequences have driven them to be solitary and secretive people who do not enjoy being in the company of others and often hide their behaviour from those around them.

For her part, Sue talks about the lengths she goes to in order to hide her eating from her partner:

> *Yeah, I don't know, it's hard to, even talking about it now I'm thinking , like 'oh, what can I find when I get out of here, maybe something to eat in the car when I'm going back' and then it's where I can dispose of the rubbish so I'm not, sort of, caught out. (Sue, 7, 22-25)*

The way she talks about this sounds as if she is in her own little world with the food, scheming and plotting so that she is not discovered.

Shelly describes the elaborate ways she would hide her eating:

> *I used to hide it from him [her fiancé] all the time. So, I used to come home from work before him sometimes and eat it and hide it in the bedroom where he couldn't see it, if I knew he was coming. So… I've hidden it from loads of people. (Shelly,3, 1-4)*

Again, having to hide this aspect of herself from her partner sounds very isolating. It also sounds as if she was pleased on the occasions she arrived home before him so that she could be alone with the food.

Similarly, while Olivia doesn't explicitly lie to her boyfriend she says:

> *I see him only at weekends so he doesn't see what I eat during the week and… I guess I'm… I don't binge in front of him, obviously.(Olivia, 7, 8-10)*

This makes it sound as if she has two lives: one on her own where she can eat what she likes and one with her boyfriend where she has to pretend that she is in control of her food consumption. For certain, all the participants seem to have let the shame surrounding their behaviour drive a wedge between themselves and the people around them.

The consequent weight gain associated with their food intake also serves to make participants more solitary. Janine describes not wanting to go out and socialise anymore, which has a knock-on effect on her mental well-being:

> *You just stop; you gradually stop doing things and hiding, which also doesn't help with the depression side of bipolar [disorder] so I end up shutting myself inside which makes it worse cause I then eat. I sit and I eat.(Janine, 20, 16-19)*

From the way they describe their lives, it would appear that they have become much more limited due to their relationship with food in the sense that they have almost been left alone with the food and wish to "hide" away from the world.

<u>'It's a joke'</u>

'It's a joke' was another sub-theme that emerged, with the participants feeling that society does not view FA as a serious condition and often views it as a bit of a joke. Making jokes also surfaced when the participants themselves used it as a way of dealing with others when discussing their addiction and its consequences.

Some participants refrained from telling people about their perceived addiction because they did not think it would be taken seriously. Here, Shelly says, *'I wouldn't tell my other friends 'cos they'd think I was stupid' (Shelly,4, 19-20)* . It appears she actually thinks that people would think less of her for believing in such a thing as an "addiction" to food.

Olivia has a similar view, saying:

> *So, no, I've never… I would never go to the doctor and tell them I'm a food addict. Never. It wouldn't even cross my mind. I've never said it to a friend either… [I] might have in a jokey way. But no one ever believes it. Like, it's a joke isn't it? 'Chocoholic.'(Olivia, 9, 20-23)*

She is completely adamant that she would never even consider telling anyone about her supposed addiction, so great is the assumption that it would not be taken seriously. It does, however, sound as if she tested the water by talking about it in a humorous way. This probably did not go well as, one can assume, the humour was reciprocated confirming her belief that people view it as a 'joke'.

Meanwhile, Sue told her doctor that she believed she was addicted to food:

> *I said… that I had an addiction to food, but nobody ever recognised it and thought it was serious. They just laugh at you and poo-poo the, sort of, answer, really. But if you've got drug abuse or [are] an alcoholic, smoking, [there] always seems to be help more readily available out there.(Sue, 1, 25-29)*

To have it dismissed in this way must have made her feel even more alone with her condition and perhaps prevented her from seeking help thereafter. Nevertheless, having brought up drugs and alcohol, this means that she thinks disclosure about FA should be taken just as seriously.

In fact, Naomi told her doctor that she was so upset by her addiction that she was contemplating taking up smoking:

> *I said, 'I think I'll take up smoking' 'cos most people that smoke are slimmer. And my doctor said to me, 'No, don't take up smoking. You're better off being the weight you are'. (Naomi, 7, 25-28)*

This, whether intentional or not, gave her the message that her perceived addiction to food is not as serious as an addiction to smoking and, therefore, not worthy of the same care and attention.

Other participants also use humour when dealing with people who do not understand their struggle with food. Olivia describes recounting her binges to her friends whilst making them sound amusing: *'But sometimes I'll tell them if I've had a binge. But not… I make it sound funny. It's not really funny.' (Olivia, 6, 14-15).* This implies that she is so desperate to talk about her belief that she is addicted to food with others that she will make herself the butt of the joke in order to make it a more socially acceptable topic.

Meanwhile, Janine giggles and uses baby talk throughout her interview when discussing her eating habits. Again, this seems to be a mechanism she employs to make her behaviours more palatable to the general public.

Using humour towards FA serves to make the participants feel that their behaviours will not be taken seriously, either by the public or by health professionals. It appears that, as a result of this, they are reluctant to disclose the problems they are facing or simply make jokes about themselves in an attempt to comply with general beliefs.

Identity

Identity is a superordinate theme that emerged across all the interviews and included how their eating had impacted on the participants' "real" selves. It also covered how the participants viewed themselves as being almost sub-human in comparison with their peers and how they have a level of denial regarding the impact their food intake has had on their size.

<u>The real me</u>

Participants made sense of some of the less desirable aspects of their eating and behaviour such as secret eating and becoming withdrawn from social events, which conflicts with their usual life values, by attributing them to a side of them other than the 'real' them. Others seemed to have accepted these traits and explain them by ascribing them to a rebellious part of their personality that they are unsure they want to let go of.

Naomi considers whether people realise that she is not the 'real' her:

> *I don't know, perhaps my sisters might. My children wouldn't because it's all they know. My sisters might see it that I'm not me or I might put on a good show and everybody thinks I am. But I'm not.(Naomi, 18, 24-26)*

She believes that she has been putting on a fake social face for so long that her children have not even met the real her. It also demonstrates that, in social situations, she has to put on an act as she does not want people to be aware of the loss of her character. This comes across as a lonely situation for her to endure.

At another point in the interview, Naomi also describes negative characteristics she has gained, as a result of the desire to eat, that cause her distress:

> *No one's gonna know that's gone, so I had it. And then I got the box, put it in a bag, put it in the dustbin and no one even knows. They've not even seen it. My husband's not even lifted the lid of the dustbin and thought, 'Who's had that Easter egg?' 'Cos I've put it in a bag to hide it. So, it's like crafty; it makes you crafty.'(Naomi, 7, 10-15)*

Here, she not only feels that she has lost part of herself, but that she has gained an identity that she neither recognises nor wants.

Elsewhere, Sue uses a long and detailed metaphor to describe how her eating has held the real her back:

> *It's the only way I can explain, 'cos it's… you're like a flower, aren't you? In that, you've had all this fertiliser put on to you, which is your food. And that is killing you. And you are sinking further and further into the ground. So, if you take that fertiliser away… your bud is going to blossom. And that's what I want to enjoy; that's what I want.(Sue, 15, 5-10)*

This description is extremely evocative and really shows how she feels her true self has been buried under all the food she consumes. It does, however, also show that she believes that the real her still exists and is ready to 'blossom' if she can stop eating. She also hints at what the real her may look like, saying that she wants to be a "party animal" after having surgery.

Olivia also talks about specific parts of her character that have been "taken" by the consequences of her weight gain, saying:

> *This sounds really crude but I like to be sexy! And sex has always been really important to me in my relationship but now it's… I'm not in the moment… I'm forever looking for underwear that will cover my stomach, things that I can just keep on so I don't have to be actually naked.(Olivia, 9, 25-31)*

That she is trying to find ways of maintaining a physical relationship with her partner shows that she does still want to identify as sexy but it is no longer an aspect of her personality she is able to enjoy. It sounds like a struggle to maintain the illusion of her former self when she is with her partner.

Some of the participants felt that some aspects of their eating and their identity were tied together and described some attributes they were quite attached to. For example, Janine says, *'but I am definitely a rebel. I'm not… there's no way that I'm then going to say, "Oh, well I won't eat those chips then" [laughs]. It isn't going to happen!' (Janine, 7, 20-22).* She seems rather proud of her rebellious nature and the behaviour associated with it.

Olivia agrees and also describes herself as a 'rebel'. She also becomes very emotional when talking about when she has given up addiction in the past she has felt a sense of loss that she does not want to experience again with food:

> *I stopped drinking and then when I stopped smoking… I kind of felt like I was losing a bit of myself… I don't know. Sorry, I don't know why I'm getting upset… It's weird isn't it? I hate who I am now a bit… maybe, I guess, you think you're going to be boring… I don't want to be perfect all the time. You know, I want to be a bit of a rebel.(Olivia, 6-7, 29-3)*

She seems to be describing a state of ambivalence where she is not happy with the person she is at the moment, a slave to food, but also seems fearful of what will be left if that is taken away.

Overall, it comes across that uncontrolled eating has had an impact on the participants' views of their identities. Most felt it had, in some way, robbed them of part of themselves, while some went even further by wondering what would be left if they were to overcome it.

<u>Less than human</u>

Another sub-theme that came up within the context of identity was related to how the participants feel less than human. This manifested itself either through them comparing themselves to animals, by making a distinction between themselves and "normal" people or through a desire to disappear.

For her part, Sue says:

> *Um, sometimes I feel a pig. If you're at a party or a buffet, I'm the person who will keep sneaking up and sneaking up because it seems such a waste for all this food, and there's me, who loves it so much.(Sue, 2, 3-6)*

Similarly, Olivia compares people she believes are food addicts to those who are not by saying:

> *I swear there are some people who are and some aren't. Like pigs and not pigs. That sounds harsh. I don't mean it like that but some friends who are just like, will eat and eat and eat and some who… it's not like they don't enjoy food, but they'll stop when they're full.(Olivia, 6, 9-13)*

Animals, especially pigs, are usually thought of a greedy and slaves to their desires, and neither follow human social conventions around food nor have much dignity when partaking in the act of eating. This really evokes an image of the participants as people whose desire for food renders them undignified and unable to behave as other humans around food.

While Janine does not compare herself to an animal, she does say, *'I can't eat like a lady; I eat like a man' (Janine, 3, 8)*. This creates a picture of her being undignified and unrefined but also non-feminine as if her relationship with food makes her less of a woman. Meanwhile, other participants describe how they feel unequal to their contemporaries. Shelly says:

> *If we were going out on a night out or something I'd feel hideous; I'd probably, kind of, hide away and stuff and, er, I have turned things down depending in what they were.(Shelly, 6, 13-15)*

This conveys how her feelings of being inadequate compared to her friends means that she cannot enjoy social occasions to the point that she has even begun to refuse invitations.

<u>'When I look in the mirror I can't see myself as big as I am'</u>

The participants betray a level of denial over the size they have become or a confusion over how big they are. In fact, Shelly says:

> *It's that, going from a tiny bit overweight and thinking, 'If I lose a stone then I'll be alright' and suddenly thinking, 'I'm actually huge' and looking in the photos and things… 'Cos it sounds silly – when I look in the mirror I can't see myself as big as I am. I mean, I don't think I'm a size 10 or anything, but so in photos and stuff you think…' (Shelly, 12, 26-31)*

She blames this on her rapid weight gain and makes it sound as if she has somehow disconnected herself from the reality of how her body has changed.

Naomi agrees with this and compares it to anorexia.

> *But yeah, because you look in the mirror and you really don't see – it's like with anorexic girls, they look in the mirror and they see this big person and, bless 'em, they're not, are they? They're pathetic little girls, sad. It's crazy, really, [to] go from one end to the other, one extreme to the other. (Naomi, 20, 7-11)*

This indicates that when she looks in the mirror she sees a slim person when, in reality, she is not. Both participants realise that they are in some sort of denial and this suggests that this is more of a day-to-day coping mechanism than a true belief that they are smaller than they are. The comparison to anorexia shows that Naomi has thought about her apparently illogical beliefs and is able to make sense of them by comparing them to the widely accepted eating disorder.

Meanwhile, Leanne actively avoids shopping so she does not have to face her true size: *'I don't like to spend money on clothes because I don't want to admit that I'm that size.' (Leanne, 7, 28-29)*

Olivia describes her shock when she sees intimate pictures of herself:

> *I go to take a, you know, naughty photo of myself in the bath or something and I'll get the camera out and take a photo then look at it and think, 'Oh my God, that's not sexy'. Like, I forget, like, I think I'm this... cute little thing lying in the bath and I look and it's… no, like a whale. (Olivia, 9-10, 31-3)*

This demonstrates the mismatch between how she imagines she looks and the reality of her size. She also suggests that she is horrified when she does allow herself to face the reality of her appearance. In this way, their denial seems to act as a coping mechanism to avoid the upset they feel when they do face the size they have become.

Diagnosis and treatment

Diagnosis and treatment emerged as an overarching theme and included the belief that being given a diagnosis on an addiction would not only lead to treatment but would also result in "food addicts" being accepted by health professionals, the general population and themselves. However, another sub-theme was the doubt in the existence of an effective treatment other than forced separation from food or surgical alterations that would mean overeating was impossible. Related to this was the sub-theme of "hope" in terms of finding a new and perhaps "magic" cure for their overeating, while this was within the context of the participants having tried all the available solutions already.

Diagnosis: a starting point

The idea of diagnosis being a starting point for treatment thus emerged. Janine describes her treatment journey for both hyperthyroidism and bipolar disorder in terms of a comparison:

> *Yeah, so that was one thing that once I was diagnosed I got help. Um, I could make decisions about alternative answers to it. I could take the medication, I could have an operation, I was able to talk it through with him and the same with bipolar [disorder].(Janine, 13, 13-16)*

Her description shows her views on the normative process for dealing with health conditions and her desire for her eating problems to be dealt with in the same way. It also, somewhat simplistically, reveals her belief that a diagnosis will automatically lead to a variety of treatment options.

Others, such as Leanne, indicate that having a diagnosis would allow them to handover responsibility to the healthcare providers and the government:

> *I think it should be. I think it's, I think it should be classified, I think it should be recognised as an addiction and dealt with accordingly. You*

> *can get support- there's huge support for, um, nationwide for smoking, government backed for smoking. For drugs you get booked into clinics if you're that bad. There are drug substitutes, um, but there's very little like I said at the beginning, there's very little, I think, for people who overeat. (Leanne, 8, 25-29)*

Meanwhile, Shelly describes how labelling it has led to awareness surrounding alcoholism, which, in turn, has led to widely available support: *'People are more aware of it but… yeah, so yeah, and there are well-known things, like we said, like Alcoholics Anonymous and things, but not necessarily for food.' (Shelly, 6, 34-36)*

Overall then, there seems to be a common belief that diagnosis is an essential part of the treatment process and that the absence of it within the current status quo is denying individuals with a addiction to food the necessary support.

Being noticed

Acceptance was a theme that emerged within the context of diagnosis in the sense that the participants felt that labelling their behaviour as an addiction would reflect an understanding on the part of health care professionals. This would allow also them to understand and be more accepting of their own behaviour and would lead to an understanding between themselves and others with the same condition. In fact, Sue described the joy she would feel if her GP actually recognised her condition:

> *That it's not their fault, yeah, definitely. That's what I said it would be – 'Yippee, someone's actually recognised that I've got a serious problem here' – and at long last somebody's listened; I don't know if they can do anything but I know it's been recognised and it's not me imagining things.(Sue, 19, 3-7)*

This shows that, without a diagnosis, she feels that there is a measure of blame attached to the way she eats. The 'at long last' implies that she has been waiting for someone to recognise FA as a condition for a long time and the sense of relief that she would feel if her beliefs were validated would be immense. It also indicates that she has questioned herself over whether she really has an addiction or if she has been imagining it.

When asked whether having a diagnosis would be helpful, Shelly simply states that *'it would be nice to be noticed' (Shelly, 13, 18)*. This leads us to believe that she feels invisible without a diagnosis and completely disconnected from the rest of the world.

Naomi talks about how a diagnosis may help people change the way they view themselves:

> *Um, you wouldn't see yourself so much as being a glutton or greedy or, um, crafty because you would know what was wrong. And you wouldn't see yourself as being this, I don't know, food maniac that…(Naomi, 16, 18-20)*

This, again, indicates that diagnosis would lead to a level of understanding and acceptance of the behaviour, which could not be achieved without it. It is as if a diagnosis would allow her to view herself as 'unwell' rather than 'bad'.

Olivia, meanwhile, describes how a shared diagnosis allowed her to feel accepted at Alcoholics Anonymous:

> *And then I went to AA and they said, 'Don't worry, we understand where you are, we feel like that too'. They didn't sugar-coat it; they said, 'You can't drink!' But they also said, 'You are a sick person trying to get well, not a bad person trying to get good'. That was a relief. (Olivia, 14, 20-23)*

She describes how that this shared understanding enabled her to accept help and advice from them and allowed her to overcome her issues with alcohol. It also echoes Naomi's view that a diagnosis, as such, allowed her to view herself with more compassion. Without the shared label of 'alcoholic' this would not have been possible and Olivia indicates that the same would be true of people with an addiction to food, without a shared diagnosis, it is not possible for them to connect and support each other.

<u>No treatment</u>

Despite their assurance that a diagnosis would lead to treatment, when talking about what treatment options should be available, participants found it very difficult to define what that "treatment" would actually be. When asked directly what support should be made available

for food addicts, Janine answered, *'I don't know [groans]. You do ask the most difficult questions.'(Janine, 15, 17)*

Naomi went even further, stating that not only could she not envisage what the treatment would look like, but that she did not believe that there was one:

> *I: 'Do you think there is anything that can be done for food addicts?'*
>
> *P: 'No, I don't think there is, really. (Naomi,10, 18-20)*

In the absence of ideas regarding treatment for overcoming the addiction, the participants suggested options that completely removed their ability to eat. Sue says:

> *I've always said I'd like to be in a prison cell, but an upmarket one, luxury one. With a lock on the door [and] that somebody supplied me with the food, so I couldn't get out to get it. I think that is the only way … it sounds awful – but to be locked up.(Sue, 13, 1-4)*

This demonstrates the belief that they are completely unable to control their behaviour around food and cannot foresee a way of improving that other than through a total removal of choice. That it should be an upmarket prison indicates that she does not believe that she should be being punished as such, simply removed from food. It also seems to suggest that she may be unwilling to contemplate any form of treatment that may include discomfort.

Another suggestion for treatment was that of bariatric surgery but there were doubts voiced that this would not offer a solution:

> *I've done a lot of research because my worst nightmare would be if I had it, um, and then the cravings didn't go away. And you can't have it because physically you can't have it now. Um, but I have spoken to an awful lot of people on the bariatric site, um, and I think there are thousands… I had hundreds of replies, nearly every one of them saying the craving for food stopped. They now, um, eat to live not live to eat. Um, because they have to go on a lot – its fluids, isn't it? Fluids mainly for a good few months, I think, and then you go on to sloppy foods and things like that. But they say sometimes, a lot of them were saying they*

> *have to force themselves to eat that. I think there [was] only half a per cent, if that, of the replies that I got that said, 'No, I'm exactly the same as I used to be'. Knowing me, that'll be me, but I think it's worth the gamble.(Leanne, 20, 15-27)*

That she says surgery may help her 'eat to live not live to eat' reveals her hopes that the surgery will have an impact on her psychological relationship with food and that she can escape the food-obsessed life she is currently living. Her doubts convey her fears that she may be the exception, that she will continue to crave food, but she is willing to risk that for the hope of a cure.

Meanwhile, Olivia is very up front with her doubts on how successful surgery will be: *'Obviously, I'm on the list for bariatric surgery but I know [laughs] I don't know if that's gonna do it'.'(Olivia, 10, 12-13)*

Hope

Another indicator that suggests the participants do not believe in a successful treatment was the use of the word 'hope' regarding their future success. When talking about individuals who are unsuccessful after bariatric surgery, Naomi says:

> *Well, that's what I hope, that would be, that would be my… my hope that that would happen. I mean, you do hear of people that have liquidised Mars bars and, I mean, you do hear all that. So… I hope that that wouldn't happen to me, but who knows?(Naomi, 19, 12-16)*

She really does not sound at all convinced that surgery will be successful but it also comes across that she does not want to allow herself to become too attached to the idea of a successful treatment in case it is a failure.

In fact, some participants took "hope" further and described the need for a "magic" cure in the absence of being able to envisage any form of treatment that would overcome the physical and psychological aspects of the addiction. Naomi describes a time when she was hypnotised in order to help her lose weight:

> *When I was hypnotised, that was really good. I mean, I came out of there and I felt, I felt different. And I've never eaten yoghurts in my life; I couldn't. And [yet] I came out of there and I bought yoghurts and grape juice. Now, why? And that was really good … I didn't lose loads and loads of weight because I compensated, I changed from sweets and biscuits to cheese.(Naomi, 3, 21-26)*

She seemed pleased that something unexplainable had happened as a result of the hypnosis even though she quite clearly says she did not lose much weight. This seems to reflect a willingness to believe in a magic cure driven by intense hope, despite the evidence that none actually exists.

Another way in which "hope" emerged was when participants talked about their desperate search for an effective treatment. Olivia recounts a list of approaches she has employed:

> *I've done everything: I've tried meal replacement shakes, I've, um, I've got food delivered, like, recipe boxes, meal boxes [and] I've tried Slimming World, I've tried the 5:2 diet, calorie counted, for fuck's sake.(Olivia, 6, 19-23)*

Her weariness here conveys her frustration but her willingness to continue moving from diet to diet shows that she carries a hope that she will eventually stumble upon one that holds the secret to overcoming her out of control eating.

Discussion

The current study aimed to explore the experience of obese people who believe that they are addicted to food. A review of the literature revealed that previous qualitative research into uncontrolled eating in the obese population had found that many studies give medical explanations, including FA, for their food intake (Green et al., 2009), but none have sought to explore the experiences of this particular group exclusively in depth. The results of the current study are discussed within the context of current literature, with implications for future research and practice given.

<u>'I breathe food'</u>

Participants described their need to have food at hand, and the sense of panic they experienced when they did not have easy access to it. This sometimes led them to abandon activities such as social gatherings in order to obtain food, something that conflicted with their usual values, which they could only make sense of in terms of an addiction. This type of behaviour is reminiscent of behaviours in drug users. Indeed, the DSM-5 (APA, 2013) lists a diagnostic criterion of giving up important social, occupational, or recreational activities because of substance use. The desperation the participants feel seems to be in response to a pre-empted fear of experiencing a craving, which they describe as coming on 'at a click of the fingers'. The anxiety felt by the participants at the thought of 'not having enough' food indicates that these cravings are very unpleasant and to be avoided at all costs. This finding is similar to the results of a qualitative study carried out by Malika et al. (2015), in which the participants reported that food addicts need to have access to food at all times, and that they are prepared to take socially undesirable actions in order to acquire food. That they would engage in these (often anti-social) behaviours had to have a compelling explanation for participants, and they could only make sense of this in terms of an addiction.

The cravings experienced by participants do appear to manifest in the absence of any particular trigger such as low mood or stress; rather, they appear to simply be evidence of a constant need for food. However, when participants described their strongest cravings, they often mentioned that these are preceded by a period of restraint from food. This is notable, in that it has been suggested that intermittent access to food, rather than any neurochemical effects, produces addiction-like behaviours such as craving and uncontrolled eating (Westwater et al., 2016), which may be the case for these participants. Participants also, however, described uncontrolled eating that is not a response to restrained eating; in these cases, they appear to seek out food simply for the pleasure it provides them. They talked of a 'need' for food, without being able to fully elaborate on what that meant, other than 'I just need it' or 'I just love food'. They also described ritualistic habits that they have built up that include eating, such as 'snuggling' up on the sofa and eating or watching television and eating. Eating for reasons other than hunger was described but it seemed to take a different form to the 'emotional eating' described by other studies, which suggest that depression and stress are the most common triggers for emotion-related eating (Close, 2013). Participants described eating because they had to and to escape the negative feelings associated with the

craving and discussed the arguments they have with themselves. They also described eating just because food is there and due to a belief that they are unable to resist.

This eating out of habit, 'need', and in response to food-related stimuli (for example, the sofa) may represent a transition from goal-directed to habitual eating in a similar way to that which has been found in drug use (Everitt, 2014). This phenomenon has been termed the 'incentive sensitization theory of addiction' and describes how initially, drug users seek out a substance for the pleasurable effects that it produces; however, over time and with repeated exposure, predisposed individuals' brain circuits responsible for the regulation of responses to stimuli become hypersensitive. When this happens, drug-related cues begin to produce an anticipatory pleasure response, which causes strong cravings (Robinson & Berridge, 2008). This can be thought of as the process of an action becoming a habit, which, in turn, becomes a compulsion (Everitt & Robbins, 2005). This reflects what was described by participants in the current study, in that they do not understand where their cravings come from, and struggle to articulate what exactly they derive from the eating experience in terms of positive feelings. It is possible that at an earlier stage of their lives, before their eating had become an 'addiction', their eating may have been driven more by the pleasure of consuming food or a desire to improve their mood; however, without longitudinal research in this area, it would be difficult to support these claims.

While the above situations refer to the initiation of eating, participants also spoke about a loss of control once they began eating. The loss of control while eating is often seen as a key marker of binge eating and is associated with both obesity and eating disorders (Goldschmidt, 2017). In this study, all participants described feeling out of control with regard to their food intake; the study has revealed some insights into the experience of bingeing. Participants depicted a frenzied event, where food is eaten rapidly and chaotically, and in amounts that others would find repellent. This type of eating has previously been observed in people with binge eating disorder (BED), particularly those with a history of dieting (Hagen et al., 2002). Participants in this study have not received a diagnosis of BED (possibly because they do not binge frequently enough to meet the criteria), but they realise that their eating behaviour is extreme in nature and this may have led them to believe that an addiction is the only explanation. This is in line with results from other studies that have

looked at the experience of FA such as that of Ruddock et al. (2015), whose participants stated that a loss of self-control when eating was a key feature of FA.

Interestingly, not all the participants in the current study who talked about a loss of control specifically mentioned 'binge eating', which is characterised in BED by eating a large amount of food in a short amount of time (within a two-hour period, according to DSM-5 (APA, 2013]). Some participants defined their eating as 'picking' throughout the day but feeling unable to stop, which indicates a type of loss of control that is independent of bingeing. This fits with what Davis (2017) terms 'compulsive grazing'. Davis believes that this behaviour helps to distinguish FA as a distinct disorder from BED; however, as described by the current participants, both 'bingeing' and 'unstoppable picking' sound like sub-types of the same behaviour – namely, uncontrolled eating. It is equally feasible that the criteria for BED need to be updated to incorporate 'compulsive grazing', as there would be a need to create an entirely new classification for FA to account for those who do not binge based upon this one attribute. Nevertheless, the feelings of loss of control and distress associated with their eating was described in similar terms across all participants regardless of whether they binged or grazed, which indicates that it is a significant factor in uncontrolled eating and weight gain in certain individuals.

Another feature that was important to the participants was their obsessive thinking about food, such as planning meals, reviewing what they ate earlier that day, and looking at food magazines – they believed this signified an addiction. Their descriptions are comparable to those of substance use and the DSM-5 (APA, 2013) has a criterion of spending significant amounts of time obtaining, using, and recovering from the effects of a substance. The equivalent criterion for gambling disorders states that the sufferer 'is often preoccupied with gambling (e.g. having persistent thoughts of reliving past gambling experiences, handicapping or planning the next venture, thinking of ways to get money with which to gamble)' (APA, 2013), which is more similar to what is described in the current study than the criteria for SUDs. This offers evidence supporting the notion that, should a disorder for addictive food consumption be created, a behavioural 'eating addiction' may better describe it than a direct comparison to SUD (Hebebrand et al., 2014). However, it may not be the number of food-related thoughts that participants were having that posed an issue, but rather

the way they interpret these thoughts. It can be argued that in our current society, where food is heavily advertised, eating out is a prime leisure activity and food programmes are very popular on the television, having very frequent thoughts about food is relatively common. The participants in this study, however, saw these thoughts as evidence of an addiction and believe that when they have a thought about food, they have no choice but to follow through with eating. Targeting this lack of self-efficacy regarding managing food-related thoughts may be a key area for interventions in cases such as these.

'Isolation'

In this theme, participants described how difficult they find it to live in a food-centric world, in that they are constantly coming into contact with food-related cues. This relates to what Swinburn, Egger and Raza (1999) term the 'obesogenic environment'. Aspects of the environment that encourage weight gain have been found to include access to calorie-dense food, exposure to food advertisements, and decreasing opportunities to be physically active (Colls & Evans, 2014). Although it has been found that some individuals are more disposed to react to food imagery than others (Passamonti, Rowe, Schwarzbauer, Ewbank & Calder, 2009), research into whether this translates into overeating has produced mixed results (Espel-Huynh et al., 2018). The participants in the present study certainly believe that they are more susceptible to the impact of an obesogenic environment than others and attribute this to being addicted to food. If their eating is mainly triggered by habits and responses to food-related cues, then it would be logical to conclude that constant exposure to food and food advertising would exacerbate their uncontrolled eating; however, their belief that this is down to an addiction seems to mean that they have less faith in their ability to resist the food cues they come across day to day. They also described being hyper-vigilant about situations where they are potentially going to come into contact with food, either because they are concerned that they could overeat or because they are worried that others would, which may then contribute to their secret eating and the feeling of being different from their peers.

The participants all spoke about the stigma that they face as a result of being overweight. This is not surprising; obese individuals commonly face prejudice in everyday life, at work, and from healthcare professionals (Puhl & Heuer, 2009). This does not appear to be a unique attribute of self-perceived food addicts; however, some participants revealed their own

prejudices against other overweight people who are not 'addicted to food', suggesting that these people are deserving of stigma because they are in control of their eating and are overweight because they are just 'greedy'. This reveals that their belief that they are suffering from an addiction reduces their self-blame and allows them to criticise other overweight individuals who do not have the 'excuse' of an addiction. If self-perceived food addicts see themselves as less responsible for their eating than other members of the group, this attitude may give rise to potential problems in, for example, group-based weight-management interventions. It also seems to be indicative of a perceived moral element to overeating in that they want to distinguish themselves as 'unwell' rather than 'greedy'.

Another aspect of stigma which appears to be unique to those who believe themselves addicted to food, rather than to all obese individuals, emerged during a discussion about the fact that FA is not officially classified and is sometimes viewed as a bit of a joke. It has been suggested that labelling 'uncontrolled eating' an 'addiction' may increase the stigmatisation of obese individuals, and that it would shift focus away from public policy change and back onto individual behaviour modification treatments, which are often ineffective (Rasmussen, 2015). However, participants in this study reported that believing that they were suffering from a condition that is *not* recognised medically caused them to be ridiculed by their friends and family, and not taken seriously by healthcare professionals; the lack of classification is a source of stigma, even in healthcare settings. Being treated with dignity and respect has been found to be associated with improved healthcare outcomes (Baillie & Matiti, 2013), and is stipulated by The Care and Social Act Regulations (UK Parliament, 2014). Having serious concerns dismissed by healthcare professionals (as the participants in this study reported) may be severely detrimental to the future treatment-seeking and health outcomes of individuals who believe they suffer from FA. This has implications for clinicians working with obese individuals as, whether or not it is a classified condition, those who believe they are addicted to food should have their concerns listened to and should be treated with all due respect.

Social isolation has been a significant outcome of uncontrolled eating for the participants, and some linked the stigma they have experienced and their negative self-image with the outcome of not wanting to be seen in public. Others also related this phenomenon to the

eating behaviour itself, describing wanting to be alone so they could eat freely. This is reminiscent of aspects of substance addictions; for example, a reduction in important social, occupational, or recreational activities due to substance use is a criterion for SUD in the DSM-5 (APA, 2013). Some of what was described was seen as a consequence of participants' weight, rather than the eating itself; however, avoiding social occasions to stay at home and eat would certainly be attributed to the need to eat. Further to this, some participants said that they neglected major aspects of relationships such as sex due to their weight, which they found distressing. Social isolation has been found in other research to be a coping strategy employed by obese individuals in order to avoid stigma (Thomas et al., 2010), which correlates with the findings of this study. Defining what can be attributed to the participants' addict-like eating habits, rather than simply to their obesity, is very complex – the two are so closely linked that it may not be possible. However, as these feelings of isolation are significant to the participants and have a negative impact on their well-being they should be considered during treatment, particularly considering that in drug use, social isolation has been found not only to be a marker of addiction but a perpetuating factor (Volkow, Baler & Goldstein, 2011).

'Identity'

Participants identified secret eating as evidence of their addiction and something that caused them a lot of distress in the form of shame, guilt, and feelings of a loss of identity. Recent studies into laypeople's understanding of FA have not found secret eating to be a significant feature (Ruddock et al., 2015; Malika et al., 2015); however, these studies either did not use self-perceived food addicts or used samples of the general population who were not obese. Body-related shame has been linked to secret eating in young people (Kass et al., 2017), so it is conceivable that in the current study, secret eating is the result of shame regarding obesity combined with a strong desire to eat. Indeed, participants did state that they are uncomfortable eating in public because of the perceived judgement of others. An older study by Hetherington and MacDiarmid (1993) into chocolate addiction found that only self-perceived chocolate addicts who hid their chocolate intake or were significantly overweight reported that their addiction caused them distress. Again, this behaviour seems almost self-

perpetuating, in that shame drives individuals to eat in secret, which in turn gives rise to shame about their behaviour.

The hiding of eating habits is comparable to addictive behaviours. For example, lying to conceal the extent to which someone is involved with gambling is one of the criteria for gambling disorders (APA, 2013), which may lead one to conclude that the behaviour exhibited by the current participants resembles more a behavioural addiction than a SUD. However, it may also be interpreted as evidence of behaviours similar to those in BED, for which one of the diagnostic criteria is eating alone due to feelings of embarrassment about how much one is eating (APA, 2013). This does not quite encompass what the participants were trying to articulate in this study because they said they preferred eating alone even when eating healthily or moderately. Again, the reasons for this seem to involve feelings of shame about themselves and their bodies, as well as about the amount they are eating.

Participants described in great detail the consequences of their addictions; however, they also demonstrated that they experience denial about other outcomes, such as their weight, in that they believe that they are less overweight than they really are. This may be a comparable phenomenon to denial in substance addictions, which can take the form of an individual downplaying the amount of a substance they take or denying the impact its use has on their life (Dare & Derigne, 2010). It also seems to be the reverse of the distorted body image experienced by those who suffer from anorexia nervosa, who believe themselves to be larger than they really are (Cash & Deagle, 1997). The notion of a distorted body image has been studied in the obese population but the results have been mixed, with some studies finding overestimations, some underestimations, and some showing accurate self-image (Schwartz & Brownell, 2004). Distorted body images have not been studied in relation to self-perceived food addicts, so whether this emerging theme would be a common attribute in a wider sample is not clear. It is also unclear whether this distortion could pose a barrier to successful weight loss.

Another theme that emerged during the analytical process was the effect that addiction has had on the participants' perceived identity, in that some participants have attempted to distance themselves from their addictive behaviour by creating multiple selves, stipulating that the food addict was not the 'real' them. Others took on aspects of their addictive

behaviour as part of their character; for example, stating that they are a rebel and that they eat to defy society. Interestingly, qualitative research into drug and alcohol addiction has repeatedly found the theme of 'the self' appearing under different guises (Gray, 2005). Similar to the current study, Shinebourne and Smith (2009) found, in an IPA study into the self and addiction, that their participants used metaphors and descriptions of multiple selves to explain the experience of addiction and the undesirable behaviours that it entails. Other research has found that drug users identify with their addiction, such as by identifying with the term 'junkie' and seeing it as an attractive label, which can be a barrier to recovery (Radcliffe & Stevens, 2008). In the current study, the descriptions of 'self' in relation to food are a way for participants to rationalise their own behaviour; either another 'self' is responsible for the socially unacceptable aspects of their eating (for example, lying about food intake), or their behaviours are a reflection of intrinsic aspects of their character. This may pose a barrier during treatment as the existence of their other 'self' absolves them from responsibility and may mean that they are less inclined to attempt methods for actively controlling their food intake.

Also within the theme of identity, participants displayed evidence of the internalisation of the weight bias they have experienced from others by describing themselves in sub-human terms, and often referring to themselves as 'pigs'. This was not just in connection with their weight, but also their binge eating or inability to stop snacking. Internalisation of weight bias is when individuals allow the external prejudice they have experienced to impact their self-evaluation related to their weight, character, and the extent to which they deserve respect from others (Durso & Latner, 2009), and has been associated with reduced self-esteem and decreased motivation to lose weight in obese individuals (Puhl, Moss-Racusin & Schwartz, 2007). Whether those who believe themselves to be addicted to food are more at risk of this or experience it differently is unclear. However, the current participants seemed to use examples of their eating behaviour, such as an inability to stop picking at a buffet or secretly eating, as evidence of them being sub-human, which does suggest that their interpretation of their uncontrolled eating plays a part in whether they internalise the bias that they have experienced.

‘Diagnosis and treatment’

Participants all wanted to see FA become a diagnosable condition in the future – they expressed that they would feel a sense of relief that someone had acknowledged their struggle, and that it would reduce the extent to which they reprimand themselves regarding their eating. This is similar to the results of a study that found that a medical explanation of obesity helped to reduce self-blame (Conradt et al., 2009), and further led to individuals feeling increasingly motivated to set goals around managing their weight. However, another study found that defining obesity as a disease can lead to a more fatalistic attitude and increased eating in some individuals (Meisel & Wardle, 2014). Because of this, it may be logical to worry that a diagnosis of FA may lead to a decrease in self-efficacy for managing individuals’ eating, and in turn bring about a decrease in motivation for weight loss attempts. Nevertheless, the study by Conradt et al. (2009) provides promising evidence that this will not happen if the diagnosis is followed up by an intervention.

Participants in this study did not explicitly state that a diagnosis led to a reduction in perceived self-efficacy; in fact, they felt that it allowed them to connect with other food addicts through a shared diagnosis. They compared this to what they knew about Alcoholics Anonymous meetings and said that they would very much like to meet others who could understand their experiences and be supportive in trying to overcome them. This is unsurprising, considering that AA is the oldest and largest peer support group for problem drinking globally (Kelly, Humphreys & Ferri, 2017), its name being almost synonymous with addiction. It is therefore logical that participants would want to model their own FA ‘recovery’ on the AA model. Peer support groups have been shown to be an effective form of treatment for obesity (Paul-Ebhohimhen & Avenell, 2009) and for SUDs (Best & Lubman, 2012). Furthermore, considering the social isolation reported by participants, this should be considered as a possible intervention for individuals who believe themselves to be addicted to food.

This study is the first to explore in detail what treatment options self-perceived food addicts believe should be made available to them. The participants in this study stated that a diagnosis is an essential part of the process of overcoming their problem, relating it to other conditions they have been treated for in the past, for which diagnosis was the first step.

Participants revealed their belief that after receiving a diagnosis, the problem is to a certain extent handed over to the healthcare professional, and that the patient will then be provided with a solution as to how to overcome it. This is interesting because it indicates that if they were to receive a diagnosis, there would be a shift in their locus of control, in that they would then view it as a problem for the National Health Service (NHS) to deal with. An internal locus of control – a belief that the person themselves, rather than external factors, has control over the outcome of events – has been found to be associated with improved weight loss and weight loss maintenance in obese individuals (Elfhag & Rössner, 2005), so in this respect, diagnosis may not be beneficial for self-perceived food addicts. This is subtly different to the decreased self-efficacy predicted by Meisel and Wadle (2014), in that participants are not saying 'I am an addict, and therefore I cannot control my eating', but rather 'I am an addict, and someone must control my eating for me'. The view that a diagnosis does lead to effective treatment is also a somewhat unrealistic expectation because the act of classification does not automatically produce effective treatments. Alcoholism, for example, was described in the first edition of the DSM (APA, 1952) and had clear diagnostic criteria added in the third edition (APA, 1980), and yet alcohol remains the third highest cause of death in the UK behind smoking and poor diet/physical inactivity (Office for National Statistics, 2016). If a diagnosis is to be in any way useful, effective treatments do need to be sought out by the NHS; however, patients would still need to take an active role in the process because even surgical interventions such as bariatric surgery require patients to be compliant with eating recommendations in order to be effective (Harris et al., 2017).

When discussing the treatment options that should be made available, participants touched on the lack of self-efficacy regarding their eating habits, in that they did not believe that there was an effective treatment in existence that would help them to eat moderately by themselves. The only solution they could envisage was one in which all control was taken from them, such as being locked away from food, in either a prison-like or a rehabilitation facility. This belief of the participants – that they will never be able to control their eating – may appear fatalistic; however, it is logical given that abstinence is the recommended course of treatment for those with severe substance or alcohol use disorders (Sellman et al., 2014). Many alcoholics believe that they will never be able to drink moderately (Zakrzewski &

Hector, 2004), and therefore it is not unreasonable for self-perceived food addicts to have similar expectations of their future control over eating. There is evidence to suggest that individuals with alcohol problems can return to moderate drinking (Sobell, 2013), but crucially, a belief in one's ability to moderate one's alcohol consumption (i.e. self-efficacy) is a strong predictor in eventual alcohol moderation (Saladin & Santa Ana, 2004). This has implications for clinicians working with self-perceived food addicts, in that abstinence is not possible with food, so working to increase self-efficacy with regards to controlled eating would be vital to the recovery process.

There are concerns that a diagnosis of FA could result in a lack of self-efficacy in uncontrolled eaters (Lee et al., 2012); however, the results of this study indicate that said lack already exists in the participants. This may be because they have effectively self-diagnosed an addiction or it may be that the absence of a diagnosis has exacerbated the problem, because without any recommended treatment options for FA, participants make assumptions about effective interventions, which are based on what they know about other addictions, such as notions of abstinence and in-patient rehabilitation facilities. Whether receiving a diagnosis of FA would worsen an uncontrolled eater's lack of belief in their ability to regain control or benefit them by enabling access to services and therefore improving their situation is not clear. What does appear evident is that being given a diagnosis without the offer of suitable treatment options would likely confirm their belief that there is no effective treatment available to them and reduce their self-efficacy even further.

The perceived lack of treatment options available to them has led many of the participants to pursue commercial and alternative routes in an attempt to 'cure' their addiction; their intense desire to change appears to make them vulnerable to claims that, as they themselves admit, seem fantastical. This is a concern that should be considered when dealing with patients with self-perceived FA, because the desire for a 'magic bullet' treatment for obesity has been found to cause individuals to seek out potentially dangerous, unregulated treatment options (Ferraro, Patterson & Chaput, 2015). The participants in this study were all on the pathway towards bariatric surgery, and this came up as another treatment option about which they were sceptical, hoping rather than believing that it would be the most suitable intervention

for them. Bariatric surgery costs between £6,000 and £15,000 per procedure, has long-term implications for those who elect to undergo it and, to be successful, requires patients to follow a strict eating plan both before and after the operation (Tsai & Osborne, 2017). It should not, therefore, be entered into if the patient is not fully committed to the procedure, although such a lack of commitment was indicated by some patients in this study. In addition, it has been found that loss of control when eating (Ivezaj et al., 2017) and disordered eating patterns such as grazing (Conceição et al., 2014) are predictors of poorer outcomes for bariatric surgery; therefore, individuals such as the current participants may not be the best candidates for this treatment option.

Methodological critique

As with all studies using an IPA design, these results are intended as exploratory, and should be applied to the wider population only tentatively. This group was a particularly distinctive cohort, all having a BMI of over 35 and obesity-related health comorbidities, and all being on the bariatric surgery pathway. Some of these factors need to be taken into account when interpreting the results and conclusions drawn from this study. When interpreting the results, attempts were made to distinguish between the effects of what the participants described as their addiction to food and those of obesity, but they are so closely related that this was not always possible. It could even be argued that this should not have been done; when looking at the impact of alcohol use, one does not separate the longer-term impacts on health – for example, liver disease – from other effects such as missing work due to intoxication. However, this study was never intended to make assumptions about the wider obese population and does not propose self-perceived FA as a leading driver of the obesity epidemic, but rather as a problem for a sub-type of pre-disposed individuals. Distinguishing between the two was therefore necessary in order to draw out the true experience of FA.

All the participants were on the bariatric surgery pathway (although only three wanted it themselves; the other three were on the pathway at their GP's request). This may have had an impact on the interviews because the participants knew that they had to make a reasonable case in order to get funding for the surgery approved and to qualify for the Tier 3 weight management service, which is responsible for making bariatric surgery recommendation and that I, the present researcher, work for. Although I had not met any of

the patients before and was not going to be involved in any of their treatment, they may have seen the interviews in part as an opportunity to explain to me why they thought they should receive the surgery. If this was in their mind during the interviews, it may have made them mindful of their disclosures. However, this did not come across in the interviews; bariatric surgery was actually spoken about very little during the process. What did come across, however, was a desire for me to give them a 'diagnosis' of FA. In fact, two of the participants asked me if I thought they 'had it' directly after the interview. I viewed this as evidence of their desperation to be heard (as reflected in the themes), but if a diagnosis was their goal, there is a possibility that they may have exaggerated some of their experiences in an attempt to achieve this.

Another critique pertaining to the sampling is that all participants were female. This was not by design, but because no male participants came forward. This may call into question whether women are more likely to perceive themselves as addicted to food. However, other larger scale studies, for example that of Meadows et al. (2017) have not found any differences in rates of self-perceived FA between men and women. Nevertheless, the experiences of men who perceived themselves to be food addicts should be investigated in the future as they may be different to those of women. The sampling method in this study was biased towards women to begin with, given that approximately two-thirds of patients at the Tier 3 weight management service are female. It is also notable that 73% of male patients tend to achieve their weight loss targets at the service, whereas this is the case for only 45% of women. Information sheets were given out after completion of the services, so fewer men received it to begin with, and the majority of men who did receive the sheet were likely to have lost a significant amount of weight and therefore may have believed that any addiction they may have had was no longer significant. Whatever the cause, this entails that the results from this study only reflect the experiences of women who believe they are addicted to food.

This study's main aim was to understand the experience of FA in the words of the sufferer. It was intended to put the classification debate to one side because, whether or not clinicians and researchers believe it to be a true addiction, it exists in the minds of the public, and acts as a barrier to professionals working with certain obese individuals. For practitioners

working with self-perceived food addicts, the existing research into neurobiology, animal studies, and defining criteria is not helpful when trying to obtain evidence-based practise guidelines, or even an account of how this 'addiction' is experienced by those who believe they have it. However, it is impossible not to consider classification when addressing this topic because those who believe that they suffer from are very keen for it to become classified. Nonetheless, every attempt was made during analysis to listen to the words of the participants themselves and to keep the issue of how the themes relate to classification criteria to one side until it was necessary to relate them to the current literature.

As I am a clinician working within this service, my role as researcher had the potential to bias the results. I have seen first-hand the distress that uncontrolled eating causes individuals, and am therefore naturally sympathetic to their needs, and may at times be naïve to any deception or exaggeration present in the interviews. However, I do not believe that to be the case. In fact, my own position regarding FA has changed during this process. I was initially very sceptical that it was a true addiction, although I thought that a belief in the addiction did pose a major barrier to some individuals and needed attention. This made the analytical process quite difficult because I was biased – but in the direction of looking for evidence of its non-existence. I had to put the analysis on hold for some time in order to return and examine the findings around this issue from a more neutral position.

Implications for practice and future research

In the current study, it was sometimes difficult to identify whether an outcome described by a participant – for example, isolation – was a result of the behaviours that they understood to be FA or whether obese individuals who do not believe that they have an addiction would have the same experience. This could be better understood by comparing the two groups in future research. It would also be useful to conduct a similar study looking at self-perceived food addicts who have a healthy weight in order to determine whether they have similar experiences. When all the attributes of self-perceived FA are better understood, there needs to be serious consideration as to whether the YFAS2.0 is the best tool for measuring the experience of FA in research, given that it is based solely on the DSM-5 (APA, 2013)

criteria for SUD, and therefore includes aspects that were not endorsed by this study. It also fails to include other areas, such as obsessional thinking, that were identified in these participants.

Uncontrolled eating was revealed to be central to the participants' experience of FA, and this should be considered by clinicians working with this population. Research is needed into whether interventions that are effective in binge eating – for example, M-BEAT (Katterman, Kleinman, Hood, Nackers & Corsica, 2014) – could be effective for those who compulsively graze, and if so, it should be decided whether these are two subtypes of the same behaviour. However, many binge-eating interventions such as M-BEAT target emotional eating in order to reduce binges. Emotional eating did not emerge as a major theme in this study, so these interventions may prove ineffective. The triggers for eating need to be researched among a larger group of self-perceived food addicts in order to determine the most effective method of intervention and for overcoming them.

Whether or not FA is classified, the results of this study have implications for clinicians working with individuals who believe that they are addicted to food. Whatever one terms the experiences described by the participants in this study, it is clear that they are distressed, and do not think that they have been taken seriously when they have sought help. This dismissal of their worries has led them to feel stigmatised and isolated, while the lack of appropriate treatment has caused them both to believe that no effective intervention exists, and to explore alternative treatment options that have the potential to damage their long-term health. Clinicians, therefore, must listen to the concerns of self-perceived food addicts. Whether or not it becomes a classified condition, healthcare providers should be aware that FA is discussed by laypeople and in the media, and they should consider using the term in materials such as leaflets and posters, encouraging those who have concerns to speak to their healthcare provider. This may reduce the perceived stigma individuals feel due to believing that they have an unclassified condition and could encourage them to seek help. Research could also be conducted into the effectiveness of using the term 'food addiction' in literature aimed at patients to ascertain whether it increases healthcare-seeking behaviour.

Having treatment options available is essential, given that the participants reported a belief that no effective treatment currently exists and are at risk of resorting to unsuitable methods

of controlling their eating in the absence of other options. The participants' descriptions of their experiences in this study do resemble addictive behaviour in many ways; therefore, the use of interventions that have proved effective in other addictions, both substance and behavioural, should be considered, and research into their effectiveness undertaken. An evaluation of the effectiveness of current obesity interventions in individuals with FA would also need to be carried out to ensure that they are appropriate.

The experience of self-perceived food addicts should also be taken into consideration by clinicians and policy-makers who are currently debating whether obesity itself should be given disease status (All-Party Parliamentary Group on Obesity, 2018). Participants in this study were keen to express how their experience around food is qualitatively different to that of other individuals who are obese. To ignore this and make 'obesity' a blanket diagnosis for all those over a certain BMI would possibly display a lack of understanding over different individual's specific relationship with food. If obesity is to be given disease status, then having food or eating addiction as a sub-type should be considered.

The experience of eating and craving is indicative of incentive sensitisation. This should be researched in a larger sample and, if found to occur again, this would have implications for how food addicts function in an obesogenic environment because they are highly sensitised to food cues. The participants in this study described how difficult they find it to live in a food-centric culture due to their inability to resist food cues, and research into whether self-perceived food addicts are more susceptible to environmental food triggers than other obese individuals should be conducted. If FA is recognised as an addiction, public policy regarding the advertising and availability of foods that can be addictive should be examined and changed in a similar manner to the approach taken for tobacco products and alcohol. Methods of coping with exposure to food should also be incorporated into any interventions by clinicians working with self-perceived food addicts.

One promising avenue of research is into a new treatment that has been designed and tested by Boutelle, Carlson and Bergmann (2017), which aims to reduce sensitivity to food cues in those with BED. Those who binge eat (whether they meet the criteria for BED or not) have been found to be more responsive to food cues that those who do not (Schag et al., 2013)

and, whilst certain interventions such as M-BEAT can reduce the frequency of binges, they do not result in significant weight loss (Godfrey et al., 2015). Behavioural weight loss interventions are less effective in those who binge eat (Grilo, Masheb Wilson, Gueorguieva, & White, 2011), so an intervention was designed combining cue-exposure therapy, aimed at reducing food cue responsivity, and appetite awareness training, which aims to increase an individual's responsiveness to internal signals of hunger and fullness. Preliminary results for this intervention are promising, with participants losing modest but significant amounts of weight despite the programme having no nutritional content. This type of intervention may be applied to those showing similar patterns of uncontrolled eating to those in the current study, as they did report being very sensitive to food-related stimuli. There is also no restriction aspect to the intervention, which would eliminate concerns as to the potential for diets to exacerbate uncontrolled eating.

The above intervention is in its infancy and has only been tested on a small scale with obese individuals who have a diagnosis of BED. However, it is encouraging that some research is being undertaken into how aspects of obesity over and above diet and physical activity education can be incorporated into weight management interventions. This type of research should be conducted in groups other than just those with BED and extended to those who, like the current participants, cannot control their food intake by standard means.

Conclusions

The participants in this study explained their uncontrolled eating as an addiction to food and particularly viewed their obsessive thinking about food, their inability to resist food cues, their inability to control how much they eat once eating has commenced and their dishonesty and secrecy regarding their eating as evidence of an addiction. Unlike other studies that have looked at eating in obesity (Leehr et al., 2015), the participants' most pronounced trigger for wanting food was not emotional but described as a constant need to eat in the absence of any obvious trigger. This was linked to their belief that they have an addiction and rarely attempt to resist urges due to their perceived inability to do so.

Participants reported experiencing stigma due to their weight in line with other similar studies (Lewis et al., 2011), however, they also revealed that their belief that they were

experiencing an addiction was a source of stigma in itself in that others, including healthcare professionals, have dismissed and even ridiculed this belief. This has posed a barrier to seeking support for their uncontrolled eating. Explaining their behaviour as an addiction appears to also be a strategy the participants use to distance themselves from the stigma they experience. By dividing obese people into those who choose to eat too much and those with a medical explanation (in their case addiction), they absolved themselves from any blame for their weight.

The participants believed that a diagnosis would be essential in order for them to receive the treatment they need but were overly optimistic about how this would happen and could not identify any possible treatments that may enable them to moderate their food intake. Their self-efficacy for change appeared very poor due, in part, to their own self-diagnosis, and they described seeking unregulated treatments out of desperation.

Much of the uncontrolled eating described by the participants here is comparable to behaviours seen in drug use, while some more closely resembled classification criteria for behavioural addictions. Whether FA is classified in the future or not, self-perceived FA should certainly be acknowledged by healthcare professionals, as the evidence from this study reveals that it plays a role in the way participants understand their uncontrolled eating, their belief in their ability to change these behaviours and therefore the likelihood that they will engage with health services. It also provides further support of the idea that the current recommendations for obesity services, which recommend nutrition and physical activity education combined with basic behaviour-change strategies, may be woefully inadequate for people experiencing the complex relationship with food and eating described in this study. Uncontrolled eating and related bingeing, grazing, obsessional thoughts, cravings and secret eating were all identified by the participants as barriers to them moderating their food intake. These are not addressed in standard weight management interventions. This has led some individuals to deduce that they must be suffering from an addiction, yet this view is often dismissed as a joke, so they feel hopeless and believe that no treatment will ever allow them to moderate their eating. These patients' uncontrolled eating behaviours and their concerns regarding their perceived addiction must be addressed by clinicians and researchers if any

effective treatments are to be made available in the future to individuals suffering from similar conditions.

References

All-Party Parliamentary Group on Obesity (2018) *The current landscape of obesity services*. https://www.obesityappg.com/inquiries/ (accessed August 2018).

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Washington, DC: Author.

Avena, N. M., Bocarsly, M. E., Rada, P., Kim, A., & Hoebel, B. G. (January 01, 2008). After daily bingeing on a sucrose solution, food deprivation induces anxiety and accumbens dopamine/acetylcholine imbalance. *Physiology & Behavior, 94,* 3, 309-315.

Avena, N. M., Gearhardt, A. N., Gold, M. S., Wang, G. J., & Potenza, M. N. (January 01, 2012). Tossing the baby out with the bathwater after a brief rinse? The potential downside of dismissing food addiction based on limited data. *Nature Reviews. Neuroscience, 13,* 7.)

Avena, N. M., Long, K. A., & Hoebel, B. G. (January 01, 2005). Sugar-dependent rats show enhanced responding for sugar after abstinence: Evidence of a sugar deprivation effect. *Physiology & Behavior, 84,* 3, 359-362

Avena, N. M., Rada, P., & Hoebel, B. G. (January 01, 2008). Evidence for sugar addiction: Behavioral and neurochemical effects of intermittent, excessive sugar intake.*Neuroscience and Biobehavioral Reviews, 32,* 1, 20-39.

Baillie, L., & Matiti, M. (2013). Dignity, equality and diversity: an exploration of how discriminatory behaviour of healthcare workers affects patient dignity. *Diversity & Equality in Health and Care*, *10*(1).

Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological review*, *84*(2), 191.

Berner, L. A., Avena, N. M., & Hoebel, B. G. (January 01, 2008). Bingeing, self-restriction, and increased body weight in rats with limited access to a sweet-fat diet.*Obesity (silver Spring, Md.), 16,* 9, 1998-2002.

Best, D. W., & Lubman, D. I. (2012). The recovery paradigm: A model of hope and change for alcohol and drug addiction.*Australian family physician*, *41*(8), 593.

Black, C. M. (2016). *An independent review into the impact on employment outcomes of drug or alcohol addiction, and obesity* (Great Britain., Department for Work and Pensions.). London: HM Government.

Blum, K., Cull, J. G., Braverman, E. R., & Comings, D. E. (1996). Reward deficiency syndrome. *American Scientist*, (2), 132.

Brauhardt, A., Rudolph, A., & Hilbert, A. (2014). Implicit cognitive processes in binge-eating disorder and obesity.*Journal of behavior therapy and experimental psychiatry*, *45*(2), 285-290.

Brewis, A. A. (2014). Stigma and the perpetuation of obesity.*Social Science & Medicine*, *118*, 152-158.

Brzezinski, Mika. *Obsessed: America's Food Addiction--and My Own*. Weinstein Books, 2013.

Butland, B., Jebb, S., Kopelman, P., McPherson, K., Thomas, S., Mardell, J., & Parry, V. (2015). Tackling obesities: future choices–project report . London: Foresight Programme of the Government Office for Science, 2007.

Byrne, S., Cooper, Z., & Fairburn, C. (January 01, 2003). Weight maintenance and relapse in obesity: a qualitative study. *International Journal of Obesity*, *27*, 955-962.

Cameron, J. D., Goldfield, G. S., Finlayson, G., Blundell, J. E., & Doucet, É. (2014). Fasting for 24 hours heightens reward from food and food-related cues. *PloS one*, *9*(1), e85970.

Cash, T. F., & Deagle, E. A. (1997). The nature and extent of body-image disturbances in anorexia nervosa and bulimia nervosa: A meta-analysis. *International Journal of Eating Disorders*, *22*(2), 107-126.

Cepeda-Benito, A., Gleaves, D. H., Fernández, M. C., Vila, J., Williams, T. L., & Reynoso, J. (January 01, 2000). The development and validation of Spanish versions of the State and Trait Food Cravings Questionnaires. *Behaviour Research and Therapy*, 38, 11, 1125-38.

Close, J. (2013). *Women's Experiences of Comfort Eating: An Interpretative Phenomenological Analysis* (Doctoral dissertation, University of Leicester).

Colantuoni, C., Rada, P., McCarthy, J., Patten, C., Avena, N. M., Chadeayne, A., & Hoebel, B. G. (June 01, 2002). Evidence That Intermittent, Excessive Sugar Intake Causes Endogenous Opioid Dependence. *Obesity Research*, *10*, 6, 478-488.

Colles, S. L., Dixon, J. B., & O'Brien, P. E. (2008). Grazing and loss of control related to eating: Two high-risk factors following bariatric surgery. *Obesity*, *16*(3), 615-622. doi:10.1038/oby.2007.101

Colls, R., & Evans, B. (2014). Making space for fat bodies? A critical account of 'the obesogenic environment'. *Progress in Human Geography*, *38*(6), 733-753.

Concei çã o, E. M., Mitchell, J. E., Engel, S. G., Machado, P. P., Lancaster, K., & Wonderlich, S. A. (2014). What is "grazing"? Reviewing its definition, frequency, clinical

characteristics, and impact on bariatric surgery outcomes, and proposing a standardized definition. *Surgery for Obesity and Related Diseases*, *10*(5), 973-982.

Conceição, E. M., Mitchell, J. E., Machado, P. P. P., Vaz, A. R., Pinto-Bastos, A., Ramalho, S., Brandão, I., ... Freitas, A. C. (January 01, 2017). Repetitive eating questionnaire [Rep(eat)-Q]: Enlightening the concept of grazing and psychometric properties in a Portuguese sample. *Appetite, 117,* 351-358.

Concei ção, E., Mitchell, J. E., Vaz, A. R., Bastos, A. P., Ramalho, S., Silva, C., ... & Machado, P. P. (2014). The presence of maladaptive eating behaviors after bariatric surgery in a cross sectional study: importance of picking or nibbling on weight regain. *Eating behaviors*, *15*(4), 558-562.

Conradt, M., Dierk, J. M., Schlumberger, P., Albohn, C., Rauh, E., Hinney, A., ... & Rief, W. (2009). A consultation with genetic information about obesity decreases self-blame about eating and leads to realistic weight loss goals in obese individuals. *Journal of psychosomatic research,66*(4), 287-295.

Curry, S., Marlatt, G. A., & Gordon, J. R. (1987). Abstinence violation effect: Validation of an attributional construct with smoking cessation. *Journal of Consulting and Clinical Psychology, 55*(2), 145.

Curtis, C., & Davis, C. (January 01, 2014). A qualitative study of binge eating and obesity from an addiction perspective. *Eating Disorders, 22,* 1, 19-32.

Dare, P. S., & Derigne, L. (2010). Denial in alcohol and other drug use disorders: A critique of theory. *Addiction Research & Theory*, *18*(2), 181-193. doi:10.3109/16066350902770441

Davis, C. (2017). A commentary on the associations among 'food addiction', binge eating disorder, and obesity: Overlapping conditions with idiosyncratic clinical features. *Appetite*, *115,* 3-8.

Dawe, S., & Loxton, N. J. (January 01, 2004). The role of impulsivity in the development of substance use and eating disorders. *Neuroscience and Biobehavioral Reviews, 28,* 3, 343-351.

De Wit, H. (July 01, 1994). Priming effects with drugs and other reinforcers. *Pharmacology Biochemistry and Behavior, 48,* 3, 825-826.

Department of National Statistics (2018) *Statistics on Obesity, Physical Activity and Diet - England, 2018* UK: NHS digital

Devonport, T. J., Nicholls, W., & Fullerton, C. (January 01, 2017). A systematic review of the association between emotions and eating behaviour in normal and overweight adult populations. *Journal of Health Psychology, 2017.*

Di, C. G., & Imperato, A. (January 01, 1988). Drugs abused by humans preferentially increase synaptic dopamine concentrations in the mesolimbic system of freely moving rats. *Proceedings of the National Academy of Sciences of the United States of America,85,* 14, 5274-8.

Drewnowski, A. (1995). Energy intake and sensory properties of food. *The American journal of clinical nutrition*, *62*(5), 1081S-1085S.

Drewnowski, A., Krahn, D. D., Demitrack, M. A., Nairn, K., & Gosnell, B. A. (January 01, 1992). Taste responses and preferences for sweet high-fat foods: Evidence for opioid involvement. *Physiology & Behavior*, *51*, 2, 371-379.

Durso, L. E., & Latner, J. D. (2008). Understanding self-directed stigma: development of the weight bias internalization scale. *Obesity*, *16*(S2).

Eichen, D. M., Lent, M. R., Goldbacher, E., & Foster, G. D. (January 01, 2013). Exploration of "food addiction" in overweight and obese treatment-seeking adults.*Appetite, 67,* 22-4.

Elfhag, K., & Morey, L. C. (2008). Personality traits and eating behavior in the obese: poor self-control in emotional and external eating but personality assets in restrained eating.*Eating behaviors*, *9*(3), 285-293.

Elfhag, K., & Rössner, S. (2005). Who succeeds in maintaining weight loss? A conceptual review of factors associated with weight loss maintenance and weight regain.*Obesity reviews*, *6*(1), 67-85.

Espel-Huynh, H. M., Muratore, A. F., & Lowe, M. R. (2018). A narrative review of the construct of hedonic hunger and its measurement by the Power of Food Scale. *Obesity Science & Practice*.

Everitt, B. J. (2014). Neural and psychological mechanisms underlying compulsive drug seeking habits and drug memories–indications for novel treatments of addiction.*European Journal of Neuroscience*, *40*(1), 2163-2182.

Everitt, B. J., & Robbins, T. W. (2005). Neural systems of reinforcement for drug addiction: from actions to habits to compulsion. *Nature neuroscience*, *8*(11), 1481.

Ferraro, Z. M., Patterson, S., & Chaput, J. P. (2015). Unhealthy weight control practices: culprits and clinical recommendations. *Clinical Medicine Insights: Endocrinology and Diabetes*, *8*, CMED-S23060.

Fruh, S. M., Nadglowski, J., Hall, H. R., Davis, S. L., Crook, E. D., & Zlomke, K. (July 01, 2016). Obesity Stigma and Bias. *The Journal for Nurse Practitioners, 12,* 7, 425-432.

Garip, G., & Yardley, L. (April 01, 2011). A synthesis of qualitative research on overweight and obese people's views and experiences of weight management. *Clinical Obesity, 1,* 110-126.

Gearhardt, A. N., Corbin, W. R., & Brownell, K. D. (January 01, 2009). Preliminary validation of the Yale Food Addiction Scale. *Appetite,* 52, 2, 430-6

Gearhardt, A. N., Corbin, W. R., & Brownell, K. D. (January 01, 2016). Development of the Yale Food Addiction Scale Version 2.0. Psychology of Addictive Behaviors *: Journal of the Society of Psychologists in Addictive Behaviors,* 30, 1, 113-21.

Gearhardt, A. N., White, M. A., Masheb, R. M., Morgan, P. T., Crosby, R. D., & Grilo, C. M. (July 01, 2012). An examination of the food addiction construct in obese patients with binge eating disorder. *International Journal of Eating Disorders,* 45, 5, 657-663.

Gearhardt, A. N., Yokum, S., Orr, P. T., Stice, E., Corbin, W. R., & Brownell, K. D. (2011). Neural Correlates of Food Addiction. *Arch Gen Psychiatry, 68,* 808-816

Gerlach, G., Herpertz, S., & Loeber, S. (January 01, 2015). Personality traits and obesity: a systematic review. *Obesity Reviews, 16,* 1, 32-63.

Godfrey, K. M., Gallo, L. C., & Afari, N. (April 01, 2015). Mindfulness-based interventions for binge eating: a systematic review and meta-analysis. *Journal of Behavioral Medicine,38,* 2, 348-362.

Goldschmidt, A. B. (April 01, 2017). Are loss of control while eating and overeating valid constructs? A critical review of the literature. *Obesity Reviews, 18,* 4, 412-449.

Gray, M. T. (2005). The shifting sands of self: a framework for the experience of self in addiction. *NURSING PHILOSOPHY,* (2). 119.

Green, A. R., Larkin, M., & Sullivan, V. (January 01, 2009). Oh Stuff It! The Experience and Explanation of Diet Failure. *Journal of Health Psychology, 14,* 7, 997-1008.

Grilo, C. M. (2002). Binge eating disorder. *Eating disorders and obesity: A comprehensive handbook, 2,* 178-182.

Guerrieri, R., Nederkoorn, C., & Jansen, A. (2007). How impulsiveness and variety influence food intake in a sample of healthy women. *Appetite, 48*(1), 119-122.

Guerrieri, R., Nederkoorn, C., Stankiewicz, K., Alberts, H., Geschwind, N., Martijn, C., & Jansen, A. (2007). The influence of trait and induced state impulsivity on food intake in normal-weight healthy women. *Appetite, 49*(1), 66-73.

Hagan, M. M., Shuman, E. S., Oswald, K. D., Corcoran, K. J., Profitt, J. H., Blackburn, K., ... & Birbaum, M. C. (2002). Incidence of chaotic eating behaviors in binge-eating disorder: contributing factors. *Behavioral Medicine*, *28*(3), 99-105.

Hardman, C. A., Rogers, P. J., Dallas, R., Scott, J., Ruddock, H. K., & Robinson, E. (August 01, 2015). “Food addiction is real”. The effects of exposure to this message on self-diagnosed food addiction and eating behaviour. *Appetite, 91,* 179-184.

Harris, J. L., Hess, C. J., Jain, N. K., Francis, D. M., Albrecht, T. E., & Hunter, T. D. (2017). *U.S. Patent Application No. 14/983,083*.

Hasin, D. S., O'Brien, C. P., Auriacombe, M., Borges, G., Bucholz, K., Budney, A., Compton, W. M., ... Grant, B. F. (January 01, 2013). DSM-5 criteria for substance use disorders: recommendations and rationale. *The American Journal of Psychiatry*, 170, 8, 834-51.

Heatherton, T. F., & Baumeister, R. F. (1991). Binge eating as escape from self-awareness. *Psychological bulletin*, *110*(1), 86.

Hebebrand, J., Albayrak, Ö., Adan, R., Antel, J., Dieguez, C., de, J. J., Leng, G., ... Dickson, S. L. (November 01, 2014). “Eating addiction”, rather than “food addiction”, better captures addictive-like eating behavior. *Neuroscience and Biobehavioral Reviews,47,* 295-306.

Herman, C., & Polivy, J. (1980). Restrained eating (In AJ Stunkard (Ed.), Obesity (pp. 208-225). *Philadelphia: WB Saunders*.

Hetherington, M. M., & MacDiarmid, J. I. (January 01, 1993). "Chocolate addiction": a preliminary study of its description and its relationship to problem eating. *Appetite, 21,* 3, 233-46.

Hudson, J. I., Hiripi, E., Pope, H. G., & Kessler, R. C. (2007). The prevalence and correlates of eating disorders in the National Comorbidity Survey Replication. *Biological psychiatry*,*61*(3), 348-358.

Husserl, E. (1927). Phenomenology. For Encyclopaedia Britannica (R. Palmer, Trans. and revised). *Smith, JA, Flowers, P. & Larkin, M.(2009). Interpretative Phenomenological Analysis: Theory, Method and Research. Los Angeles: SAGE*.

Ifland, J. R., Preuss, H. G., Marcus, M. T., Rourke, K. M., Taylor, W. C., Burau, K., Jacobs, W. S., ... Manso, G. (January 01, 2009). Refined food addiction: a classic substance use disorder. *Medical Hypotheses, 72,* 5, 518-26.

Ivezaj, V., Kessler, E. E., Lydecker, J. A., Barnes, R. D., White, M. A., & Grilo, C. M. (2017). Loss-of-control eating following sleeve gastrectomy surgery. *Surgery for Obesity and Related Diseases, 13*(3), 392-398.

Johnson, F., Pratt, M., & Wardle, J. (2012). Dietary restraint and self-regulation in eating behavior. *International journal of obesity*, *36*(5), 665.

Johnson, P. M., & Kenny, P. J. (January 01, 2010). Dopamine D2 receptors in addiction-like reward dysfunction and compulsive eating in obese rats. *Nature Neuroscience, 13,*5, 635-41.

Kass, A. E., Wilfley, D. E., Eddy, K. T., Boutelle, K. N., Zucker, N., Peterson, C. B., ... & Goldschmidt, A. B. (2017). Secretive eating among youth with overweight or obesity.*Appetite, 114*, 275-281.

Katterman, S. N., Kleinman, B. M., Hood, M. M., Nackers, L. M., & Corsica, J. A. (2014). Mindfulness meditation as an intervention for binge eating, emotional eating, and weight loss: a systematic review. *Eating behaviors*, *15*(2), 197-204.

Kelly, J. F., Humphreys, K., & Ferri, M. (2017). Alcoholics Anonymous and other 12-step programs for alcohol use disorder. *The Cochrane Library*.

Klein, A. V., & Kiat, H. (2015). Detox diets for toxin elimination and weight management: a critical review of the evidence.*Journal of human nutrition and dietetics*, *28*(6), 675-686.

Koob, G. F., & Bloom, F. E. (1988). Cellular and molecular mechanisms of drug dependence. *Science*, *242*(4879), 715-723.

Kristeller, J. L., & Wolever, R. Q. (2010). Mindfulness-based eating awareness training for treating binge eating disorder: the conceptual foundation. *Eating disorders*, *19*(1), 49-61.

Latner, J. D., Puhl, R. M., Murakami, J. M., & O'Brien, K. S. (January 01, 2014). Food addiction as a causal model of obesity. Effects on stigma, blame, and perceived psychopathology. *Appetite, 77*, 77-82.

Lee, N. M., Carter, A., Owen, N., & Hall, W. D. (September 01, 2012). The neurobiology of overeating: Treating overweight individuals should make use of neuroscience research, but not at the expense of population approaches to diet and lifestyle. *Embo Reports, 13*, 9, 785-790.

Leehr, E. J., Krohmer, K., Schag, K., Dresler, T., Zipfel, S., & Giel, K. E. (2015). Emotion regulation model in binge eating disorder and obesity-a systematic review. *Neuroscience & Biobehavioral Reviews*, *49*, 125-134.

Leibowitz, S. F., & Shor-Posner, G. (1986). Brain serotonin and eating behavior. *Appetite*, *7*, 1-14.

Lewis, S., Thomas, S. L., Blood, R. W., Castle, D. J., Hyde, J., & Komesaroff, P. A. (2011). How do obese individuals perceive and respond to the different types of obesity stigma that they encounter in their daily lives? A qualitative study.*Social science & medicine*, *73*(9), 1349-1356.

Lowe, M. R., & Butryn, M. L. (2007). Hedonic hunger: a new dimension of appetite?. *Physiology & behavior*, *91*(4), 432-439.

Lowe, M. R., Butryn, M. L., Didie, E. R., Annunziato, R. A., Thomas, J. G., Crerand, C. E., ... & Halford, J. (2009). The Power of Food Scale. A new measure of the psychological influence of the food environment. *Appetite*, *53*(1), 114-118.

Major, B., Hunger, J. M., Bunyan, D. P., & Miller, C. T. (2014). The ironic effects of weight stigma. *Journal of Experimental Social Psychology*, *51*, 74-80.

Malika, N. M., Hayman, L. W. J., Miller, A. L., Lee, H. J., & Lumeng, J. C. (January 01, 2015). Low-income women's conceptualizations of food craving and food addiction.*Eating Behaviors, 18,* 25-9.

Massey, A., & Hill, A. J. (2012). Dieting and food craving. A descriptive, quasi-prospective study. *Appetite, 58*(3), 781-785.

McFadden, K. L., Cornier, M.-A., & Tregellas, J. R. (June 06, 2014). The role of alpha-7 nicotinic receptors in food intake behaviors. *Frontiers in Psychology*, *5.*

McVay, M. A., Steinberg, D. M., Askew, S., Kaphingst, K. A., & Bennett, G. G. (2016). Genetic causal attributions for weight status and weight loss during a behavioral weight gain prevention intervention. *Genetics in Medicine*, *18*(5), 476.

Meadows, A., & Higgs, S. (2013). I think, therefore I am? Characteristics of a non-clinical population of self-perceived food addicts. *Appetite*, *71*482. doi:10.1016/j.appet.2013.06.046

Meadows, A., Nolan, L. J., & Higgs, S. (2017). Self-perceived food addiction: prevalence, predictors, and prognosis.*Appetite*, *114*, 282-298.

Meisel, S. F., & Wardle, J. (2014). 'Battling my biology': psychological effects of genetic testing for risk of weight gain.*Journal of genetic counseling*, *23*(2), 179-186.

Meule, A. (2011). How prevalent is "food addiction"?. *Frontiers in psychiatry*, *2*, 61.

Meule, A. (2015). Focus: addiction: back by popular demand: a narrative review on the history of food addiction research.*The Yale journal of biology and medicine*, *88*(3), 295.

Meurk, C., Partridge, B., Carter, A., Hall, W., Morphett, K., & Lucke, J. (2014). Public attitudes in Australia towards the claim that addiction is a (brain) disease. *Drug and alcohol review*, *33*(3), 272-279.

Montesi, L., El Ghoch, M., Brodosi, L., Calugi, S., Marchesini, G., & Dalle Grave, R. (2016). Long-term weight loss maintenance for obesity: a multidisciplinary approach.*Diabetes, metabolic syndrome and obesity: targets and therapy*, *9*, 37.

Mooney, J. P., Burling, T. A., Hartman, W. M., & Brenner-Liss, D. (January 01, 1992). The abstinence violation effect and very low calorie diet success. *Addictive Behaviors,17,* 4, 319-24.

National Institute for Clinical Excellence. (2014). Weight management: lifestyle services for overweight or obese adults.*PH53, NICE, London*.

National Obesity Observatory. (2011). Obesity and mental health. Available at: http://www.noo.org.uk/uploads/doc/vid_10266_Obesity%20and%20mental%20health_FINAL_070311_MG.pdf [accessed 28 October 2017].

Nicholls, W., Devonport, T. J., & Blake, M. (January 01, 2016). The association between emotions and eating behaviour in an obese population with binge eating disorder. *Obesity Reviews, 17,* 1, 30-42.

O'Reilly, M., & Lester, J. N. (2017). Classification Systems and Diagnostic Processes. In *Examining Mental Health through Social Constructionism* (pp. 53-73). Palgrave Macmillan, Cham.

Obesity and overweight. (n.d.). Retrieved March 03 2017, from http://www.who.int/mediacentre/factsheets/fs311/en/

Office for National Statistics. Statistical bulletin:Adult smoking habits in the UK: 2016. (n.d.). Retrieved February 06, 2018, from https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpectancies/bulletins/adultsmokinghabitsingreatbritain/2016

Ogden, J., & Wardle, J. (May 01, 1991). Cognitive and emotional responses to food.*International Journal of Eating Disorders, 10,* 3, 297-311.

Ogden, J., Clementi, C., & Aylwin, S. (2006). The impact of obesity surgery and the paradox of control: A qualitative study.*Psychology & health*, *21*(2), 273-293.

Passamonti, L., Rowe, J. B., Schwarzbauer, C., Ewbank, M. P., von, . H. E., & Calder, A. J. (January 01, 2009). Personality predicts the brain's response to viewing appetizing foods: the neural basis of a risk factor for overeating. *The Journal of Neuroscience : the Official Journal of the Society for Neuroscience, 29,* 1, 43-51.

Paul-Ebhohimhen, V., & Avenell, A. (2009). A systematic review of the effectiveness of group versus individual treatments for adult obesity. *Obesity Facts*, *2*(1), 17-24.

Pearl, R. L., & Lebowitz, M. S. (January 01, 2014). Beyond personal responsibility: effects of causal attributions for overweight and obesity on weight-related beliefs, stigma, and policy support. *Psychology & Health, 29,* 10, 1176-91.

Pedram, P., Wadden, D., Amini, P., Gulliver, W., Randell, E., Cahill, F., Vasdev, S., ... Sun, G. (January 01, 2013). Food addiction: its prevalence and significant association with obesity in the general population. *Plos One, 8,* 9.)

Pescosolido, B. A., Martin, J. K., Long, J. S., Medina, T. R., Phelan, J. C., & Link, B. G. (January 01, 2010). "A disease like any other"? A decade of change in public reactions to schizophrenia, depression, and alcohol dependence. *The American Journal of Psychiatry, 167,* 11, 1321-30.

Phelan, S. M., Burgess, D. J., Yeazel, M. W., Hellerstedt, W. L., Griffin, J. M., & Ryn, V. M. (2015). Impact of weight bias and stigma on quality of care and outcomes for patients with obesity. *Obesity Reviews*, *16*(4), 319-326.

Polivy, J., & Herman, C. P. (1993). Etiology of binge eating: Psychological mechanisms.

Public Health England (2017). *Health matters: obesity and the food environment - GOV.UK*. [online] Available at: https://www.gov.uk/government/publications/health-matters-obesity-and-the-food-environment/health-matters-obesity-and-the-food-environment--2 [Accessed 21 December 2017].

Puhl, R. M., & Heuer, C. A. (January 01, 2009). The stigma of obesity: a review and update. *Obesity (silver Spring, Md.), 17,* 5, 941-64.

Puhl, R. M., Latner, J. D., O'brien, K., Luedicke, J., Danielsdottir, S., & Forhan, M. (2015). A multinational examination of weight bias: predictors of anti-fat attitudes across four countries. *International Journal of Obesity*, *39*(7), 1166.

Puhl, R. M., Moss-Racusin, C. A., & Schwartz, M. B. (2007). Internalization of weight bias: implications for binge eating and emotional well-being. *Obesity*, *15*(1), 19-23.

Pursey, K., Stanwell, P., Gearhardt, A., Collins, C., & Burrows, T. (December 01, 2014). The prevalence of food addiction as assessed by the Yale Food Addiction Scale: A systematic review. Obesity Research & Clinical Practice, 8, 80-81

Radcliffe, P., & Stevens, A. (2008). Are drug treatment services only for 'thieving junkie scumbags'? Drug users and the management of stigmatised identities. *Social Science & Medicine*, *67*(7), 1065-1073.

Rasmussen, N. (February 01, 2015). Stigma and the addiction paradigm for obesity: lessons from 1950s America. *Addiction, 110,* 2, 217-225.

Ratcliffe, D., & Ellison, N. (January 01, 2015). Obesity and internalized weight stigma: a formulation model for an emerging psychological problem. *Behavioural and Cognitive Psychotherapy, 43,* 2, 239-52.

Robinson, T. E., & Berridge, K. C. (2008). The incentive sensitization theory of addiction: some current issues.*Philosophical Transactions of the Royal Society B: Biological Sciences, 363*(1507), 3137-3146.

Robinson, T. E., & Berridge, K. C. (January 01, 1993). The neural basis of drug craving: an incentive-sensitization theory of addiction. *Brain Research Reviews, 18,* 3, 247.

Rogers, P. J. (February 01, 2017). Food and drug addictions: Similarities and differences. *Pharmacology Biochemistry and Behavior, 153,* 11, 182-190.

Rogers, P. J., & Brunstrom, J. M. (January 01, 2016). Appetite and energy balancing.*Physiology & Behavior, 164,* 465-471.

Rogers, P. J., & Smit, H. J. (January 01, 2000). Food Craving and Food "Addiction":A Critical Review of the Evidence From a Biopsychosocial Perspective. *Pharmacology, Biochemistry and Behavior, 66,* 1, 3-14.

Rommel, D., Nandrino, J. L., Ducro, C., Andrieux, S., Delecourt, F., & Antoine, P. (January 01, 2012). Impact of emotional awareness and parental bonding on emotional eating in obese women. *Appetite, 59,* 1, 21-6.

Ruddock, H. K., Dickson, J. M., Field, M., & Hardman, C. A. (December 01, 2015). Eating to live or living to eat? Exploring the causal attributions of self-perceived food addiction.*Appetite, 95,* 1, 262-268.

Saladin, M. E., & Santa Ana, E. J. (2004). Controlled drinking: More than just a controversy. *Current Opinion in Psychiatry,17*(3), 175-187.

Schulte, E. M., Avena, N. M., Gearhardt, A. N., & Weir, T. L. (February 18, 2015). Which Foods May Be Addictive? The Roles of Processing, Fat Content, and Glycemic Load.*Plos One, 10,* 2.)

Schulz, S., & Laessle, R. G. (2010). Associations of negative affect and eating behaviour in obese women with and without binge eating disorder. *Eating and Weight Disorders-Studies on Anorexia, Bulimia and Obesity, 15*(4), e287-e293.

Schvey, N. A., Puhl, R. M., & Brownell, K. D. (2011). The impact of weight stigma on caloric consumption. *Obesity,19*(10), 1957-1962.

Schwartz, M. B., & Brownell, K. D. (January 01, 2004). Obesity and body image. *Body Image, 1,* 1, 43-56.

Sellman, J. D., Foulds, J. A., Adamson, S. J., Todd, F. C., & Deering, D. E. (2014). DSM-5 alcoholism: a 60-year perspective. *Australian & New Zealand Journal of Psychiatry,48*(6), 507-511.

Sevinçer, G. M., Konuk, N., Bozkurt, S., & Coşkun, H. (January 01, 2016). Food addiction and the outcome of bariatric surgery at 1-year: Prospective observational study. *Psychiatry Research, 244,* 159-64.

Shinebourne, P., & Smith, J. A. (2009). Alcohol and the self: An interpretative phenomenological analysis of the experience of addiction and its impact on the sense of self and identity.*Addiction Research & Theory, 17*(2), 152-167.

Sjöström, L., Lindroos, A.-K., & Peltonen, M. (May 01, 2005). Lifestyle, diabetes, and cardiovascular risk factors 10 years after bariatric surgery. *Journal of Vascular Surgery,41,* 5, 911.

Smith, J. A. (1996). Beyond the divide between cognition and discourse: Using interpretative phenomenological analysis in health psychology. *Psychology and health, 11*(2), 261-271.

Smith, J. A., Flowers, P., & Larkin, M. (2009). *Interpretative phenomenological analysis: Theory, method, and research*. Los Angeles: SAGE.

Sobell, M. (2013). *Behavioral treatment of alcohol problems: Individualized therapy and controlled drinking* (Vol. 563). Springer Science & Business Media.

Stein, R. I., Kenardy, J., Wiseman, C. V., Dounchis, J. Z., Arnow, B. A., & Wilfley, D. E. (April 01, 2007). What's driving the binge in binge eating disorder?: A prospective examination of precursors and consequences. *International Journal of Eating Disorders,40,* 3, 195-203.

Stice, E., & Yokum, S. (2016). Gain in body fat is associated with increased striatal response to palatable food cues, whereas body fat stability is associated with decreased striatal response. *Journal of Neuroscience, 36*(26), 6949-6956.

Stunkard, A. J., & Messick, S. (1985). The three-factor eating questionnaire to measure dietary restraint, disinhibition and hunger. *Journal of psychosomatic research, 29*(1), 71-83.

Swinburn, B., Egger, G., & Raza, F. (January 01, 1999). Dissecting obesogenic environments: the development and application of a framework for identifying and prioritizing environmental interventions for obesity. *Preventive Medicine, 29,* 6, 563-70.

Tang, D. W., Fellows, L. K., Small, D. M., & Dagher, A. (January 01, 2012). Food and drug cues activate similar brain regions: a meta-analysis of functional MRI studies.*Physiology & Behavior, 106,* 3, 317-24.

Thomas, S., Karunaratne, A., Lewis, S., Castle, D., Knoesen, N., Honigman, R., ... & Komesaroff, P. (2010). 'Just bloody fat!': A qualitative study of body image, self-esteem and coping in obese adults. *International Journal of Mental Health Promotion*, *12*(1), 39-49.

Tiffany, S. T., & Wray, J. M. (2012). The clinical significance of drug craving. *Annals Of The New York Academy Of Sciences*,*1248*(1), 1-17. doi:10.1111/j.1749-6632.2011.06298.x

Tomiyama, A. J. (2014). Weight stigma is stressful. A review of evidence for the Cyclic Obesity/Weight-Based Stigma model. *Appetite*, *82*, 8-15.

Tsai, A. Y.-C., & Osborne, A. (November 01, 2017). Bariatric surgery. *Surgery (oxford)*,*35*, 11, 658-664.

Van Strien, T., Engels, R. C. M. E., Leeuwe, J. V., & Snoek, H. M. (January 01, 2005). The Stice model of overeating: Tests in clinical and non-clinical samples. *Appetite*, *45*, 3, 205-213.

Van Strien, T., Frijters, J. E., Bergers, G. P., & Defares, P. B. (1986). The Dutch Eating Behavior Questionnaire (DEBQ) for assessment of restrained, emotional, and external eating behavior. *International Journal of eating disorders*, *5*(2), 295-315.

Van Strien, T., van de Laar, F. A., van Leeuwe, J. F., Lucassen, P. L., van den Hoogen, H. J., Rutten, G. E., & van Weel, C. (2007). The dieting dilemma in patients with newly diagnosed type 2 diabetes: Does dietary restraint predict weight gain 4 years after diagnosis?. *Health Psychology*,*26*(1), 105.

Van, S. T., Frijters, J. E. R., Bergers, G. P. A., & Defares, P. B. (February 01, 1986). The Dutch Eating Behavior Questionnaire (DEBQ) for assessment of restrained, emotional, and external eating behavior. *International Journal of Eating Disorders*, 5, 2, 295-315.

Vartanian, L. R., & Novak, S. A. (2011). Internalized societal attitudes moderate the impact of weight stigma on avoidance of exercise. *Obesity*, *19*(4), 757-762.

Volkow, N. D., Baler, R. D., & Goldstein, R. Z. (2011). Addiction: pulling at the neural threads of social behaviors.*Neuron*, *69*(4), 599-602.

Wardle, J., & Beales, S. (1988). Control and loss of control over eating: An experimental investigation. *Journal of Abnormal Psychology*, *97*(1), 35.

Weiner, S. (1998). The addition of overeating: Self-help groups as treatment models. *Journal Of Clinical Psychology*, *54*(2), 163-167

Weinstein, B. A., Raber, M. J., & Slaght, E. F. (1999). Reexamining the clinical response to denial in alcoholics.*Employee Assistance Quarterly*, *14*(4), 45-52.

Westwater, M. L., Fletcher, P. C., & Ziauddeen, H. (January 01, 2016). Sugar addiction: the state of the science. *European Journal of Nutrition, 55*, 55-69.

Wiepkema, P. R. (January 01, 1971). Positive Feedbacks At Work During Feeding.*Behaviour, 39*, 266-273.

Wise, R. A. (January 01, 2002). Brain reward circuitry: insights from unsensed incentives. *Neuron, 36,* 2, 229-40.

World Health Organization (WHO). (2017). Obesity and Overweight factsheet from the WHO. *Health*.

Wurtman, R. J., & Wurtman, J. J. (1995). Brain serotonin, carbohydrate-craving, obesity and depression. *Obesity*, *3*(S4).

Yang, L. H., Wong, L. Y., Grivel, M. M., & Hasin, D. S. (2017). Stigma and substance use disorders: an international phenomenon. *Current opinion in psychiatry*, *30*(5), 378-388.

Zakrzewski, R. F., & Hector, M. A. (2004). The lived experiences of alcohol addiction: Men of alcoholics anonymous. *Issues in Mental Health Nursing*, *25*(1), 61-77.

Zeeck, A., Stelzer, N., Linster, H. W., Joos, A., & Hartmann, A. (September 01, 2011). Emotion and eating in binge eating disorder and obesity. *European Eating Disorders Review, 19*, 5, 426-437.

Zeevi, D., Korem, T., Zmora, N., Israeli, D., Rothschild, D., Weinberger, A., ... & Suez, J. (2015). Personalized nutrition by prediction of glycemic responses. *Cell*, *163*(5), 1079-1094.

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Do you believe yourself to be addicted to food?

Research Study Information sheet

You are being invited to take part in a research study. Before you decide to take part in this research study, it is important for you to understand why the research is being carried out and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Thank you for reading this.

Who is the researcher?

My name is Sophie Edwards, I am a Trainee Health Psychologist at London Metropolitan University. The project is being done as part of my Professional Doctorate and will be supervised by Dr Esther Murray CPsychol, Registered Health Psychologist.

What is the purpose of the study?

'Food addiction' has been the focus of media attention and research in recent years. This study aims to explore the experiences and beliefs of individuals who believe themselves to be addicted to food. It is hoped that the finding may help to inform successful weight loss interventions in the future.

Who can take part in the study?

I wish to recruit six to eight people who have a BMI of over 30 and who identify themselves as being addicted to food.

Do I have to take part?

No, participation is completely voluntary. If you do decide to take part you will be given this information sheet to keep and you will be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time, without having to give a reason.

What does the study involve?

The study involves an interview that will take approximately one hour. The interview will take place at the same location you attend group and will be recorded. You will be free to stop the interview at any point should you wish to.

Are data treated confidentially?

After the interview, I will transcribe the data. At this point, your transcript be given a pseudonym to identify it as yours, your name will not be used, and so, your data will be anonymous. The code will ensure that if, after the interview has taken place, you wish to withdraw your data you will still be able to. In that case, your data will not be used.

What are the possible disadvantages and risks of taking part?

During the interview you will be asked about your eating behaviour and weight issues. These are possibly sensitive subject matters and you may not feel comfortable discussing them. You will, however, be free to stop the interview at any point and will not be required to talk about any subjects that you do not feel comfortable discussing. Some people feel a sense of relief after talking about struggles they are having.

What will happen to the results of the research study?

The study will be written up as part of the researcher's Professional Doctorate in Health Psychology. Participants will be referred to by their pseudonym in the write up and will not be identifiable**.**

Further Information

If you wish to participate, please complete the attached consent form and return it in the envelope provided. For further information please contact me, Sophie Edwards, at SOE0088@my.londonmet.ac.uk or the research supervisor, Dr Esther Murray, at e.murray@londonmet.ac.uk

Thank you for taking the time to read this information sheet which is yours to keep, if you take part in the study you will be given a copy of your consent form for you to keep.

Appendix 2- Consent form

London Metropolitan University

166-220 Holloway Road,
London,

N7 8DB

Email: SOE0088@my.londonmet.ac.uk

An IPA Study into the Lived Experience of Food Addiction

Thank you for your interest in taking part in this study. An information sheet is included for you to read and keep.

If you are happy to take part in this study then please fill in the attached consent form and return it in the envelope provided and I will contact you in order to arrange an interview time to suit you. I endeavour to contact you within one week of receiving your consent. You are able to withdraw from the study at any time.

If you would like any further information please contact me at SOE0088@my.londonet.ac.uk or my supervisor, Dr Esther Murray, at e.muray@londonmet.ac.uk.

Consent (please complete and return)

☐ I have read the information sheet regarding the study and have had the opportunity to ask questions.

☐ I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason.

☐ I agree to be contacted by the researcher Sophie Edwards.

The most convenient day to contact me is …….

The most convenient time to contact me is ……

Please contact me on telephone number ……...

Signed .....…….

Print……..

Date …….

Appendix 3- Debrief sheet

London Metropolitan University

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Email: SOE0088@my.londonmet.ac.uk

An IPA Study into the Lived Experience of Food Addiction

DEBRIEF SHEET

Thank you for taking part in the interview for this study. The data from this interview will be analysed to explore the experience of being 'addicted' to food. Your personal details will not be included in this process. The main aim of the study was to explore the experiences of individuals who feel that they are addicted to food.

If you have any questions regarding this please feel free to contact us at **SOE0088@my.londonmet.ac.uk or e.murray@londonmet.ac.uk** and we will be happy to answer any questions or receive any comments/feedback.

We would like to remind you that all data is treated confidentially and your personal details are not included in any write ups. However, you still have the right to withdraw your data, as your participation is completely voluntary. To do this, simply phone or email us and we will be happy to do so.

If you would like to talk to someone or find out information about where you can receive help for any health related problems. The following registered agencies may be useful to you:

BEAT
Provide help to those who are struggling with their eating behaviour, including Binge Eating Disorder
0800 634 0814

Samaritans
Provide confidential emotional support 24 hours a day via phone or e mail.
Tel: 08457 90 90 90
Web: www.samaritans.org

NHS Direct
The NHS 24 hour helpline.
Tel: 0845 4647
Web: www.nhsdirect.nhs.uk

Again, we would like to thank you for helping us with this study.

Sophie Edwards

Appendix 4- Example of analysis

I: So, you've agreed to take part in this research because you believe that you are addicted to food. What makes you believe that?

P: Well, I just live and breathe for food. Um, just love it, it's my life. Wake up in the night, think of food. Um, just can't stop eating it. Um, you can't, obviously do without it. But it's all food, even if I feel...I never feel full but sometimes I get to the stage where you feel slightly sick maybe, because you've eaten too much. And that still wouldn't put me off, I'd still have to have more. Um, I just feel...that it is a drug, that you are addicted to it because I can't get enough of it. Um, I do secret eating.

I: Okay

P: Which I think is absolutely terrible. I would hide things in the cupboard so my husband doesn't find them because I'd be really upset and angry if he's found them...because it's something I like and want so much. Um....I don't know how else to explain it. It's...ice cream, I can just carry on eating ice cream like it's going out of fashion. I'm tasting it but the taste is so lovely I always want more...and more and more. Um, the roast dinner. I could eat a roast dinner and them I could go and eat another one. Um, and I'd still have pudding and even them I'm looking round, 'ooh what other food can I have?'

I: So it's all types of food then?

P: Yeah, everything.

I: Any one thing that are more than others?

P: Mmm, probably more towards sweet stuff more. Um, got sleep apnea and diabetes now which obviously doesn't help me. Um, I said for years that I thought there was an addiction to food, or that I had an addiction to food, but nobody ever recognized it and thought it was serious. They just laugh at you and poo-poo the, sort of, answer really. But if you've got drug abuse or an alcoholic, smoking, always seems to

be help more readily available out there. I used to smoke but I found that quite easy to give up. I think because you can't do without food, you're still getting that taste all the time. Um, sometimes I feel a pig if you're at a party or a buffet: I'm the person who will keep sneaking up and sneaking up because it seems such a waste for all this food, and there's me, who loves it so much....

I: So would seeing it go in the bin be...?

P: Yeah, I suppose it's the way you're brought up as well, no to waste things. But, I walked past thorn- I don't eat a lot of chocolate- I can walk past thorntons and think 'ooooh' and I go in and buy them. I may not have enough money then to put petrol in my car but I have to buy the food...for me to eat.

I: Mmmm so it takes priority over other things?

P: Oh yeah, definitely. Very much so. As I say, I wake up in the night to go to the toilet or something and I go look in the fridge, see what I can find because food is the first thing on my mind.

I: Mmmm so similar to how a smoker might-

P: Yeah

I: First thing they reach for is a-

P: Cigarette. Or like a fix for a druggie, a fix or something. I just have to have that food fix, it doesn't matter what it is, it can even be something I don't really like. But that taste and that feeling of...in my mouth.

I: So you'd even eat things that you're not particularly keen on?

P: Yeah, definitely. I mean, there's not many things I don't like. I can't really name...probably more, sort of, unusual, I don't like pickled eggs and things like that. Unusual... sort of foods but I'll give it a go if it looks

cannot be with food without eating it

apetising and I want it and it's there, then it needs to be eaten and I need to eat it.

If its there I have to eat it

I: And how does it feel if you try not to eat it?

Drug language

P: I would say I get withdrawal symptoms: I get a headache, I get upset, I...feel sick.

I: And emotionally does it affect you?

Comfort → feels nice

P: Yes, because it's also a comfort for me as well. It releases my stress levels, much the same as a smoker; they will reach for a cigarette. Or an alcoholic will reach for a drink...um...I just have to reach for food. As I say, I don't always have the money to go out shopping, but I go, then as soon as it's there I have to eat it all. And as soon as that's gone...I'll get some more. Because I haven't got enough therefor a fix if that makes sense.

My comfort

Comes above everything

Enough - what is enough?

Unstoppable

I: So how does it, does it feel uncomfortable if you haven't got food in the house for example?

Despair fear of not having it

P: I get upset, yeah. Feeling I'm being deprived, feeling that I need it and 'what am I going to do?'. Um...I dunno, I just have to have it, it helps me.

I: How does it help you, what are the positives?

LOVE

Food related activities

Instant fix

P: Makes me feel good...I think because I'm so in love with it, it reassures me. I love looking at the books. Um, I do like cooking. I find that it takes too long sometimes and I need it NOW. So it's stuff that's more readily available and...and I can eat. Or that, whatever's ready available before then I've cooked a meal.

Love

Need for instant fix

I: So it needs to be that instant...?

P: Yeah.

I: So does it feel, do you have cravings?

P: Yeah.

I: And how does that...what tends to trigger those cravings?

Everything is a trigger. More habitual

Need vs. want

P: It can be anything. It can be...as I say; emotion, stress, just walk past a shop window and there's a lovely cake. I sat in the restaurant down there (points to library café) and I ate an almond and raspberry croissant thing. I didn't need it because I'd eaten before I'd come out but I couldn't walk past it...'Oooh, that's nice' and I couldn't turn it down.

Need vs. want

I: So how is it affecting your life, negatively?

Lists this as if practiced → Not connected to words emotionally. Denial?

P: How does it affect my life? Um, I've lost weight before...and then put it all back on...because...it's...it gets very frustrating; I can't do nothing exercise wise, I've had knee replacement and that's affected my knees, um, and this is all because of the weight and related to food. I always want to go out and have something to eat. Again, as I say, I haven't got the money, so financial side, yes, it is difficult sometimes. Because I've overspend and then I have't got the money maybe for bills or petrol or...I take things to work but I have to make sure, in my mind and in my bag, I've got stuff for breakfast, stuff before breakfast, stuff for after breakfast, stuff for morning, stuff for lunchtime, things for the afternoon, something to have in the car, something for when I get in and I could just eat, constantly. I just need it. It's too lovely not to have it. It's a craving that's within me that....as I say, I get a headache, I get upset, I get angry.

Denial

Psych + physical

Planning – fear of being without

Need for proximaty

I: You've mentioned that you're hiding food from your husband, has it affected your relationship would you say?

Good that he doesn't mention it → Denial

P: No, he doesn't say nothing, I mean, he's pretty good that way. He''ll just say 'Oh, I thought we had some more biscuits' or 'I thought we had this piece of meat left', then I start laughing and he knows I've eating it. So he doesn't say much, he doesn't get mad at me or cross or nothing. I

Denial

Isolation

Appendix 5- Master Theme Table

Theme	Participant, Page, line	Quote
I breathe food		
I've got to have food in the house but if it's there I will eat it	Sue, 3, 1-2	'it's there, then it needs to be eaten and I need to eat it.'
	Sue, 4, 24-25	'I have to make sure, in my mind and in my bag, I've got stuff'
	Shelly, 1, 14	'I panic if I don't have it in the house'
	Shelly, 7, 11-12	'The thing is I try to eat it all up so that I can start a fresh tomorrow'
	Naiomi, 14, 19-20	'Which is why I hide things because then as soon as I feel like that I know I've got something I can fall back on'
	Janine, 7, 30-32	'I have bought six packs of crisps for the children and hung them in the big cupboard outside. I know they're there'
	Janine, 17, 28-29	'you must eat it all up and then tomorrow you can start with a clean slate'
	Leanne, 12, 24-16	'I've gotta know there's food in the fridge that I can eat without having to cook it.'
	Leanne, 4, 27-28	'yeah but they're there, they're calling me, they're there. And I couldn't settle until I'd eaten them and they were gone.'
	Olivia, 2, 5-8	'I'm watching the tele, trying to focus but there's one part of my brain that's just, can hear that, knows the ice cream's there...so I go and get it'
'Just a click of the fingers'	Sue, 2, 9-12	I don't eat a lot of chocolate- I can walk past thorntons and think 'ooooh' and I go in and buy them. I may not have enough money then to put petrol in my car but I have to buy the food'
	Shelly, 7, 17-20	

	Naiomi, 16, 1-4 Janine, 17, 22-25 Leanne, 1, 24-25 Olivia, 7-8, 30-1	‘you feel SO good and you believe you can do it right up to the last minute and then something changes [CLICKS FINGERS] and it’s like ‘chocolate bar’’ ‘when I stay on that path for like six or eight weeks- or it’s even been a little bit longer this time- why can I do it then and just, just a click of the finger and I’m off and running’ ‘I’ll go and spend twelve pounds…and go overdrawn, then I get charged so the next month is even worse’ ‘in case it catches me’ ‘I’ll be eating healthy foods and counting calories and I’ll be losing weight and I’ll be- I don’t know what happens, I’ll just think: ‘Sod it, oh just have the night off. Have the night off’ and that’s it.’
‘It’s always there’	Sue, 11, 11-14 Naiomi, 2, 17-18 Janine, 8-9, 28-1 Leanne, 12, 18-19 Olivia, 1, 6-10	‘Not waking up thinking about it, not going to bed thinking about it. Not, sort of, buying certain magazines from the shelfs and the pictures on the front because there’s a nice roast or chicken dinner or cake or dessert or dessert or…I just visualise myself eating’ ‘I wake up and I think: ‘what am I going to have to eat in the morning?’. It’s like it’s always there.’ ‘she had two slices of the rocky road. Which I don’t know what he’s into but he didn’t but he’d, so I’d left it there. He did like the apple pie. So I left it all there so I hadn’t had any!’ ‘you are an addict and you are waiting for the next meal’ ‘I think about food in the car, I think about food before I go to bed. When I’m trying to sleep at night … even if I’m being healthy and losing weight and being good- I’m still thinking about food constantly’
Why do I eat?	Sue, 8, 3-5	‘you can’t get through, sort of, an hour or a couple of hours without having any food and the taste of it and the look and the smell of it.’

	Shelly, 7, 26-27	'it's almost like a weight's been lifted and you kind of go 'it's alright' and then it's amazing'
	Janine, 2, 23-25	'just get in my dressing gown and snuggle down, put the telly on and ring the Indian.'
	Leanne, 3, 20	'I like, oh gosh, the smells, just the act of eating'.
	Olivia, 7-8, 32-1	'I just want the night off real life and just go and eat everything'
'As soon as I have some, that's it'	Sue, 3, 11-12	'And as soon as that's gone…I'll get some more. Because I haven't got enough'
	Shelly, 1, 17-18	'or 'I haven't got ENOUGH' so I've gone out and got more'
	Naiomi, 6, 24-25	'As soon as I have some, that's it. That leads on to the bigger things.'
	Janine, 4, 20-21	'have a dessert [laughs] but eat the whole tub of course. You can't possibly, possibly, I don't know how anybody just leaves any'
	Olivia, 5, 4-5	'Because I have to have enough. It has to be a binge; it can't be half a binge. There's no such thing as half a binge.'
Identity		
The real me	Sue, 15, 1-2	'I feel like I'm a flower that's waiting to spring into, sort of, bud and open up instead of this wilting one in the corner because I've had too much fertiliser'
	Naiomi, 7, 14-15	'So it's like crafty, it makes you crafty.'
	Janine, 7, 20-22	'but I am definitely a rebel. I'm not, there's no way that I'm then going to say 'Oh, well I won't eat those chips then' [laughs] It isn't going to happen!'
	Leanne, 7, 20-21	'The bigger I get, the less self-assured I am. And that's not me, that's not the real me at all.'
	Olivia, 6, 30	'I kind of felt like I was losing a bit of myself'
Less than human	Sue, 2, 3-5	'I feel a pig if you're at a party or a buffet: I'm the person who will keep sneaking up and sneaking up'

	Shelly, 6, 13-14	'on a night out or something I'd feel hideous; I'd probably, kind of, hide away and stuff'
	Naiomi, 18, 10-11	'I just, sort of, go into the background [laughs]. That's what I do; pretend I'm not there.'
	Janine, 3, 8	' I can't eat like a lady'
	Leanne, 21, 28-29	'I'm not this fat, lazy pig that I've turned into'
	Olivia, 6, 9-10	'I swear there are some people who are and some aren't. Like pigs and not pigs'.
'When I look in the mirror I can't see myself as big as I am'	Shelly, 12, 29-30	'Cause it sounds silly, when I look in the mirror I can't see myself as big as I am'
	Naiomi, 20, 7-9	'because you look in the mirror and you really don't see- it's like with anorexic girls, they look in the mirror and they see this big person and , bless 'em, they're not are'
	Leanne, 15, 18-19	'my mum's 81, I'm only 58 and I'm being classed in the same bracket'
	Olivia, 10, 2-3	'I think I'm this...cute little thing lying in the bath and I look and it's…no, like a whale. No one wants to see that.'
Isolation		
Being 'fat'	Sue, 8, 16-18	'I think they're judging you: 'Oh, what's that fat cow doing having that, she doesn't need that. 'Oh, no wonder she's fat, look what she's got in her trolley''
	Shelly, 5, 6-9	'I think people are looking and going 'That's why you're fat'. And if I'm eating something good like, I dunno, an apple or something…I can think…looking at me and thinking 'Yeah, that's not gonna work…it's too late''
	Naiomi, 5, 18	'Cor, you're a big girl aren't you?'
	Janine, 12, 29	'I think all people judge fat people. I think they just do'
	Leanne, 12, 6-8	'some people get fatter and fatter and fatter because they eat and they deserve to be that fat because they

	Olivia, 7, 17-19	shove god knows how many burgers down their throat each week' 'I'd say, like, 'what do you think of her?' and he'd say 'She's fat'. And now I'm bigger than some of those people...he used to call Marilyn Monroe fat'
A food centric world	Sue, 2, 5-6	'it seems such a waste for all this food, and there's me, who loves it so much'
	Naiomi, 2, 27-28	'I have to have things when they all come over. So, therefore, food you have got to have in your home. And it's just…it's like a big, vicious circle'
	Janine, 7, 24-29	'friends who will say 'Oh come on, let's go in coffee and cake' and I'm thinking 'No, I really don't want' then you feel really bad because …'Oh! I could have had a dinner for that. With chips!' What a waste'
	Leanne, 2, 23-25	'I think it's more difficult for someone that is struggling with weight to do those daily chores, you know, having to arrange meals. Because it is constantly on your mind'
	Olivia, 10, 19	'I'll be watching other people eat and that'll be torture'
Solitude	Sue, 16, 6-8	And I'd hide it under there and I'm sort of- nobody walking past- I'll have some. Then I hide it right at the bottom of the bin'
	Shelly, 3, 1-3	'So I used to come home from work before him sometimes and eat it and hide it in the bedroom where he couldn't see it'
	Naiomi, 19, 6-7	'And I do everything in my power to not go out, I'd sooner have people round that go out'
	Janine, 20, 16-18	'You just stop, you gradually stop doing things and hiding, which also doesn't help with the depression side of bipolar so I end up shutting myself inside'
	Olivia, 7, 9-10	'I see him only at weekend so he doesn't see what I eat during the week and…I guess I'm- I don't binge in front of him, obviously.'

'It's a joke'	Sue, 1, 27-28	'nobody ever recognised it and thought it was serious. They just laugh at you and poo-poo the, sort of, answer really'
	Shelly, 4, 19-20	'I wouldn't tell my other friends cause they'd think I was stupid.'
	Naiomi, 7, 25-27	'I said 'I think I'll take up smoking' cause most people that smoke are slimmer. And my doctor said to me 'No, don't take up smoking, you're better off being the weight you are'
	Leanne, 13,25-26	'and I said 'come on, you can't miss it' um, cause I make jokes'
	Olivia, 9, 22-23	'But no one ever believes it. Like, it's a joke isn't it? Chocoholic'
Diagnosis and treatment		
Diagnosis: a starting point	Shelly, 6, 34-36	'People are more aware of it but…yeah, so yeah and there are well known things like we said like alcoholics anonymous'
	Naiomi, 1, 3-5	'I've always felt that there's the AA for alcoholic and there's all different things but there's nothing at all for if you've got an addiction to food'
	Janine, 13, 14	'I could make decisions about alternative answers to it'
	Janine, 13, 13-14	'so that was one thing that once I was diagnosed I got help'
	Leanne, 13, 25-26	'I think it should be recognised as an addiction and dealt with accordingly'
Being noticed	Sue, 19, 4	'Yipee, someone's actually realised I've got a serious problem here'
	Shelly, 13, 18	'I just think it would be nice to be noticed'
	Naiomi, 16, 18-19	'Um, you wouldn't see yourself so much as being a glutton or greedy or, um, crafty because you would know what was wrong'

	Janine, 15, 30-31	‘Somebody like that who you could actually talk to as well daily as well as a group session’
	Olivia, 14, 19-20	‘’Don’t worry, we understand where you are, we feel like that too’’
No ‘treatment’	Sue, 6, 17	‘nothing overcome [it], I was just in the right frame of mind at the time’
	Sue, 13, 3	‘I think that is the only way is to- it sounds awful- but to be locked up’
	Shelly, 13, 33	‘I dunno, just do something about it to help people’
	Naiomi, 10, 18-20	‘I: Do you think there is anything that can be done for food addicts? P: No, I don’t think there is really’
	Janine, 2, 11	‘It’s just…it needs to be forever’
	Janine, 15, 17	‘I don’t know [groans]. You do ask the most difficult questions’
	Olivia, 13, 3-4	‘if I was locked away from it…locked away from food it would work’
Hope	Sue, 14, 13	‘I need to stop abusing it but I can’t. By having that…I’m really, really hoping that I can’
	Shelly, 11, 30	‘I hope it doesn’t but I’ll see I guess’
	Naiomi, 3, 22-24	‘And I’ve never eaten yoghurts in my life… and I came out of there and I bought yoghurts and grape juice… And that was really good’
	Leanne, 18, 25-29	‘So, almost you wanna trigger that, whatever’s in the brain that stops you from feeling hungry because of the depression; you don’t wanna trigger the depression but whatever it is that triggers that, if you could, yeah, isolate that from the depression side of it. That would be fabulous.’
	Olivia, 6, 18-20	‘I’ve done everything; I’ve tried meal replacement shakes, I’ve, um, I’ve got food delivered, like, recipe boxes, meal boxes, I’ve tried slimming world, I’ve tried the 5:2 diet, calorie counted for fucks sake’

SECTION

C3.1

SYSTEMATIC REVIEW

Contents

Mindfulness-based stress reduction and mindfulness-based cognitive therapy for individuals living with HIV: a systematic review of randomised control trials.

Abstract

Around 34.2 million people are now living with HIV globally and due to advances in Antiretroviral Therapy (ART) it is now considered a chronic condition with a near-normal life expectancy. However, it is associated with poor mental health including increased stress which may have a negative impact on immunity. The purpose of this review was to determine the efficacy of mindfulness-based stress reduction (MBSR) and mindfulness-based cognitive therapy (MBCT) in improving HIV-related outcomes. A systematic search of literature was conducted in May 2015 for randomised control trials (RCTs) of MBSR or MBCT for individuals with HIV measuring any health-related outcome using PubMed, PsycINFO, Web of Science and the Cochrane Library, the Controlled Clinical Trials database and the Department of Health research register. A thorough hand search also took place and experts in the field were contacted to source unpublished research. After removing duplicates and screening for suitability, eight studies met the inclusion criteria. Outcome measures included CD4 count, stress, depression and anxiety, quality of life, positive and negative affect, mindfulness, symptoms, side effects and adherence. Results were mixed with many improvements reported over a number of studies but relatively few significant when compared with the controls and very little long term follow up data. It was concluded that there is not enough evidence to suggest that MBSR or MBCT has a significant impact on immune function in those with HIV and that improvements in psychological measures, though promising in some areas, have not been investigated thoroughly enough to recommended it as anything other than a complement to current standard treatment.

Background and rationale

It is estimated that globally 34.2 million people live with HIV: this is the highest number to date (UNAIDS, 2013). The increase reflects both a rise in new infections and also the improved access to Antiretroviral Therapy (ART) which has led to longer life expectancies for those infected. Indeed, as a consequence of the improvements in available treatment, HIV is now considered a chronic condition with a near-normal life expectancy (Nakagawa et al., 2012). However, there are still many physical, psychological and social implications associated with the condition, such as increased risk of mental health and substance use disorders, social stigma and decreased quality of life (Owe-Larsson, Säll, Salamon, &

Allgulander, 2009). For this reason the World Health Organisations (WHO) states that psychosocial treatments that reduce stress and distress and improve psychological functioning should be offered as part of standard HIV care (WHO, 2009).

Psychological stress is of great concern in those infected with HIV due to the link between increased stress and decreased immune function. Those living with HIV may be more prone to stress for a number of reasons. Trauma and post-traumatic stress disorder is more prevalent in this population (Whetten, Reif, Whetten, & Murphy-McMillan, 2008) and rates of depressive and anxiety symptoms have been found to be higher in HIV positive women (Morrison et al., 2002) and men (Perkins et al., 1994). HIV positive individuals also report experiencing social stigma as a result of their HIV status, including from health professionals, and this has a negative impact on their quality of life (Rintamaki, Davis, Skripkauskas, Bennett & Wolf, 2006).

These negative psychological states have been found to have an adverse impact on the progression of HIV both directly and indirectly. Studies have found that stress can cause chronic activation of the hypothalamic-pituitary-adrenal and the sympathetic-adrenal-medullary systems with associated down-regulation of the immune system and accelerated HIV replication (Leserman, 2003). In a study of 618 HIV-infected children and adolescents, having two or more stressful life events (e.g. family member death, major illness or loss) was associated with almost three times the risk of immune suppression at a one year follow-up compared to those with none (Howland et al., 2000). Psychological stress can also increase behaviours that are associated with poorer health outcomes such as smoking and alcohol use (Thompson, Nanni, & Levine, 1996) and high levels of stress and depression have been found to be associated with non-adherence to ART (Herrmann et al., 2008). This highlights the need for intervention that effectively improves stress, or the individual's ability successfully to manage stress, in order to avoid the negative consequences it can bring about.

ART itself, despite its vast contribution to the improvements in the prognosis of HIV, brings another source of stress to those who use it in the form of side effects. These include diarrhoea, nausea and vomiting, neuropathic pain and dermatological problems including rashes (Treisman & Kaplin, 2002) - which have been shown to negatively impact upon

quality of life (Johnson, M. O., & Folkman, 2002). Side effects are commonly cited as reasons for discontinuing ART (Johnson et al., 2009) which is particularly problematic as it demands a high level of adherence in order to work effectively. Improving individuals' coping skills with regards to adverse side effects has been found to reduce non-adherence to ART (Johnson, Dilworth, Taylor & Neilands, 2011) thus interventions aiming to reduce stress in HIV positive individuals should bring about improvements in coping skills in order to address this possible source of distress.

Since the epidemic first came to light, the need to manage stress has been recognised, although the focus has now changed from that of learning to cope with a progressive and ultimately fatal condition to a way of managing the disease-specific and daily stressors associated with HIV. A meta-analysis of stress management interventions for HIV positive individuals found them to be effective in reducing emotional distress including anxiety, depression, and psychological distress: however, they did not find any significant improvements in immune function, coping or social support (Scott-Sheldon, Kalichman, Carey & Fielder, 2008). The interventions reviewed were also diverse in their content, so it is difficult to pinpoint which approaches/methods were the most effective in terms of outcome and resources. Thus, further research into the area is necessary so that future interventions are cost and time effective, as well as bringing about positive changes in participants' stress management and, consequently, the management of their HIV.

Mindfulness has been defined as "the intentional, accepting and non-judgmental focus of one's attention on the emotions, thoughts and sensations occurring in the present moment" (Kabat-Zinn, 1994). Mindfulness is often developed through meditation which can be described as the intentional self-regulation of attention (Goleman & Schwartz, 1976). Mindfulness meditation can take several forms; some focus on noticing internal processes such as bodily sensations, thoughts and feelings whereas some involve noticing external stimuli such as sights and sounds (Baer, 2003). All practices involve the observation of stimuli in a detached and non-judgmental way; thoughts and feelings are not labeled as good or bad but are simply noticed with curiosity (Logsdon-Conradsen, 2002).

Mindfulness-based Stress Reduction (MBSR) is based on Theravada Buddism and was developed in a behavioural medicine context by Jon Kabat-Zinn at the University of

Massachusetts in 1979. It was originally designed to target individuals with chronic pain and stress related disorders. It has been manualised and generally adheres to the following structure: the intervention lasts between eight to ten weeks, composing of weekly sessions lasting between two to three hours. At around week six, participants take part in an intensive, all day mindfulness 'retreat'. During the intervention, several mindfulness practices are taught including mindfulness meditation: yoga poses are used to teach mindfulness of movement and mindfulness is applied to everyday tasks such as brushing ones teeth. Participants are expected to practice mindfulness for 45 minutes as homework, six days per week. When practicing, participants are asked to focus on the target of the exercise (for example, bodily sensations) and observe any thoughts that arise non-judgmentally before drawing their attention back to the target. Participants thus learn to not get caught up in the content of thoughts (Kabat-Zinn, 1982) and begin to see thoughts and feelings as transient (Lineham, 1993) with the hope that this will reduce the negative impact distressing thoughts and feelings have on that individuals emotions and behaviours.

MBSR differs from other stress management approaches, such as CBT, in that it does not assume an underlying pathology. CBT tends to give uncomfortable thoughts labels such as 'unhelpful' or 'maladaptive' and actively challenges their content in an attempt to replace them with more 'helpful' thoughts. MBSR does not label thoughts, nor does it attempt to alter their content but encourages individuals to observe them at a distance and accept them without dwelling on them (Hamilton, Kitzman & Guyotte, 2006). In this way, MBSR can be looked at not only as a treatment for stress but as preventative: it teaches participants a new way of coping with uncomfortable thoughts and feelings that is flexible and applicable to novel situations.

MBSR has been used as part of treatment for a wide range of conditions including cancer, psoriasis, chronic pain and gastroenteritis with trials exploring various outcomes. One of the most researched outcomes is that on immune function. A trial on healthy individuals looked at the immune response of a group following an eight week MBSR programme compared to a wait-list control group. Those in the MBSR condition showed significantly larger increases in antibody titers following an influenza vaccine than in the control group which indicates that the MBSR had a beneficial effect on their immune function. In cancer patients the effect

of MBSR on immune function has been mixed; several studies have looked at natural killer (NK) call activity as this is an immune marker in cancer progression. Some studies have found that MBSR increases NK cell activity compared to a control group, for example in an RCT by Witek-Janusek et al. (2008). Other studies have indicated a more complex series of interactions that may explain improvements; in a single group pre- and post- MBSR comparison study by Fang et al. (2010), there was no significant increase in NK cell activity immediately following MBSR, however, there were improvements in measures of mental health. The measures of mental health were also found to be positively correlated with immune function which suggests that the psychological benefits of MBSR may improve immunity in this group. These results are promising and suggest that MBSR is may be a valuable treatment option for other chronic conditions that compromise immune function, such as HIV.

As previously stated, MBSR has been shown to bring about improvements in mental health measures in cancer patients, specifically improvements in levels of anxiety and distress (Fang et al., 2010), quality of life (Hoffman et al., 2012) and symptoms of stress (Carlson, Speca, Patel, & Goodey, 2003). It has also been found to enhance participants' use of positive and supportive coping styles (Witek-Janusek et al., 2008). Improvements of this nature have been seen in other populations; distress levels significantly decreased following MBSR in a study on a non-clinical population (Evans, Ferrando, Carr, & Haglin, 2011). MBSR has shown improvements in wellbeing and distress in those suffering rheumatoid arthritis compared to a non-MBSR control group (Pradhan et al., 2007) and reduced distress has been reported as an outcome of MBSR in patients with multiple chemical sensitivity, chronic fatigue syndrome, and fibromyalgia (Sampalli, Berlasso, Fox, & Petter, 2009). This suggests that it is a flexible approach that can be applied to a number of chronic conditions.

In addition to this, MBSR has been shown actually to reduce the symptoms of chronic conditions (Williams, Kolar, & Roger, 2001) as well as improving coping skills employed to deal with these symptoms. For example one study by Davis, Zautra, Wolf, Tennen, & Yeung (2015) found that a mindfulness intervention brought about a reduction in catastrophising about pain and anxious responses to pain compared to a CBT comparison group in individuals with chronic conditions. If these effects can be applied to those with HIV, it

could have positive implications for how ART users experience and respond to their side effects.

Mindfulness-based cognitive therapy (MBCT) is a mindfulness-based approach derived from MBSR that was designed for those with recurrent depression and aims to prevent future depressive episodes. In terms of structure and content it is very similar to MBSR but incorporates aspects of cognitive therapy and teaches individuals to disengage from habitual depressive ruminations and to view thoughts and feelings as positive or negative transient events rather than an accurate representation of reality (Morgan, 2003).

Research into the efficacy of MBCT in treating mental health conditions has shown that it significantly reduces relapse in those with a history of three or more depressive episodes (Fjorback, Arendt, Ørnbøl, Fink, & Walach, 2011). When looking at symptom reduction in those with current depression, some studies have showed improvements compared with treatment as usual (TAU) (Barnhofer et. al., 2009). However, when compared with CBT one RCT showed no significant differences between the two treatment options (Manicavasgar, Parker, & Perich, 2011).

Research has also been done into whether MBCT can improve symptoms in long term health conditions. For example, in one study, it was found that MBCT effectively reduced chronic cancer-related fatigue in cancer patients (Van der Lee & Garssen, 2012). In a pilot RCT, patients with inflammatory bowel disease showed improvements in depression, trait anxiety and quality of life compared to those on a wait-list (Watson, Atherton, & Schoultz, 2015). Improvements in depressive symptoms and disease impact have been seen after MBCT in patients with fibromyalgia (Parra-Delgado, & Latorre-Postigo, 2013); and patients with diabetes showed improvements in depressive symptoms, anxiety, well-being, and diabetes-related distress with MBCT compared to a wait-list control (Tovote et. Al., 2014).

Research has, unsurprisingly, been done into whether MBSR and MBCT can be successfully applied to those with HIV in order to bring about improvements to their physical and psychological functioning. However, the research is in its infancy with the majority of studies having been conducted within the last decade. Studies have also looked at a broad and diverse range of outcomes; some have focused solely on physiological outcomes, such

as CD4+ lymphocyte activity, whereas others have used psychological outcome measures only. Within these psychological outcomes themselves there have been a wide variety of measures used such as anxiety and depression levels, coping styles, quality of life, management of affective symptoms and management of drug side effects.

A recent review has looked at the methodologies and findings of studies into MBSR with individuals with HIV; however, in order for clinicians to assess whether MBSR or MBCT is an effective treatment option, another review is needed for a number of reasons. Firstly, the previous review did not limit itself to randomised control trials (RCTs) but included all study designs. This may be a problem as designs other than RCTs have an increased risk of confounding factors causing effects, which means that conclusions drawn from them may be erroneous (Evans, 2003). Secondly, the review did not include studies looking at MBCT, only MBSR, which limited the number of studies included unnecessarily as the two interventions are comparable. The mindfulness component, which makes up around 90% of both interventions, is identical and the main aim of both interventions is to learn to experience and manage difficult mental states (Crane, 2009). Lastly, the previous review only included published research, no grey literature, which leaves it open to publication bias. A study producing non-significant results can impact upon its likelihood of being published but would make an equally important contribution to a systematic review as a study yielding significant results (Higgins & Green, 2011).

For these reasons there is a need for all data from RCTs, both published and unpublished, which looked into the use of MBSR and MBCT with those living with HIV to be systematically synthesised in order to assess whether these are useful treatment options. As the research is sparse at this time, the aim of this review will not be looking at the effectiveness of specific outcomes, but at whether there are any beneficial outcomes for this population. An important question, therefore, is - Can any of the negative consequences associated with HIV be significantly improved using MBSR or MBCT?

Review Objectives

To assess the effectiveness of MBSR and MBCT interventions in improving clinical outcomes associated with HIV.

Inclusion criteria

Inclusion and exclusion criteria for studies can be viewed in Table 1.

Table 1: Inclusion and exclusion criteria

	Inclusion	**Exclusion**
Participants	Individuals diagnosed with HIV. All genders, ages, ethnicities and sexualities will be included. Participants with co-morbidities, mental or physical, will also be included.	Individuals without a diagnosis of HIV.
Interventions	Interventions following the MBSR or MBCT manualised approach.	All non-mindfulness interventions. Mindfulness-based intervention other than MBSR and MBCT will also be excluded due to the huge variance in content and approaches to mindfulness.
Comparator	No intervention (for example wait-list control or TAU) or an alternative intervention such as educational support.	Any mindfulness-based intervention with the same duration as MBSR/MBCT. (For example, an eight week yoga course).
Outcomes	Any health related outcomes, physical or psychological, with validated measures.	Outcomes with non-validated measures (for example, questionnaires developed by the researcher).
Study design	Randomised control trials	Any study design other than randomised control trials including non-randomised control trials.

Search Strategy

To maximise potential for finding all relevant articles, subject-specific databases (PubMed, PsycINFO, Web of Science and the Cochrane Library)

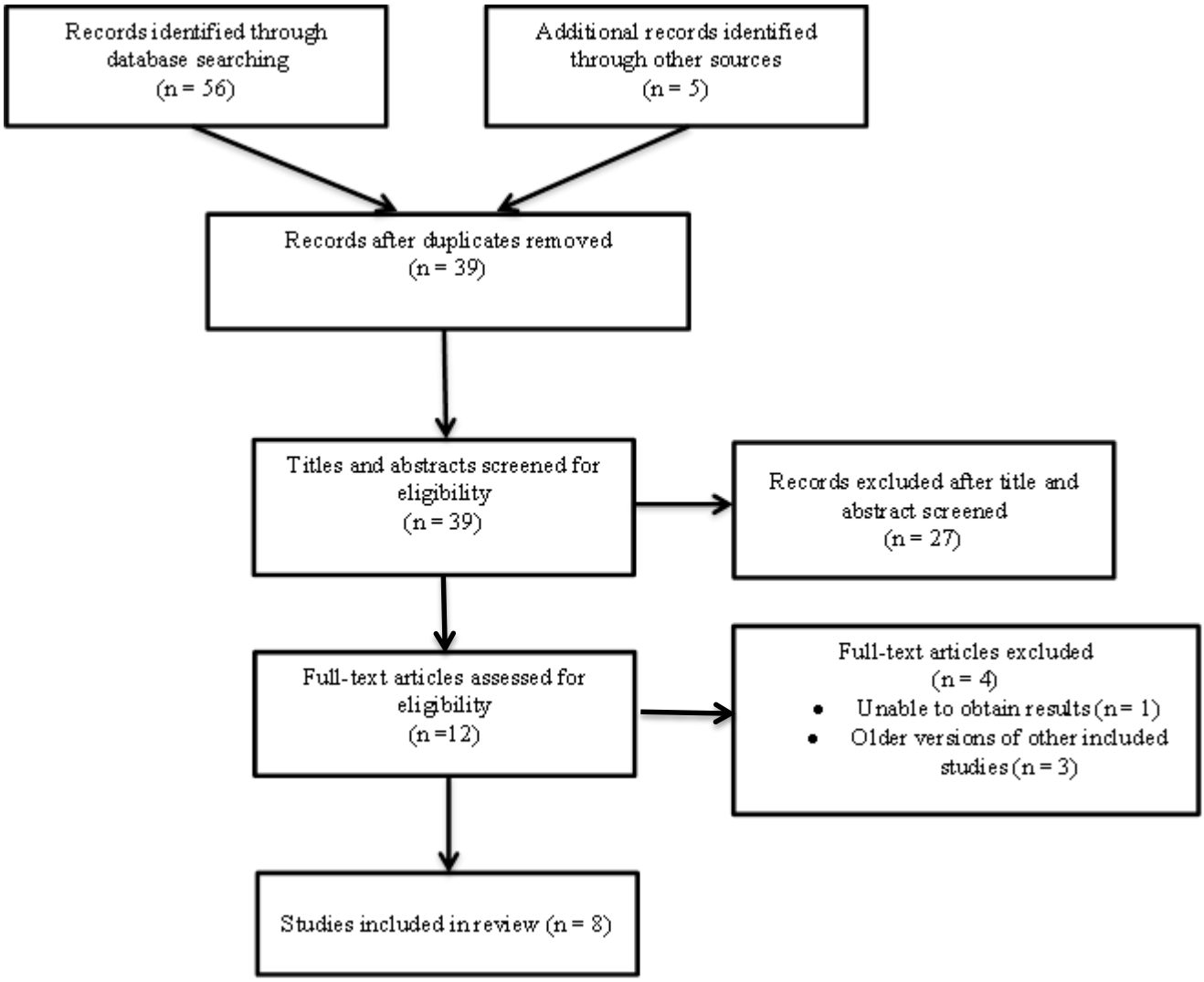
Each database was searched using the following terms, combined with Boolean operators:

(1) HIV (2) HIV-1 (3) HIV-2 (4) AIDS (4) Human Immunodeficiency Virus (5) Acquired Immunodeficiency Syndrome (5) #1 OR #2 OR #3 OR #4 OR #5 (6) mindfulness (7) Mindfulness-based stress reduction (8) mindfulness-based cognitive therapy (9) mind body therapies (10) #6 OR #7 OR #8 OR #9 (10) random* (11) RCT (12) #10 OR #11 (13) #5 AND #10 AND #12

Information on studies in progress and gray literature was sought by searching a range of relevant databases including the Controlled Clinical Trials database (clinicaltrials.gov) and the Department of Health research register. The reference lists of all retrieved articles were examined and clinical experts were contacted in an attempt to identify unpublished research.

Titles and abstracts retrieved were screened for eligibility. The full text of potential articles was then examined and appraised for eligibility. Please see Figure 1.

Figure 1: Flow chart of the selection process



56 studies were found via database searches, three were found on the Controlled Clinical Trials database and two further studies were obtained via contacting clinical experts in the field. After removing duplicates, 39 titles and abstracts were screened, 27 of which did not meet the inclusion criteria. Of the twelve *12* studies remaining; three were found to be previous versions of published papers identified via database searching (one a dissertation and two Controlled Clinical Trials records) and one Controlled Clinical Trials record was removed as the trial been halted before the intervention had been completed. Finally, eight studies remained for inclusion in this review.

Each study was given an identification code and characteristics (Year, country, paper type, participants, control, intervention) were extracted, see Table 2.

Table 2: Study characteristics

Study	ID	Year	Country	Paper type	Participants	Control	Intervention
SeyedAhmed et. al.	1	Published 2012	Iran	Peer reviewed journal	N=171 53 female, 118 male. Mean age= 35.1	Brief education and support intervention including 2 hours group work and individual counselling.	8 week MBSR course.
Gonzalez-Garcia et.al.	2	Published 2013	Spain	Peer reviewed journal	N=39 19 female, 20 male. Mean age= 49.4	TAU	8 week MBCT course
Creswell et. al.	3	Published 2009	USA	Peer reviewed journal	N=48 43 male, 5 female. Mean age = 40.6	A day long, 6 hour seminar on mindfulness practice.	8 week MBSR course
Gayner et. al.	4	Published 2011	Canada	Peer reviewed journal	N = 117 All male. Mean age = 44	TAU	8 week MBSR course

Duncan et. al.	5	Published 2012	USA	Pere reviewed journal	N = 76 64 male, 12 female. Mean age = 48	TAU	8 week MBSR course
Hecht et. al.	6	Study completed between 2005 and 2009	USA	Clinicaltrials.gov record. Submitted for publication 2016	N = 177 Mean age = 40.8	8 week educational group about managing HIV.	8 week MBSR course
Donald et. al.	7	Presented at conference	UK	Presentation for health and wellbeing conference	N = 22 15 male, 7 female Mean age = 42.6	WLC	8 week MBSR course
Weston et. al.	8	2012	USA	Oral presentation paper	N = 132	Education/support group	8 week MBSR course

Studies 1-5 are peer reviewed journal articles, 6-8 are unpublished studies. Two of the studies (6 and 8) are separate pieces of research done on the same pool of participants. No full research paper could be obtained for either (6 is an abstract/overview obtained from the author and 9 is an oral presentation report) but a detailed record was available on clinicaltrials.gov.org in which much of the methodological information could be found. Study 7 is a small feasibility study that was presented at a health and wellbeing conference. A power point presentation detailing the methods and results was obtained from the researcher. Studies were published/carried out between 2005 and 2013 and variety in size (N= 22- 177).

Data was then extracted from each study on its aims, inclusion criteria, exclusion criteria, measures, results and conclusions. See Table 3.

Quality assessment

A quality assessment tool, loosely based upon The Cochrane Collaboration's tool for assessing risk of bias, was developed for this review (See appendix, p. 200) and was applied to the selected studies. Results can be seen in Table 4.

The methodological quality of the studies appears to be variable; however, this is, in part, a reflection of the different types of paper from which the information was taken. The studies from peer reviewed journals (1-5) tended to have a lot more information available with which to make a judgement of the different aspects of quality whereas the unpublished studies presented less and, therefore, had more unclear or negative judgements. This could mean that the results of the assessment reflect the quality of the information presented rather than the inherent quality of the study itself. It was therefore decided that studies would only be excluded based on quality if there was evidence that they failed to meet more than half of the quality indicators. All studies met the quality threshold and were included.

Methodological critique

Four of the eight studies revealed their method of randomisation (2, 4 and 5 used computer systems, 1 used a coding system and a member of staff blinded to the conditions). Four studies (2, 4, 5 and 6) achieved a higher than 80% retention rate of participants throughout

the study, though study 1 did present reasons for drop outs. However, it failed to perform ITT analysis; indeed, only three did so (4, 5 and 6). This reveals a potential source of bias in the other studies' results and, therefore, conclusions.

Demographic information was available in all but one study (8) though only studies 2, 4 and 5 achieved equivalence between groups in all tested measures, which leaves room for biases in results. Inclusion and exclusion criteria were available for all studies, but there were variations as to the constituent elements in different studies. This was particularly pertinent for CD4 count and use of ART (which are closely related as CD4 count is the measure used to decide when to initiate ART); studies 1, 3, 6 and 8 excluded those on ART whereas 2 and 5 excluded those not on ART (4 and 7 did not specify ART use in the inclusion/exclusion criteria). This has an impact on how applicable both the individual studies and combined results are to all individuals with HIV.

None of the studies mentioned whether a priori or post-hoc power analysis took place (though study 1 performed Akaike's Information Criterion which takes sample size into account). This may have an impact on the accuracy of conclusions drawn from the studies particularly given the wide variety of sample sizes (from 22 in study 7 to 177 in study 6). Study 7 was a feasibility study and, therefore, we would not expect an analysis of power but for the other included studies, this seems to be a significant methodological flaw.

All studies describe the MBCT or MBSR condition in sufficient detail to assume that the manualised procedure is being followed. However, only studies 1, 2 and 5 mention the credentials of those facilitating, or observing the facilitation of, the sessions which creates the possibility of variations in the delivery of the other studies' intervention conditions. All studies except 3 used a non-mindfulness based control condition. 3 used a one day MBSR seminar which creates the possibility that participants in the control group were practicing mindfulness during the study which could impact upon conclusions drawn from results.

Findings:

Pooling the results from the selected studies posed a number of issues:

- The studies looked at a wide variety of outcomes; some indicative of the progression of HIV such as CD4 count and viral load, some looking at mental health and wellbeing measures such as depression, anxiety, positive and negative affect. Others looked at various aspects of stress and some looked at mindfulness.
- The means of measuring certain variables differed from study to study. For example, depression was measured using the Beck Depression inventory in studies 2, 5 and 6 but using the Hospital Anxiety and Depression Scale in study 4.
- Many of the studies had different length of time to follow up. Odds ratios and relative risks are affected by the length of follow-up and combining results from studies with different lengths of follow-up can lead to an inaccurate heterogeneity (Combescure, Courvoisier, Haller, & Perneger, 2011).

For these reasons, any meta-analysis carried out may lead to false conclusions being drawn and the decision was taken not to attempt this.

Results from the studies were mixed. Some of those looking at physical markers of HIV found short term improvements in the mindfulness-based treatment groups (1, 2 and 3) whereas others did not (6) and none found that improvements were maintained long term. Results for psychological measures such as depression and quality of life were more promising with most studies finding improvements in the mindfulness-based groups compared to controls (2, 5, 6 and 7). However, improvements found for one of these was not statistically significant (5) and another study found no improvement in psychological measures (4).

The findings of each type of outcome will be described in more detail below.

CD4 count

Four studies looked into CD4 count with differing results; study 1 found that compared to the control group, the MBSR group had improvements in CD4 counts at 8 weeks and at the 3, 6 and 9 months follow ups. However, counts had reverted to baseline at 12 months. Study 2 found no difference between groups at week 8 but significant improvements in the MBSR group at week 20. Study 3 found CD4 counts at week 8 to be unchanged in the MBSR group

but the control group's counts had significantly decreased in comparison. Neither study 3 or 2 conducted any longer term follow ups so it is impossible to deduce whether differences between groups were maintained. Study 8 did, however, conduct a 12 month follow up but found no significant difference between groups which corresponds with the outcome of study 1.

Other physiological measures

Studies 2 and 3 looked at HIV RNA (which measures viral load) but found no significant differences between groups. Study 3 looked solely at inflammatory markers (specifically hsCRP and D dimer), no significant differences were detected from baseline to 3 or 12 months.

Depression and Anxiety

Results were mixed for measures of depression and anxiety; study 2 being the only one to find significant improvements in both of these in the intervention group compared to the control group. Studies 3, 5 and 6 all found an improvement from baseline to follow ups in measures of depressive symptoms; however, these were not significant when compared to the control group. Studies 3 and 5 found similar, non-significant improvements, in measures of anxiety. Study 1 used the SCL-90R to measure aspects of mental health including depression and anxiety; it found improvements in the MBSR group compared to the control at 3 and 6 months. However, the results had returned to pre-trial levels after 12 months.

Quality of Life

Studies 1, 2 and 7 all found significant improvements in measures of quality of life at week 8 in the MBSR/MBCT group compared to the control. Study 2 found these improvements to remain at week 20. No studies provided longer term follow up data on quality of life.

Stress

Results for perceived stress varied; studies 2 and 7 found improvements in the MBSR/MBCT group at 8 weeks. Study 2 found that these improvements remained at 20 weeks. However, studies 5 and 6 found that improvements in perceived stress were insignificant when compared to the control group. Study 7 reported results of physiological

measures of stress including resting heart rate which was significantly more improved in the MBSR group. However, improvements in blood pressure measures favoured the control group. Study 4 also measured the impact of living with a stressful life event but found non-significant results overall.

Positive and negative affect

Changes in positive and negative affect scores differed between studies; 4 found significant improvements compared to the control group at both 8 weeks and 6 months. Study 6 found similar improvements at 3 months but these were insignificant by 12 months. Study 5 did not detect any significant differences between groups and study 7 found improvements in negative affect favouring the control group.

Symptoms, side effects and adherence

Study 1 measured physical symptoms and found significant improvements in the MBSR group compared to the control at 3, 6 and 12 months. Study 5 measured number of symptoms, symptom bother and medication adherence. It found no significant difference in number of symptoms between groups, however, the MBSR group attributed significantly fewer symptoms to ART than the control at three and six months. No significant effects were found for medication adherence.

Mindfulness

Studies 4 and 5 assessed mindfulness in their participants; study 4 found significantly increased levels of mindfulness in the MBSR group compared to the control group at 8 weeks and six months whereas study 5 found no significant differences in mindfulness scores between groups at 3 or six months.

Table 3: Data extraction

ID	Aims	Inclusion criteria	Exclusion criteria	Measures	Results	Conclusions
1	To evaluate the effectiveness of MBSR CD4 count and medical and psychological symptoms.	>18 years of age, and HIV+	Current substance abuse, current psychosis, history of post-traumatic stress disorder, CD4 count <250, clinically symptomatic.	CD4+ Lymphocyte count, MSCL - 37, CL-90R	Immediate improvement in CD4 in MBSR group lasting until 9 month follow up. Improvements in MSCL scores consistently greater in MBSR compared to ESC. Non-significant improvement in SCL-90R favouring MBSR up to 6 months post treatment, rebound effect observed at 9 month follow up.	MBSR can be an effective therapy to compliment conventional treatment.
2	To test the effects of MBCT on quality of life, emotional status and	Have been diagnosed with HIV for at least 15 years and been on	Following any other psychotherapeutic intervention, or had concomitant psychiatric disorder.	Behavioural variables: smoking, adherence to medication and diet.	Significant improvements in CD4 count in MBCT group compared to control. No differences in HIV-RNA or behavioural variables between groups.	MBCT may help to promote successful aging in

	immune status in patients aging with HIV.	cART for at least 5 years		Psychological variables: NHP, PSS, BDI-II, BAI. Clinical variables: CD4 count, HIV-RNA VL.	Significant improvements in QoL, perceived stress, depressive symptoms, anxiety symptoms in MBCT group	patients with HIV.
3	To test the efficacy of MBSR on CD4+ T lymphocyte count in stressed HIV infected adults.	Diagnosed with HIV for > 6 months, English speaking and reporting at least minimal symptoms of psychological distress at baseline as measures by the Patient	Any substance abuse or psychiatric treatment in the past 30 days, current diagnosis of AIDS (or had CD4+ T lymphocytes <200 cells/mm^3), had hepatitis or regularly engaged in mind-body practice (e.g., meditation)	Peripheral blood CD4+ T lymphocyte levels and concentrations of HIV-1 RNA.	Control group showed significant declines in CD4= T lymphocyte counts whereas the MBSR group's remained unchanged from baseline to post intervention independent of ART use. Frequency of class attendance accounted for much of the effect in the MBSR condition. No significant effects were found on HIV RNA.	MBSR can buffer CD4+ T lymphocyte declines in an ethnically diverse sample of HIV-1 infected adults therefore it may have benefit as a complementary adjunct

		Health Questionairre-9				treatment for HIV-1.
4	To determine whether MBST would help gay men living with HIV would improve psychosocial function and increase mindfulness compared to TAU	Male, aged 18-70 years, living within one hour of the hospital (where the intervention took place) with a diagnosis of HIV.	Active current major depression, substance abuse or significant cognitive deficit.	HIV-specific distress measured by IES. Other psychological variables measured by HADS and PANAS. Mindfulness measured by TMS.	Significantly lower avoidance and higher positive affect in MBSR group. No significant differences in anxiety or depression between groups. Significant improvements in TMS scores in MBSR group. Increased TMS associated with decreased avoidance, higher positive affect and improved depression.	MBSR has a significant role to play in the overall treatment of gay men living with HIV.
5	1. To test the efficacy of MBSR for reducing ART symptoms and bother/distress	English-speaking HIV+ adult men and women on ART who	Being enrolled in another behavioral coping or HIV adherence intervention research study or MBSR programme.	HIV/ART symptoms were measured by a modified ACTG symptom	No significant difference in symptoms between groups. The MBSR group attributed significantly fewer symptoms to ART than the control at three	MBSR is a promising approach to reducing treatment side effects in

	related to ART side effects 2. To test the impact of MBSR on medication adherence and psychological functioning.	report distress associated with the side effects of the treatment.	Severe cognitive impairment, active psychosis or active substance abuse that would impede capacity to take part in MBSR.	checker. ART adherence measured by the ACTG self-report adherence measure. BDI-II, PSS, PANAS. mindfulness by the Five Factor Mindfulness Questionnaire.	and six months. No significant effects were found for adherence. Improvements in the psychological functioning measures were found in the MBSR group but these were not significant.	individuals with HIV.
6	To test whether an intervention aimed at improving stress management and emotion	HIV+, English-speaking individuals with a viral load <100, a CD4 T cell count >250	Inability to provide informed consent. Use of ART in the last 120 days or plan to start in the next year. Any medical condition that would make it difficult to participate.	Immunological measures: CD4 T-cell count, c-reactive protein, IL-6, HIV-1 viral load, and d-	No significant differences in immunological measure between groups. Significant improvements in positive affect and negative affect in the MBSR compared to the control group at three	They did not find evidence that MBSR improved the immunologic measures we assessed in persons with

	regulation, MBSR, would improve immunological and psychological outcomes in persons HIV-1 infection.	with a stable address and not on ART.	Previous MBSR training and/or current practice. Use of chemotherapy or immunomodulatory drugs in the past 6 months. New psychiatric medication in past 2 months	dimer measures. Psychological outcomes measured by BDI-II, PSS, PANAS, DES and SF-36.	months. No significant differences between groups at 12 months in any measures.	HIV who were not on antiretroviral therapy and psychological improvements were insignificant by 12 months
7	To assess the feasibility and acceptability of conducting a trial on mindfulness in HIV in UK	To have been diagnosed with HIV for at least a year, >18 years of age, PGQ-9 score >4	Active psychosis, substance abuse or cognitive deficit, PHQ-9 score>20, engaged in other mind-body practice, HPA dysfunction/medication, non-fluency in English.	Salivary cortisol, blood pressure, resting heart rate, PSS, PANAS. Symptoms measured by Signs & Symptoms Checklist for Persons Living	Greater improvements found in PSS scores, QoL and positive affect measures in the MBSR compared to the WLC group as well as that of resting heart rate. No significant effects in other measures and improvements favoring the control group found in	N/A

				with HIV	negative affect and blood pressure.	
8	To test whether MBSR would improve hsCRP and D-dimer in adults with HIV	See 6	See 6	Inflammatory markers: hsCRP and D-dimer	No effect of MBSR on hsCRP or D-dimer at 3 or 12 months	MBSR does not appear to improve immflatory markers hsCRP or D-dimer in HIV positive adults.

Table 4: Quality Assessment Results

Trial	Truly Random	Allocation concealment	>80% in analysis	Reasons for drop-outs	Demographic information	Equivalence	ITT	Intervention bias	Control bias	Other bias	Inclusion criterial specified
1	Y	Y	N	Y	Y	N	N	Y	Y	Y	Y
2	Y	Y	Y	U	Y	Y	N	Y	Y	Y	Y
3	U	U	N	N	Y	U	N	Y	N	Y	Y
4	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y
5	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
6	U	U	Y	N	Y	U	Y	Y	Y	Y	Y
7	U	U	N	N	Y	U	U	Y	Y	Y	Y
8	U	U	N	N	U	U	N	Y	Y	N	Y

Results Discussion

British HIV Association (2012) recommend that 'people living with HIV should receive care and support which promotes their mental, emotional and cognitive well-being and is sensitive to the unique aspects of living with HIV' and though psychological services are currently available, psychological ill health remains high in this population. HIV primarily affects the immune system and psychological distress has been linked to poorer immunity (Marketon, 2008) so it has be theorised that reducing distress could have a positive impact on HIV progression. For these reasons it is important to systematically review new treatment options targeting HIV-specific outcomes to ensure that health services can provide effective, sustainable and cost effective treatment options.

Maintaining or improving CD4 counts in individuals with HIV is important as it is these counts that determine when to initiate ART, the use of which is associated with many undesirable side effects. Stress has been found to have an impact on CD4 counts in patients with HIV as well as on AIDS stage, increased viral load, AIDS diagnosis and AIDS mortality (Chida & Vedhara, 2009) and perceived stress levels have been found to be correlated with CD4 counts in some research (Greeson et. al., 2008); therefore, finding an intervention that effectively enables individuals to manage stress is desirable.

The mixed nature of the results regarding CD4 count does not support the use of MBSR/MBCT as a means of improving immune function. Research has found that other stress management techniques have also failed to improve immune function in those with HIV, even when stress levels have improved (Scott-Sheldon, Kalichman, Carey & Fielder, 2008), which suggests that the relationship between stress and immune function is complex and requires further investigation. Baring this in mind, it is surprising that of the four studies that measured CD4 count, only two looked specifically at perceived stress levels (studies 2 and 6) as these outcomes may enable researchers to develop theories into the mechanisms behind any changes in CD4 count.

Improvements in perceived stress levels were not very encouraging given that MBSR is designed to improve stress levels, with only studies 2 and 7 reporting significant

improvements compared to the control. Again, results do not indicate that MBSR/MBCT should be recommended as a treatment option for managing stress in those with HIV.

Depression and anxiety are common in individuals with HIV (Owe-Larsson, Säll, Salamon, & Allgulander, 2009) it is, therefore, important to investigate effective treatment options for these conditions in this population. The majority of studies that measured these outcomes did not find significant improvements compared to controls, study 2 being the exception. This is unsurprising considering that study 2 used MBCT rather than MBSR. MBCT is tailored specifically to treat depression and research has shown it to do so effectively as well as reducing symptoms of anxiety (Chiesa, & Serretti, 2011). Other research seems to indicate that a cognitive component in interventions aimed at treating depression in those with HIV is important in effectiveness; Sherr, Clucas, Harding, Sibley, & Catalan (2011) found that these interventions, particularly cognitive-behavioural stress management were more effective than other, coping-based interventions at reducing depressive symptoms. MBCT is already a recommended treatment option for depression by the NHS and these results support its use in those with HIV.

Quality of life is a measure of physical, psychological, and social functioning and well-being and is a particularly useful outcome measure in HIV patients as it gives an indication of the level of how they are functioning with a chronic condition. Quality of life also has implications for other health outcomes such as sleep, exercise levels and healthy eating (Duncan et. Al., 2014) all of which could potentially have a positive impact on patients with HIV. Results for this measure looked promising; however, none of the studies looked into whether improvements would remain in the long term.

Only three of the studies carried out follow-ups beyond 6 months (1, 6 and 8). Study 8 had never found any statistically significant results and studies 1 and 6 found that any improvements they had observed at previous follow ups ceased to be present at the 9 and 12 month follow ups respectively. This calls into question the sustainability of any positive outcomes gained from MBSR/MBCT which is a very important factor as HIV has no cure and, therefore, patients need a treatment option that will benefit them for the long term. Other therapeutic approaches have trialed following the intensive treatment phase with ‘refresher’ sessions with the aim of extending the sustainability of treatment effects. A

review into CBT for anxiety and mood disorders in young people found that pre–post studies with booster sessions had a larger effect size than those without booster sessions at follow up (Gearing, Schwalbe, Lee, & Hoagwood, 2013).

Mindfulness 'refresher' sessions have also been trialed; for example, MBCT has been trialed followed by four sessions delivered every three months in order to prevent depressive relapse for those discontinuing anti-depressants with some success (Kuykenet. Al., 2015). It is possible that similar 'booster' sessions could be needed to maximise the treatment effects in HIV patients.

Further research

In order for future studies to add to the current research in a meaningful way, researchers should aim to resolve some of the methodological shortcomings of the existing studies such as ensuring that a priori power analysis is performed so that groups' sizes are sufficient and conducting intention to treat analysis in order to attempt to overcome attrition rates. As well as this, researchers should consider emulating some characteristics such as follow up times and methods of measuring outcomes of existing studies so that, studies can be compared more logically. They should also ensure that long term follow ups are completed to test the longevity of outcomes and possibly research whether mindfulness 'refresher sessions' have any impact on such longevity.

Evidence as to the effectiveness of MBSR/MBCT on immune function outcomes seems to be mixed at best, but should future researchers choose to pursue this they should ensure that they also measure psychological outcomes, such as stress, in order to make speculations about the mechanisms behind any relationship founds. MBSR has been showed to have a positive impact upon a number of factors including anxiety and distress (Fang et al., 2010), quality of life (Hoffman et al., 2012) and symptoms of stress (Carlson, Speca, Patel, & Goodey, 2003); unless these are monitored during research, it is impossible to presume which, if any, are impacting upon immunity.

Review Evaluation

In an attempt to overcome publication bias, this review included unpublished studies; however, this left it open to other potential sources of bias. The searching strategy using the databases was done systematically and could easily be replicated; however, when it came to sourcing unpublished studies, a lot of the searching relied upon whether the authors were willing to share any new research they had carried out. Several of the experts contacted about this review did not respond and it was assumed that they did not have any suitable data to share but this may not necessarily be the case.

It was very difficult to judge the quality of some of the unpublished studies because the information about the methods they had used was unavailable. This meant that several of the papers appeared to be of fairly poor quality when this may, in fact, be simply a case of poor reporting.

The wide variety of outcomes and outcome measures made combining the results problematic. This reflects the infancy of the research into this area and, with time, one would expect studies to narrow their focus based upon finding from finding of previous research. In the future it may be possible to conduct a more focused review with fewer outcome measures, where the data can be pooled more meaningfully.

Conclusion

There is not enough evidence to suggest that MBSR or MBCT should be recommended as a treatment option specifically for HIV patients. Though many studies reported improvements in both psychological and immune function outcomes, few of these were significant when compared to the control condition and none of which showed these improvements to be sustained long-term. Unless future research can show that MBSR or MBCT are either as effective as, or more effective than, current treatment options or can be modified either to target HIV-specific outcomes or increase sustainability, then, as it stands, it should be viewed as a therapy to complement rather than replace current treatment.

References

Barnhofer, T., Crane, C., Hargus, E., Amarasinghe, M., Winder, R., & Williams, J. M. G. (May 01, 2009). Mindfulness-based cognitive therapy as a treatment for chronic depression: A preliminary study. *Behaviour Research and Therapy, 47,* 5, 366-373.

Baer, R. A. (May 01, 2003). Mindfulness Training as a Clinical Intervention: A Conceptual and Empirical Review. *Clinical Psychology: Science and Practice, 10,* 2, 125-143

British HIV Association. (2012). Standards of care for people living with HIV 2013. *London: British HIV Association*.

Chida, Y., & Vedhara, K. (2009). Review: Adverse psychosocial factors predict poorer prognosis in HIV disease: A meta-analytic review of prospective investigations. *Brain Behavior And Immunity, 23*434-445. doi:10.1016/j.bbi.2009.01.013

Chiesa, A., & Serretti, A. (2011). Review article: Mindfulness based cognitive therapy for psychiatric disorders: A systematic review and meta-analysis. *Psychiatry Research, 187*441-453. doi:10.1016/j.psychres.2010.08.011

Combescure, C., Courvoisier, D. S., Haller, G., & Perneger, T. V. (January 01, 2011). Meta-analysis of binary outcomes from two-by-two tables when the length of follow-up varies and hazards are proportional. *Statistical Methods in Medical Research, 20,* 5, 531-40.

Crane, R. (2009). *Mindfulness-based cognitive therapy: Distinctive features*

Davis, M. C., Zautra, A. J., Wolf, L. D., Tennen, H., & Yeung, E. W. (January 01, 2015). Mindfulness and cognitive-behavioral interventions for chronic pain: differential effects on daily pain reactivity and stress reactivity. *Journal of Consulting and Clinical Psychology, 83,* 1, 24-35.

Duncan, M. J., Kline, C. E., Vandelanotte, C., Sargent, C., Rogers, N. L., & Di Milia, L. (2014). Cross-sectional associations between multiple lifestyle behaviors and health-related quality of life in the 10,000 Steps cohort. *Plos One, 9*(4), e94184. doi:10.1371/journal.pone.0094184

Evans, S., Ferrando, S., Carr, C., & Haglin, D. (November 01, 2011). Mindfulness-based stress reduction (MBSR) and distress in a community-based sample. *Clinical Psychology & Psychotherapy, 18,* 6, 553-558.

Fjorback, L. O., Arendt, M., Ørnbøl, E., Fink, P., & Walach, H. (August 01, 2011). Mindfulness-Based Stress Reduction and Mindfulness-Based Cognitive Therapy - a systematic review of randomized controlled trials. *Acta Psychiatrica Scandinavica, 124,*2, 102-119.

Gearing, R. E., Schwalbe, C. S., Lee, R., & Hoagwood, K. E. (2013). The effectiveness of booster sessions in CBT treatment for child and adolescent mood and anxiety disorders. *Depression and anxiety*, *30*(9), 800-808..

Goleman, D. J., & Schwartz, G. E. (January 01, 1976). Meditation as an intervention in stress reactivity. *Journal of Consulting and Clinical Psychology, 44,* 3, 456-66.

Greeson, J. M., Hurwitz, B. E., Llabre, M. M., Schneiderman, N., Penedo, F. J., & Klimas, N. G. (2008). Psychological distress, killer lymphocytes and disease severity in HIV/AIDS. *Brain Behavior And Immunity*, *22*901-911. doi:10.1016/j.bbi.2008.01.001

Hamilton, N. A., Kitzman, H., & Guyotte, S. (January 01, 2006). Enhancing Health and Emotion: Mindfulness as a Missing Link Between Cognitive Therapy and Positive Psychology. *Journal of Cognitive Psychotherapy, 20,* 2, 123-134.

Herrmann, S., McKinnon, E., John, M., Hyland, N., Martinez, O. P., Cain, A., Turner, K., ... Mallal, S. (January 01, 2008). Evidence-based, multifactorial approach to addressing non-adherence to antiretroviral therapy and improving standards of care. *Internal Medicine Journal, 38,* 1, 8-15

Higgins, J. P., & Green, S. (Eds.). (2008). *Cochrane handbook for systematic reviews of interventions* (Vol. 5). Chichester: Wiley-Blackwell.

Hoffman, C. J., Ersser, S. J., Hopkinson, J. B., Nicholls, P. G., Harrington, J. E., & Thomas, P. W. (January 01, 2012). Effectiveness of mindfulness-based stress reduction in mood, breast- and endocrine-related quality of life, and well-being in stage 0 to III breast cancer: a

randomized, controlled trial. *Journal of Clinical Oncology : Official Journal of the American Society of Clinical Oncology, 30,* 12,

Johnson, M. O., & Folkman, S. (May 01, 2004). Side effect and disease related symptom representations among HIV+ adults on antiretroviral therapy. *Psychology, Health & Medicine, 9,* 2, 139-148.

Johnson, M. O., Chesney, M. A., Neilands, T. B., Dilworth, S. E., Remien, R. H., Weinhardt, L. S., Wong, F. L., ... NIMH Healthy Living Project Team. (January 01, 2009). Disparities in reported reasons for not initiating or stopping antiretroviral treatment among a diverse sample of persons living with HIV. *Journal of General Internal Medicine, 24,* 2, 247-51.

Johnson, M. O., Dilworth, S. E., Taylor, J. M., & Neilands, T. B. (January 01, 2011). Improving Coping Skills for Self-management of Treatment Side Effects Can Reduce Antiretroviral Medication Nonadherence among People Living with HIV. *Annals of Behavioral Medicine, 41,* 1, 83-91.

Joint United Nations Programme on HIV/AIDS (UNAIDS). Together we will end AIDS. Geneva: UNAIDS; 2012. http://www.unaids.org/en/resources/ campaigns/togetherwewillendaids/unaidsreport/. [Accessed 10 July 2012]

Kabat-Zinn, J. (January 01, 1982). An outpatient program in behavioral medicine for chronic pain patients based on the practice of mindfulness meditation: theoretical considerations and preliminary results. *General Hospital Psychiatry, 4,* 1, 33-47

Kabat-Zinn J. Full catastrophe living: using the wisdom of your body and mind to face stress, pain, and illness. New York: Delta; 1990

Kuyken, W., Hayes, R., Barrett, B., Byng, R., Dalgleish, T., Kessler, D., ... & Causley, A. (2015). Effectiveness and cost-effectiveness of mindfulness-based cognitive therapy compared with maintenance antidepressant treatment in the prevention of depressive relapse or recurrence (PREVENT): a randomised controlled trial. *The Lancet*, *386*(9988), 63-73.

Leserman, J. (January 01, 2003). HIV disease progression: depression, stress, and possible mechanisms. *Biological Psychiatry, 54,* 3, 295-306.

Linehan, M. (1993). *Cognitive-behavioral treatment of borderline personality disorder*. New York: Guilford Press.

Logsdon-Conradsen, S. (January 01, 2002). Using mindfulness meditation to promote holistic health in individuals with HIV/AIDS. *Cognitive and Behavioral Practice, 9,* 1, 67-72.

Manicavasgar, V., Parker, G., & Perich, T. (January 01, 2011). Mindfulness-based cognitive therapy vs cognitive behaviour therapy as a treatment for non-melancholic depression. *Journal of Affective Disorders, 130,* 1-2.

Marketon, J. I. W., & Glaser, R. (2008). Stress hormones and immune function. *Cellular immunology*, *252*(1), 16-26.

Morgan, D. (2003). Mindfulness-based cognitive therapy for depression: A new approach to preventing relapse. *Psychotherapy Research*, *13*(1), 123-125.

Morrison, M. F., Petitto, J. M., Ten, H. T., Gettes, D. R., Chiappini, M. S., Weber, A. L., Brinker-Spence, P., Evans, D. L. (January 01, 2002). Depressive and anxiety disorders in women with HIV infection. *The American Journal of Psychiatry, 159,* 5, 789-96.

Nakagawa, F., Lodwick, R. K., Smith, C. J., Smith, R., Cambiano, V., Lundgren, J. D., Delpech, V., Phillips, A. N. (January 01, 2012). Projected life expectancy of people with HIV according to timing of diagnosis. *Aids (london, England), 26,* 3, 335-43.

Owe-Larsson, M. B., Säll, L., Salamon, E., & Allgulander, C. (2009). HIV infection and psychiatric illness. *African journal of psychiatry*, *12*(2).

Parra-Delgado, M., & Latorre-Postigo, J. M. (October 01, 2013). Effectiveness of Mindfulness-Based Cognitive Therapy in the Treatment of Fibromyalgia: A Randomised Trial. *Cognitive Therapy and Research, 37,* 5, 1015-1026

Perkins, D. O., Stern, R. A., Golden, R. N., Murphy, C., Naftolowitz, D., & Evans, D. L. (January 01, 1994). Mood disorders in HIV infection: prevalence and risk factors in a nonepicenter of the AIDS epidemic. *The American Journal of Psychiatry, 151,* 2, 233-6.

Pradhan, E. K., Baumgarten, M., Langenberg, P., Handwerger, B., Gilpin, A. K., Magyari, T., Hochberg, M. C., ... Berman, B. M. (October 15, 2007). Effect of Mindfulness-Based stress reduction in rheumatoid arthritis patients. *Arthritis Care & Research, 57*, 7, 1134-1142.

Rintamaki, L. S., Davis, T. C., Skripkauskas, S., Bennett, C. L., & Wolf, M. S. (January 01, 2006). Social stigma concerns and HIV medication adherence. *Aids Patient Care and Stds, 20*, 5, 359-68.

Sampalli, T., Berlasso, E., Fox, R., & Petter, M. (January 01, 2009). A controlled study of the effect of a mindfulness-based stress reduction technique in women with multiple chemical sensitivity, chronic fatigue syndrome, and fibromyalgia. *Journal of Multidisciplinary Healthcare, 2*, 53-9.

Scott-Sheldon, L. A., Kalichman, S. C., Carey, M. P., & Fielder, R. L. (January 01, 2008). Stress management interventions for HIV+ adults: a meta-analysis of randomized controlled trials, 1989 to 2006. *Health Psychology : Official Journal of the Division of Health Psychology, American Psychological Association, 27*, 2, 129-39.

Sherr, L., Clucas, C., Harding, R., Sibley, E., & Catalan, J. (2011). HIV and Depression - a systematic review of interventions. *Psychology, Health & Medicine*, *16*(5), 493-527. doi:10.1080/13548506.2011.579990

Thompson, S. C., Nanni, C., & Levine, A. (January 01, 1996). The stressors and stress of being HIV-positive. *Aids Care, 8*, 1, 5-14.

Tovote, K. A., Fleer, J., Snippe, E., Sanderman, R., Schroevers, M. J., Peeters, A. C. T. M., Emmelkamp, P. M. G., ... Links, T. P. (January 01, 2014). Individual mindfulness-based cognitive therapy and cognitive behavior therapy for treating depressive symptoms in patients with diabetes: Results of a randomized controlled trial. *Diabetes Care, 37*, 9, 2427-2434.

Treisman, G. J., & Kaplin, A. I. (January 01, 2002). Neurologic and psychiatric complications of antiretroviral agents. *Aids (london, England), 16*, 9, 1201-15.

Whetten, K., Reif, S., Whetten, R., & Murphy-McMillan, L. K. (January 01, 2008). Trauma, mental health, distrust, and stigma among HIV-positive persons: implications for effective care. *Psychosomatic Medicine, 70,* 5, 531-8.

Watson, A., Atherton, I., & Schoultz, M. (August 25, 2015). Mindfulness-based cognitive therapy for inflammatory bowel disease patients: findings from an exploratory pilot randomised controlled trial. *Trials, 16,* 1, 1-13.

Williams K.A., Kolar M.M., Reger B.E., Pearson J.C., (2001) Evaluation of a Wellness-Based Mindfulness Stress Reduction intervention: a controlled trial. *American Journal Health Promotion, 15,* 422–432

Van der Lee, L. M. L., & Garssen, B. (March 01, 2012). Mindfulness-based cognitive therapy reduces chronic cancer-related fatigue: a treatment study. *Psycho-oncology, 21,* 3, 264-272.

		Yes	No	Unclear
Design Bias	Truly random	• Randomisation process adequate (Computer-generated random numbers and random number tables)	• Randomisation process inadequate	Insufficient information to permit judgment
	Allocation concealment	• Concealment of allocation	• No concealment of allocation	Insufficient information to permit judgment
Attrition bias	>80% in analysis	• 80% of participants originally included in the randomisation process followed up in the final analysis	• Missing data for more than >20% of participants originally randomised	Insufficient information to permit judgment
	Reasons for drop-outs	•Reasons for drop-outs explained	• No explanation of drop-outs	Insufficient information to permit judgment
Reporting bias	Demographic information	• Demographic information presented	• No demographic information provided	Insufficient information to permit judgment
	Equivalence	• Equivalence between groups achieved	• Equivalence not achieved	Insufficient informatio

				n to permit judgment
	Intention-to-treat (ITT)analysis	• ITT analysis carried out	• No mention of ITT analysis	Insufficient information to permit judgment
Other bias	Intervention bias	• Standard MBCT or MBSR procedure followed	• No mention of how MBCT or MBSR protocol followed	Insufficient information to permit judgment
	Control bias	• Non-mindfulness based control used	• Control involved mindfulness training (e.g. one day workshop)	Insufficient information to permit judgment
	Inclusion criteria	• Inclusion/exclusion criteria specified	Inclusion/exclusion criteria not specified	Insufficient information to permit judgment

SECTION C4

CONSULTANCY

Contents

Consultancy report: Improving sign-up and retention rates at a public gym

Assessment of requests for consultancy

A piece of consultancy work was undertaken in order to pilot a training session for fitness professionals (FPs). The aim of the session was to help them understand what motivates an individual to change their behaviour (particularly in relation to exercise) and, thereby, to enable the trainers to communicate more effectively with clients. It was hoped that in achieving these aims, FPs would be able to increase the number of clients signing up for gym membership and personal training sessions and increase retention rates of current members.

At a wellbeing event I attended through my work, I met a gym manager who was particularly interested in behaviour change techniques and how his staff could utilise them in order to benefit his business. After a discussion, he asked whether I would be able to assess the needs of his staff in order to improve their efficacy in generating sign-ups to gym membership and increasing retention rates for person training clients. He believed that this would take the form of a training session. For me, this was an interesting opportunity to take on a piece of consultancy work. I decided at the outset that this would not be a paid consultancy due to the fact that it was a pilot session and might need further development before it achieved a chargeable standard.

Establishing, developing and maintaining working relationships

Schein first put forward the concept of process consulting in 1969, one of the main principles of which being that you can only 'help people in organisations to help themselves'. This means that consultancy needs to be a collaboration, different from 'expert driven' approaches. 'All expert' approaches can impact negatively on a consultancy for a number of reasons; it reduces the control consultees have in their own organisation, it can undermine skills consultees have already acquired, in can reduce consultees' confidence in their own problem-solving abilities and it can lead to positive outcomes being credited to the consultant (Schectman, 1979).

Another important aspect of Schein's process consultation model is focused on revealing assumptions and prejudices in a consultant's own thinking. Having been a personal trainer myself, and now being a trainee health psychologist, I was aware that I, perhaps inevitably, leaned towards taking on the role of 'expert', which tendency I was keen to avoid. I was also aware I had a number of assumptions, and thus potential

prejudices, in respect of what the gym and staff would need from me in order to function more effectively. I even had assumptions as to what outcomes should be measured when looking at effectiveness.

Planning the consultancy

In order to follow some of Schein's (1999) principles and minimise the effect of my own preconceptions and assumptions when delivering this work, at the outset, I asked the manager to outline some of the problems he was having in his gym and how he envisaged I would be able to help. Unfortunately, the manager seemed keen for me to take on the role of the 'expert', asking that I design the training session as I saw fit. I attempted to use Schein's 'diagnostic enquiry' techniques, where I sent the manager a set of neutral question about the current running of the gym. I attempted to avoid making suggestions, which Schein terms 'confrontive' enquiry which can lead to an 'all expert' approach.

The problems identified by him were that a large number of potential clients who viewed the gym were not taking out membership and that many were cancelling their membership when their contracts came to an end. He believed that this was a result of his FPs' lack of skills in engaging clients and, specifically, that they did not listen adequately to the needs that clients expressed. We agreed that the training should have the aims of a) increasing the number of clients signing up for gym memberships and personal training, and b) keeping clients engaged once they had signed up so that they would renew their memberships each month.

Ideally, I had wanted to meet with the FPs to discuss their perspective on the problems they were experiencing. However when a request was sent out by the manager, the FPs either did not respond or declined a meeting citing lack of time. Following Schein's first principle 'Always be helpful', I decided to abandon the idea of face-to-face meetings. However, another of Schein's principles is that 'The client owns the problem and the solution' and, therefore, the FP's had to be involved in deciding how to 'solve' the current issues.

I decided to send out a questionnaire to ascertain which areas the FPs wanted to cover in the training (see appendix 1, p. 215). As this was my first communication with them I decided to just give a list of topics that I thought might help to address the

issues outlined by the manager and asked to rate them either as ‘Of great need’, ‘Of some need’ or ‘Of no need’ (the names of the topics were changed slightly to facilitate the FPs' understanding, for example ‘the transtheoretic model of change’ was amended to ‘the stages of health behaviour change’). I did not outline any of the problems raised by the manager as I wanted to build a rapport with the FPs and had to ‘access my ignorance’ (Schein, 1999, principle 5) to their individual perspectives.

The responses were scored on a Likert scale between zero and two. These were added up to give a weighted score for each topic (see appendix 2, p. 218). The topic with the highest score was ‘Motivational techniques’, with the next highest ‘the stages of health behaviour change’.

I decided that the training would give an introduction to Motivational Interview (MI) techniques to cover the ‘motivational techniques’ as brief MI training has been shown to increase healthcare providers’ confidence in their ability to incite bring about behaviour change with regards to exercise (Edwards, Stapleton, Williams, & Ball, 2015). MI also draws upon the transtheoretical model of change, so the two topics would mesh well together and not overwhelm the trainees.

I had initially suggested that the training take place over a day. However, the FP’s had been opposed to this suggestion as it would take too much time out of their schedule. The gym manager had suggested that the training be made mandatory but I had felt that this would impact negatively upon engagement during the training as they might feel that they were being ‘forced’ into training to correct their ‘bad’ practices. It would also go against the principle of ‘Always be helpful’. Another of Schein’s principles is ‘Go with the flow’ so we compromised and it was finally decided between all parties that the training should be a voluntary half day session.

The venue was visited in order to assess the suitability of the room to be used for the training. The site did not have the use of an overhead projector, so any information to be presented would need to be printed. A flipchart was available, so a certain percentage of the presentation and group exercises could be prepared on the chart ahead of the session.

In order to prepare the training in an effective way, the questionnaire sent out had also asked FPs what type of activities they would like to take part in during the training.

According to Honey and Mumford's theory on learning styles (Honey & Mumford, 1986) there are four types of learners with different characteristics. These are:

- Activists: those who tend to learn by 'doing', for example via problem solving tasks.
- Theorists: those who like to learn the theories and models behind actions.
- Pragmatists: those who like to know how to apply theory to the 'real world', for example, by being given case studies.
- Reflectors: those who learn by observing and then take time out to think about what they have seen.

The different activities listed in the questionnaire were based upon the different learning styles in this model (for example, role play would appeal to pragmatists as it demonstrated how techniques can be used in 'real life'). A tally was taken at the same time as the questionnaire regarding topics and the three most popular activities were: 'Group discussions', 'Thinking about how to apply theory to real life situations' and 'Case studies'. This indicated that the trainees had pragmatist tendencies; so this was taken into consideration when designing the training and the specified activities that were included.

The FPs met me in person for the first time on the training day. Before the training began, I introduced myself, summarised my background, explained why I was carrying out this training and gave trainees the opportunity to ask any questions they had. The training itself proceeded smoothly; the time frame was appropriate and all content was covered. The trainees, as predicted, were keen to apply learning to 'real life' scenarios and to talk about their own practice. The PowerPoint used during the training itself can be seen in appendix 7 (p. 226).

Monitoring and evaluating the consultancy

In both the monitoring of the process of the consultancy and the evaluation, a four level approach was taken, as described by the 'Kirkpatrick model' (Kirkpatrick & Kirkpatrick, 2006). This seeks to evaluate training by looking at trainees' reaction to the training, their learning, their subsequent behaviour change and the ensuing results of this behaviour change. As the skills and knowledge the training hoped to impart

were directly linked to fulfilling the aims of the consultancy as a whole, it was assumed that if the training was evaluated as effective, then so could the consultancy.

Evaluating the trainees' reactions was useful for three reasons: it enabled me to collect comments and suggestions that could help to improve and further develop the training; it helped build a relationship with the trainees which might mean that they were more likely to recommend the training package; and, it could create quantitative feedback for the manager. To develop a reaction sheet I first had to lay out the issues on which I wanted feedback: the schedule, materials and content. I then created questions that captured both quantitative data and comments/suggestions (see appendix 3, p. 219) and decided that the sheet would have space for trainees to leave their names, but that this would be optional. The option for anonymous feedback might enable some of the trainees to feel more comfortable about leaving negative feedback. However, if they wished to be identified, I could follow up on the comments, either to gather more information, or to provide learning materials the trainee might have felt was missing from the initial training. The feedback sheets were to be filled out immediately after the training to ensure that they were all completed and so that their reactions were as authentic as possible.

Overall scores for each question of the reaction were calculated using a five point scale (1-5, poor-excellent); scores were tallied for each category and then divided by the total number of responses (11). This gave an overall score out of five for each response. In future, this can be used to measure improvements in the reaction to the training with development but for the purposes of this training, it gave an indication of whether the measured areas were of an 'acceptable' standard. (I deemed a score of over three acceptable as it indicated the response was generally 'good' or better). The only area that was deemed unacceptable was the learning materials which received a score of 2.8. This was possibly due to the fact that the main handout was a print out of a power point presentation which would not have been used had there been a projector to hand. A more creative solution should have been considered and would be in the future should I be faced with the same problem.

The aspects of learning evaluated were knowledge and skills. Ideally a written test would have been completed before and after the training, or a control group used to compare their knowledge to that of the trainees. However, given the short amount of

time allocated to the training and the limited number of FPs, this was not possible. Knowledge was tested via a 'quiz' during the training on the stages of change; fictitious statements by clients were given to trainees and they were asked to vote for which stage of change they believed the client was at. This gave me an overall idea of the knowledge retained by trainees and also whether they were ready to progress to the next stage of the training or whether they needed to go over the theory again. On the training day itself, trainees displayed good knowledge retention and did not need additional teaching before moving on.

Skills were evaluated by way of a role play exercise which was performed both before and after the training. I played the part of a client telling her PT about my barriers to exercise. The trainees took turns at playing the role of the FP attempting to overcome these barriers. Before the training the FPs got rather frustrated with the 'client' and spent a lot of time making suggestions that were rejected. After the training the FPs used skills such as 'rolling with resistance' in order to resolve the client's ambivalence and I was satisfied that there had been a marked improvement in their skills.

Both knowledge and skills were also assessed on the reaction sheets; the trainees were asked to rate their knowledge and skills in motivational interview techniques before the training (retrospectively) and after the training. The before training ratings were done retrospectively as I wanted a subjective measure of the change in knowledge/skills that the training brought about. Asking the trainees to rate their knowledge/skills before the training might have yielded meaningless results as there was a risk that they believed they were more or less knowledgeable/skilled than they really were. The results would then not be comparable to the after-training rating as by then they would have a clearer idea of their actual knowledge/skill level.

The results of these questions showed that the trainees felt that they had improved both their knowledge of the 'stages of change' (the mean rating after training was 7.2 compared to 3.3 before) and in their motivational interview skills (the mean rating after training was 5.5 compared to 2.2). This is a good indication that the training had delivered, in terms of knowledge and skills, the improvements that it had set out to achieve.

The impact the consultancy had on trainees was evaluated via a questionnaire (see appendix 2, p.222) sent to the manager. This was sent four weeks after the training so that the trainees would have time/opportunity to implement the skills that they had learnt and also drawn their own conclusions as to how useful these skills were to them and whether they would continue to use them in the future. The questionnaire sought to reveal what behaviours trainees felt they had been taught, whether they were eager and confident in implementing them , whether they continued to use their skills and, if not, why not?

Unfortunately, only eight of the eleven trainees returned their questionnaires despite several reminders to the manager. Perhaps because the questionnaires could be anonymous, some trainees felt under no pressure to return them. Only one of the eight respondents answered the first question and none responded to the last question which seems to indicate they either did not understand them or felt that they were too difficult to answer. I will need to consider this in future evaluations; face to face feedback or a focus group would be ideal. A table of results can be seen in appendix 5 (p. 224). All eight reported that they were either 'very' or 'quite' eager to use the skills that they had learned and all eight were either 'very' or 'quite' confident in using the skills. All reported using the skills after training. This indicated that the training did produce behaviour change in the trainees which is a positive. Five of the trainees indicated that they still used the skills they learned but two did not. However one of these two was because they no longer had the opportunity so to do. The other stated that they had forgotten the skills after going on holiday; this could imply that some sort of follow up session would have been useful for them.

Although I was able to assess the results of the training fairly thoroughly , I found it difficult to measure the success of the consultancy itself against its original aims as the manager was very disengaged after the training had taken place. I would have liked to look at whether there was an increase in the number of clients signing up for gym memberships and personal training and a decrease in the number of client ending their contracts each month.

The manager was sent a short report summarising the results of the evaluation and also asked for his feedback on the consultancy (see appendix 6, p. 225). His feedback was concise and, in general, positive, stating that he would recommend the training to

other gym and health centre staff. Interestingly, the only criticism he gave was that he felt that both he and the FPs were given too many feedback forms to fill in. Given that the training was short in duration and small in numbers, I might have considered a more succinct method of evaluation.

Reflections

I feel that not charging for the consultancy may, in hindsight, have been a mistake. The manager was rather uninvolved throughout the process and I believe that that may have been because he did not have anything except time invested in the consultancy. Had he been paying, he may well have wanted to ensure that the training delivered was going to yield tangible results in terms of staff productivity.

I also think that I should have spent more time at the outset engaging in exploratory enquiry as recommended by Schein (1999). I only had real contact with the 'contact client' and, as such, did not get a clear enough idea of the problem facing the organisation as a whole. I should have made clear when negotialting the terms of the consultancy that this was what was needed.

On a similar note, I should have made clear in the terms that an evaluation of the outcomes of the consultancy was also necessary. Again, I believe that if this had been a paid consultancy, the manager would have been more motivated to engage in the evaluation to ensure that he had received value for money.

Since finishing the consultancy I have also realised that I got caught up in evaluating the training itself rather than the consultancy as a whole. This is unsurprising given that I have regularly run training sessions in my job and have taught on various MSc and BSc courses but this was my first consultancy. If I take on another in the future, I will devise a way of evaluating the impact of the consultancy against the initial aims decided upon by myself and the manager.

Overall, I believe this was a useful experience for mean in terms of developing my skills as a consultant. Although I did try to follow Schein's principles when approaching the project, I think that I failed on some points. I did make assumptions regarding what the organisation 'needed' and did not 'always stay in touch with the current reality' (principle 2, Schein 1999) but used my own past experience to guide

me in my planning. I do, however, believe that I can learn a lot from these errors and make changes to my practice in the future.

References

Block, P. (2000). *Flawless consulting: A guide to getting your expertise used*. San Francisco: Jossey-Bass/Pfeiffer

Edwards, E. J., Stapleton, P., Williams, K., & Ball, L. (May 01, 2015). Building skills, knowledge and confidence in eating and exercise behavior change: Brief motivational interviewing training for healthcare providers. *Patient Education and Counseling*, 98, 5, 674-676.

Honey, P., & Mumford, A. (1986). *The manual of learning styles*. Maidenhead: Peter Honey.

Kirkpatrick, D. L., & Kirkpatrick, J. D. (2006). *Evaluating training programs: The four levels.* San Francisco, CA: Berrett-Koehler.

Schein, E.H. (1969). *Process Consultation: It's Role in Organization Development.* Reading, MA: Addison- Wesley.

Schein, E. H. (1999). *Process consultation revisited: Building the helping relationship*. Reading, Mass: Addison-Wesley.

Appendix 1- Questionnaire given to FPs

Hello Fitness professionals!

Allow me to introduce myself: My name is Sophie Edwards; I am a former fitness instructor and personal trainer and have since gone on to do an MSc in health psychology and am currently doing a doctorate in the same topic. Health psychology is the study of the relationship between our mind and our physical health so covers things such as: 'how can we help people to lead healthier lives (eg. Do more exercise)?' and 'why do people do things that they know are bad for their health (eg. eat junk food)?'. Your manager and I think that you would benefit from a training session with me so that I can share some of the skills and knowledge that health psychology can offer. If you could take the time to answer the following question I would really appreciate it so that we can all get the most out of the training:

Can you please rate how useful you would find the following topics:

How peoples beliefs about what is healthy can influence their behaviour

_____Very useful

_____Somewhat useful

_____Not useful at all

The stages of health behaviour change

_____Very useful

_____Somewhat useful

_____Not useful at all

Motivational techniques

_____Very useful

_____Somewhat useful

_____Not useful at all

The psychological benefits of exercise

_____Very useful

_____Somewhat useful

_____Not useful at all

Evaluating your performance as an instructor/personal trainer

_____Very useful

_____Somewhat useful

_____Not useful at all

Which of the following activities do you find helpful during training (please tick):

Learning the theory behind the skills we are learning_____

Case studies_____

Thinking about how to apply theory to real life situations_____

A lecture _____

Group discussions_____

Role play_____

Problem solving exercises_____

A written test_____

Appendix 2- Scores for suggested topics.

Topic	Score
How peoples beliefs about what is healthy can influence their behaviour	7
The stages of health behaviour change	9
Motivational techniques	10
The psychological benefits of exercise	6
Evaluating your performance as an instructor/personal trainer	1

Appendix 3- Reaction Sheet

Thank you for taking part in the training session, I would be very grateful if you could you take the time to fill in the following questionnaire. Your feedback is very important in developing and improving the session.

Name (optional)_____

How did you rate the content of the first half of the training (stages of change)?

_____Excellent Any comments/suggestions?

_____Very good

_____Good

_____Fair

_____Poor

How did you rate the content of the second half of the training (Motivational interview skills)?

_____Excellent Any comments/suggestions?

_____Very good

_____Good

_____Fair

_____Poor

How did you rate the schedule (timing, pace) of the training?

_____Excellent Any comments/suggestions?

_____Very good

_____Good

_____Fair

_____Poor

How did you rate the trainer?

_____Excellent Any comments/suggestions?

_____Very good

_____Good

_____Fair

_____Poor

How did you rate the learning materials (handouts etc.)?

_____Excellent Any comments/suggestions?

_____Very good

_____Good

_____Fair

_____Poor

How would you improve the session?

What was particularly good about the session?

On a scale of 1-10 can you rate your knowledge of the ‘stages of change’ BEFORE the training (please circle)

1 2 3 4 5 6 7 8 9 10

On a scale of 1-10 can you rate your knowledge of the ‘stages of change’ AFTER the training (please circle)

1 2 3 4 5 6 7 8 9 10

On a scale of 1-10 can you rate your motivational interview skills BEFORE the training (please circle)

1 2 3 4 5 6 7 8 9 10

On a scale of 1-10 can you rate your motivational interview skills AFTER the training (please circle)

1 2 3 4 5 6 7 8 9 10

Appendix 4- Questionnaire to outcomes of consultancy

1. Which skills or behaviours were you encouraged to use at work during the training?

2. Were you eager to use these skills/behaviors?

Very eager____ Quite eager____ Not eager_____

3. How confident were you to use these skills/behaviours?

Very confident_____ Quite confident_____ Not confident_____

4. Did you use these skills/behaviors? Y/N

5. If not, why not?

6. Do you continue to use them? Y/N

7. If not, why not?

8. If you have used these skills/behaviours, how have they have impacted on your work? (For example rates of client signing up to the gym or for PT, retention rates, motivation level of clients)

Appendix 5-Table of questionnaire results

	1	2	3	4	5	6	7	8
1	Listening more to clients. Asking not telling them .	Very eager	Very confident	Y		Y		
2		Very eager	Quite confident	Y		Y		
3		Quite eager	Very confident	Y		Y		
4		Quite eager	Very confident	Y		N	Don't do inductions anymore.	
5		Quite eager	Quite confident	Y		Y		
6		Quite eager	Quite confident	Y		Y		
7		Quite eager	Very confident	Y		N	Holiday-forgot.	
8		Quite eager	Quite confident	Y		Y		

Appendix 6- Manager feedback

I think that Sophie's training was very interesting and useful for my staff. Exercise professional should be given more training on the psychology of fitness and I would recommend the training to other gyms or to do as part of their qualifications. The only negatives were all the forms we had to fill in! I wish Sophie the best in her studies and she is welcome to visit us any time.

01/08/2018

Motivational Interviewing – a flavour

Preparing people for change
Sophie Edwards MSc

You would think . . .

- That having had a heart attack would persuade a *man* to quit smoking, change diet, exercise and take his medication.
- That putting on so much weight that you are ashamed to go swimming would be enough to convince someone to start exercising and reduce their calorie intake.

Trainer Assumptions

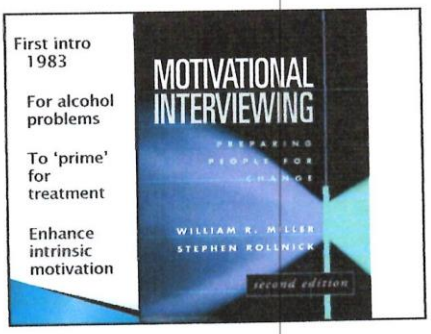
- This person ought to change
- This person wants to change
- Patient's health is motivation
- No change = failure
- Now is the right time
- Being tough is best
- I know
  my advice is good
- Negotiation is always best

First intro 1983

For alcohol problems

To 'prime' for treatment

Enhance intrinsic motivation



Stages of Change

Relapse - can happen any time

Precontemplation Stage

- Definition
  - Not yet considering change or is unwilling or unable to change
- Primary task
  - Raising Awareness

1

Some Ways to Raise Awareness in the Precontemplation Stage

- Offer factual information
- Explore the meaning of events that brought the person in and the results of previous efforts
- Explore pros and cons of targeted behaviors

Contemplation Stage

- In this stage the client sees the possibility of change but is ambivalent and uncertain about beginning the process
- Primary task
- Resolving ambivalence and helping the client choose to make the change

Possible Ways to Help the Client in the Contemplation Stage

- Talk about the person's sense of self-efficacy and expectations regarding what the change will entail
- Summarize self-motivational statements
- Continue exploration of pros and cons

Planning Stage

- In this stage the client is committed to changing but is still considering exactly what to do and how to do
- Primary task
- Help client identify appropriate change strategies

Possible Ways to Help the Client in the Determination Stage

- Offer a menu of options for change or treatment
- Help client identify pros and cons of various treatment or change options
- Identify and lower barriers to change
- Help person enlist social support
- Encourage person to publicly announce plans to change

Action Stage

- In this stage the client is taking steps toward change but hasn't stabilized in the process
- Primary task
- Help implement the change strategies and learn to limit or eliminate potential relapses

Possible Ways to Help the Client in the Action Stage

- Support a realistic view of change through small steps
- Help person identify high-risk situations and develop appropriate coping strategies
- Assist person in finding new reinforcers of positive change
- Help access family and social support

Maintenance Stage

- Definition
  - A stage in which the client has achieved the goals and is working to maintain them
- Primary task
  - Client needs to develop new skills for maintaining recovery

Possible Ways to Help the Client in the Maintenance Stage

- Help client identify and try alternative behaviors (drug-free sources of pleasure)
- Maintain supportive contact
- Encourage person to develop escape plan
- Work to set new short and long term goals

Behaviour Change Counselling

- 'Ways of structuring a conversation which maximises the individual's freedom to talk and think about change in an atmosphere free of coercion and the provision of premature solutions'
  - Assessing readiness
  - Weighing up pros and cons
  - Determining action - moving patients on

What is MI?

- Cognitive approach
  - Deals with facts and thought processes
- Strategic
  - Agenda driven & directive
- Empathic
  - Non judgmental, reflective, affirming, respectful
- Client-centred
  - Views from client's perspective, reinforces personal responsibility
- Empowering
  - Client in control, supports self-efficacy

What MI is not:

- Giving Information
- Giving Advice
- Persuading
- Warning
- Confronting
- Agreeing

The task of MI is…

- **Evocation**:
  - critical elements of change are within the person
  - the clinician's task is to draw them out
- **Collaboration**:
  - the clinician is a resource
  - the client is the expert
- **Autonomy**:
  - it is the client, not the clinician, who must decide to change and provide the means for it

The Basics – Affirmation

- The clinician says something positive or complimentary to the client.
  - "I appreciate you getting here today"
- Encouraging statements
  - "Good for you"
  - "Well done"

The Basics – Open Questions

- **Open questions**:
  - Leave latitude for a response.
  - Client has to **think about it**
  - "What do you want to do about your fitness level?"
    Versus
  - 'Do you want to lose weight?'
- **Purpose of questions**:
  - To gather information
  - What, Why, When, How, Where, Who?
  - To understand a client's story.

Five General Principles of MI

- Express Empathy
- Explore Ambivalence
- Develop Discrepancy
- Roll with Resistance
- Support Self-Efficacy

Throughout – emphasise the desirable

Express empathy

- Getting alongside
- Simple reflective listening
- Affirmation
- Respectfulness

- You want patients say:
  - 'I felt heard/understood'
  - 'I wanted to carry on talking'

Explore Ambivalence

- Seeing both sides
- Non-judgemental/dispassionate
- Decisional balance

Decisional Balance

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- Weighing up pros and con's
- Seesaw
- Balance sheet

Develop Discrepancy

- Explore client values
- Establish client goals
- Contrast with behaviour
- Cognitive dissonance
  - Conflict between opposing self beliefs and /or behaviour leads to resolution or rationalisation

Cognitive Dissonance

- I've stopped smoking vs
  - I had a few cigarettes last night
- I eat healthily vs
  - I can't live without my morning frappucino
- I must stop this behaviour
- I really am unfit, what can I do?
- I'm a failure, I have no control

What is Resistance?

- Suddenly changes tack
- Reasons NOT to change
  - Justifying
  - Blaming
  - Ignoring
  - Arguing
  - Interrupting
  - Changing the subject

Rolling with Resistance

Avoid arguments through:

- Shifting focus- 'so what can you control?'
- Reframing- 'it must mean a lot to you if you are considering investing your money on it'
- Agreement with a twist- 'so it sounds like getting to the gym is impossible for you right now…'

Support self-efficacy

- Optimism
- Emphasise client's past achievements
- Convey the success of others
- Selectively reinforce optimistic/motivated statements

Envisioning

- Projecting into the future:
  - What will happen if behaviour doesn't change?
  - What would be different if you could make the change?
- Or directively:
  - if you carried on what would be the downside?
  - if you changed/stopped, what would be the benefits?

Decision making – bringing it all together

- Summarise the conflict
- Elaborate the pros and cons of change
- Emphasise personal control
- Support self-efficacy
- Positive images of the future after change
- Ask:
  - What would you like to do now about your fitness?

Conflict Resolution is the key:

- Try to elicit a decision:
  - I'll sign up
  - I'll come back to see you
- Firm up the decision– Ensure it's personal

Feedback method

- Introduce test
- Describe implications
- Check understanding
- Check meaning to the client
- Provide normative range
- Present results
- Check understanding
- Avoid jargon

Motivational Interviewing

- Ways of structuring a conversation which maximises the individual's freedom to talk and think about change in an atmosphere free of coercion and free of the provision of premature solutions

(Rollnick et al. 1999)

SECTION

C5

Teaching and Training

Contents

Teaching

DVD

Commentary

The ten minutes chosen to reflect upon are the first ten of the lecture and it is obvious that I am nervous at the outset; I am touching my face and stuttering rather a lot for the first couple of minutes. This probably did not engender the confidence of the students nor would it catch their attention and engage them, which would be the ideal start to a lecture. I also did not smile a lot at the beginning, which would possibly have put the students at ease.

I began by introducing myself and my job, which was a positive as it gave them some insight into my background and why I was taking the lecture. I explained the context of the lecture within the module of 'Health over the Lifespan' but did not set out clear learning outcomes, nor did I go over the schedule of the lecture. This, I believe was a mistake as students had no idea of what to expect, nor did they know if they would be getting a break which may mean that they could become distracted later in the session if they are not finding the current topic interesting or if they should become thirsty or need to use the bathroom.

When I asked if they had any questions about my job, no one volunteered, which is unsurprising as up until that point I had not smiled, and so, had not come across as particularly approachable. I presented some demographic information on a slide and asked the students for their interpretations of it rather than explaining what I thought it meant. This was positive as it meant that the students had to engage with the data and it gave me an idea of their understanding of it. I gave positive feedback to a student who did give her interpretations and smiled at her, which, I believe, encouraged others to then participant and offer their own views up to the group.

A controversial topic arose (that of negative feelings towards the parents of obese children) and I believe I handled it very well; I myself remained non-judgmental of the students for their views which made them feel comfortable enough to expand of what they were saying. I maintained eye contact and demonstrated reflective listening as the student gave her opinion and this provoked a good discussion.

Towards the end of the ten minutes I am visibly more relaxed; I am stuttering less and moving in a more relaxed manor. I am also sticking less rigidly to what is on the slides and bring up an interesting documentary related to the topic. It looks a lot more natural and, I believe, engaging for the students. You can now see that the topic I am

talking about is one that I am very interested in and am not just talking about for the sake of the lecture.

To conclude, I think that I did a fair job but do need to work on how I begin a lecture in order to engage students from the outset and set the tone of the lecture. I think that much of my nervousness was due to being observed by my supervisor who was there as part of the evaluation process.

Teaching and Training Plan Report

Introduction

I undertook a lecture entitled 'Childhood Obesity' at London Metropolitan University. The students who attended the lecture did so as part of their MSc in Health Psychology. They would all have completed an undergraduate degree in Psychology and, therefore, an understanding of the basic psychological models and principles that might be relevant to the lecture topic was assumed when planning the content of the lecture. For example, the basic models of lifespan development were not to be covered at length in the lecture but might be referred to in relation to childhood obesity. Similarly, a working knowledge of the research methods used in psychological research was assumed when discussing particular studies. Students were at different stages of the MSc, due to their different modes of study, but all had completed at least one term. It was thus assumed that they would all have an understanding of the basic models used in Health Psychology and that these could be mentioned, or used in activities, during the lecture without having to describe them at length. However, those who were studying part time might have only completed one module at the time of the lecture. Therefore I determined only to use those models that were most well-known, such as The Transtheoretical Model (Prochaska & DiClemente, 1983) or the Health Belief Model (Becker, 1974).

Assessing training needs

In order to determine the learning outcomes, I had to understand the context of this particular lecture within the module of the MSc: I achieved this by referring to the module specifications in the MSc handbook. It was the second in a series of lectures for a module entitled 'Health over the Lifespan'. The first lecture had been an introduction that involved looking at the main models and research methods in the area. This meant that the current lecture was the first one that had focused on a particular topic so it would be very important to deliver the topic of childhood obesity in the context of lifespan development. This would involve looking at risk factors, including influences such as pre- and postnatal factors, as well as the consequences of childhood obesity on health in later life, including the risks to mental, physical and social wellbeing. The immediate following lecture in the series was entitled 'Children's perception of Illness' and it was important that the current lecture did not overlap too much with the topics to be covered in that. However, the topic of

children's perceptions of obesity might be mentioned, as this would be relevant to the consequences of childhood obesity and could help the students' thinking about the topic in preparation for the next lecture.

The assessment the students would have to complete was considered before preparing for the lecture in order that the information provided was relevant and aided them in the successful completion of the module. The assessment was to be a 'problem solving' written task where the students were given a case study and asked to identify the factors that might have contributed to the causes or development of the problem, and the likely future consequences of the present situation. They would then have to provide recommendations for the steps they believed needed to be taken to enable the individuals involved in the case study to progress towards a positive outcome. It was therefore important for interventions to be covered in the lecture and for all information presented be transferable to 'real life' situations. It was also noted that a case study 'activity' would be suitable as part of the lecture.

Developing the structure and content ensuring the facilitation of learning in health psychology

When designing how the content of the lecture was to be delivered, I considered the theory that there are two approaches to learning: deep and surface. This theory is derived from research by Marton and Säljö (1976) and later built upon by Ramsdon (1992). It posits that when individuals learn on a deep level, this is characterised by an intention to understand rather than memorise information, to relate concepts to experience and evidence to conclusions, and to examine the logic of an argument. In contrast to this, surface learners will have only the intention to complete the requirements of a task and will memorise information for the purposes of assessment. They will, therefore, find it difficult to apply models and principles to novel examples. The MSc Heath psychology course is considered a training programme designed to help students apply learning to future jobs: it is therefore important that students approach learning at a deep level. In order to help facilitate this, I decided to begin the lecture by introducing myself and explaining what I did for a living and how the training on the MSc had helped me to do this successfully. This would hopefully convey the importance of understanding and of being able to apply information to 'real life' situations rather than just learning the minimum in order to pass the

assessments. I also included a slide on the NICE guidelines about which professionals should make up the multi-disciplinary team in obesity interventions for children; these included a 'health or clinical psychologist'. This, again, should help students realise that their learning could be applied to important roles in health care.

Another consideration when designing the lecture was how different individuals best interact with new information. According to Honey and Mumford's theory on learning styles (Honey & Mumford, 1986) there are four types of learners with different characteristics. These are:

- Activists: these individuals tend to learn by 'doing', for example via problem solving tasks.
- Theorists: these individuals like to learn the theories and models behind actions.
- Pragmatists: these like to know how to apply theory to the 'real world' such as being given case studies, and
- Reflectors: these individuals learn by observing and then taking time out to think about what they have seen.

In order that each student would get the most from the lecture, I decided that I would include aspects which appealed to each type of learner.

The students were given a reading list two weeks prior to the lecture so that any reflectors in the group would have time to read and process the material. I was careful to include papers that would give students an overview of each aspect of Childhood Obesity to be covered in the lecture. This included two Systematic Reviews so that students would get a concise overview of research to maximise the use of their time. One paper included had some, rather glaring, methodological drawbacks despite being used as evidence for childhood obesity-related policy. The papers would be discussed during the lecture; giving the students time to read them in advance should appeal to any reflective learners as they would have the time to consider them carefully beforehand.

The majority of the lecture would be delivered via a PowerPoint presentation; I found out ahead of time that the room was equipped with a computer, a smart board and a

small white board. The slides used can be found in appendix 1 (p. 246). The white board was to be used to write down students' ideas during discussions. Part of the lecture would be delivered by me presenting information on slides and explaining them in more detail; this part of the lecture might appeal to reflectors as they would be able to consider the information presented before being asked to do anything with it. Statistics (such as those on the prevalence of childhood obesity), research data (such as those of studies into the ability of health professionals to recognise obesity in children) and links between different factors (such as the interrelationship between obesity, depression and social isolation in children) were to be presented and would appeal to any 'Theorist' learners.

The lecture would be broken up by activities and discussions (such as 'What are the pros and cons of the National Child Measurement Programme (NCMP)?') and I prepared prompts for myself to ask questions such as 'What does this information mean?', 'Is this information important? Can it be applied to real life?' These types of tasks would not only help to keep the students' attention focused as they required interaction, they would also serve to help me continually evaluate the students' learning/understanding and they would also be the best type of tasks to facilitate learning for any 'Activists' in the class.

Selecting appropriate training methods, approaches and materials

There were two main activities planned; in the first, students were to be split into small groups and given an example of a case study of an child with obesity, including information on their background and the effects of their obesity on their lives. This case study can be found in appendix 2 (p. 252). Students would be asked to identify predisposing and precipitating factors, to think about how the child might be being affected psychologically, socially and physically, and to consider the implications the current situation might have for the child in the future. This task was designed not only to help prepare students for their assessment but also to put childhood obesity in the context of lifespan development. The task would appeal to 'pragmatists' as it involved putting the theory of the lecture into practice in a 'real life' situation. The second task would ask students to design an intervention for the case studies to facilitate their weight loss. Students were asked to discuss this in groups but were given the option of writing a short report of their intervention after the lecture and

sending it to me: I would give them feedback. Again, this task was designed to prepare students for their assessment and also to appeal to pragmatists, but also, by giving them an optional task to complete in their own time, any 'reflectors' would be allowed to complete the task in a time frame that suited them.

The lecture would take place over two hours and I needed to plan the schedule in order that this time would be used in the best possible way and that the students were engaged throughout the lecture. A summary of the schedule is as follows:

Duration (mins)	Content	Materials
10	Introduction: learning outcomes and lecturers job	PowerPoint
10	Lecture: What is childhood obesity, risk factors	PowerPoint
10	Discussion: Pros and cons NCMP	Whiteboard
10	Lecture: Effects of childhood obesity	PowerPoint
20	Task: Case study	Case study hand outs
10	BREAK	
10	Lecture: Causes of childhood obesity	PowerPoint
10	Discussion: Consideration for a child obesity intervention	Whiteboard
10	Task: Designing an intervention (to finish in their own time)	
10	Lecture: The role of the Health Psychologist	PowerPoint
10	Questions	

Two weeks prior to the lecture, I delivered the session to my colleagues at work as part of their CPD; they all worked in weight management, on a daily basis they work with adults, and so it was thought to be beneficial for the team. This gave me an opportunity to ensure that the timing and pace of the lecture were suitable and to gather oral feedback from my colleagues and implement any necessary changes before delivering it to the students. The feedback received from my colleagues was

positive in the most part; however, it was pointed out that the slides were rather 'boring' and devoid of images. This was taken on board and the slides duly modified.

The lecture was delivered to the MSc students on 27/02/15. I arrived ahead of time to ensure that all the equipment was fit for use and met my supervisor, who observed the session as part of the evaluation process. The lecture was delivered according to the schedule in the main; however, the discussions took longer than had been planned and so there was little time for questions at the end of the lecture. This was not thought to be a problem as it seemed that the students had engaged better with the more interactive aspects of the session than the lecture-style portions. This might indicate that they were primarily activist or pragmatist style learners and I concluded that the session should be adjusted to accommodate this.

I ensured that I offered positive feedback to students on their good ideas throughout the session. When a difficult topic arose (feelings of judgment and blame directed towards the parents of obese children) I reassured students that feelings such as these were normal and needed to be reflected upon or discussed during supervision in order that the practitioners could continue to practice ethically. I also went back over topics immediately if it appeared that any of the students had not fully understood the concept.

Students were given my contact details and were asked that they forward any questions they might have, along with their intervention design (should they wish to provide it) to me. None of the students sent in their intervention design; however, one student asked for some details of the interventions that are carried out in London by my employer. These details were promptly forwarded on.

Reflections

The planning of this lecture was a very different experience to that of lectures I have planned in the past; I usually just design a PowerPoint and some discussion tasks without much thought to learning theory. I realise now that I am a pragmatist and would design a lecture according to what I would engage well with so I found it interesting designing tasks to suit other learning styles. The only drawback I found was that I was slightly distracted during the lecture because I had such a clear idea of how the session 'should' be going and, in retrospect, I believe I was more rigid than I

would usually be about how much time I allowed for discussion. All in all I feel I have gained a lot from the experience and will continue to plan lectures with thought to the wider considerations of context and learning theory in the future.

I was also very conscious, during the lecture, of the quieter members of the audience. I wanted to draw them into the discussion to ensure that they were engaged with the lecture but did not want to single them out if this might make them feel embarrassed or uneasy. It was important to me that students left my lecture feeling more confident in themselves as trainee practitioners than when they entered: forcing someone to speak in public when they felt uncomfortable in so doing would not be conducive to this. I, therefore, allowed members of the group to listen to group discussions rather than actively participate if they chose to do so.

References

Becker, M. H. (1974). *The Health belief model and personal health behavior*. San Francisco: Society for Public Health Education.

Honey, P., & Mumford, A. (1989). *The manual of learning opportunities*. P. Honey.

Marton, F., & SÄLJÖ, R. (February 01, 1976). On qualitative differences in learning: i—outcome and process. *British Journal of Educational Psychology,46,* 1, 4-11.

Prochaska, J. O., & DiClemente, C. C. (January 01, 1983). Stages and processes of self-change of smoking: toward an integrative model of change. *Journal of Consulting and Clinical Psychology, 51*, 3, 390-5.

Ramsden, P. (1992). *Learning to teach in higher education*. London: Routledge.

Childhood Obesity

My Job

- **Weight Management Practitioner for Morelife**
  - Tier 3 weight management programme
  - Readiness to change assessments and delivery of the programme
  - Based upon CBT, mindfulness and ACT principles
- **Group facilitator at turning point, drug and alcohol treatment centre**
  - one-to-ones with clients
  - facilitated mindfulness based programme

What is obesity?

"a condition where fat has accumulated to such an extent that health is adversely affected"

Prevalence of excess weight among children

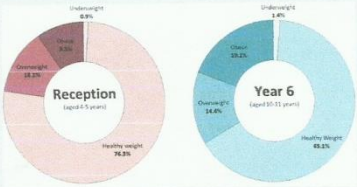
National Child Measurement Programme 2013/14

One in five children in Reception is overweight or obese (boys 23.4%, girls 21.6%)

One in three children in Year 6 is overweight or obese (boys 35.2%, girls 31.7%)

BMI status of children by age

National Child Measurement Programme 2013/14



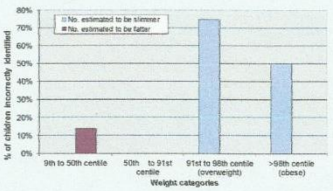
Issues with BMI

- BMI correlates not only with fat but with fat free mass
- BMI gives no indication of fat distribution
- BMI variation in ethnic groups
- Waist circumference has been argued to be a better measure as it is a good marker of centralised fat accumulation in children (and its associated health risks)

Can HCP's recognise obesity in children?

BMI centile	9th to 50th centile	50th to 91st centile	91st to 98th centile (overweight)	>98th centile (obese)	TOTAL
No. of children in this category	8	5	6	12	33
Accuracy of assessments					
Total number of assessments	640	400	640	960	2640
% of correct assessments	64.4%	68.3%	29.5%	52.4%	52.2%
% of assessments identifying child as slimmer	16.9%	27%	69.2%	47.6%	42.3%
% of assessments identifying child as fatter	18.8%	4.75%	1.28%	N/A	5.6%
Accuracy of assessors					
No. children correctly identified by at least 40 health professionals	7	5	2	6	20 (60.6%)
No. estimated to be slimmer by at least 40 health professionals	0	0	6	6	12 (36.4%)
No. estimated to be fatter by at least 40 health professionals	1	0	0	0	1 (3%)

HCP's estimations



Can parents recognise obesity in children?

- Study of 1205 children (6-14 years) and parents/guardians
- Parent/guardian BMI (using height and weight) compared to actual BMI.
- Parents of overweight children underestimated their child's weight status whereas parents of underweight children overestimated child's weight status.

Can parents recognise obesity in children?

- Study of over 500 children age 3-5; only 6% of parents with overweight or obese children described their child as overweight
- The perception of overweight was not associated with the parent's age, weight, educational attainment or ethnic background.

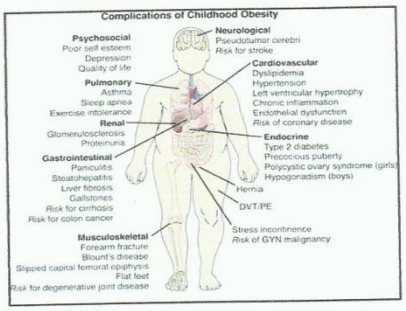
Can children recognise obesity in themselves?

When children aged 8-15 were asked about their perception of their weight, 58% of boys and 52% of girls felt that they were about the right weight, while 11% of boys and 15% of girls felt that they were too heavy, and 10% of boys and 4% of girls thought they were too light Just under a quarter of children who thought that they were about the right weight were overweight (15%) or obese (8%)

National Child Measurement Programme

"Every year, as part of the NCMP, children in Reception (aged 4-5 years) and Year 6 (aged 10-11 years) have their height and weight measured during the school year to inform local planning and delivery of services for children; and gather population-level surveillance data to allow analysis of trends in growth patterns and obesity."

Discussion:
What do you think are the pros and cons of the NCMP?



Quality of life

- Results have been inconsistent in this area but many indicate that QoL lower in obese children/ adolescents. (Morrison, Shin, Tarnopolsky & Taylor 2015)
- Based on self-reports, children and adolescents with above-normal body mass index had significantly lower total, physical, and psychosocial HRQoL
- Parents reported the same pattern but a larger effect size. (Ul-Haq, Mackay, Fenwick, E., & Pell, 2013)

Depression

- Indicators of depression (use of anti-depressants and/or high scores on depression scales) more common in obese 8-17 year olds. (Morrison, Shin, Tarnopolsky & Taylor 2015)
- But the relationship is complex and mediated by age and gender with obese adolescent girls seemingly most likely to be at risk of depression in later life (Walker & Hill, 2009)

Self-esteem, social isolation

- Overweight adolescents are more likely to be socially isolated and to be peripheral to social networks than normal weight adolescents (Strauss & Pollack, 2003)
- Studies indicate that self-esteem in obese children and adolescents is lower than this of a 'normal' weight. (Griffith, Parson & Hill, 2010)
- Decreasing levels of self esteem were associated with a greater likelihood of obese children engaging in high risk behaviours such as smoking or consuming alcohol (Strauss, 2001).

Weight-related teasing

- Very overweight youths were most likely to be teased about their weight; 63% of very overweight girls, and 58% of very overweight boys reported being teased by their peers
- Youths who were teased about their weight, particularly overweight girls, reported that it bothered them
- Perceived weight-teasing was significantly associated with disordered eating behaviours among overweight and non-overweight girls and boys

Child Obesity and Underachievement

- There is evidence that severely obese children and adolescents may miss more school days than the general student population
- Obese children may have lower expectations of themselves in terms of school performance and educational future
- So might their teachers

Implications for adulthood

- Systematic review of the literature suggests that obesity children and adolescents are more likely to become obese adults.
- Adult obesity linked to many health conditions.
- ...
- ...

Risk factors for childhood obesity at age 7:

- parental obesity;
- very early (by 43 months) high body mass index;
- more than eight hours spent watching television per week at age 3 years;
- 'junk food' diet age 3 years;
- high birth weight;
- and short (< 10.5 hours) sleep duration at age 3 years.
- ADHD

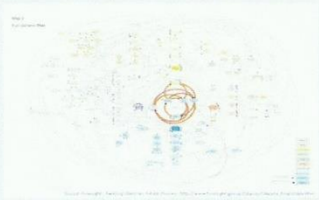
NCMP findings 2013:

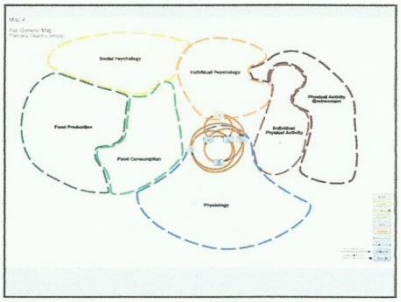
- Obesity levels significantly higher in more deprived areas
- Obesity levels significantly higher in urban than rural areas
- Obesity prevalence was significantly higher than the national average for children in both school years in the ethnic groups 'Black or Black British', 'Asian or Asian British', 'Any Other Ethnic Group' and 'Mixed'.

Task: Case study

- Read the case study. Discuss in pairs
- What do you think are the predisposing and precipitating factors in this case?
- How may this child be affected; psychologically, socially and physiologically?
- What implications may this have for later life?

Causes of obesity...

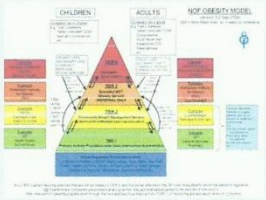




Issues of child obesity interventions?

- Parents not being aware
- HCP not being aware
- HCP fear causing offence
- HCP overweight
- Health beliefs eg 'puppy fat'
- Having the 'weight conversation'
- Children consenting to take part

Treatment Tiers in the UK



Discussion

- With childhood obesity, who should be the target of the intervention?
  - Parent? Child? Family Unit?
  - Does age of the child make a difference?
  - What if the parent isn't engaged but the child is or vice versa?

TASK

Designing an intervention...

Behaviour Change Techniques

Reliable taxonomy to change physical activity and healthy eating behaviours

1. General information
2. Information on consequences
3. Information about approval
4. Prompt intention formation
5. Specific goal setting
6. Graded tasks
7. Barrier identification
8. Behavioral contract
9. Review goals
10. Provide instruction
11. Model/ demonstrate
12. Prompt practice
13. Prompt monitoring
14. Provide feedback
15. General encouragement
16. Contingent rewards
17. Teach to use cues
18. Follow up prompts
19. Social comparison
20. Social support/ change
21. Role model
22. Prompt self talk
23. Relapse prevention
24. Stress management
25. Motivational interviewing
26. Time management

The team should include professionals who specialise in children, young people and weight management. These include the following:

- a state registered dietitian or registered nutritionist
- a physical activity specialist
- a behaviour-change expert, such as a health promotion specialist (for physical activity, a sport and exercise psychologist may be appropriate)
- a health or clinical psychologist, or a child or adolescent psychiatrist, to provide expertise in mental wellbeing
- a paediatrician or paediatric nurse.

Any questions?

References

Carnell, S., Edwards, C., Croker, H., Boniface, D., & Wardle, J. (April 01, 2005). Parental perceptions of overweight in 3–5 y olds. *International Journal of Obesity, 29*, 4, 353-355.Griffiths, L. J., Parsons, T. J., & Hill, J. (August 01, 2010). Self-esteem and quality of life in obese children and adolescents: A systematic review. *International Journal of Pediatric Obesity, 5*, 4, 282-304.

Morrison, K. M., Shin, S., Tarnopolsky, M., & Taylor, V. H. (February 01, 2015). Association of depression & health related quality of life with body composition in children and youth with obesity. *Journal of Affective Disorders, 172*, 18-23.

Neumark-Sztainer, ., Falkner, ., Story, ., Perry, ., Hannan, ., Mulert, ., & Correspondence, . (January 01, 2002). Weight-teasing among adolescents: correlations with weight status and disordered eating behaviors. *International Journal of Obesity, 26*,1. 123-131.

Reilly, J. J., Armstrong, J., Dorosty, A. R., Emmett, P. M., Ness, A., Rogers, I., Steer, C., ... Sherriff, A. (January 01, 2005). Early life risk factors for obesity in childhood: Cohort study. *Bmj : British Medical Journal, 330*, 7504, 1357

Ul-Haq, Z., Mackay, D. F., Fenwick, E., & Pell, J. P. (January 01, 2013). Meta-analysis of the association between body mass index and health-related quality of life among children and adolescents, assessed using the pediatric quality of life inventory index. *The Journal of Pediatrics, 162*, 2, 280-6.

Max

Max is 8 and has obesity. His family is on a very tight budget and his mother, who is also obese, feels that she cannot afford healthy food. His mother also feels that his weight is down to unlucky genes as Max's sister is very thin. Max spends a lot of time watching television and doesn't like playing with other children. His parents are separated and his father has little contact with him. His mother does not like to take the children out to play as there are few parks near to where they live and their area has a reputation for being 'rough'.

Teaching and Training Evaluation Report

Introduction

I undertook a lecture entitled 'Childhood Obesity' at London Metropolitan University in order to develop my skills as a teaching/trainer as per the health psychology stage 2 competencies. The students were all MSc Health Psychology students and it was the second lecture in a series for a module entitled 'Health over the Lifespan'. The first lecture had been an introduction that involved looking at the main models and research methods in the area, so the second needed to build upon that. This would involve looking at risk factors for childhood obesity, including influences such as pre- and postnatal factors, as well as the consequences of childhood obesity on health in later life, including the risks to mental, physical and social wellbeing. The assessment was to be a 'problem solving' written task where the students were to be given a case study and asked to identify: the factors that might have contributed to the causes or development of the problem, and the likely future consequences of the present situation. It was important that students' could take any theory learned in the lecture and apply it to 'real life' situations. An evaluation would be undertaken in order that I could develop my skills as a teacher/trainer by identifying my strengths and weaknesses and reflecting on how I could improve my teaching in the future.

All methods of teaching evaluation may be valuable to a certain extent but all are susceptible to bias in one form or another. For this reason, data was collected from multiple sources in order to inform the evaluation, namely from: the students, a faculty member who observed the lecture and my own personal observations and reflections. I was particularly concerned with the students' satisfaction with the lecture, their comprehension of what was being taught during the lecture, how well the lecture fitted within the module, and how well the lecture prepared students for their assessment. This was only the third lecture I had taught in a University setting and, therefore, I also wanted to get a general idea of the strengths and weaknesses of my teaching style.

Rationale of evaluation sources/methods

Much research has been carried out in order to ascertain whether student ratings of teaching are a valid measure of teaching effectiveness, though researchers are yet to reach a definitive consensus on what constitutes 'effective' teaching. One outcome of effective teaching is thought to be examination results and several studies have been

conducted to establish whether positive student ratings of teaching predicted good examination results. A meta-analysis conducted by Cohen (1981) found a strong relationship between student ratings and student learning as measured by examination results. This seems to suggest that student ratings may give a good indication of their learning and in the case of evaluating the learning that took place during the present lecture, seemed to be the best option: time constraints meant that a formal assessment was not possible.

There is disagreement as to the form student ratings should take; March & Roche (1997) argue that: multiple factors (such as clarity, enthusiasm, quality of interactions) should be rated in order to evaluate meaningfully the effectiveness of teaching and much research supports this view. This is particularly so when attempting to conduct formative assessment as research has suggested that specific behavioral items bring about more improvement in teaching than general overall ratings (Murray, 1983). However, others, such as Scriven (1981), believe that evaluation of any single aspect of teaching style is incorrect (and even unethical) as effective teaching comes in many guises. He believes that effective teachers may be penalised unfairly if they score poorly on one of the factors that is generally correlated with effective teaching (for example good organisation). I believed that asking students to rate more general factors, such as satisfaction with how the lecture had helped prepare them for their assessment and asking them for feedback in the form of comments would be a more appropriate format for feedback here. I also believed that, as I was relatively new to teaching, general comments would be more useful in identifying my strengths and weaknesses and that I could turn my attention to the individual factors related to her teaching style in the future. The feedback form used can be found in appendix 1 (p. 261).

In order to gain more honest feedback, I decided to try to keep the feedback anonymous; students would fill in paper forms at the end of the session and leave them altogether on a desk so that individuals could not be identified. However, the group was small, and thus I, albeit unintentionally, would probably be able to work out who had made which response. The students would themselves probably have been aware of this in advance and, therefore, their feedback might have become positively biased in order to avoid displeasing me.

The validity of peer observation being used as a method of evaluating teaching is a point of contention amongst researchers. Many have been concerned that being observed changes the way individuals teach and alters the dynamic of the relationship between teacher and students (Cohen & McKeachie, 1980) so that such observations cannot be a true reflection of the teacher's usual effectiveness. However, it has been pointed out that peer observations are important as they are able to assess the teacher's level of understanding of the subject, and the design of the lessons in relation to the curriculum in a way that students cannot (Cashin, 1989). Receiving observation feedback from a teaching session is also a necessity for fulfilling the teaching and training competence for the stage 2 health psychology training. For these reasons, I believed that it would be very useful to have a senior lecturer (who was also my doctoral supervisor) observe and give feedback on my teaching and that it would add another helpful dimension to the evaluation.

No formal assessment took place: it would not have been an appropriate use of time, however, I did attempt informally to assess the students' learning throughout the lecture. I did this by asking the students questions and initiating discussions, for example, when presenting data from a study, I asked the students to interpret results themselves rather than explaining what they meant. I could then get an idea of whether they had actually understood concepts and models that had been discussed and if it were to became apparent that they did not, I could re-examine them in a different way to better facilitate their comprehension.

Results of Evaluation

A table displaying the data from the student feedback forms can be seen in appendix 2 (p. 262). Five of the six students used the words engaging when describing me or the lecture without being prompted which indicated that this was one of my strengths. Four of the six used the word informative and three of the six used the word interesting when describing the lecture, which implied that the content of the lecture, including the presentation activities and materials, were adequate in facilitating the students' learning and enjoyment of the topic. All students were very satisfied overall with the lecture and all felt that it had put childhood obesity into the context of health over the lifespan. Four of the students felt that the lecture was very helpful in terms of preparing them for the assessment, but two felt it was only somewhat helpful, so this

may indicate an area for future improvement. Two of the students pointed out that they had not been given the most up to date copy of the PowerPoint presentation as I had updated them after uploading them on to the students' metranet. This is a valid criticism and I should, and will, improve my organisation of material in the future. Three students criticised an aspect of the timing of the lecture (that it was too long or they did not have enough time for the final task); again the issue of timing is something I can work on in future teaching appointments.

The observation notes (see appendix 3, p. 264) stated that I had had a strong introduction, namely when introducing myself and my job and putting the topic into the context of the module. The observer believed that I had engaged the students well and that the students had felt comfortable when discussing difficult issues with me. She was impressed that the case study task related well to the students' coursework for the module. She also believed that I had related the topic back to health psychology theory throughout and backed up my points using research. She did feel, however, that I seemed less comfortable discussing quantitative research than qualitative. This suggests that I need to attempt to get a firmer understanding of *all* aspects of presented research in future.

The discussions during the lecture revealed that the students had a good understanding of the theory being discussed. They were quick to interpret presented study data and to apply learning to the case studies and their own personal experiences. They brought up issues (such as that of practitioners' judgements) that I had not intended to cover but were clearly very relevant, which showed a deep level of learning and understanding. Some members of the group were quiet during the whole class discussions, but during the case study task (which was done in smaller groups) I managed to listen to their ideas and was satisfied that they had all understood the content of the lecture. Overall I deemed that I had effectively facilitated the students' learning and their understanding of the topic.

Reflections

I, personally, felt that the lecture had gone very well. The planning and preparation side of the experience had been rather time-consuming as I had never planned a lecture while taking learning theory into account, but I could see post event how essential such preparation had been in order to engage *all* students, not just those

whose learning style was similar to my own. I was also made very aware that I needed to ensure that all research to be presented remained up-to-date and of a good quality (and where appropriate, to know the research's shortcomings in order to point these out to students).

I was happy with the evaluation process in general but was aware of certain biases that could have swayed the data. For example, the student feedback I received may have also been open to bias over and above that of students wanting to please lecturers and the particular lack of anonymity. During the lecture, two of the students asked whether they could get some work experience with my organisation and I promised to pass on their contact details. Work experience such as this might help them in finding future employment and, therefore, they may have felt that giving negative feedback might have made me disinclined to set up these connections, which would have had potential negative consequences for their future careers.

I took on board the criticism that the lecture notes were not up to date; this was purely because I was nervous so kept going back and making changes when I should have just left them as they were. I also took on board that we had not had time to discuss the design of an intervention at the end of the lecture. This was a task that I had asked them to complete at home, should they wish, and I had informed them that I would be happy to provide feedback on their interventions that they forwarded them to me. None of the students took me up on this. I also strongly believe, and notwithstanding the feedback from two of the students to the contrary, that the lecture prepared them very well for their assessment. I may not have explicitly explained how the task related to this coursework and that this might be the reason for the difference of opinion on this aspect.

Although I believe that having my supervisor observe the session provided valuable feedback that I have used, and can use in the future, to assess and build on my strengths and to identify and improve upon my weaknesses as a teacher, her presence undoubtedly had an impact on both my teaching and the way the students interacted with me at the outset. On my part, I felt rather nervous with her observing as I was very keen to ‘impress’ and obtain good feedback. I think that these nerves came across to the students as I noticed that I was stuttering and touching my face a lot

initially. However, I was not affected for long and soon relaxed, almost forgetting I was being observed at all as the lecture progressed.

Her presence would also have impacted on the students as she is a course leader on their MSc and is supervisor to some of them for their MSc thesis. For this reason some may have had feelings similar to my own, that is, feeling slightly under pressure to 'perform' in the lecture and to contribute to discussions in order to demonstrate knowledge on the topics being discussed. For others, her presence might have made them even more nervous and thus reluctant to contribute at all for fear of appearing ignorant or having poor judgment. I noticed that the atmosphere seemed to become slightly more relaxed after she left the lecture and that those students who had been particularly quiet began to participate more actively in discussions.

Conclusion

I concluded from my evaluation of learning throughout the lecture that I successfully helped students to achieve the learning outcomes. This was backed up by comments from both the student feedback and my supervisor's observations. I was also confident that the lecture had fitted well within the module and that I had delivered the lecture in a way that fitted within the context of the module: all sources of evaluation data had confirmed this. I believed that the lecture had helped prepare students for their assessment, a belief confirmed by my supervisor. Two of the students had not agreed with this but I believed that this was down to my not explicitly explaining how the case study task was similar to their coursework. Strengths of my teaching style that are consistent across all sources of data include my ability to engage students and present information in an interesting way. These strengths should be utilised in the future, particularly on topics with which I am less familiar. My weaknesses seemed to be lack of organisation of time and materials and my tendency not to explain certain aspects of the lecture to the students (such as the structure and how tasks relate to coursework). These can be improved upon in future teaching opportunities.

References

Cashin, W. (1989). *Defining and evaluating college teaching*. Manhattan, Kan.: Center for Faculty Evaluation & Development, Kansas State University.

Cohen, P. A. (1981) Student Ratings of Instruction and Student Achievement: A Meta-analysis of Multisection Validity Studies. *Review of Educational Research, 51*, 3, 281–309.

Cohen, P., A., & McKeachie, W.,J. (1980) The Role of Colleagues in the Evaluation of College Teaching. *Improving College and University Teaching, 28*, 4, 147-154

Marshe, H. W., & Roche, L. A. (January 01, 1997). Making Students' Evaluations of Teaching Effectiveness Effective: The Critical Issues of Validity, Bias, and Utility. *The American Psychologist, 52*, 11, 1187.

Murray, H. G. (January 01, 1983). Low-inference classroom teaching behaviors and student ratings of college teaching effectiveness. *Journal of Educational Psychology, 75*, 1, 138-149.

Scriven, M. (1981). Summative teacher evaluation. In *Handbook of teacher evaluation* (pp. 244-271). Beverly Hills, CA: Sage.

Appendix 1- Feedback form

Feedback form: Childhood obesity

1. What do you like best about this lecture?

2. What would you like to change about the lecture?

3. What are the lecturer's strengths?

4. What suggestions do you have to improve the lecturers teaching?

5. Do you feel that the lecture was useful in terms of helping you with your assessment?

No Somewhat Yes

6. Did the lecturer successfully put childhood obesity issues in the context of health over the lifespan?

No Somewhat Yes

7. How satisfied are you, overall, with the lecture?

Unsatisfied Satisfied Very Satisfied

8. Any other comments?

Appendix 2- Student evaluation results

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
1	Very Informative	Nothing	Interactive, engaging	No improvement needed	Yes	Yes	Very Satisfied	
2	Informative and interesting	Nothing	Clear, concise and approachable	None	Yes	Yes	Very satisfied	
3	The chances we had to discuss the issues were good along with the case study.	It would have been great if the latest slide presentation had been available for download (as it was a few of the slides from the presentation were missing)	Ability to engage the audience.	We ran out of time and didn't get the chance to design an intervention.	Yes	Yes	Very satisfied	The lecturer was very enthusiastic and inclusive.
4	It was an interesting topic and it had both interaction and lecture time.	It was quite long but was informative so not a major criticism	very clear and engaging and seemed very knowledgeable about the topic	Maybe cut it down a bit but otherwise really good.	Somewhat	Yes	Very satisfied	Very clear and enjoyable lecture. Have a bit more confidence at times you didn’t seem very comfortable but you were doing great ☺
5	The lecturer was good, and the topic was very interesting – gave us new information.	To have more case study exercise or any group interaction exercise.	She knows the topic well. Good in engaging with the whole class	No suggestions	Yes	Yes	Very satisfied	

6	Seeing the extent of childhood obesity and the effects it has, and how it can occur	It would have been nice to have had more time for the lecture to explore designing an intervention	She engaged well with the class and it was nice to look at case studies to understand the predisposing and precipitating factors.	Make sure the lecture notes are updated to the current presentation	Somewhat	Yes	Yes	

Prof Doc Health Psychology - Sophie Edwards Teaching Observation

MSc Health Psychology PY7014 Health Across the Lifespan

Week 5 (27/2/15) – Childhood Obesity

Very nice introduction – I think it was a great idea to outline your current and previous job to the students and explain so carefully the structure of the service.

The lecture began well, you set it in the context of the module which I think was helpful (it was also helpful to go back and reiterate that which you did later). Your slides were excellent with plenty of interesting graphics and no slides which were overloaded with words. I thought the structure of the lecture was very good – being divided into two halves one defining childhood obesity and looking at its impact and one looking at intervention. You might have explained at the outset that this is how you had structured the session.

I like the way you manage the individual contributions to the session, being very sensitive and thoughtful and valuing their contributions. You were especially skilled in allowing students to explore their difficult feelings about childhood obesity and to extrapolate from these to the experience of other healthcare professionals. The students were very engaged and obviously felt comfortable raising issues and sharing ideas. I thought your discussion of professional issues throughout the observation was very good.

You were also very good at relating the points students raise to health psychology theory. You also facilitated students' critical thinking for example in regard to the NCMP data. You made good use of research to support your points, though you seem somewhat less comfortable talking about quantitative studies, even though you did this very well. Your knowledge of the area clearly contributed to the quality of this lecture – how do you find the experience when you lecture on an area in which you have less knowledge? Did you notice a difference in relation to today's lecture.

I was pleased you chose a case study task for the students as this relates to their coursework.

All in all a really excellent lecture, well done.