Weight & Listen:

The role of a podcast in reducing weight concerns in young people

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Contents

Thesis Abstract

This thesis consists of three chapters; the first is a literature review, Chapter Two is an empirical paper and the final paper is a reflective account of the research process.

Chapter One details a review of the existing literature concerning Internet-based interventions for addressing eating and weight issues. An overview of the available programs and a methodological critique of the current research are provided. The findings are summarised in terms of clinical implications and recommendations for further exploration are given.

The empirical paper in Chapter Two reports on a study examining the use of a podcast in informing young people about weight issues. An Internet-based podcast intervention was provided to participants aged 14-25 years, who had completed a set of questionnaires concerning weight concerns, social anxiety, mood, perfectionism, self-esteem and substance use. Post and follow-up data were also collected in order to examine any effects of the intervention. Results demonstrated that after listening to the podcast, participants demonstrated significant improvements on a number of the measures, most of which were maintained at follow-up. Significant differences were found between participants with high weight concerns and those with low weight concerns on a selection of measures. The discussion includes clinical implications and potential future research directions.

The final chapter contains reflections on the research process, including; methodological considerations, personal considerations and future directions. Due to the personal nature of this account, it has been written in the first person narrative.

All papers have been written in accordance with guidance for authors provided by The British Journal of Clinical Psychology (see Appendix 2).

Chapter One: Literature Review

A Review of the Effectiveness of Internet Interventions Aimed at Addressing Eating and Weight Issues

1.1. Abstract

1.1.1. Objectives

The aim of the present review is to examine the existing literature on the effectiveness of Internet eating disorder prevention interventions.

1.1.2. Methods

A search was conducted of the following databases: Cinahl, MEDLINE, PsychINFO, PsychATRICLES, PsychBOOKS, eBook, AMED, SportDiscus, Medline and Academic Search Complete. The search term used was (eating disorder OR anorexi* OR bulimi*) AND (intervention OR therapy) AND (online OR internet) AND (at risk OR prevention). The references from previous, related reviews were searched for by hand and additional studies were selected.

1.1.3. Results

In total, 13 studies met the inclusion criteria and were reviewed. Six different prevention programs were featured in the studies, with one, Student Bodies, being very prominent in the existing literature. Inclusion criteria for the studies were variable, meaning that making comparisons between studies was difficult. The study samples were generally relatively small and homogenous and many of the findings were not statistically significant. The most positive results appeared to come from subgroups of participants who were considered to be 'at high risk' of developing an eating disorder.

1.1.4. Conclusions

The findings suggest that whilst studies examining Internet interventions for the prevention of eating disorders have reported some promising findings, care in interpreting the results should be taken due to there being some methodological issues. Increasingly consistent and generalised recruitment and larger sample sizes are required in order to

draw a firm conclusion on the effectiveness of these interventions. There is also room for new interventions which may build on or differ from the existing programs.

1.2. Practitioner Points

1.2.1. Clinical Implications

- Internet eating disorder prevention programs appear to have some good effects on eating and weight concerns with young women.
- When targeted at young women who are considered to be 'at high risk' of an eating disorder, programs yield significant results, with moderate effect sizes.

1.2.2. Limitations

- The results from many studies reviewed failed to reach significance due to small sample sizes and low baseline scores.
- Criteria defining who is 'at high risk' of developing an eating disorder is unclear and inconsistent.
- Males are largely excluded from research.
- The cost of administering Internet interventions is not reported.

1.3. Introduction

1.3.1. Eating disorders

Eating disorders, including anorexia nervosa, bulimia nervosa, binge eating disorder and other specified eating disorders (see Appendix 3 for DSM-V diagnostic criteria), affect over 1.6 million (3%) of people in the United Kingdom and are responsible for the highest rate of mortality of all psychiatric conditions (Beating Eating Disorders, BEAT, 2011). The statistics reported for eating disorder prevalence are even higher in Australia (9%; Butterfly Foundation for Eating Disorders, 2012) and the USA (9%; National Eating Disorders Association, 2012). The cost of treating eating disorders is high, with the treatment of anorexia nervosa

having the highest average cost of any psychiatric condition (Striegel-Moore, Leslie, Petrill, Garvin & Rosenheck 2000). It has been estimated that the total healthcare cost of eating disorders in England is £80-100 million (Henderson, 2012). Individuals experiencing eating disorders often experience other psychological difficulties, including low mood and anxiety as well as a reduced quality of life and difficulties in interpersonal relationships (Fairburn, 2008).

It was reported by Newton and Ciliska (2006) that there has been an increase in eating disorder prevention programs. Initially these were focused universally; that is, they catered to individuals who were both 'healthy' and at high-risk of developing an eating disorder. They generally provided psychoeducation about eating disorders and aimed to deter people from attitudes and behaviours associated with eating disorders. They have since evolved in to selective programs, targeting individuals considered to be 'at risk' of developing an eating disorder. Stice and Shaw (2004) reviewed 38 prevention trials and found that those which were directed at high-risk individuals showed larger effects than those which were universally targeted. The content of prevention programs has also been modified from being didactic, where information is provided to participants by a facilitator, to being more interactive, where individuals play an active role in discussions and exercises. The more interactive programs have been shown to produce larger intervention effects (Stice & Shaw, 2004).

1.3.2. Internet interventions

Internet use in Great Britain is at its highest ever rate, with 83% of households connected to the Internet, compared to 25% in 2000. In addition, 73% of the population currently access the Internet every day and Internet usage from mobile phones is now at 53% (Office for National Statistics, 2013). Reported rates of household Internet usage across the world are generally consistent across sources, with estimates of 71% in the USA (United States Census Bureau, 2013), 73% in Australia

(Australian Bureau of Statistics, 2011) and 72% in Europe (Seybert and Reinecke, 2013).

The growth of the Internet has provided a new and expanding forum for providing psychological interventions, including those targeting eating disorders (Myers, Swan-Kremeier, Wonderlich, Lancaster & Mitchell 2004). Newton and Ciliska (2006) reviewed the existing literature for Internet-based eating disorder prevention programs, which were targeted towards women who wanted to improve their body image, or who were at high-risk of developing an eating disorder. They reported that there were a total of five studies, all examining the Student Bodies program, which aims to improve weight concerns and is described in detail in the results section. They found no evidence to suggest that the program had a significant impact on eating disorder symptoms and concluded that in order to comment adequately on the effectiveness of the program, further research with larger sample sizes was required. In a more recent review, Beintner et al (2012) also examined studies investigating the use of the Student Bodies program with women who wanted to improve their body image or were considered to be high-risk. They found mild to moderate improvements in eating disorder attitudes which were maintained at follow-up across studies. They commented that the number of studies reviewed was small and the results cannot be generalised to prevention programs other than Student Bodies.

1.3.3. Rationale of the review
This review will set out to examine the effectiveness of Internet-based interventions which aim to prevent eating disorders. As previously mentioned, Newton and Ciliska (2006) and Beintner et al (2012) conducted reviews which examined the Student Bodies program. The present review will expand on this by providing an up-to-date account and evaluation of the research base and will allow for comparisons to be made between the differing programs. This will lead to the identification of areas for future research.

1.2. Method

1.2.1. Search strategies

In order to provide a comprehensive search from health and psychology literature, a number of databases were chosen and explored through NHS Athens as well as EBSCOhost. These databases included; Cinahl, MEDLINE, PsychINFO, PsychATRICLES, PsychBOOKS, eBook, AMED, SportDiscus, Medline and Academic Search Complete. References from related reviews were also searched for by hand to find additional studies.

The literature search was carried out in August 2013. The search terms used were (eating disorder OR anorexi* OR bulimi*) AND (intervention OR therapy) AND (online OR internet) AND (at risk OR prevention). Limiters were set including, English language only and papers published from 2000 onwards, as this date signifies the launch of the Internet in to the lives of the general public in the UK. Initial exploratory searches failed to produce any research concerning Internet interventions for eating disorders before 2000. A diagram detailing the search strategy is available in Figure 1. The search criteria produced 44 results, after duplicates were removed. A further 31 abstracts were excluded for the following reasons: effectiveness of intervention not reported (N=7), main focus was eating disorder diagnosis (N=7), main focus was obesity and/or preventing weight gain (N=5), main focus was other mental health difficulties (N=3), not an Internet intervention (N=3), review papers (N=3), evaluating training for professionals (N=2), paper unavailable from all sources (N=1). In total, 13 studies met the inclusion criteria and were reviewed by the author.

1.2.2. Analysis

All but one (Lebow, 2012) of the studies included in the review were randomised controlled trials (RCTs) and were analysed using the CASP (Critical Appraisal Skills Programme, 2006). Lebow (2012) was

examined using the Downs and Black checklist for non-randomised

studies (Downs and Black, 1998).

Figure 1.1. Search Strategy

Research Question: How effective are Internet interventions in preventing eating disorders?
Search term: (eating disorder OR anorexi* OR bulimi*) AND (intervention OR therapy) AND (online OR internet) AND (at risk OR prevention)
Limiters: English language only, publishing date 2000 onwards

EBSCO & NHS Athens
Cinahl, MEDLINE, PsychINFO, PsychATRICLES, PsychBOOKS, eBook, AMED, SportDiscus, Medline and Academic Search Complete

Hand-Searching
References from related reviews were searched for

88

Duplicates removed

9

44

Application of exclusion criteria

~main focus obesity and/or preventing weight gain (n=5)
~main focus eating disorder diagnosis (n=7)
~no effectiveness reported (n=7)
~main focus other mental health difficulties (n=3)
~evaluating training for professionals (n=2)
~not online intervention (n=3)
~review (n=3)
~not published and/or available in the UK (n=1)

Results

1. Winzelberg et al. 2000
2. Celio et al. 2000
3. Zabinski et al. 2001
4. Bruning Brown et al. 2004
5. Zabinski et al. 2004
6. Low et al. 2006
7. Taylor et al. 2006

8. Heinicke et al. 2007
9. Jacobi et al. 2007
10. Jacobi et al. 2012
11. Stice et al. 2012
12. Lebow 2012
13. Serdar 2013

Table 1.1. Overview of the studies reviewed

Author and Date	Sample	Intervention	Eating Disorder Outcome Measures	Findings	Notes
1. Winzelberg et al. 2000 USA	N=60 Female Participants who wanted to improve body image. Randomised to delayed intervention control or intervention group.	Student Bodies - first adaption for internet use.	Eating Disorder Examination – Questionnaire Body Shape Questionnaire Eating Disorder Inventory	Significant differences between intervention and control groups on EDI and BSQ, with moderate effect sizes. Significant differences on the BSQ for participants 'at risk' of bulimia.	Three month follow-up
2. Celio et al. 2000 USA	N=76 Female Students who wanted to improve body image Randomised to Student Bodies condition, Body Traps (classroom) condition or waiting list control condition.	Student Bodies - compared to classroom intervention (Body Traps)	Eating Disorder Examination – Questionnaire Body Shape Questionnaire	Significant reductions in weight concerns and drive for thinness in Student Bodies condition compared to control condition. Student Bodies was more effective in reducing weight concerns in the 'high risk' subgroup compared to Body Traps.	Six month follow-up No follow-up for waiting list control condition.

3. Zabinski et al. 2001 USA	N=56 Female Students who were 'at risk' of eating disorders (BSQ≥110). Randomised to Student Bodies or control group.	Student Bodies	Eating Disorder Examination-Questionnaire Body Shape Questionnaire Eating Disorders Inventory	All participants (intervention and control) showed improvements over time No significant differences were found between groups. Effect sizes for intervention group suggest the program did impact on the intervention group.	Participants reported high levels of support through program. The sample were variable in presentation.
4. Bruning Brown et al. 2004 USA	N = 153 (students) N = 69 (parents) High school students Randomised according to which class they signed up for (Health & Religion or Physical Education)	Student Bodies - with parent program	Eating Disorder Examination-Questionnaire Eating Disorders Inventory Weight Concerns Scale Parental Attitudes and Criticism Scale	The intervention group showed significant reductions in eating restraint post-intervention - this was not maintained at follow-up. Parents showed significant decreases in critical attitudes towards weight and shape - scores did not correlate with their daughters'. No other measures	Lack of significant findings possibly due to low baseline scores. Supports parent interventions.

				reached significance, but effect sizes were promising.	
5. Zabinski et al.

2004

USA | N=60

Female

Students who scored 57+ on WCS.

Randomised to intervention condition or control condition. | Synchronous chat-room intervention | Eating Disorder Examination – Questionnaire | Intervention group showed significant improvements in eating pathology and self-esteem over controls at follow-up, with medium to large effect sizes | 10 week follow-up |
| 6. Low et al.

2006

USA | N = 72

Female

Students who wanted to improve body image and learn about nutrition and exercise.

Randomised to Student Bodies with or without moderated discussion group or control condition. | Student Bodies | Eating Disorder Inventory

Weight Concerns Scale

Stunkard Figure Rating Scale

Sociocultural Attitudes Toward Appearance Questionnaire | Women in unmoderated discussion group condition had most reduction in risk.

Lack of significance for main effects.

Results maintained at follow-up. | 9 month follow-up |

7. Taylor et al. 2006 USA	N=480 Female Students who were 'at risk' of EDs Randomised to intervention or control condition.	Student Bodies	Eating Disorder Examination – Questionnaire Weight Concerns Scale Eating Disorder Inventory	Significant reduction on WCS for intervention group at post intervention, 1 and 2 year follow-up with good effect sizes. Both groups showed improvements over time.	3 year follow-up Refresher session offered at 9 months post intervention. High compliance
8. Heinicke et al. 2007 Australia	N =73 Adolescent girls who self-identified eating or body image problems Randomised to treatment condition or control condition	My Body, My Life: Body Image Program for Adolescent Girls	Body Shape Questionnaire – Short Form Eating Disorder Inventory Body Comparison Scale The Dutch Behaviour Questionnaire Restraint subscale The Extreme Weight Loss Behaviours scale Sociocultural Attitudes Towards Appearance Scale - 3	Significant improvements in body dissatisfaction, disordered eating and depression maintained at follow-up.	Program includes follow-up session two months after completion.

9. Jacobi et al. 2007 Germany	N = 100 Female students Randomly assigned to intervention or control after enrolment to study by drawing lots	Student Bodies adapted for use in Germany	Eating Disorder Examination – Questionnaire Eating Disorder Inventory Weight Concerns Scale	Post-intervention, significant differences in drive for thinness and WCS. No other significant differences found on any measures. At follow-up, significant differences found for drive for thinness. Effect sizes were low High risk (WCS>42) group showed more significant differences on measures, but not on WCS at follow-up. Larger effect sizes were found for the 'high risk' group.	3 month follow-up
10. Jacobi et al. 2012 Germany	N = 126 Female Students who described sub-threshold eating	Student Bodies - adapted for use with women with sub-threshold eating disorders.	Eating Disorder Examination – Questionnaire Adapted Eating Disorder diagnostic	At follow-up, intervention group showed significantly greater improvements on eating disorder related attitudes, with	Six month follow-up

			section (H) of the Structured Clinical Interview for DSM IV Axis 1 Weight Concerns Scale Eating Disorder Inventory	medium effect. Effect was significantly higher for participants in binge eating subgroup than in the restricting subgroup.	
11. Stice et al. 2012 USA	N=107 Female Students who reported body dissatisfaction. Randomised to internet intervention, group intervention, educational video or education brochure conditions.	eBody Project (internet adaption of Body Project)	The Ideal-Body Stereotype Scale – Revised Satisfaction and Dissatisfaction with Body Parts Scale The Dutch Restrained Eating Scale Eating Disorder Diagnostic Interview	eBody participants showed greater pre-post reductions for eating disorder symptoms compared to video and brochure conditions. No significant differences between eBody and Body Project conditions. Similar effect sizes were found for eBody Project as have been previously found for Body Project.	No follow-up
12. Lebow	N = 7 families	ePATH	Eating Disorder Examination –	Mean scores for eating disorder symptoms	Only 4 families completed the study

2012 USA	Adolescents who were experiencing subsyndromal eating disorders and their families. Adolescents had to have experienced a 'binge' episode. Recruited from eating disorder, marketing and parenting websites, Facebook and Twitter.		Questionnaire Eating Disorder Examination	decreased and large effect sizes were detected.	Feasibility study
13. Serdar 2013 USA	N=343 Students recruited from an American university. Randomised to face-to-face intervention, online intervention or control condition.	Cognitive dissonance intervention adapted for online use.	Eating Disorder Diagnostic Scale The Ideal-Body Stereotype Scale – Revised Multidimensional Body Self-Relations Questionnaire Body Esteem Scale Dutch Restrained Eating Scale	Intervention groups showed significantly less body dissatisfaction post intervention compared to controls No significant differences were found between intervention groups.	No effect sizes reported No follow-up

1.3. Results

1.3.1. Participants and settings

Table 1 provides an overview of the studies included in the review. The number of participants in each study ranged from 7 to 480. All recruited students aged 12 to 36, from schools and universities in the USA, Australia or Germany and included only females. Participants were recruited if they wanted to improve their body image, were dissatisfied with their bodies or wanted to learn more about healthy living and exercise.

Two studies (Zabinski, Wilfley, Calfas, Winzelberg & Taylor et al., 2004 & Taylor et al., 2006) screened participants at baseline and only included those who were considered as being 'at high risk' of an eating disorder according to their scores on the Weight Concerns Scale (WCS; Killen et al. 1994). Lebow (2012) recruited individuals who were experiencing subsyndromal eating disorder symptoms. This was defined as those who "reported objective or subjective binge eating, compensatory behaviours, dietary restriction measured by the Eating Disorder Examination (EDE; Cooper & Fairburn, 1987)" (Lebow, 2012: p.36). All studies excluded anyone who had a current or recent diagnosis of an eating disorder. Five studies (Winzelberg et al. 2000; Celio et al. 2000; Zabinski et al. 2001; Jacobi et al. 2007; and Jacobi, Völkera, Trockel & Taylor, 2012) excluded participants on the basis of low body mass index (BMI). In addition, Jacobi et al. (2007) and Jacobi et al. (2012) excluded those with a BMI over 30 or 33 respectively. There is no justification outlined by the authors for this exclusion, however a BMI above 30 would suggest that a person is clinically obese.

1.3.2. The interventions

The interventions under investigation were generally described in good detail, with information provided concerning the rationale, background and main components of each program. The duration of the interventions ranged from three to eight weeks. There were six interventions in total,

which employed differing approaches, thus making comparisons between them difficult. Eight of the reviewed papers evaluated an Internet-based intervention called Student Bodies. Of the remaining five, one study (Zabinski et al. 2004) focused on a moderated synchronous group intervention (chat-room); one used a program entitled, 'My Body, My Life' (Heinicke et al. 2007); one examined ePATH (Lebow, 2012) and two (Stice et al. 2012; and Serdar, 2013) used cognitive-dissonance based interventions. All but one (Celio et al. 2000) of the interventions were solely Internet based. The intervention described by Celio et al. (2000) included three face-to-face sessions in order to assist participants to use the program and to "enhance the condition's cohesion," (Celio et al. 2000; p. 651). This suggests that is was hoped that meeting face-to-face would enable participants to relate to each other more readily during the online intervention.

Student Bodies is a structured intervention which aims to reduce weight and shape concerns and weight regulation behaviours over 8-10 weekly sessions (Zabinski et al., 2003). Its approach incorporates social learning theory and cognitive-behavioural self-help. The program consists of psychoeducational readings and homework tasks such as recording thoughts and feelings in an online journal. Originally, the program used an asynchronous bulletin board that participants could read and add to at any time; this was moderated by a clinician. Following on from the Zabinski et al. (2004) study, the program began to employ synchronous communication in the form of a moderated chat-room which more accurately reflects face-to-face therapy. The program examined in the Zabinski et al. (2004) study was similar to Student Bodies but included a moderated synchronous discussion group which was held for one hour each week. This discussion group was 'live' chat-room style discussion, which was overseen and guided by a clinician. Participants received a summary of the discussions via email and also had access to a moderated bulletin board.

My Body, My Life was the program examined by Heinicke et al. (2007). It consists of six, weekly group sessions facilitated by a therapist and a psychoeducational self-help manual. Sessions allow participants to discuss body image and eating concerns and learn strategies to manage them. The program employs cognitive-behavioural principles to address numerous issues related to eating disorders, including associated psychological and interpersonal difficulties.

Lebow's (2012) study focused on ePATH, a family-based intervention based on Lock and Le Grange's (2005) treatment of eating disorders. The program is a family therapy, consisting of eight sessions and includes components for parents of teenagers with subsyndromal eating disorders, the teenagers themselves, as well as any siblings. Younger adolescents are the focus of this approach and interventions are targeted towards assisting parents to support their child.

Stice et al. (2012) and Serdar (2013) both evaluated cognitive dissonance interventions. Stice et al. (2012) focused on eBody Project, a six-session program which involves critiquing the 'thin ideal' and taking part in educational exercises. The intervention is self-contained and is not moderated. Serdar (2013) conducted a moderated synchronous discussion group based on existing face-to-face cognitive dissonance interventions, in which the thin ideal is examined and critiqued.

1.3.3. Eating disorder outcome measures

All of the studies measured outcomes related to diagnostic criteria of eating disorders, using well-validated and reliable measures, which are sensitive to intervention effects. The most widely-used measure was the Eating Disorder Examination-Questionnaire (EDE-Q; Fairburn and Beglin, 1994) which was utilised in nine of the studies. Other measures frequently used included subscales from the Eating Disorders Inventory (EDI; Garner and Olmsted, 1984); the Body Shape Questionnaire (BSQ: Cooper et al. 1987) and the Weight Concerns Scale (WCS; Killen et al. 1994).

1.3.4. Methodological rigour

The fact that participants were randomised is a methodological strength of many of the studies as it arguably reduces the effects of confounding variables. Additionally, the inclusion of a control group enhances the detection of intervention effects. However, specific details of randomisation were only included in four cases. Bruning-Brown et al. (2004) randomised participants on the basis of which class they had signed up for; either Health & Religion or Physical Education, which may have lead to difference between the groups. In Taylor et al. (2006) randomisation was stratified by school and random number sequences were generated using SPSS in order to randomly allocate participants to groups. Randomisation was by drawing lots in Jacobi et al. (2006) which they stated meant that they had no control over group allocation. Serdar (2013) randomised participants using a random number generator that controlled for differences between groups.

With the exception of Taylor et al. (2006) and Serdar et al. (2013), the sample sizes of the studies were relatively low. Five of the studies; Taylor et al. (2006); Jacobi et al. (2007); Heinicke et al. (2007); Jacobi et al. (2012); and Serdar et al. (2013), provided a rationale for the number of participants recruited, based on power calculations or results from previous studies. Participants were also generally recruited from universities or private schools. The exceptions in this case are participants in the study carried out by Heinicke (2007), who recruited from a wide range of public and private schools and Lebow (2012) who recruited via schools, social media and Internet sites. Small sample sizes and the sampling bias demonstrated in most of the studies may cause limitations in terms of the generalisability of results to the wider population.

It was unclear for the majority of studies whether research assistants were blinded to the research. The implications of blinding are important due to researcher bias in interpreting data from outcome measures. Whether data was collected online or face-to-face was also unclear, in

the main, and could be important due to the potential of social desirability effects, which could lead to participants minimising or exaggerating their experiences in order to present more desirably.

The inclusion criteria employed by the studies examined is described above. The criteria vary dramatically across the studies which prevents direct comparisons of the results from taking place. In addition, Zabinski et al. (2004), Taylor et al. (2006) and Jacobi et al. (2012) identified individuals as being 'at high risk' of an eating disorder. However, they used slightly different criteria to identify those individuals considered to fall in the 'at risk' category. Zabinski et al. (2004) used a cut-off of a score of 57 or over on the WCS, whereas Taylor et al. (2006) considered those scoring 50 or above on the WCS as being 'at high risk' of an eating disorder and Jacobi et al. (2012) used a threshold score of 42. Again, comparisons between results cannot be undertaken due to the differing inclusion criteria. Zabinski et al. (2004; p. 915) allude to the reason for this difference, stating that "we used this cut-off because no specific information was available regarding risk in college-age women". There appears to be a deficit of information available for identifying individuals who are 'at high risk' of an eating disorder as well as a lack of agreement between researchers about who should be included in prevention research. This therefore creates a methodological dilemma which may have impacted on the results of the studies reviewed.

1.3.5. Main findings

Overall, the majority of the studies report some significant changes in eating and weight concerns in the intervention groups. However, a number of the reported findings did not reach statistical significance. This was reported to be because of small sample sizes and high attrition rates (e.g. Celio et al. 2000). The two studies with larger sample sizes reported some significant effects. Taylor et al. (2006) found significant improvements on the WCS for the intervention group up to two years post intervention. Serdar (2013) found significant improvements between

control and intervention participants, but not between Internet-based and face-to-face intervention groups.

The inclusion criteria for many of the studies were also vague and as a result, samples tended to be variable in presentation, with some being considered to be at high-risk of an eating disorder, whilst others were not. Additionally, recruited participants sometimes scored very low on baseline measures due to some questionnaires being designed to measure full-syndrome eating disorder symptoms. This would lead to few significant differences being found as similar scores would be detected at post-intervention. Nevertheless, effect sizes were generally reported and suggested moderate effects of the interventions. The results should however be treated with caution due to the previously mentioned methodological issues.

Three of the studies; Winzelberg et al. (2000); Celio et al. (2000) and Jacobi et al. (2007), performed secondary analyses examining the effects of the intervention with groups of participants who were deemed to be 'at high risk' of an eating disorder. All three of these studies were investigating the Student Bodies intervention and concluded that the effects of the program were greater for those individuals who had higher scores on baseline measures, or who described partial eating disorder symptomology. This suggests that the interventions were more successful with those experiencing higher levels of eating disorder symptoms. It is worth noting that a number of the studies investigating the Student Bodies intervention reported significant findings more frequently for measures relating to symptoms of bulimia than those of anorexia, perhaps suggesting that the content of the program is biased towards preventing bulimia.

A number (N=9) of the reviewed papers examined participants' adherence to the interventions. This was measured by analysing the number of sessions attended, number of posts made by participants and number of homework tasks completed. The reported rate of adherence

was 64 - 80.5%. Four of the studies; Celio et al. (2000); Low et al. (2006); Taylor et al (2006) and Serdar et al. (2013) that commented on adherence, found that higher rates of adherence were associated with better outcomes, however the remainder found no relationship between adherence and outcome.

1.4. Discussion

The present review has drawn together existing research examining Internet-based interventions for preventing eating disorders in the general population. A total of 13 papers have been reviewed that have investigated the effectiveness of a small number of prevention programs.

On the surface, there appears to be some significant findings in favour of the programs concerned and moderate effect sizes are generally reported, particularly when targeted towards young women considered to be 'at high risk' of an eating disorder. However, there are a number of methodological issues that must be addressed before any conclusion on the overall effectiveness of these programs can be made. The major difficulty appears to be that sample sizes are generally small and therefore statistical significance was not reached. There are also a number of interventions with different approaches and it is therefore difficult to conduct a detailed analysis of effectiveness between studies based on this.

Additionally, samples are relatively homogenous, in that they tended to recruit female students in the USA and results can therefore not be generalised outside of this group. Jacobi et al. (2007) and Jacobi et al. (2012) have examined the effectiveness of Student Bodies in Germany, with some positive results. However, as with the majority of the studies, the sample was recruited from a university and it is therefore difficult to ascertain whether similar results would be found in a sample that was more representative of the general population. It is of note that none of the studies reviewed included male participants. This is justified by many

authors as being due to only a small number of males being diagnosed with eating disorders and therefore recruitment was targeted to females only. This may appear to be the case, yet BEAT (2007) state that eating disorders can affect anybody, with around 10% of reported cases being male. They state that this is likely to be an underestimation due to eating disorders being less likely to be recognised in young males.

Although Internet interventions are thought to be much less expensive to run than face-to-face programs, the cost of administering them is not mentioned in the literature. The majority of studies reviewed utilise moderated discussions and therefore require a trained professional to oversee the group, steer the discussion and monitor risk. This suggests that an Internet intervention could have similar costs to running a face-to-face group with one facilitator. Low et al. (2006) examined differences between moderated and unmoderated discussion groups and although the main findings were not statistically significant, it was found that participants in the unmoderated group demonstrated the greatest reduction in risk. The results should be viewed cautiously, but do provide some justification for conducting unmoderated groups. There are however risks concerned with this approach as unmoderated groups may be open to inappropriate comments or discussions from group members.

1.4.1. Clinical Implications

The Internet is increasingly being utilised to deliver interventions targeting mental health difficulties and with a high percentage of the population accessing the Internet regularly, it is in the prime position to host such programs. This is an accessible format by which psychoeducational and therapeutic programs can be widely delivered, although the success of these programs is questionable.

The Internet eating disorder prevention programs reviewed have begun to demonstrate some positive outcomes. This is encouraging in that it could be assumed that with further research and development, these programs

could be beneficial in reducing some of the initial symptoms of eating disorders in young people.

There has been some limited research into using Internet prevention programs with young women who are considered to be 'at high risk' of an eating disorder. Targeting interventions in this way has largely provided greater effect sizes than universally applying them, suggesting that prevention programs have more impact on those already beginning to experience eating difficulties. However, small sample sizes limit the ability to generalise this assumption. The Department of Health (DH, 2011) sees early detection and intervention in mental health as a priority. They state that intervening early to ensure mental wellbeing and resilience is developed at a young age, has the potential to alter a person's trajectory and increases the likelihood of achievement in education, employment and relationships. If a young person can be prevented from developing full symptoms of an eating disorder via an Internet program, there could also be positive implications for premature mortality rates due to eating disorders. Additionally, the potential cost to services of treating that individual could be remarkably reduced. Finally, the onset of eating disorders tends to occur during a critical period of educational and psychosocial development (Simon, Schmidt and Pilling, 2005). This can have a major impact on a young person's life by interrupting their education or work. By intervening early, this impact could be reduced by delaying or preventing eating disorders in young people during this critical period.

1.4.2. Future Research
Research into the delivery of Internet eating disorder interventions is currently limited to a small number of programs which have demonstrated only moderate success. The positive effects demonstrated are however promising and with some modifications and more rigorous investigation, such programs could have the potential to help reduce eating disorder symptoms in young people.

Further research into 'at risk' groups is suggested, however there are methodological concerns associated with it. There is currently limited guidance on who is deemed to be 'at risk' of an eating disorder, with different criteria being followed by clinicians and research groups. Research into gaining a better understanding of the development of eating disorders and the identification of genetic and social risk factors is currently being carried out in studies across Europe by the INTACT (Individually Tailored Stepped Care for Women with Eating Disorders) Programme (2012). It is advisable that future research with 'at risk' groups uses the same agreed criteria in order to target interventions in a meaningful way.

The results of the reviewed studies are generally difficult to apply to the wider population due to sampling bias. Any future research may aim to overcome this by recruiting more universally and not solely from a single university campus. The inclusion of males in studies could also be beneficial as the eating disorder prevention literature largely excludes them even though eating disorders are prevalent in males (Strother et al. 2012). It is currently unclear whether these programs can be applied to young males and if so, what effects could be uncovered.

1.4.3. Limitations of this review

There are some limitations to this review. Firstly, a lack of translation resources meant that only studies published in English language were searched for. It is unclear how many studies this excluded or which countries they may have been published in. Secondly, the number of studies reviewed is relatively small and the number of intervention programs included is very low. This potentially highlights the lack of published research in this area and highlights the requirement for further investigation.

1.4.4. Conclusion

In summary, there have been some positive findings reported concerning eating disorder prevention programs delivered via the Internet. However,

further methodologically rigorous research is required, newly-developed interventions should be investigated and researchers should consider involving male participants in their future studies. Research in to the development of eating disorders and 'at risk' criteria is critical to enhance future studies in this area.

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Chapter Two: Empirical Paper

Weight & Listen: The role of a podcast in reducing weight concerns in young people

2.1. Abstract

2.1.1. Objectives

There have been a number of studies investigating the effects of Internet eating disorder prevention programs. Although there are methodological concerns, benefits of providing interventions in an online format have been identified. The present study aimed to investigate the role of an educational podcast to inform young people about weight issues in order to ascertain whether online audio information has an effect on levels of weight concerns and associated factors, including self-esteem, mood, social anxiety, perfectionism and substance use.

2.1.2. Methods

162 young people, aged 14-25, completed the online study in which weight concerns and associated factors were evaluated using self-report questionnaires, pre- and post-podcast. Seventy-three participants also completed follow-up questionnaires.

2.1.3. Results

Post intervention, *t*-tests demonstrated significant improvements on a measure of weight concerns, with a large effect size. Improvements were also found on measures of mood, perfectionism, social anxiety and self esteem. In addition to weight concerns, at follow-up, there were significant effects for all participants for low mood, social anxiety, non-disclosure of imperfection and self-esteem. Mixed ANOVAs also found significant differences between participants with high weight concerns and those with low weight concerns for mood, social anxiety, perfectionistic self promotion, non-display of imperfection and self-esteem.

2.1.4. Conclusions

The results provide evidence of the utility of a podcast in informing young people about weight issues, particularly with young people who have high levels of weight concerns. There are some methodological criticisms,

including the identification of young people with high weight concerns. In addition, there are questions about whether recruitment led to a sample which was truly representative of the general population. Overall, however, the study has demonstrated that using the Internet for interventions is feasible and appropriate. Future research may involve examining predictors of weight concerns in young people.

2.2. Practitioner Points

2.2.1. Clinical Implications

- Using a podcast to inform young people about weight issues is successful in reducing concerns about weight and associated factors.
- The effect of the podcast is increased with those experiencing high levels of weight concerns.
- Podcast interventions could be made available for young people in order to increase resiliency and reduce the impact of weight concerns and related factors, which have previously been shown to have associations with the development of eating disorders.

2.2.2. Limitations

- The identification of those with high weight concerns has proved problematic.
- Attrition was relatively high; this could be a standard feature of online research or perhaps due to technical issues which may have caused some participants to withdraw from the study or could have impacted on their experience of taking part.

2.3. Introduction

2.3.1. Eating disorders

The incidence of eating disorders varies according to specific diagnosis. The World Health Organisation (WHO; 2004) report that anorexia nervosa occurs in 0.5–1% of the world's female adolescent and young

adult population, whilst bulimia nervosa is found in 0.9–4.1% of the same population. It is estimated that 5–13% of adolescent and young adult females experience what is now termed 'other specified eating disorders' (see Appendix 3 for DSM-V diagnostic criteria).

Eating disorders comprise physical, psychological and social features and often develop in to long-term conditions, with difficult recovery journeys. They can have a large impact on a person's physical and mental health and have additional negative effects on relationships and employment (National Collaborating Centre for Mental Health, 2004). Eating disorders generally begin to develop in adolescence (Fairburn, 2008) and can therefore impact on social, academic and physical development which has implications for a young person's future trajectory. Treatment and recovery experiences are variable in those with eating disorder diagnoses, with some receiving age-appropriate and high quality interventions and others feeling judged and 'trapped' by services (National Collaborating Centre for Mental Health, 2004). That said, treatment is vital as the physical consequences of eating disorders can be fatal and rates of mortality are high (BEAT, 2011).

Fairburn (2008) has identified that there are a number of additional difficulties associated to an eating disorder diagnosis. These include; social anxiety, depression, substance use, high levels of perfectionism and low self-esteem. These features are targeted in his model of cognitive therapy for eating disorders and it is stated that these difficulties must be acknowledged for treatment to be successful (Fairburn, 2008).

2.3.2. Youth mental health

The majority of severe mental health problems begin in adolescence, with around 80% of all mental illness emerging between the ages of 15 – 25 (Kessler et al, 2005; Department of Health, DH, 2014). Although mental health problems are common in adolescence (20%), only around 5% of adolescents will develop more persistent and complex problems (Kim-Cohen et al, 2003). The rationale for intervening early is that if mental

health difficulties are not attended to, they can have long-term effects on a person's life and well-being. There is evidence that the majority of adults with mental health problems experienced mental health difficulties in childhood and adolescence and that this can impact on the mental health of future generations (DH, 2011 & 2014). Furthermore, it is proposed that between a quarter and a half of mental health problems that are experienced in adulthood are preventable during childhood through effective treatment (Kim-Cohen et al, 2003; DH, 2011 & 2014). This highlights the positive effects that intervening early has on mental wellbeing, relationships and associated social and financial costs of untreated mental health difficulties (DH; 2011).

2.3.3. Early detection and intervention in eating disorder onset
At present, there are no clearly defined criteria to allow for the detection of individuals who may be at 'at risk' of developing an eating disorder. As mentioned in Chapter One, this has resulted in different criteria being used by researchers, thereby making comparisons between studies difficult. Research is being conducted by the INTACT (Individually Tailored Stepped Care for Women with Eating Disorders) programme which aims to better understand the specific risk factors for eating disorders by monitoring young women who are deemed to be 'at risk' of developing an eating disorder over what they term as a 'critical period' of two years, which is the time it is estimated to take for early symptoms to develop in to full-criteria for eating disorder diagnosis (INTACT, 2011). There is however evidence to suggest that those who demonstrate a higher incidence of 'weight concerns' may be at increased risk of developing an eating disorder in the future (WHO, 2004). The Weight Concerns Scale (WCS) developed by Killen et al (1994) is a measure used to assess the level of weight concerns held by an individual and is discussed in more detail below.

Although research into identifying young people who could be at risk of eating disorders is in its infancy, it is acknowledged in the existing literature that individuals who experience eating disorders also often

experience higher levels of depression, perfectionism, social anxiety, alcohol and substance use and lower levels of self-esteem (Fairburn, 2008). These elements are a major focus in successful cognitive therapy of eating disorders (Fairburn, 2008) and it is therefore important to examine the impact of an intervention on these factors in the present study.

2.3.4. Internet eating disorder prevention programs

The recent review of the literature outlined in Chapter One found a number of studies that have examined internet interventions for preventing eating disorders. Overall, results have been promising, with moderate effect sizes, although there were a number of methodological concerns raised, which are discussed in Chapter One and more generally in Chapter 3 with regards to Internet research. The literature suggests benefits of using the Internet to provide interventions for women who are at risk of an eating disorder, including convenience, increasing participation and overall satisfaction with the intervention.

2.3.5. Eating disorders in males

The existing literature on the use of internet-based interventions for the prevention of eating disorders has focused solely on female students. The present study aims to rectify this and will include both male and female participants. BEAT (2007) state that eating disorders can affect anybody, with around 10% of reported cases being male. They state that this is likely to be an underestimation due to eating disorders being less likely to be recognised in young males. For some males experiencing eating disorders, their symptoms are similar to those seen in females. For others though, they are more concerned with wanting to gain weight and in particular, are extremely concerned with gaining muscle. This can lead to males using steroids or other dangerous drugs to increase muscle mass. It is therefore important that research includes participants who are both male and female as eating disorders are prevalent across genders.

2.3.6. Podcasts

Podcasts are short audio recordings which are inexpensive to produce and can be accessed by anyone at any time, assuming they have internet access. They are therefore accessible, convenient and may be easily downloaded by young people who may not otherwise seek help, for example, from their GP. They have been used successfully to provide normalising information concerning psychosis in order to reduce levels of stigma (French et al., 2010). However it is not known whether podcasts are successful in reducing weight concerns in young people.

2.3.7. Present study

The present study aims to investigate the role of a podcast in informing young people about weight issues. It is hypothesised that immediately after listening to the podcast, young people (aged 14 - 25) will have a significant reduction in scores on measures of weight concerns. Due to the hypothesised link between weight concerns, depression, perfectionism, self esteem and social anxiety, based on Fairburn (2008), it is anticipated that young people will demonstrate improvements on these measures immediately after listening to the podcast. This significant reduction will also be present at 4 week follow-up. It is anticipated that any difference will be significantly larger for the high weight concerns group when compared to the low weight concerns group.

Due to the links between eating disorders and factors such as depression, perfectionism, social anxiety, alcohol and substance use and self-esteem, it is assumed that there will be an association between levels of weight concerns and scores on all other measures. More specifically, it is hypothesised that young people who score above the threshold (see 'Measures' section) on the WCS, will also score significantly higher on all other measures than young people who score below threshold on the WCS.

It is anticipated that testing these hypotheses will provide an insight into the utility of podcast information in reducing weight concerns and related

psychological experiences in young people. If successful, it is hoped that podcasts could be used more widely with young people who have weight concerns as a non-stigmatising form of intervention. In addition to this, if the hypotheses are met, the present study will provide further evidence of the importance of intervening early to reduce behaviours and cognitions associated with eating disorders.

2.4. Method

2.4.1. Participants

The target age of participants was 14 to 25. Fairburn (2008) states that 25 is the age at which most eating disorders have developed and therefore this was selected as the upper age limit. The lower age limit of 14 was deemed appropriate in terms of gaining informed consent from young people and has been demonstrated to be an acceptable lower age limit in previous studies targeting youth mental health (e.g. Morrison et al. 2011).

A power calculation was carried out using G*Power (Faul, Erdfelder, Buchner and Lang, 2009). In order to achieve a medium effect size (0.5) with power of 0.8 and significance of 0.05, a total of 80 participants (40 in each group) were be required to complete the pre, post and follow-up questionnaires. This anticipated effect size is appropriate based on a podcast study conducted by French et al. (2010) who reported effect sizes of between 0.2 and 0.6.

In order to recruit as many participants as possible, the link to the study was open for a period of 13 months; from December 2012 until January 2014. This long recruitment phase was important due to the format of the study in that completion of the pre and post questionnaires as well as listening to the podcast could take around 20-30 minutes. As this was completed online, it is possible that people could run out of time or become distracted whilst completing the study which would result in a lot of incomplete data sets. There was also an expectation of around 50%

attrition at follow-up, based on anecdotal evidence from studies using a similar format. For these reasons, an extended recruitment period was warranted.

A website was created for the study, which featured information about the research, the main researcher and links to related websites. Additionally Twitter and Facebook accounts were set up and linked in order to aid recruitment. Regular 'Tweets' were sent via the Twitter account and a number of youth mental health, eating disorder, academic and related accounts were contacted and communicated with frequently. To further enhance recruitment, schools, colleges and universities were contacted by email to request that the link was emailed to students to inform them about the research. Subsequently, face-to-face presentations were given to the students of two colleges giving them an overview of the research. Participants and visitors to the website were encouraged to let others know about the study.

2.4.2. Podcast

An audio recording was developed by the research team. It featured the voices of two females aged in their late 20s and early 30s discussing weight issues, body image and the effects of dieting in a conversational manner, with the content being informed by Fairburn's Cognitive Therapy for Eating Disorders (2008). The recording was edited, resulting in a 7 minute-long podcast which was uploaded to Sound Cloud (2014), a platform for sharing originally-created sound and music files. A transcript of the podcast is available in Appendix 5.

2.4.3. Measures

Weight Concerns Scale (WCS; Killen et al. 1994: Appendix 6)
The WCS is a five-item measure that ascertains participants' worries over gaining weight, fear of gaining weight, perception of their own body shape, importance of weight and dieting history. Killen et al. (1996) reported that the measure has good test-retest reliability (r = .75 for a 12-

month interval) and Killen et al. (1994) reported that the measure has good sensitivity.

Killen et al (1996) demonstrated a link between weight concerns and the subsequent development of eating disorder symptoms. They found that individuals who scored in the highest quartile of the WCS had a higher incidence (10%) of eating disorder symptoms over the following four-year period compared to those who scored in the lowest quartile, none of whom went on to develop eating disorder symptoms. With this in mind, participants who scored 52 and over on the WCS were considered to be 'at risk' of an eating disorder; this is the figure indicated by Killen et al. (1994). Similar WCS scores have been used to define 'at risk' groups in studies by Zabinski et al. (2004), Taylor et al. (2006) and Jacobi et al. (2012), although they altered the threshold to WCS scores of 57, 50 and 42 respectively. The justification provided by the authors for the difference in threshold score is that there is a lack of clarity regarding risk in the populations studied. Though, it is still not clear from this justification why the authors determined the threshold scores used.

Perfectionistic Self-Presentation Scale (PSPS; Hewitt et al. 2003: Appendix 7)
The PSPS is a 27-item measure consisting of three subscales measuring; perfectionistic self-promotion (i.e., the need to appear perfect), non-display of imperfection (i.e., the need to avoid appearing imperfect) and nondisclosure of imperfection (i.e., the need to avoid public admission of imperfection). Hewitt et al. (2003) found that the test–retest reliability for the subscales was good over a four month interval (perfectionistic self-promotion, $r = 0.81$; non-display of imperfection, $r = 0.81$; and nondisclosure of imperfection, $r = 0.79$).

Social Interaction Anxiety Scale (SIAS; Mattick and Clarke, 1998: Appendix 8)

The SIAS is a 20-item measure of anxiety experienced when interacting with other people. In terms of test-retest reliability, Mattick and Clarke (1998) reported very good estimates over a 12-week interval (r = 0.92).

Rosenberg Self Esteem Scale (RSES; Rosenberg, 1965: Appendix 9)

The RSES is a widely used measure of self-esteem with reported good test-retest reliability (r = 0.84; Rosenberg, 1979).

Beck Depression Inventory for Primary Care (BDI-PC; Beck, Guth, Steer & Ball, 1997: Appendix 10)

The BDI-PC is a seven item scale derived from the Beck Depression Inventory-II. It is validated for use in primary care settings with individuals aged 14 and above. It has been shown to demonstrate good test-retest reliability (r = 0.82; Beck et al. 1997).

The Alcohol Use Disorders Identification Test (AUDIT; Saunders et al. 1993: Appendix 11)

The AUDIT consists of ten questions which ask about alcohol use, symptoms of alcohol dependence and alcohol-related problems. It demonstrates good sensitivity and specificity in identifying harmful alcohol use and dependence (Saunders et al. 1993). It has also demonstrated good test-retest reliability of r = 0.86 (Sinclair, McRee and Babor, 1992).

The AUDIT was not administered post-podcast as it measures recent alcohol use which would remain static between the pre and post podcast time-points. It was re-administered at follow-up to detect any changes in recent alcohol use.

Drug Use Disorders Identification Test (DUDIT; Berman et al. 2005: Appendix 12)

The DUDIT is an 11-item measure which screens for drug use, dependence and related problems. Similarly to the AUDIT, it was administered at pre-podcast and follow-up.

2.4.4. Procedure

The study was approved by Staffordshire University's Faculty of Health Sciences Ethics Committee. Clicking an advertised link took people to the study's website which was hosted by Weebly Inc. (2014). By selecting 'take part,' people were taken to the participant information sheet and consent form, hosted by Qualtrics (2009). This gave details of the approximate length of time it would take to complete the survey and how long data would be stored for. After agreeing to take part, participants were taken to the first set of questionnaires. Those who selected to take part in the follow-up questionnaire were asked to supply an email address. Upon completing the initial set of questionnaires, participants were directed to click a link to the podcast, which was hosted by SoundCloud, (2014). They were then asked to complete the post-podcast questionnaires. Four weeks later, participants who had supplied an email address were sent an email containing a link to take part in the follow-up questionnaire.

The survey software was tested for usability and technical issues were rectified before the survey was officially launched. Email addresses were collected for participants who wished to take part in the follow-up survey. These were stored in a Qualtrics (2009) database, which was password protected. Data were downloaded on one occasion upon the recruitment phase ending, and on the matching of responses, email addresses were deleted.

2.4.5. Data collection and analysis

The data were downloaded to SPSS and pre and post datasets were matched up manually with follow-up data sets. As the hypotheses were concerned with differences between time-points, only responses from those who had fully completed at least the pre-and-post questionnaires

were used in the analysis. In addition, further separate analyses were carried out on complete pre, post and follow-up data sets.

All results are reported, as far as possible, in accordance with the Checklist for Reporting Results of Internet E-Surveys guidelines (CHERRIES; Eysenbach, 2004). Due to technical constraints, the number of unique site visitors could not be calculated; it is therefore unknown how many individuals visited the website hosting the research. It was possible to record questionnaire views; however it is not possible to know whether or not these are unique views. Participation and attrition rates were calculated.

It was possible to use IP address recognition in order to prevent multiple responses by the same respondent. This stops the user of the same computer from sending many responses to the same questionnaire, which can invalidate the results. This feature was not employed in the present study as the link was sent to students in schools, colleges and universities which could mean that students were using the same computer to complete the study. If IP address recognition was used, only one student would be able to complete the questionnaire from each of the school's computers, thus preventing potential respondents from taking part.

As the data were normally distributed, repeated measures dependent t-tests were utilised to analyse within-subject differences in continuous data between the pre and post-podcast datasets. Mixed ANOVA tests were used to analyse between group and repeated measures variables between pre and post-podcast and follow-up. Post-hoc analysis was carried out on the data in order to detect differences within the high weight concerns and low weight concerns groups between pre-podcast and follow-up. A significance level of 0.05 was used throughout and effect sizes were calculated (Cohen, 1988) and are reported in Table 2.2.

2.5. Results

Table 2.1. Participant characteristics

Characteristics	All participants pre-podcast, N, (%) (total N=162)
Gender	
Male	33 (20.6)
Female	129 (79.4)
Age group	
14-18	49 (30.3)
19-25	113 (69.7)
Highest level of educational achievement	
Primary	4 (2.5)
Secondary	26 (16.5)
Further	61 (37.4)
Higher	71 (43.6)
Current employment status	
Full time	21 (12.9)
Part time	53 (32.8)
Voluntary	17 (10.7)
Unemployed	71 (43.6)
Marital status	
Single	141 (86.4)
Married	2 (1.4)
Cohabiting	18 (11.3)
Widowed	1 (0.6)
Mental health diagnosis	
Yes	36 (22.4)
No	126 (77.6)
Eating disorder diagnosis	
Yes	18 (11.3)
No	144 (88.7)
WCS Group	
Low risk	78 (48.1)
High risk	84 (51.9)

2.5.1. Participant characteristics

Over the 13-month recruitment phase, the pre and post-podcast survey was viewed or started 455 times. In total, 162 complete pre and post-podcast datasets were returned; this included 78 participants in the 'low risk' WCS Group and 84 in the 'high risk' WCS Group. Incomplete datasets were excluded from analysis. Of the 162 initial returners, 73

participants also completed the follow-up assessment (44.79%); 38 from the 'low risk' WCS Group and 35 from the 'high risk' WCS Group. Table 2.1 provides a summary of the participant characteristics.

Table 2.2. t-test analysis of pre-post podcast data

Measure	Pre-podcast Score, Mean	Post-podcast Score, Mean	Post-podcast significance	Effect size, η^2	Standard Error
Weight Concerns Scale	50.94	46.62	< 0.05	.26	.570
Beck Depression Inventory-Primary Care	12.43	11.73	< 0.05	.23	.102
Social Interaction Anxiety Scale	49.22	48.15	.003	.05	.358
Perfectionistic Self Promotion	41.99	41.12	> .001	.02	.454
Non-display of imperfection	46.23	45.30	.017	.03	.385
Non-disclosure of imperfection	29.93	29.11	.009	.04	.308
Rosenberg Self Esteem Scale	25.80	26.79	< .001	.19	.174
Alcohol Use Disorders Identification Test	13.83	NA	NA	NA	NA
Drug Use Disorders Identification Test	2.69	NA	NA	NA	NA

2.5.2. Pre-post podcast analysis

Repeated measures dependant *t*-tests were performed on pre and post-podcast data; this is summarised in Table 2.2. Analysis was not carried out on the AUDIT and DUDIT at this stage due to the measures not being administered post-podcast (see 'Measures' section).

Weight Concerns Scale

In terms of weight concerns, the results showed that after listening to the podcast, participants scored significantly lower on the WCS, with a large effect size (Cohen, 1988), (M = 4.31, SE = .570), *t*(161) = 7.57, p < .001, 95% CI [3.19, 5.44], η^2 = .26.

BDI-PC

On listening to the podcast, significantly improved scores were found for participants' mood, with a medium effect size (M = .704, SE = .102), t(161) = 9.92, p < .001, 95% CI [.503, .905], η^2 = .23.

SIAS

On the measure of social anxiety, participants' scores were significantly reduced post-podcast, with a small effect size, (M = 1.06, SE = .358), t(161) = 2.97, p = .003, 95% CI [.355, 1.77], η^2 = .05.

PSPS

After listening to the podcast, there were no significant differences reported on the perfectionistic self-promotion subscale of the PSPS. On the non-display of imperfection subscale, there were however significant differences found, with a small effect size, (M = .926, SE = .385), t(161) = 2.41, p = .017, 95% CI [.166, 1.69], η^2 = .03. For the non-disclosure of imperfection subscale, significant results were also found, with a small effect size, (M = .815, SE = .308), t(161) = 2.65, p = .009, 95% CI [.207, 1.42], η^2 = .04.

RSES

Post-podcast results for self-esteem were positive, with significant improvements between pre and post-podcast scores, with a large effect size, (M = -.994, SE = .174), t(161) = -5.17, p < .001, 95% CI [-1.34, -.65], η^2 = .19.

2.5.3. Pre, post and follow-up analysis

Mixed ANOVA was used to analyse the pre, post and follow-up data, with 'WCS Group' (i.e. high or low risk) as the within and between group variable. An overview of the results can be seen in Table 2.3.

Table 2.3: Mixed ANOVA of pre, post and follow-up data

Measure	Main Effect	Effect of Group	Interaction GroupxTime
Weight Concerns Scale	$F(2) = 7.98$, p = .001, η^2 = .09	$F(2) = 157.96$, p < .001, η^2 = .14	$F(1) = 14.45$, p < .001, η^2 = .15
Beck Depression Inventory-Primary Care	$F(2) = 7.98$, p = .001, η^2 = .09	$F(2) = 157.96$, p < .001, η^2 = .06	$F(1) = 14.45$, p < .001, η^2 = .03
Social Interaction Anxiety Scale	$(2) = 3.43$, p = .035, η^2 = .04	$F(2) = 12.11$, p = .001, η^2 = .01	$F(2) = 2.75$, p > 0.05, ns
Perfectionistic Self Promotion	$F(2) = 1.66$, p > 0.05, ns	$F(2) = 4.16$, p = .045, η^2 = .004	$F(2) = 1.49$, p > 0.05, ns
Non-display of imperfection	$F(2) = 1.35$, p > 0.05, ns	$F(2) = 7.36$, p = .008, η^2 = .005	$F = (2) 5.83$, p = .004, η^2 = .07
Non-disclosure of imperfection	$F(2) = 3.47$, p = .034, η^2 = .05	$F(1) = 2.04$, p > 0.05, ns	$F(2) 2.45$, p> 0.5, ns
Rosenberg Self Esteem Scale	$F = (2) 5.93$, p = .003, η^2 = .07	$F(2) = 36.45$, p < .001, η^2 = .02	$F(1) = 6.88$, p = .001, η^2 = .08
Alcohol Use Disorders Identification Test	$F(2) = .87$, p > 0.05, ns	$F(1) = .33$, p > 0.05, ns	$F(2) = 1.19$, p > 0.05, ns
Drug Use Disorders Identification Test	$F(2) = .28$, p > 0.05, ns	$F(1) = 1.10$, p > 0.05, ns	$F(2) = .23$, p > 0.05, ns

WCS

There was a significant main effect between pre and post podcast and follow-up on levels of weight concerns, captured by scores on the WCS, $F(2) = 7.98$, p = .001, $\eta^2 = .09$. There was also a significant difference in scores between the 'high' and 'low' weight concerns groups, $F(2) = 157.96$, p < .001, $\eta^2 = .14$. The interaction between WCS Group and WCS score suggests a greater reduction in scores on the WCS in the group with high levels of weight concerns, $F(1) = 14.45$, p < .001, $\eta^2 = .15$. This is illustrated in Figure 2.1. Post-hoc analysis demonstrated a significant reduction in scores between pre-podcast, post-podcast and follow-up in the high weight concerns group, $F(2) = 12.93$, p < .001, $\eta^2 = .28$ as well as in the low weight concerns group $F(2) = 7.06$, p = .002, $\eta^2 = .07$.

BDI-PC

For mood, there was also a significant main effect over time of listening to the podcast, $F(2) = 7.98$, p = .001, $\eta^2 = .09$. Additionally, 'WCS Group' had a significant effect on scores on the BDI-PC, $F(2) = 157.96$, p < .001, $\eta^2 = .06$, with participants in the high weight concerns group expressing lower mood in general. There was a significant interaction between WCS Group and time $F(1) = 14.45$, p < .001, $\eta^2 = .03$, indicating a greater reduction in scores on the BDI-PC for the high weight concerns group. This interaction can be viewed in Figure 2.2. Post-hoc, there were significant improvements in scores between pre-podcast, post-podcast and follow-up in the high weight concerns group, $F(2) = 6.42$, p = .003, $\eta^2 = .16$ as well as in the low weight concerns group $F(2) = 4.52$, p = .014, $\eta^2 = .11$.

Figure 2.1. WCS pre, post & follow-up
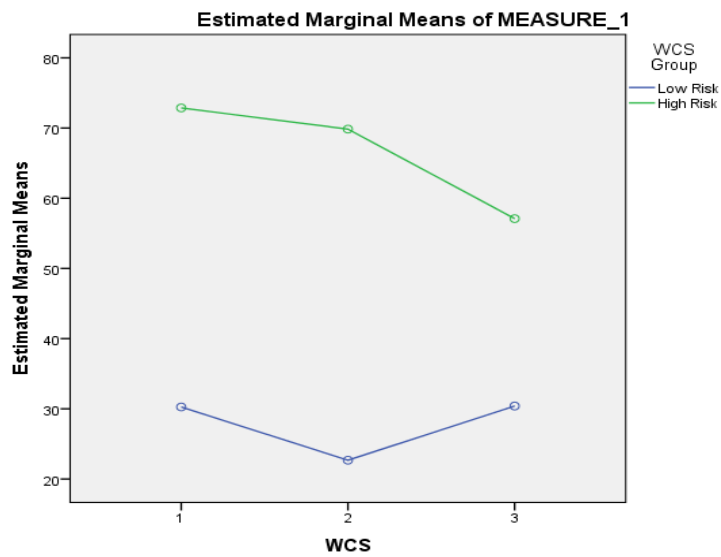
Figure 2.2. BDI-PC pre, post & follow-up
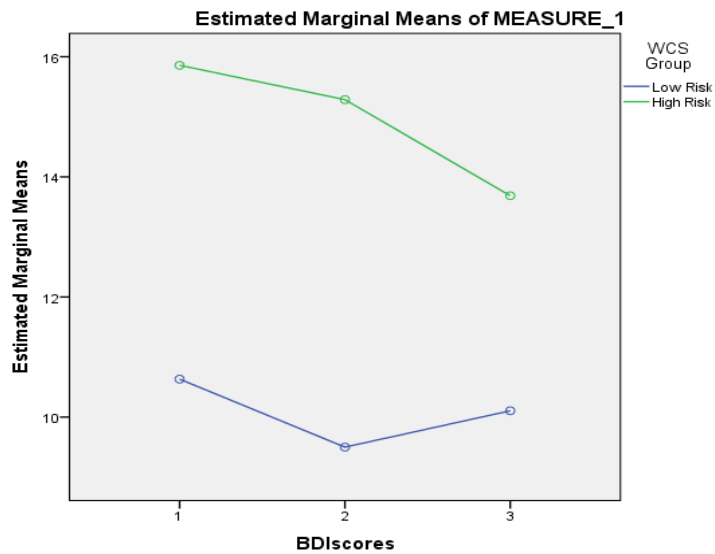
SIAS

There was a significant main effect between pre and post podcast and follow-up on levels of social anxiety, $F(2) = 3.43$, p = .035, η^2 = .04. There was also a significant difference in scores between the high and low weight concerns groups, $F(2) = 12.11$, p = .001, η^2 = .01. There was no significant interaction between WCS Group and time suggesting that

there was no significant difference in the reduction of scores between the high and low risk groups. However, as seen in Figure 2.3, there appears to be a much larger reduction in scores in the high risk group, compared to the low risk group. Significant improvements were found between pre-podcast, post-podcast and follow-up in the high weight concerns group, $F(2) = 4.33$, p = .017, $\eta^2 = .11$, but not in the low weight concerns group.

Figure 2.3. SIAS pre, post & follow-up
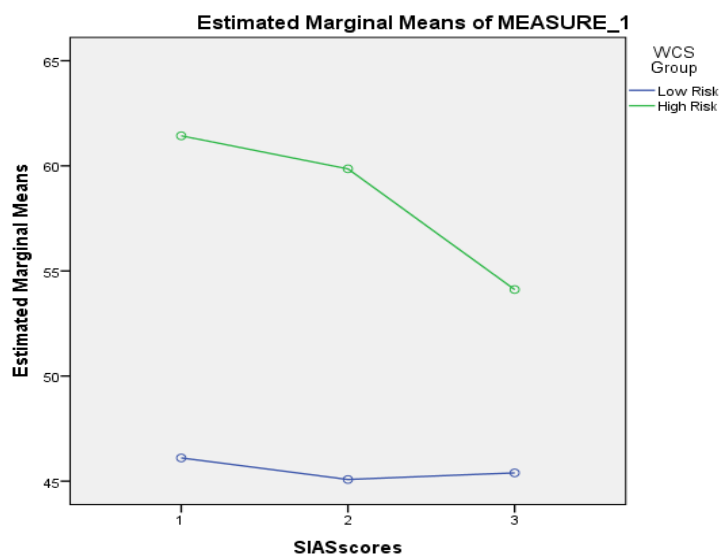
AUDIT and DUDIT

There were no significant differences or interactions found for scores on the AUDIT or DUDIT between WCS Group or over time.

PSPS

For the PSPS self promotion subscale, there were no significant main effects between pre and post podcast and follow-up. There were however significant differences reported between the high and low weight concerns groups, $F(2) = 4.16$, p = .045, $\eta^2 = .004$. There was no significant interaction between WCS Group and time (see Figure 2.4).

Figure 2.4. PSPS self-promotion pre, post & follow-up
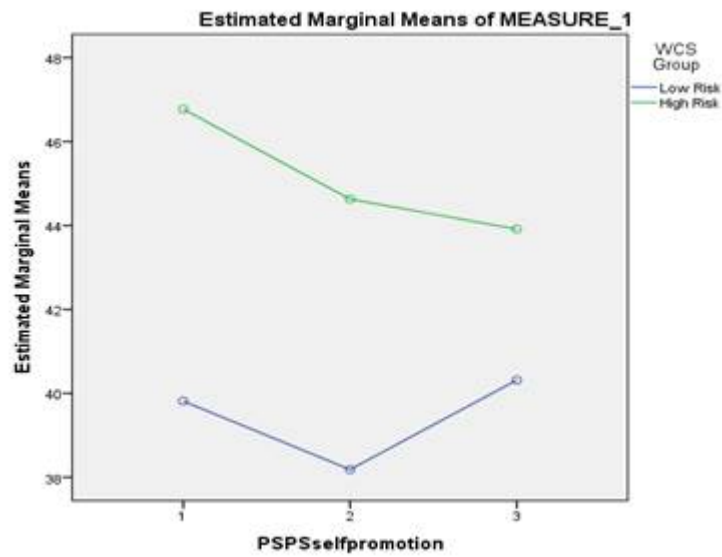
Figure 2.5. PSPS non display of imperfection pre, post & follow-up
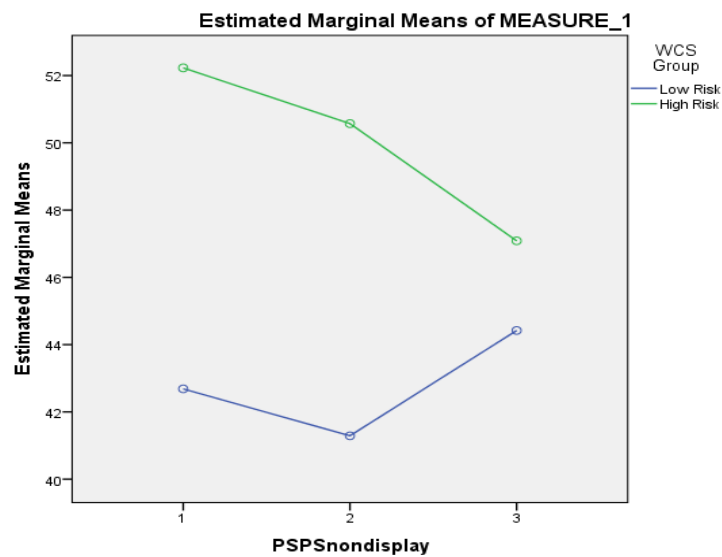
In terms of the PSPS non-display of imperfection, there were no significant main effects over time. There were significant differences identified between the high and low risk groups, $F = 7.36$, p = .008, η^2 = .005. There was also a significant interaction between WCS Group and non-display of imperfection, which suggests a greater reduction in scores on this subscale in the group with high levels of weight concerns, $F =$

5.83, p = .004, η^2 = .07 (Figure 2.5). There were significant differences in scores between pre-podcast, post-podcast and follow-up in the high weight concerns group, $F(2)$ = 4.23, p = .019, η^2 = .11. There were no significant differences between pre-podcast, post-podcast and follow-up in the low weight concerns group.

On the PSPS non-disclosure of imperfection subscale, there was a significant main effect between pre and post podcast and follow-up, $F(2)$ = 3.47, p = .034, η^2 = .05. There were no significant difference in scores between the 'high' and 'low' weight concerns groups and no significant interaction between WCS Group and scores on the non-disclosure of imperfection subscale (Figure 2.6). Significant improvements in scores between pre-podcast, post-podcast and follow-up were present in the high weight concerns group, $F(2)$ = 3.65, p = .031, η^2 = .10, but not in the low weight concerns group.

<u>Figure 2.6. PSPS non disclosure of imperfection pre, post & follow-up</u>
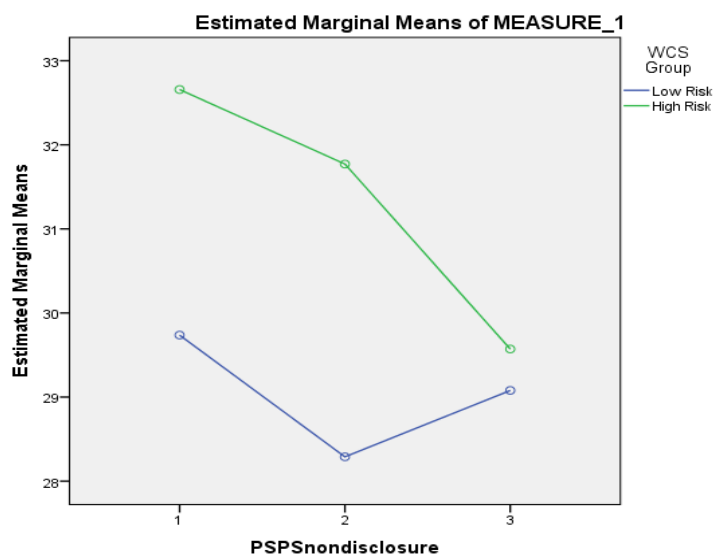
RSES

There was a significant main effect over time on levels of self-esteem on the RSES, F = (2) 5.93, p = .003, η^2 = .07. There was also a significant difference in scores between the high and low weight concerns groups, *F*

(2) = 36.45, p < .001, η^2 = .02. The interaction between WCS Group and RSES score suggests a greater increase in levels of self-esteem in the group with high levels of weight concerns, F (1) = 6.88, p = .001, η^2 = .08 (Figure 2.7). Post-hoc analysis demonstrated that there were significant improvements in scores between pre-podcast, post-podcast and follow-up in the high weight concerns group, F (2) = 5.77, p = .005, η^2 = .17. There were also significant improvements between pre-podcast, post-podcast and follow-up in the low weight concerns group, F (2) = 7.09, p = .002, η^2 = .16.

Figure 2.7. RSES pre, post & follow-up
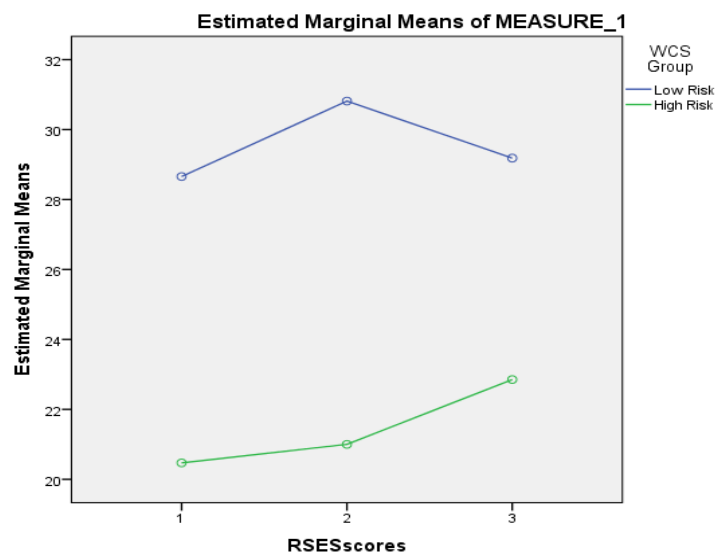
2.6. Discussion

The results of the present study largely support the original hypotheses that listening to a podcast providing information about weight issues will result in improvements in levels of weight concerns, mood, perfectionism, social anxiety and self esteem in young people aged 14-25. The results at follow-up were also promising. Significant improvements were evident for all participants for weight concerns, low mood, social anxiety, Non-Disclosure of Imperfection and self-esteem. When the WCS Group was

factored in, significant differences were found between the two groups for weight concerns, low mood, social anxiety, perfectionistic self promotion, non-display of imperfection and self-esteem. This suggests that listening to the podcast has a greater impact on individuals in the high weight concerns group than those in the low weight concerns group on these measures. The interaction between WCS Group and time illustrated significant interactions for weight concerns, low mood, non-display of imperfection and self-esteem.

At post-podcast, there were significant differences across all measures, except for the perfectionistic self-promotion subscale of the PSPS. Perfectionistic self promotion involves attempting to be viewed as perfect by others in order to appear competent and successful, (Hewitt et al. 2003). This form of perfectionism is associated with self-oriented perfectionism, which leads individuals to be self-critical and experience difficulties with being confronted with their own imperfections (Hewitt and Flett, 1991). This perhaps suggests that even after listening to the podcast, some young people found it difficult to confront their imperfections by endorsing items which would in their eyes, highlight their imperfections to others. It may therefore be useful to review the content of the podcast in order to strengthen the section which tackles this form of perfectionism. The podcast used in the present study was seven minutes long and it is therefore feasible to extend the length of it in order to provide further information which could enable for a greater impact on this element of perfectionism.

Post-hoc analysis demonstrated significant differences between pre, post and follow-up for both the high and low weight concerns groups on measures of weight concerns, low mood and self-esteem. This does not support the original hypothesis that the podcast would have a greater impact on those with high weight concerns, compared to those with low weight concerns. This hypothesis was however supported for social anxiety, non-display of imperfection and non-disclosure of imperfection,

where significant differences across time-points were present in the high weight concerns group only.

Although the results are positive, it is worth noting that the follow-up period was short, at four weeks and therefore it is not known whether the effects of the podcast are maintained over time. However, podcasts are inexpensive, straightforward to produce and can be listened to repeatedly. It is therefore entirely feasible that further podcasts could be provided on a regular basis to ensure that the effects are maintained over time.

There were no significant results found for the measures of drug and alcohol use (AUDIT and DUDIT). This could be for a number of reasons; firstly, the measures are designed to elicit information about substance misuse (Saunders, Aasland, Barbor, De La Fuente & Grant, 1993 & Berman, Bergman, Palmstierna & Schlyter, 2005) and may therefore not have been sensitive enough to detect 'expected' low-level substance use for the population under assessment, otherwise known as a floor effect. This was evident in the low baseline scores recorded by the participants overall. Secondly, both measures feature questions which ask about instances of substance use in the last 6 months; due to the short follow-up period, the responses to these questions may not have changed for respondents. Also, given the age at which people can legally purchase consume alcohol in the UK (aged 18), it is questionable how relevant these measures were and whether they should have been included in the questionnaire battery.

The results reported are positive and a number of significant findings are apparent. The validity of these findings must be questioned however as a number of the measures used in the study measure variables which are not expected to change so rapidly (i.e. after listening to a short audio recording), including, self-esteem and perfectionism. On further examining the content of the WCS, it also appears that the reduction in scores observed in the present study is high considering that some of the

items appear to measure factors that would not have changed so rapidly (e.g. "when was the last time you went on a diet?"). It may therefore be likely that demand characteristics were at play, with participants responding in a manner that satisfied the hypotheses of the study. Retrospectively, the measures used in the present investigation may not have been entirely applicable and any further research examining a short intervention phase such as this, should carefully consider the appropriateness of the measures used in terms of the legitimate changes that could be expected to be found. The issue of demand characteristics could also be rectified with the use of a suitable control group to which the scores of the intervention groups could be compared, thus highlighting any demand effects.

The proportion of male participants (20.2%) is low in terms of the general population. This could partly be due to recruitment methods, which perhaps accidentally targeted a female audience. 'Tweets' were sent via Twitter to male-orientated accounts (e.g. male university sports teams) and schools and universities were targeted, however the number of males interested and motivated to take part remained low. That said, BEAT, (2007) estimated that 10% of those diagnosed with eating disorders are male and therefore, reaching this small proportion may prove beneficial.

The attrition rate of 55.2% is slightly higher than expected based on anecdotal evidence provided by researchers who have conducted online studies where a follow-up assessment has been employed. It is however slightly higher than the post-podcast return-rate of 49% reported by French et al. (2010). The high rate of attrition could be due to a number of respondents not wishing to supply their email address, which is potentially a piece of identifying information. The pre and post-podcast questionnaires were also quite lengthy and had to be completed immediately before and after listening to the podcast. Potential questionnaire fatigue may have thus deterred individuals from completing the follow-up. Additionally, there were occasions where the email

addresses provided were not valid and therefore some individuals did not receive the follow-up questionnaire. More generally, online research is often something which individuals come across whilst using the Internet for other things. It is likely that people completed the pre and post questionnaires out of curiosity but were not motivated to complete the follow-up questionnaire when they were sent it four weeks later.

Participants were divided into two groups depending on their baseline scores on the WCS. As mentioned previously, Killen et al. (1996) found that young people who scored 52 or higher on the scale were four times more likely to develop eating disorder symptoms than those who scores below 52. In the present study, 51.5% of the sample scored 52 or above and were therefore considered to have high levels of weight concerns. It is perhaps surprising that this figure is so high, however there are a number of reasons why this could be the case. Firstly the model of recruitment involved using social media, including Twitter and Facebook. In order to increase interest in the study, accounts with related themes were 'followed'; this creates a link between accounts and an ability to communicate with one another. This included accounts concerning eating disorders, weight issues, men's and women's health, mental health, exercise and fitness and research. Additionally, people who were prevalent in popular culture were 'followed' and 'tweets' (short electronic messages) were sent out using 'hash-tags (#)' which allow tweets to be viewed more widely. The website and participant information for the study also contained details of the study's rationale, which mentioned terms such as, 'eating disorder' and 'anorexia'.   This could have led to self-selecting recruitment of individuals who experienced high weight concerns and were attracted to the twitter account name '@Weight&Listen' or to tweets sent out which were related to weight, eating disorders and youth mental health. It is possible that those who have low weight concerns were not as interested or motivated to take part.

Additionally, there are concerns regarding the WCS itself and the way in which it has been used to identify participants who have high or low weight concerns. As previously mentioned, a similar threshold score to that used in the present study (WCS $\geq$ 52) has been used by researchers in the past (e.g. Zabinski et al., 2004, Taylor et al., 2006 & Jacobi et al., 2012). However, it is possible that the measure was too sensitive for use with the current sample and therefore has highlighted some 'false-positive' results.

As previously outlined, the survey was viewed 455 times, yet only 162 (35.6%) people completed the pre and post podcast questionnaires and listened to the podcast. One obvious reason for this is that individuals were interested enough to read the participant information, but did not wish to take part based on what they had read. It was also likely that people visited the page more than once before eventually taking part. Thirdly, the questionnaires were quite long, took some time to complete and were repetitive between pre and post podcast; it is likely that people therefore withdrew before completing the questionnaires fully. There were also some technical issues raised. The podcast was situated on a file sharing website which had to be accessed through a link in the survey, as it was not possible to upload the audio file directly onto Qualtrics. It is therefore possible that even with the clear instructions, participants opened the podcast in the same Internet browsing 'tab' as the survey, which ended their Qualtrics session and saved their partial results. The instructions were made clearer after this was identified as a problem with some Internet browsers, yet it may have remained an issue for some participants.

2.6.1. Clinical Implications
The implications of the Weight & Listen study are relevant to the area of eating disorders as well as wider mental health. It has shown that a podcast intervention is effective when listened to young people, especially if they have high weight concerns. The Weight & Listen podcast could potentially be one form of intervention that could assist in

reducing weight concerns, which have been shown to be a major predictive factor in the onset of eating disorders (Killen et al. 1996). The cost of treating eating disorders is high (Henderson, 2012), but building resiliency may delay or prevent the onset of eating difficulties. This could enable an individual to be protected against the full impact of an eating disorder, which as previously discussed, is far reaching.

There are a number of Internet-based interventions targeting 'mild' psychological difficulties (E.g. Mood GYM, Fear Fighter and Beating the Blues) in people across the age range. These programs are widely available and have been shown to be as effective as face-to-face therapies (Baraka, Hena, Boniel-Nissima & Shapiraa, 2008). They do however require a high level of motivation and participation on the user's part, which may be problematic in the initial stages of symptomology, with people delaying taking part until their experiences become more problematic. It may therefore be beneficial to examine the utility of providing podcast interventions, such as the one used in the present study, in order to assist and support people who may be experiencing mild mental health symptoms. This would enable individuals to be provided with useful therapeutic information, at minimal expense to themselves in terms of time and effort. As previously mentioned, podcasts are inexpensive to produce and could therefore be created to target a number of difficulties and experiences. There already exist a number of podcasts aimed at providing relaxation and mindfulness programs (e.g. Head Space); however more targeted interventions, such as the Weight & Listen podcast may be beneficial for those experiencing specific difficulties. This could potentially lessen the burden on mental health services by providing individuals with the knowledge and skills to practise self-help in their everyday lives.

Podcasts are widely available and are currently used by organisations and agencies, including radio stations, television channels, charitable organisations and schools, colleges and universities. They are a medium by which people can easily access audio information at any time and from

any computer. However they do not appear to be widely used by mental health services, including clinical psychology. There is some limited usage, for example, the Maudsley Debates (academic debates held in front of a live audience) are made available in podcast format for those who could not attend but are interested in the content. This initiative could be more widely used by clinicians and academics in order to inform each other and the general public about research, policies and reflections.

2.6.2. Future Research

Future research may further explore predictors of weight concerns in young people which could add to the existing knowledge base and allow for easier identification of those who may go on to develop eating disorder symptoms in the future. It is important that eating disorder research focuses on early detection and intervention. Currently there are no agreed criteria for the identification of those who could be at high risk of an eating disorder, although research is being carried out (INTACT, 2011). Criteria to recognise those who are at risk of developing psychosis (Yung et al. 2005) and bipolar disorder (Bechdolf, 2010) are currently used in order to allow for early detection intervention, which could potentially delay or prevent transition into more severe mental health difficulties. Intervening in the early stages of eating difficulties development could not only reduce the overall impact on individual well-being, but could also reduce the social and economic costs of treating eating disorders.

The present study featured a four-week follow-up in order to detect any significant differences, due to listening to the podcast, which remained evident after this time. Four weeks is however a short follow-up period and future research should expand on this and could also employ longitudinal data to detect lasting intervention effects.

As described above, podcasts have a wide-ranging utility and could be employed across health and mental health settings, targeting a number of

difficulties and stigma. Questionnaires could also be provided which allow for the collection of subjective data regarding which elements of the podcasts participants found particularly engaging and useful.

The present study has investigated the use of a podcast with young people, using social media as a forum for recruitment. Future investigations may therefore benefit from exploring the use of social media with those over the age of 25 and also older adults in order to improve access to interventions. It is estimated in the UK that approximately 83% of 25-34 year-olds, 65% of 35-44 year-olds, 50% of 45-54 year-olds and 49% of those aged between 55 and 64 use the Internet for social networking on a daily basis. In addition, 11% of those aged over 65 years access social media via the Internet each day (Office for National Statistics, 2013). It is therefore likely that the Internet and social media in particular, would be a prime location to make individuals aware of mental health experiences and provide links to information and interventions.

2.6.3. Conclusion
Overall, the present study has provided evidence for using a podcast intervention to provide information about weight issues to young people aged 14-25. There are however a number of methodological concerns raised regarding the definition of who is 'at risk' of an eating disorder and the measure used to identify individuals as experiencing high or low weight concerns. Technical issues must also be addressed in order to provide a straightforward experience for those taking part in online research.

The study has added to the existing evidence base regarding reducing the preliminary symptoms of eating disorders and has shown that an inexpensive intervention can benefit those with weight concerns. The clinical implications for this are that it demonstrates that targeting these symptoms can be effective. This could reduce the burden on services, as well as the human costs of reduced well-being. This could also be the

case for other psychological difficulties, where a podcast could be well-placed to provide initial therapeutic information. Finally, podcasts could be more widely used by clinical psychologists, academics and mental health services in general to provide audio information which is accessible to all.

Future research must investigate the onset of eating disorders in order to provide agreed criteria by which to identify individuals at high risk of eating disorders. It may also investigate the use of social media in providing information regarding mental health to those over the age of 25, thus building on the present study.

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Chapter Three: Reflective Paper

Weight & Listen: Methodological and Personal Reflections

Word count: 2, 838

3.1. Abstract

This paper aims to reflect on the process of conducting the Weight & Listen research project. It will provide an appraisal of the methodology used in the empirical study and also make reference to the ethical considerations relevant to conducting research on the Internet. Personal reflections on the research process will be provided, as will future implications arising from the study in terms of further research, clinical psychology and services as a whole. Due to the reflective nature of this chapter, it will be written in the first person narrative.

3.2. Introduction

This reflective paper will explore my experiences of conducting research on the internet. The aim is to review advantages and disadvantages of utilising this method and provide a commentary of the relevant ethical considerations. It will examine both personal and professional issues related to carrying out a large scale research project as a Trainee Clinical Psychologist as well as those presented by managing an Internet-based study.

3.3. Using the Internet for Research

3.3.1. Weight & Listen

My research study was concerned with exploring the role of a podcast in informing young people about weight issues. Anybody aged 14 to 25 was eligible to take part and as the intervention element of the study was a podcast, an online format was considered appropriate. It was anticipated that this would ease accessibility for participants and allow the link to be sent to as many people as possible. A secure link was provided by the Qualtrics, (2009) questionnaire software and this was placed on the study's website, which was hosted by Weebly, (2014). A link to the website was made available to potential participants as described in Chapter Two. This approach was inexpensive and relatively

straightforward for someone with no specialist IT skills; assistance from Staffordshire University's IT department and from the Qualtrics Support Team was sought on occasion to rectify minor difficulties.

The aim of recruitment was to reach males and females from a range of communities and backgrounds. Due to the target population being adolescents and young adults, the Internet proved to be the prime recruitment forum. A negative aspect of the present study is that it was conducted solely in the English language and therefore could not be accessed by those who are not fluent in English. Additionally, although only UK-based organisations were targeted, it is not known what proportion of the participants, if any, were from outside of the UK.

3.3.2. Internet research

In the early 2000s, some journal reviewers rejected research that had been carried out in an online format due to concerns surrounding the methodology (Reimers, 2013). Early studies (e.g. Krantz and Dalal, 2000) however, demonstrated that Internet research was as valid as that carried out traditionally, which led to online methods being more widely accepted. Furthermore, conducting research on the Internet has become more prevalent in psychological research over the last 15 years due to a number of advantages it holds over traditional methods. Firstly, it allows for large, representative samples to be reached (Gosling, Vazire, Sanjay, & John, 2004). It may also eliminate experimenter bias (where a researcher focuses on what they expect to find) and demand effects (where participants respond in a manner which meets the study's hypotheses), as participants and researchers never meet face-to-face. On the downside, there can be problems with the data as participants may not provide valid responses and unless measures are taken to prevent it, multiple responses can be submitted by the same respondents.

Online investigations can be virtually costless to perform and there is an argument that this could potentially lead to poorly-designed research

being carried out, whereas previously, it would not have been. This could lead to invalid and unreliable results as well as false-positive results being found. Additionally, if numerous studies are carried out, only those with significant results may be reported (Reimers, 2013). This therefore impacts on replication, which is important in psychological research (Pashler and Wagenmakers, 2012). There are, however, services including 'PsychFileDraw' (2014) which catalogue replication studies that would not normally be published in mainstream journals.

The ethical considerations of conducting Internet research are wide-ranging and were clearly apparent throughout the design and implementation of the Weight & Listen project. Guidelines written by the British Psychological Society (BPS; 2007) were followed at all stages to ensure high quality and ethical practice.

The initial consideration was regarding the age range of participants (aged 14-25). There were questions raised about the lower age limit and whether it was appropriate to target young adolescents with questions regarding mental health experiences, without further support being directly offered. It was felt that this was appropriate because eating disorders can begin to develop at a young age and it is important that eating disorder research examines the spectrum of presentations (Fairburn, 2008). Additionally, the measures included have been previously used with adolescents (Killen et al, 1996 & Morrison et al. 2011). At ethical review, no concerns were raised regarding delivering the questionnaires to young people. In order to signpost young people who perhaps were affected by the study, links to a number of support services were provided along with a recommendation to seek support from their general practitioner, teachers and families.

The lack of face-to-face contact with participants was novel in my experience. In my previous role as an Assistant Psychologist (Research) I was able to meet with participants before and after they participated in studies and also offered follow-up telephone calls if they had any

concerns. This ensured that participants were fully briefed, debriefed and monitored and knew where to turn if they required assistance. It was also therapeutic for me as a researcher as I had peace of mind that participants were safe and supported. Throughout the recruitment phase of Weight & Listen, I was able to view the anonymous data already submitted, which sometimes showed that individuals had endorsed items that could be of concern. It was therefore difficult at times to contain this worry as there was no means by which I could provide support for individuals. This was managed by providing a debrief with links to support sites and an encouragement to seek professional support if required. Additionally, there was a facility by which participants could contact the research team with any questions, comments or suggestions, anonymously if preferred. Finally, in general, it is relatively easy to discontinue participation in an Internet research project by simply closing the browser screen. This eliminates any social pressure felt to continue if a participant feels uncomfortable (Reimers, 2013).

An additional consideration concerns the informed consent of participants. Although participant information was provided at the beginning of the questionnaire and on the study's website, it is unclear whether this was read by participants. This is a known difficulty in Internet research and has been investigated by Pederson, Neighbors, Tidwell & Lostutter (2011) who found that over half of undergraduates studied could not recall information from the consent form when it was presented to them online. It was found that those given information in paper form also struggled to recall some details. This is an important consideration for online research however, as in face-to-face scenarios, researchers are on hand to summarise information and to answer questions, which is much more difficult online.

3.4. Personal Reflections on Conducting Internet Research

3.4.1. Eating disorders online

The Internet has increasingly become a medium by which individuals share experiences of both physical and mental health difficulties, provide support to one another and seek information (Bell 2007). Over recent years, the information available on the Internet has become more reliable and positive support is usually readily available. However, there has been an increase in online 'extreme communities' which can serve to maintain difficulties and prevent recovery. More information regarding 'extreme communities' is provided later.

Through advertising the study through social media, I became greatly aware of the online community surrounding eating disorders. I was amazed at the number of websites and Twitter accounts offering support to those experiencing eating disorders and those with weight and body image concerns. I have become aware of individuals who are in recovery from eating disorders who now act as advocates and ambassadors for sufferers. By following these groups and individuals, I have learned more about the lived experience of eating disorders and what those experiencing them would like from services and from society. One major factor discussed frequently is the availability of early detection and intervention of eating disorders, as well as improved education concerning eating and body image related issues. This has been highlighted in recent years by Featherstone (2012) who endorses 'body confidence' and recommends building resilience in young people by providing education in schools as well as encouraging the media and organisations to take responsibility for the images and 'ideals' they portray. Weight & Listen has potentially provided one medium through which resilience education can be provided easily and inexpensively for young people.

Counterbalancing my positive experiences of the online eating disorder community were the 'extreme communities', including the now well-

known, pro-eating disorder websites and Twitter accounts. The pro-ana (pro-anorexia) and pro-mia (pro-bulimia) movement has been widely publicised and criticised by the media, healthcare services and governments (Bell, 2007) however it is still prevalent. The aim of the movement is to promote eating disorders as a 'lifestyle choice,' rather than view them as a medical or psychological difficulty (Davies & Lipsey, 2003). Websites of this kind portray images of thin celebrities and most shockingly, those already emaciated through an eating disorder. These images are classed as 'thinspiration' and are used to encourage members to continue with their 'weight loss' (Rouleau & Von Ranson, 2010). Advice is provided on how to lose weight quickly as well as on how individuals can hide their behaviours from professionals and their families and friends. Thus, help-seeking and recovery are prevented, which leads to the maintenance of symptoms. This is extremely concerning, particularly given that anorexia has a high mortality rate (Birmingham, Su, Hlynsky, Goldner & Gao 2005). The answer to the question of why individuals begin to visit these sites may lie in the social support provided by them. That said, there appears to be a distinct lack of research which explores the lived experiences of those using the sites. It has been suggested that the pro-ana and pro-mia communities may provide an element of social support for individuals who feel that society does not understand their 'lifestyle choice' (Csipke & Horne, 2007). It is therefore important to consider whether services which offer a healthier alternative can be provided, although this would require early identification of those at risk of an eating disorder.

3.5. Personal Reflections on the Research Process

Reflection on the research process has been an on going activity which began in the early months of beginning my Doctorate in Clinical Psychology (DClinPsy) training in 2011. I was fortunate in that before commencing the course, I had spent a year working as an Assistant Psychologist on two research programs. I was therefore very well aware of the research journey I was about to begin and the challenges I may

face. I was also privileged amongst my peers in that I already knew who one of my research supervisors (Professor Paul French) would be as he had supervised me as an assistant and had agreed to supervise my DClinPsy project. We had also already brainstormed ideas and I knew that I wanted to focus on early detection and intervention in eating disorders. This proposal had grown from an experience as an assistant where I assessed a 16 year-old girl who was quite clearly experiencing difficulties with weight concerns and had begun to restrict her diet which had caused her to lose weight rapidly. Although her behaviours and cognitions where characteristic of anorexia, her weight was considered 'above threshold' by the local eating disorder services and she was therefore denied a service for the time being. Initially, therefore, I had thought about examining factors associated with being 'at risk' of an eating disorder, however I was aware of work being carried out by the INTACT (2012) program which included a study examining similar criteria. It was therefore decided that exploring an intervention designed to target those with weight concerns could be beneficial in adding to the evidence base.

Writing a research proposal and submitting it for ethical approval was something I had experienced as an undergraduate student and as an assistant. However, this project was the largest I had been principal investigator of, which made the process slightly daunting. The initial preparation for the project was also overwhelming at times as I was used to being part of a large research team, so working alone in this way was a new experience. I was aware however, that compared to other trainees, my initial stages had been very smooth and had presented minimal difficulty.

Recruitment began slowly and it took time before people took part in the study. It was very frustrating at times as I had assumed that people would take part more readily. Eventually however recruitment took off and some intensive advertising and hard work paid off with recruitment figures surpassing those expected. Conducting the Weight & Listen

project and using social media to aid recruitment also gave me an introduction into using Twitter, which is a widely-accessed, interactive, microblogging network. I had never used Twitter and it took time for me to build up the confidence to tweet regularly and to target individuals and groups, requesting 'retweets'. I did however begin to do this more readily and received a warm response. This led on to me opening a personal Twitter account which I now use regularly and find extremely beneficial for maintaining an awareness of research, policy and reflections.

One element of my recruitment liaison which I found particularly frustrating was contacting schools and colleges to request that the link to the study was made available to students. I contacted institutions with sixth forms as well as higher education colleges and was therefore targeting 16-19 year-olds in those establishments. I also offered to provide a talk or workshop about clinical psychology for students who were interested, in favour for the school or college making the link available to students. Out of the ten contacted, only two allowed me to disseminate the link and I provided a presentation and talk in each. Reasons provided by those schools that declined were generally with regards to them not believing that it was appropriate to discuss mental health experiences with the young people in their care. This surprised me initially, but reminded me of the stigma attached to discussing mental health experiences. I managed this by discussing it with supervisors and returning their rejection with a constructive response, highlighting the importance of mental health education.

Supervision from both supervisors was extremely beneficial and enabled me to develop greater confidence in my research abilities, as well as reigniting my passion for the project when I was experiencing challenges. I was able to reflect on the impact of conducting the research (for example, witnessing pro-ana images) on myself, which has enabled me to contain and safeguard against my own emotions. Supervision also fostered a collaborative approach which, I believe, has enabled the delivery of a cohesive and successful piece of research.

3.6. Implications of Weight & Listen and Future Research

There have been a number of implications highlighted throughout the course of completing my DClinPsy thesis, not all of which were intended. Firstly, the findings, as discussed in Chapter Two, have highlighted the utility of a podcast intervention in informing young people about weight issues. Secondly, it is clear that there is a lack of agreement in who can be considered to be 'at risk' of an eating disorder and therefore comparisons between research studies is prohibited. Further research may therefore explore predictors of weight concerns in young people as a beginning point. Additional knowledge in this area could lead to an improved understanding of how services can identify young people experiencing the early stages of eating disorders and intervene effectively to reduce the impact eating disorders can have on physical, social and educational development.

In addition to those outlined above and in Chapter Two, areas of future research may include further exploration in to the lived experiences of those who participate in the pro-ana and pro-mia communities. This could highlight how clinical psychology services can better serve those who instead turn to maladaptive support networks.

3.7. Conclusions

Reflecting on the research process has been important in allowing me to further develop my research knowledge in terms of being aware of improvements and changes that could be made when conducting future studies. It has enabled me to fully consider potential ethical dilemmas and ensure that they have prevented as far as possible. Reflecting on the personal impact of conducting research concerning an emotive topic has ensured that I have experienced containment and have been assisted in confronting any personal challenges. This final discussion has also allowed future implications for clinical psychology research and services to be highlighted.

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Appendices

Appendix 1: Ethical Approval Form

Faculty of Health/Faculty of Sciences

ETHICAL APPROVAL FEEDBACK

Student name:	Katie Pownell
Title of Study:	The role of podcasts in informing young people about weight issues
Award Pathway:	Doctorate in Clinical Psychology
Status of approval:	Approved

Action now needed:

Your project proposal has now been approved by the Faculty's Ethics Panel and you may now commence the implementation phase of your study. You do not need to approach the Local Research Ethics Committee. You should note that any divergence from the approved procedures and research method will invalidate any insurance and liability cover from the University. You should, therefore, notify the Panel of any significant divergence from this approved proposal.

You should arrange to meet with your supervisor for support during the process of completing your study and writing your dissertation.

Thank you for forwarding the amendments requested by the Panel

Signed: Dr Mark Forshaw
Chair of the Faculty of Health/Faculty of Sciences
Ethics Panel

Date: 1st October 2012

Appendix 2: Author Guidelines for the British Journal of Clinical Psychology

The British Journal of Clinical Psychology publishes original contributions to scientific knowledge in clinical psychology. This includes descriptive comparisons, as well as studies of the assessment, aetiology and treatment of people with a wide range of psychological problems in all age groups and settings. The level of analysis of studies ranges from biological influences on individual behaviour through to studies of psychological interventions and treatments on individuals, dyads, families and groups, to investigations of the relationships between explicitly social and psychological levels of analysis.

The following types of paper are invited:

• Papers reporting original empirical investigations

• Theoretical papers, provided that these are sufficiently related to the empirical data

• Review articles which need not be exhaustive but which should give an interpretation of the state of the research in a given field and, where appropriate, identify its clinical implications

• Brief reports and comments

1. Circulation

The circulation of the Journal is worldwide. Papers are invited and encouraged from authors throughout the world.

2. Length

Papers should normally be no more than 5000 words (excluding abstract, reference list, tables and figures), although the Editor retains discretion to publish papers beyond this length in cases where the clear and concise expression of the scientific content requires greater length.

3. Submission and reviewing

All manuscripts must be submitted via http://www.editorialmanager.com/bjcp/. The Journal operates a policy of anonymous peer review. Before submitting, please read the terms and conditions of submission and the declaration of competing interests.

4. Manuscript requirements

• Contributions must be typed in double spacing with wide margins. All sheets must be numbered.

• Manuscripts should be preceded by a title page which includes a full list of authors and their affiliations, as well as the corresponding author's contact details. A template can be downloaded from <u>here</u>.

• Tables should be typed in double spacing, each on a separate page with a self-explanatory title. Tables should be comprehensible without reference to the text. They should be placed at the end of the manuscript with their approximate locations indicated in the text.

• Figures can be included at the end of the document or attached as separate files, carefully labelled in initial capital/lower case lettering with symbols in a form consistent with text use. Unnecessary background patterns, lines and shading should be avoided. Captions should be listed on a separate sheet. The resolution of digital images must be at least 300 dpi.

• All papers must include a structured abstract of up to 250 words under the headings: Objectives, Methods, Results, Conclusions. Articles which report original scientific research should also include a heading 'Design' before 'Methods'. The 'Methods' section for systematic reviews and theoretical papers should include, as a minimum, a description of the methods the author(s) used to access the literature they drew upon. That is, the abstract should summarize the databases that were consulted and the search terms that were used.

• All Articles must include Practitioner Points – these are 2–4 bullet points to detail the positive clinical implications of the work, with a further 2–4 bullet points outlining cautions or limitations of the study. They should be placed below the abstract, with the heading 'Practitioner Points'.

• For reference citations, please use APA style. Particular care should be taken to ensure that references are accurate and complete. Give all journal titles in full and provide DOI numbers where possible for journal articles.

• SI units must be used for all measurements, rounded off to practical values if appropriate, with the imperial equivalent in parentheses.

• In normal circumstances, effect size should be incorporated.

• Authors are requested to avoid the use of sexist language.

• Authors are responsible for acquiring written permission to publish lengthy quotations, illustrations, etc. for which they do not own copyright.

For guidelines on editorial style, please consult the APA Publication Manual published by the American Psychological Association.

5. Brief reports and comments

These allow publication of research studies and theoretical, critical or review comments with an essential contribution to make. They should be limited to 2000 words, including references. The abstract should not exceed 120 words and should be structured under these headings: Objective, Method, Results, Conclusions. There should be no more than one table or figure, which should only be included if it conveys information more efficiently than the text. Title, author name and address are not included in the word limit.

6. Supporting Information

BJC is happy to accept articles with supporting information supplied for online only publication. This may include appendices, supplementary figures, sound files, videoclips etc. These will be posted on Wiley Online Library with the article. The print version will have a note indicating that extra material is available online. Please indicate clearly on submission which material is for online only publication. Please note that extra online only material is published as supplied by the author in the same file format and is not copyedited or typeset. Further information about this service can be found at http://authorservices.wiley.com/bauthor/suppmat.asp

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Appendix 3: DSM-V Diagnostic Criteria for Eating Disorders

(American Psychiatric Association, 2013)

Anorexia Nervosa

A. Restriction of energy intake relative to requirements, leading to a significantly low body weight in the context of age, sex, developmental trajectory and physical health. Significantly low weight is defined as weight that is less than minimally normal or, for children and adolescents, less than minimally expected.

B. Intense fear of gaining weight or becoming fat, or persistent behaviour that interferes with weight gain, even though at significantly low weight.

C. Disturbance in the way one's body weight or shape is experienced, undue influence of body weight or shape on self evaluation, or persistent lack of recognition of the seriousness of the current low body weight.

Bulimia Nervosa

A. Recurrent episodes of binge eating characterised by both of the following:

> 1. Eating, in a discrete period of time (e.g., within any 2-hour period), an amount of food that is definitely larger than most people would eat during a similar period of time and under similar circumstances.
>
> 2. A sense of lack of control over eating during the episode (e.g. a feeling that one cannot stop eating or control what or how much one is eating).

B. Recurrent inappropriate compensatory behaviours in order to prevent weight gain, such as self-induced vomiting; misuse if laxatives; diuretics, or other medicines; fasting; or excessive exercise.

C. The binge eating and inappropriate compensatory behaviours both occur, on average, at least once a week for three months.

D. Self-evaluation is unduly influenced by body-shape and weight.

E. The disturbance does not occur exclusively during episodes of anorexia nervosa.

Binge Eating Disorder

A. Recurrent episodes of binge eating. An episode of binge eating is characterised by both of the following:

    1. Eating, in a discrete period of time (e.g. within any 2 hour period), an amount of food that is definitely larger than what most people would eat in a similar period of time under similar circumstances.

    2. A sense of lack of control over eating during the episode   (e.g. a feeling that one cannot stop eating or control what or how much one is eating).

B. The binge eating episodes are associated with three (or more) of the following:

    1. Eating much more rapidly than normal

    2. Eating until feeling uncomfortably full

    3. Eating large amounts of food when not feeling physically hungry

    4. Eating alone because of feeling embarrassed by how much one is

        eating

    5. Feeling disgusted with oneself, depressed, or very guilty afterwards

C. Marked distress regarding binge eating is present.

D. The binge eating occurs, on average, at least once a week for three months.

E. The binge eating is not associated with the recurrent use of inappropriate compensatory behaviours as in bulimia nervosa and does not occur exclusively during the course of bulimia nervosa or anorexia nervosa.

Other Specified Feeding or Eating Disorder

Examples of presentations that can be specified using the "other specified" designation include the following:

1. Atypical anorexia nervosa: All the criteria for anorexia nervosa are met, except that despite significant weight loss, the individual's weight is within or above the normal range.

2. Bulimia nervosa (of low frequency and/or limited duration): All of the criteria for bulimia nervosa are met, except that the binge eating and inappropriate compensatory behaviours occur, on average, less than once a week and/or for less than three months.

3. Binge eating disorder (of low frequency and/or limited duration): All of the criteria for binge eating disorder are met, except that the binge eating and inappropriate compensatory behaviours occur, on average, less than once a week and/or for less than three months.

4. Purging disorder: Recurrent purging behaviour to influence weight or shape (e.g., self-induced vomiting, misuse if laxatives; diuretics, or other medicines) in the absence of binge eating.

5. Night eating syndrome: Recurrent episodes of night eating, as manifested by eating after awakening from sleep or by excessive food consumption after the evening meal. There is an awareness and recall of the eating. The night eating is not better explained by external influences such as changes in the individual's sleep-waking cycle or by local social norms. The night eating causes significant distress and/or impairment in functioning. The disordered pattern of eating is not better explained by binge-eating disorder or another mental disorder, including substance use, and is not attributable to another mental disorder or to an effect of medication.

<u>Appendix 4: Participant Information Sheet</u>

This information sheet was presented to participants upon them clicking the link to take part.

Title of Project: Weight & Listen: The role of podcasts in informing young people about weight issues

Introduction
This research project is being carried out by a Trainee Clinical Psychologist, Katie Pownell, with Staffordshire University. The purpose of the research is to investigate the role of a podcast in delivering information about eating and weight issues to young people – quite simply, we want to see what effect listening to a podcast about these issues has on young people. Eating disorders are mental health conditions that all involve an unhealthy relationship with food and eating. Eating disorders, including anorexia, bulimia and binge eating disorder affect over 1.6 million people in the United Kingdom and can have a massive impact on the lives of young people who experience them. Giving people information over the internet has been used successfully with people who already have a diagnosis of an eating disorder. This study aims to deliver a podcast to young people who do not have an eating disorder in order to see how useful it is. Before you decide if you want to take part, it is important for you to understand why the research is being done and what it will involve for you. Please consider this information carefully.

Who can take part?
We are looking for both males and females who are aged between 14 and 25 to take part. Although the study is primarily looking at the effect of the podcast on young people who do not have a diagnosis (from a doctor) of an eating disorder, anybody with a previous or current diagnosis of an eating disorder will still be able to take part in the study.

Do I have to take part?
No, it is up to you whether to take part or not. If you decide to take part and then later change your mind, either before you start the study or during it, you can withdraw without giving your reasons. You can do this by closing down the internet page. After the project is finished, all data will be stored in a completely anonymous format, with no names or personal information, so we will not know which data belongs to which participant. Therefore, it will not be possible to identify or delete specific participant data.

What will I be asked to do if I take part?
If you decide to take part you will be asked to answer a number of questions about your thoughts about weight. For example, "Compared to other things in your life, how important is your weight to you?" and "When was the last time you went on a diet?" Other questions will ask you to rate statements about your mood and personality. For example "On the whole I am satisfied with myself" and "I find it easy to make friends my own age". After answering the questions, you will be directed to listen to a short podcast (audio recording). On listening to the podcast, you will be asked to complete another (shorter) questionnaire.

Before completing the first questionnaire, you will be asked whether you would mind being contacted in four weeks time to fill in another, survey. If you choose to do this, you will be asked to supply an email address so that the follow-up survey can be sent to you. Taking part in the follow-up and supplying an email address is completely voluntary.

Will my data by anonymous?
Yes. All information will be anonymous in that we will never ask for your name or date of birth. If you supply an email address, it will be stored separately from your participant data and will be permanently deleted once data have been collected.

Will my data be confidential?
At the end of the project all data will be stored in a completely anonymous format and therefore it will not be possible to identify or delete specific participant data.

Where can I obtain additional information about the study?
Please contact:

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If your answers draw attention to any problems that you may be experiencing, we advise you to contact your GP or telephone NHS direct on 0845 4647 to speak directly to a health professional. You can also access advice at http://www.b-eat.co.uk/ and http://www.mind.org.uk/

Thank you for reading so far – if you are aged 14 - 25 and are still interested in taking part please click the button below. If you do not wish to continue simply close this window.

Appendix 5: Transcript of Podcast

A: We're going to use this podcast to talk about weight concerns, including things like body image and physical and mental health. Can you tell me what we're talking about when we say 'weight concerns'?

B: I think we're really talking about lots of things… Some people may have weight concerns because they're overweight and it's damaging to their health, others might be severely underweight and may need specialist help and support to overcome this. However, the majority of people of all ages and genders worry about their weight or body shape at some point in their lives. I suppose you could look at it on a continuum which we all may move up and down throughout our lives. At one end we might be perfectly happy with our weight and at the other we might have very serious weight concerns, like an eating disorder such as anorexia or bulimia. In the middle, we might be slightly unhappy with our weight and may be taking some steps to combat this, such as dieting. 1 in 4 people in the UK are currently on a diet and although dieting is recommended for some people who are overweight, most people diet in order to 'look good' rather than to actually 'be healthy'.

A: That's surprising! I've seen advice from the NHS and it said that that it's more important to be healthy than it is to be thin. They say that you can be thin and be healthy and that weight is important to our health, but it's not the only factor - surely the important thing is not our weight, but that we are healthy? Why do you think that it's the case that people aim to be thin rather than healthy?

B: Well it could be partly due to us being constantly surrounded and bombarded with news stories, magazine articles, opinions, guidance and images which suggest that we have to eat certain things to look a certain way in order to 'fit in' or to be healthy or successful. A lot of this information is conflicting which makes making healthy choices confusing and frustrating.

A: Ok, so I suppose we receive a lot of mixed messages… I think we also compare ourselves to others, whether they are our friends or celebrities and sometimes we might feel fat compared to others, even though this is not true.

B: Yes, I agree with that, I think we do compare ourselves with others. It can be difficult but it's really important to view ourselves as individuals, realising that we may look different, but are still of equal worth to others. We also have to remember that our view of others when we look at them is different to how we see ourselves when we look down at our bodies or in a mirror and we all know that media images are often manipulated and airbrushed. It might also be useful to really evaluate those thoughts. For example, on a scale from 1 to 100, how much do we actually believe that we're overweight compared to others..?

Again, using that 1 to 100 scale, how much do we believe that we're not as attractive as others..?

A: I suppose when you think about it properly like that, it's clear that those beliefs aren't 100% true. I guess it's also the case that we tend to focus on the parts of ourselves that we don't like and don't pay enough attention to the things we do like about ourselves. I think it's a good idea to spend some time thinking about what we do like about ourselves sometimes.

B: Definitely and it's also ok to talk about those things with others, rather than keeping them to ourselves. Another belief that many people hold is that if we're not 'perfect,' then we can't be successful or respected by others. Because 'perfect' is often seen as being thin, does this mean that we have to be thin to be successful and respected?

A: That does seem to be a common misconception doesn't it? I don't believe it's the case if you really think about it though. There are loads of people in the public eye who are loved and respected my millions but aren't super skinny. I can think of quite a few, how about you?

B: Yes, me too, like Adele, James Corden, business tycoon Donald Trump, TOWIE's Gemma... They're all majorly successful despite their looks; it shows that looks are actually irrelevant when it comes to being a success. I suppose we do all have areas which we would like to improve on, whether it's how we look, our work or our social life, but it's important to remember that we all have good qualities and things to be proud of. Take a minute to think about your achievements and things that you're proud of...

A: Yes, I see, we all do have things to be proud of, I think sometimes it's just difficult to see them because we're too busy concentrating on what we think other people are good at instead of thinking about our own achievements.

B: Definitely, at times we need to take the time out to think about our own positives.

A: Ok, so you've said that lots of people have weight concerns and have been on diets, but when does this become a problem?

B: Let's think about our continuum... At one end we might be perfectly happy with our weight and at the other we might have very serious weight concerns which result in us experiencing eating disorders. As we move along the continuum, our weight concerns become more and more apparent, so we may have some small niggles about our weight and begin to diet. Further along the continuum, we may feel that we must strive to be thin and diets and weight can become very important in our lives. This sometimes results in us taking extreme measures to try and lose weight and almost become afraid of gaining any

weight, even just a few pounds. It's quite normal however for a person's weight to fluctuate up and down quite naturally and still remain healthy.

A: So I suppose for some people, their weight becomes so important that it affects them in other ways too, what do you think?

B: Yes definitely, worrying about our weight and comparing our body shape against what we believe to be the 'ideal' or 'perfect' can have knock-on effects and can cause us to be self-critical, lose confidence in ourselves and believe that we're failing in some way. A restrictive diet can also make us feel moody, lethargic and cause physical complaints including headaches and an upset stomach, which cause us to feel generally 'down'. Some people also concentrate so much on their weight that they give up fun activities, like eating out with friends, or feel that they don't have the energy or don't feel well enough do the things they used to enjoy. These knock-on effects act as part of a vicious cycle as we hope that by gaining the 'ideal' body shape, we will feel better, often ignoring the fact that these things made us feel good before we began dieting. We therefore continue to diet and the negative thoughts and beliefs are maintained. This is where we have to shift our focus from weight and body shape to those things which make us feel good.   Try thinking about a few things that you enjoy… How do those things make you feel?

A: Well I enjoy going running and listening to music as well as spending time with my friends. I suppose doing those things makes me happy but they also keep me motivated and confident in a way because they're things that I feel I'm good at. My friends are also there for support and they help me keep positive about things and the future when I don't feel so good.

B: And that's important to remember, it's not being thin that makes us happy, it's about being healthy and doing the things we like to do.

(WCS: Killen et al. 1994)

Weight Concerns Scale

For all questions below, circle only one number.

1. How much more or less do you feel you worry about your weight and body shape than other women your age?

1. I worry a lot less than other women.
2. I worry a little less than other women.
3. I worry about the same as other women.
4. I worry a little more than other women.
5. I worry a lot more than other women.

2. How afraid are you of gaining 3 pounds?
(1)   (2)   (3)   (4)   (5)
Not   Slightly Moderately Very Terrified
afraid afraid   afraid   afraid

3. When was the last time you went on a diet?

1. I've never been on a diet.
2. I was on a diet about one year ago.
3. I was on a diet about 6 months ago.
4. I was on a diet about 3 months ago.
5. I was on a diet about 1 month ago.
6. I was on a diet less than 1 month ago.
7. I'm now on a diet.

4. Compared to other things in your life, how important is your weight to you?

1. My weight is not important compared to other things in my life.
2. My weight is a little more important than some other things.
3. My weight is more important than most, but not all, things in my life.
4. My weight is the most important thing in my life.

5. Do you ever feel fat?
(1)   (2)   (3)   (4)   (5)
Never Rarely Sometimes Often Always

Scoring:
100 * (Q1 response - 1) / 4
100 * (Q2 response - 1) / 4
100 * (Q3 response - 1) / 6
100 * (Q4 response - 1) / 3
100 * (Q5 response - 1) / 4

Sum and average the five scores. Scores above 52 are associated with an increased risk of developing an eating disorder within 4 years for adolescent girls.

Appendix 7: Perfectionistic Self-Presentation Scale

(PSPS; Hewitt et al. 2003)

PSPS

Listed below are a group of statements. Please rate your agreement with each of the statements using the following scale. If you strongly agree, circle 7; if you disagree, circle 1; if you feel somewhere in between, circle any one of the numbers between 1 and 7. If you feel neutral or undecided the midpoint is 4.

1	2	3	4	5	6	7
Disagree			**Neutral**			**Agree**
Strongly						**Strongly**

Statement	Disagree Strongly			Neutral			Agree Strongly
1. It is okay to show others that I am not perfect……………………………	1	2	3	4	5	6	7
2. I judge myself based on the mistakes I make in front of other people………	1	2	3	4	5	6	7
3. I will do almost anything to cover up a mistake…………………………	1	2	3	4	5	6	7
4. Errors are much worse if they are made in public rather than in private……	1	2	3	4	5	6	7
5. I try always to present a picture of perfection………………………………	1	2	3	4	5	6	7
6. It would be awful if I made a fool of myself in front of others………………	1	2	3	4	5	6	7
7. If I seem perfect, others will see me more positively……………………	1	2	3	4	5	6	7
8. I brood over mistakes that I have made in front of others…………………	1	2	3	4	5	6	7
9. I never let others know how hard I work on things………………………	1	2	3	4	5	6	7
10. I would like to appear more competent than I really am…………………	1	2	3	4	5	6	7
11. It doesn't matter if there is a flaw in my looks……………………………	1	2	3	4	5	6	7
12. I do not want people to see me do something unless I am very good at it….	1	2	3	4	5	6	7
13. I should always keep my problems to myself……………………………	1	2	3	4	5	6	7

14. I should solve my own problems rather than admit them to others………. 1 2 3 4 5 6 7

15. I must appear to be in control of my actions at all times………………… 1 2 3 4 5 6 7

16. It is okay to admit mistakes to others……………………………………… 1 2 3 4 5 6 7

17. It is important to act perfectly in social situations………………………… 1 2 3 4 5 6 7

18. I don't really care about being perfectly groomed………………………… 1 2 3 4 5 6 7

19. Admitting failure to others is the worst possible thing…………………… 1 2 3 4 5 6 7

20. I hate to make errors in public……………………………………………… 1 2 3 4 5 6 7

21. I try to keep my faults to myself…………………………………………… 1 2 3 4 5 6 7

22. I do not care about making mistakes in public…………………………… 1 2 3 4 5 6 7

23. I need to be seen as perfectly capable in everything I do………………… 1 2 3 4 5 6 7

24. Failing at something is awful if other people know about it……………… 1 2 3 4 5 6 7

25. It is very important that I always appear to be "on top of things"……… 1 2 3 4 5 6 7

26. I must always appear to be perfect………………………………………… 1 2 3 4 5 6 7

27. I strive to look perfect to others…………………………………………… 1 2 3 4 5 6 7

Appendix 8: Social Interaction Anxiety Scale

(SIAS; Mattick and Clarke, 1998)

Social Interaction Anxiety Scale (SIAS)

Instructions: For each item, please circle the number to indicate the degree to which you feel the statement is characteristic or true for you. The rating scale is as follows:

0 = **Not at all** characteristic or true of me.
1 = **Slightly** characteristic or true of me.
2 = **Moderately** characteristic or true of me.
3 = **Very** characteristic or true of me.
4 = **Extremely** characteristic or true of me.

NOT SLIGHTLY CHARACTERISTIC AT ALL MODERATELY VERY EXTREMELY

1. I get nervous if I have to speak with someone in authority (teacher, boss, etc.). 0 1 2 3 4

2. I have difficulty making eye contact with others. 0 1 2 3 4

3. I become tense if I have to talk about myself or my feelings. 0 1 2 3 4

4. I find it difficult to mix comfortably with the people I work with. 0 1 2 3 4

5. I find it easy to make friends my own age. 0 1 2 3 4

6. I tense up if I meet an acquaintance in the street. 0 1 2 3 4

7. When mixing socially, I am uncomfortable. 0 1 2 3 4

8. I feel tense if I am alone with just one other person. 0 1 2 3 4

9. I am at ease meeting people at parties, etc. 0 1 2 3 4

10. I have difficulty talking with other people. 0 1 2 3 4

11. I find it easy to think of things to talk about. 0 1 2 3 4

12. I worry about expressing myself in case I appear awkward. 0 1 2 3 4

13. I find it difficult to disagree with another's point of view. 0 1 2 3 4

14. I have difficulty talking to attractive persons of the opposite sex. 0 1 2 3 4

15. I find myself worrying that I won't know what to say in social situations. 0 1 2 3 4

16. I am nervous mixing with people I don't know well. 0 1 2 3 4

17. I feel I'll say something embarrassing when talking. 0 1 2 3 4

18. When mixing in a group, I find myself worrying I will be ignored. 0 1 2 3 4

19. I am tense mixing in a group. 0 1 2 3 4

20. I am unsure whether to greet someone I know only slightly. 0 1 2 3 4

CO-OCCURRING DISORDERS PROGRAM: SCREENING AND ASSESSMENT

Appendix 9: Rosenberg Self Esteem Scale
(RSES; Rosenberg, 1965)

The Rosenberg Self-Esteem Scale

Here is a list of statements dealing with your general feelings about yourself.

If you **agree** with the statement, please tick the appropriate column. If you **strongly agree**, tick that column. If you **disagree**, tick the disagree column. If you **strongly disagree**, please tick that column. Thank you.

	Strongly agree	Agree	Disagree	Strongly disagree
1. On the whole I am satisfied with myself.				
2. At times I think that I am no good at all.				
3. I feel that I have a number of good qualities.				
4. I am able to do things as well as most other people.				
5. I feel I do not have much to be proud of.				
6. I certainly feel useless at times				
7. I feel that I'm a person of worth, at least on an equal plane with others.				
8. I wish I could have more respect for myself.				
9. All in all, I am inclined to feel that I am a failure.				
10. I take a positive attitude towards myself.				

Appendix 10: Beck Depression Inventory for Primary Care

(BDI-PC; Beck, Guth, Steer & Ball, 1997)

This questionnaire consists of groups of statements. Please read each group of statements carefully, then pick out the **one statement** in each group which best describes the way you have been feeling during the **past 2 weeks, including today!** Circle the number beside the statement you picked. If several statements in the group seem to apply equally well, circle the statement which has the largest number.

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1 0 I do not feel sad.
   1 I feel sad much of the time.
   2 I am sad all the time.
   3 I am so sad or unhappy that I can't stand it.

2 0 I am not discouraged about my future.
   1 I feel more discouraged about my future than I used to be.
   2 I do not expect things to work out for me.
   3 I feel my future is hopeless and will only get worse.

3 0 I do not feel like a failure.
   1 I have failed more than I should have.
   2 As I look back, I see a lot of failures.
   3 I feel I am a total failure as a person.

4 0 I get as much pleasure as I ever did from the things I enjoy.
   1 I don't enjoy things as much as I used to.
   2 I get very little pleasure from the things I used to enjoy.
   3 I can't get any pleasure from the things I used to enjoy.

5 0 I feel the same about myself as ever.
   1 I have lost confidence in myself.
   2 I am disappointed in myself.
   3 I dislike myself.

6 0 I don't criticize or blame myself more than usual.
   1 I am more critical of myself than I used to be.
   2 I criticize myself for all of my faults.
   3 I blame myself for everything bad that happens.

7 0 I don't have any thoughts of killing myself.
   1 I have thoughts of killing myself, but I would not carry them out.
   2 I would like to kill myself.
   3 I would kill myself if I had the chance.

Appendix 11: The Alcohol Use Disorders Identification Test

(AUDIT; Saunders et al. 1993)

AUDIT QUESTIONNAIRE

These questions refer to your use of alcohol. Please circle the answer that is correct for you.

1. How often do you have a drink containing alcohol?

0	1	2	3	4
Never	Monthly or less	2 to 4 times a month	2 to 3 times a week	4 or times a week

2. How many drinks containing alcohol do you have a on a typical day when you are drinking?

0	1	2	3	4
1 or 2	3 or 4	5 or 6	7 to 9	10 or more

3. How often do you have six or more drinks on one occasion?

0	1	2	3	4
Never	Less than Monthly	Monthly	Weekly	Daily or almost daily

4. How often during the last year have you found that you were not able to stop drinking once you had started?

0	1	2	3	4
Never	Less than Monthly	Monthly	Weekly	Daily or almost daily

5. How often during the last year have you failed to do what was normally expected from you because of drinking?

0	1	2	3	4
Never	Less than Monthly	Monthly	Weekly	Daily or almost daily

6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?

0	1	2	3	4
Never	Less than Monthly	Monthly	Weekly	Daily or almost daily

7. How often during the last year have you had a feeling of guilt or remorse after drinking?

0	1	2	3	4
Never	Less than Monthly	Monthly	Weekly	Daily or almost daily

8. How often during the last year have you been unable to remember what happened the night before because you had been drinking?

0	1	2	3	4
Never	Less than Monthly	Monthly	Weekly	Daily or almost daily

9. Have you or someone else been injured as a result of your drinking?

0	2	4
No	Yes, but not in the last year	Yes, in the last year

10. Has a relative or friend or a doctor or other health worker been concerned about your drinking or suggested you cut down?

0	2	4
No	Yes, but not in the last year	Yes, in the last year

Appendix 12: Drug Use Disorders Identification Test
(DUDIT; Berman et al. 2005)

DUDIT: Here are a few questions about drugs. Please answer as correctly and honestly as possible by indicating which answer is right for you.

1. How often do you use drugs other than alcohol?
Never
Once a month or less often
4 times a week or more often
2-3 times a week
2-4 times a month

2. Do you use more than one type of drug on the same occasion?
Never
Less often than once a month
Every month
Every week
Daily or almost every day

3. How many times do you take drugs on a typical day when you use drugs?
0   1-2   3-4   5-6   7 or more

4. How often are you influenced heavily by drugs?
Never
Less often than once a month
Every month
Every week
Daily or almost every day

5. Over the past year, have you felt that your longing for drugs was so strong that you could not resist it?
Never
Less often than once a month
Every month
Every week
Daily or almost every day

6. Has it happened, over the past year, that you have not been able to stop taking drugs once you started?
Never
Less often than once a month
Every month
Every week
Daily or almost every day

7. How often over the past year have you taken drugs and then neglected to do something you should have done?
Never
Less often than once a month
Every month

Every week
Daily or almost every day

8. How often over the past year have you needed to take a drug the morning after heavy drug use the day before?
Never
Less often than once a month
Every month
Every week
Daily or almost every day

9. How often over the past year have you had guilt feelings or a bad conscience because you used drugs?
Never
Less often than once a month
Every month
Every week
Daily or almost every day

10. Have you or anyone else been hurt (mentally or physically) because you used drugs?
No   Yes, but not over the past year   Yes, over the past year

11. Has a relative or a friend, a doctor or a nurse, or anyone else, been worried about your drug use or said to you that you should stop using drugs?
No   Yes, but not over the past year   Yes, over the past year

Weight & Listen: The role of podcasts in informing young people about weight issues.

Keele University

STAFFORDSHIRE UNIVERSITY

Katie Pownell*, Trainee Clinical Psychologist
Staffordshire & Keele Universities, Doctorate in Clinical Psychology

Internet Interventions for Preventing Eating Disorders

Internet use in Great Britain is at its highest ever rate, with 83% of households connected to the Internet 73% of the population currently access the Internet every day and Internet usage from mobile phones is now at 53%[1].

The existing literature reports some significant findings in favour of eating disorder prevention programs concerned and moderate effect sizes are generally reported, particularly when targeted towards young women considered to be 'at high risk' of an eating disorder.

Internet interventions are thought to be much less expensive to run than face-to-face programs, however the cost of administering them is not mentioned in the literature. Most interventions use moderated discussions and therefore require a trained professional to oversee the group, steer the discussion and monitor risk. This suggests that an Internet intervention could have similar costs to running a face-to-face group with one facilitator.

Rationale

A recent literature review[2] has demonstrated the benefits of using the internet to provide interventions for women who are at risk of an eating disorder, including convenience, increasing compliance and overall satisfaction of the intervention.

It is anticipated that assessing the role of a podcast in informing young people about weight issues will provide an insight into the utility of podcast information in reducing weight concerns and related psychological experiences in young people[3, 4]. If successful, it is hoped that podcasts could be used more widely with young people who have weight concerns as a non-stigmatising form of intervention. In addition to this, if the hypotheses are met, the present study will provide further evidence of the importance of intervening early to reduce behaviours and cognitions associated with eating disorders.

Weight & Listen Podcast

Podcasts are short audio recordings which are inexpensive to produce and can be accessed by anyone at any time. They are therefore accessible, convenient and may be easily accessed by young people[5].

The podcast was written and recorded by the research team and the content was informed by Fairburn's Cognitive Therapy for Eating Disorders[6]. The recording is seven minutes long and consists of two females discussing weight and body image concerns.

Method

Participants
Young people aged 14-25 were recruited via Twitter (see Figure 1) and Facebook and asked to take part. Emails were sent to schools, colleges and universities with a request to forward the website (Figure 2.) link to students.

Figure 1. Examples of Recruitment Tweets

In addition, face-to-face presentations were given in colleges, providing an overview of the research to students.

Figure 2. Weight & Listen Website

Measures
Measures of factors relating to eating disorders were utilised. These included measures of; weight concerns[7], depression[8], social anxiety[9], self-esteem[10], perfectionism[11] and drug[12] and alcohol[13] use.

Procedure
Participants completed the measures before and after listening to the podcast. Those who supplied an email address completed the follow-up questionnaire four weeks later.

Results

Analysis was performed using t-tests on pre and post data sets (n=162). A mixed ANOVA were completed on pre, post and follow-up data (n=73), with 'Weight Concerns Group' (two levels; high risk, low risk) as the between group factor.

T-tests found that there were significant differences after listening to the podcast on measures of; weight concerns, depression, social anxiety, perfectionism and self-esteem, with effect sizes ranging from small to large.

Table 1. Differences on measures from baseline to post-podcast

Measure	Pre-podcast Score, Mean	Post-podcast Score, Mean	Post-podcast significance	Effect size, r
Weight Concerns Scale	50.94	46.62	.000	.51
Beck Depression Inventory-7	12.43	11.73	.000	.20
Social Interaction Anxiety Scale	49.22	48.15	.003	.23
Perfectionistic Self Promotion	41.99	41.12	>.05	.15
Non-display of imperfection	46.23	45.30	.017	.19
Non-disclosure of imperfection	29.93	29.11	.009	.45
Rosenberg Self Esteem Scale	25.80	26.79	.000	.41

When ANOVAs were performed, significant effects were found for the intervention at follow-up on the Weight Concerns Scale and it was found that 'Weight Concerns Group' (high or low risk) had a significant large effect on the outcome. Significant improvements in scores were also found on measures of; depression, social anxiety, non disclosure of imperfection and self esteem.

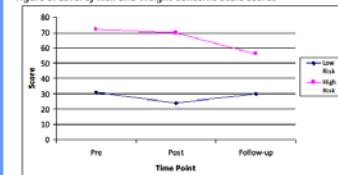*Figure 3. Level of Risk and Weight Concerns Scale Scores*

Figure 3 shows Weight Concern Scale scores at baseline, post-podcast and follow-up. As hypothesised, scores for the 'high risk' group continued to improve at follow-up, where as the 'low risk' group scores returned to baseline.

Conclusions

Overall, the results have demonstrated some good evidence for using a podcast intervention to inform young people about weight issues. This has been shown particularly with a group considered to be 'at high risk' of developing eating disorder symptoms as defined by the Weight Concerns Scale.

A complete scrutiny of the results is yet to be completed, however on doing so, a detailed discussion and recommendations will be provided.

Future research may involve completing a regression analysis of the data in order to highlight any potential predictors of weight concerns amongst the factors measured in the present study.

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