Are Empirically-Supported Therapies for Bulimic Symptoms Associated with Better Self-Rated Outcomes than Non-Empirically Supported Therapies?

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Overview

This thesis investigates aspects of treatment for bulimia nervosa and related binge-eating disorders. Part 1 is a literature review which investigates claims that cognitive-behavioural interventions are the 'treatment of choice' for Binge Eating Disorder. The literature for all published studies in this area is systematically reviewed. The findings of the review, including identified gaps in the literature, are discussed and directions for future research are highlighted.

Part 2 is an empirical research project designed to investigate whether empirically-supported psychological therapies for bulimic symptoms are associated with better self-rated treatment outcomes than non-empirically supported psychological therapies. A questionnaire was administered to 98 people who had engaged in psychological therapy for bulimic symptoms. The questionnaire was designed to assess the contents of respondents' most recent set of psychological therapy and self-rated treatment gains. Findings of the study and implications for clinical research and practice are discussed.

Part 3 is a critical appraisal which comments on conceptual and methodological issues regarding the thesis. Personal reflections on the research process are also discussed.

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Acknowledgements

PART 1: LITERATURE REVIEW

Cognitive-Behavioural Interventions for the Treatment of Binge Eating

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Abstract

Background: Cognitive-behavioural Interventions (CBIs) are commonly referred to as the treatments of choice for Binge Eating Disorder (BED). However the literature in this area is confusing due to issues such as the overlap between BED, obesity and bulimia nervosa (BN) and the differing methods of delivering cognitive-behavioural interventions (CBIs) that have been evaluated. *Objectives*: To investigate the efficacy of CBIs for the treatment of BED. *Methods*: The literature for published studies in this area was reviewed. *Results*: 25 studies were found which investigated the efficacy of CBIs for the treatment of BED. A limited number of trials meet sound methodological criteria. The available evidence suggests that group and guided-self-help CBIs are efficacious psychological therapies for the treatment of binge-eating (BE) and aspects of eating-related psychopathology. There are not enough trials evaluating individually-delivered CBIs to draw conclusions regarding their efficacy. Little is known regarding the efficacy of CBIs for people with BED who are not overweight. *Conclusion*: Further research is needed to support the claim that CBIs are the treatment of choice for BED.

Introduction

Binge Eating Disorder

BED was proposed as a new diagnostic category within the spectrum of eating disorders in the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; American Psychiatric Association, APA, 1994). It was also included as an example of Eating Disorder Not Otherwise Specified (EDNOS). BED is characterized by recurrent episodes of binge-eating. Binge-eating is specified by eating in a discrete period of time an amount of food that is larger than most other people would eat in a similar period under comparable circumstances, and crucially, a sense of loss of control over eating. Binge-eating must be accompanied by marked distress and must occur on average at least two days per week for at least six months. Unlike Bulimia Nervosa (BN), BED is not accompanied by regular compensatory behaviours such as purging, fasting or excessive exercise.

It was first suggested that BED should be included in the DSM-IV in 1991, on the basis that many individuals who experienced marked distress regarding BE could not be diagnosed with BN because they did not engage in compensatory behaviours to mitigate the effects of bingeing (Spitzer et al., 1991). The introduction of BED to the DSM-IV in 1994 has stimulated much research into BED in recent years as well as many critical questions regarding the utility of the diagnosis (Mitchell, Devlin, de Zwaan, Crow & Peterson, 2008). There is a general consensus that BED is a distinct disorder, with differing psychopathology from other eating disorders and from obesity (Dingemans, Bruna & van Furth, 2002). BED has recently been proposed as a new diagnostic category in the DSM-V and the debate as to whether or not it should be included as such is ongoing (http://www.dsm5.org/Pages/Default.aspx). Currently there is no equivalent

diagnostic category in the International Classification of Diseases (ICD-10; World Health Organization, 1992).

The prevalence of BED in the general population has been found to vary across samples from 0.7% to 6.6% (Grucza, Przybeck & Cloninger, 2007; Westenhoefer, 2001). Estimates of prevalence in the general population of westernised countries average approximately 2% (Basdevant et al., 1995; Favaro, Ferrara & Santonastaso, 2003; French, Jeffery, Sherwood & Neumark-Sztainer, 1999; Hay, 1998; Kinzl, Traweger, Trefalt, Mangweth & Biebl, 1999; Smith, Marcus, Lewis, Fitzgibbon & Schreiner, 1998; Spitzer et al., 1992; Spitzer et al., 1993b; Striegel-Moore & Franko, 2003; Wade, Bergin, Tiggeman, Bulik & Fairburn, 2006; Westenhoefer, 2001), showing that BED is more common than BN and anorexia nervosa (AN; Mitchell et al., 2008). Prevalence rates have been found to be greater in populations seeking weight-loss treatment, although estimates vary greatly (1.3% - 30%: Basdevant et al., 1995; Ramacciotti et al., 2000; Ricca et al., 2000; Spitzer et al., 1992; Spitzer et al., 1993a;).

BED and Obesity

There is controversy as to how BED should be classified. Although it is often viewed as an eating disorder, there are associations between BED and obesity that are worthy of examination.

The prevalence of obesity in individuals with BED varies greatly depending on the nature of the sample. It has been reported that the majority of persons presenting clinically with BED have varying degrees of obesity (e.g. Spitzer et al.,

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1993a). However such studies have often included samples presenting for weight-loss treatment, and thus this finding is not surprising. In community samples it seems there are a significant number of non-obese people with BED (Didie & Fitzgibbon, 2005). In one multisite community study, only half of the sample were found to be obese (specified by BMI > 27.5; Spitzer et al., 1992). The current DSM-IV diagnostic criteria recommended for BED makes no distinction between people with BED who are overweight and those who are not. A limited amount of research has been conducted in this area. Some studies have compared levels of psychopathology in individuals with BED, BN and obesity and have found that persons with BED experience levels of psychopathology that fall somewhere between the high levels found in individuals with BN and the low levels found in individuals with obesity without BED (Dingemans et al., 2002).

Treatment of BED

Controversy exists regarding whether and how individuals with BED should be treated. Eating disorder clinics may be reluctant to treat individuals with BED because such individuals presenting for treatment are usually obese and therefore not 'typically' eating disordered. Further problems are caused by the fact that such individuals have two separate problems: obesity and BED. It is argued that eating disorder clinicians are inclined to treat psychological problems and leave obesity to other practitioners, and the inverse is true in the field of obesity treatment (Dingemans et al., 2002).

Different interventions have been applied to the treatment of BED, as outlined below. One intervention is that of bariatric surgery. Many patients who

undergo bariatric surgery suffer from BE and may meet full diagnostic criteria for BED (Mitchell et al., 2008). The prevalence of BE and BED before and after bariatric surgery has been found to vary widely (de Zwaan, 2001). There is a clear consensus that bariatric surgery can 'cure' BE in the short-term (Dymek et al., 2001). However it is likely that this is due to the fact that following the procedure patients are physically unable to consume large amounts of food without involuntarily vomiting. When research has examined the sense of loss of control regarding BE, there is growing evidence that symptoms of BED re-emerge following surgery (e.g. Hsu, Betancourt & Sullivan, 1996; Hsu et al., 1998).

Medications have also been applied to the treatment of BED with two distinct treatment aims in mind: weight loss and cessation of BE. Antidepressants have been evaluated, both Tricyclic (Mccann & Agras, 1990; Laederach-Hofmann et al., 1999) and Selective Serotonin Reuptake Inhibitors (SSRIs; McElroy et al., 2000; McElroy et al., 2003) and have been found to be effective in reducing both BE and weight to some extent. Weight-loss medications such as Sibutramine and Topiramate have also been evaluated and have also been found to be effective for reducing BE frequency and aiding weight-loss to some extent (e.g. McElroy et al., 2003; Milano et al., 2005).

Another treatment commonly applied to BED is that of Behavioural Weight Loss Treatment (BWLT) which is outlined in the 'LEARN' manual (Brownell, 2004). This approach has the primary goal of weight-loss rather than reduction of BE and emphasizes healthy lifestyle change in the areas of exercise, attitudes, relationships and nutrition. Another approach emphasizing weight-loss is that of the

low calorie diet (LCD) or very low calorie diet (VLCD) program which places participants on a tightly controlled nutritional regime (Laporte, 1992).

Psychological Therapy for BED

There are two broad psychotherapeutic approaches which have been applied to the treatment of BED: Interpersonal Psychotherapy (IPT) and Cognitive Behaviour Therapy (CBT). IPT is a structured, manualised psychotherapy focusing on the interpersonal context in which the eating disorder developed and was maintained. It is based on a treatment developed for depression (Klerman, Weissman & Rounsaville, 1984) and aims to help patients recognise that by appropriately addressing interpersonal situations they may simultaneously improve both their relationships and eating disorder symptoms. CBT for BED is a structured treatment focusing on problematic thoughts, emotions and behaviours which are hypothesised to be responsible for the maintenance and development of the eating disorder. It is based on behavioural and cognitive theories of psychopathology and has been adapted specifically for BED by a number of researchers (e.g. Agras, Schneider, Arnow, Raeburn, & Telch, 1989; Fairburn, Marcus & Wilson, 1993; Mitchell et al., 2008). It is now the most commonly evaluated treatment for BED. CBT for BED has been delivered in a variety of formats including individual, group and guided self-help, which are collectively referred to in this review as cognitive-behavioural interventions (CBIs).

Previous literature reviews regarding BED have been conducted. Dingemans and others (2002) published a general review paper on BED, which included a discussion of randomized controlled trials (RCTs) for the treatment of BED. The

authors concluded that cognitive-behavioural psychological therapy was the treatment of choice for BED. Mitchell and others (2008), in a chapter regarding psychotherapeutic treatments for BED, selectively reviewed moderate to large research trials of psychotherapy for BED, and concluded that several different psychotherapeutic approaches to BED were effective in reducing or eliminating BE in some, but not all, individuals with BED in the short term, with variable response during the year after treatment. Recently another team conducted a meta-analysis of the effectiveness of psychological and pharmacological treatments for BED (Vocks et al., 2010). The authors concluded that psychotherapy and structured self-help, based on cognitive-behavioural principles, should be recommended as first line treatments.

No recent reviews have systematically investigated CBIs for the treatment of BED, encompassing the different methods by which they are delivered. Furthermore, there are a number of problems with the evidence-base which are a source of confusion. These are as follows:

1. There is a lack of distinction in the literature regarding BN and BED. For example, a systematic review of the efficacy of psychotherapies for BE disorders found that CBT was effective for BN and 'other related binge-eating disorders'. However the review did not distinguish between BN and BED (Hay, Bacaltchuk & Stefano, 2004).

2. A majority of trials evaluating treatments for BED use binge-eating frequency as a primary outcome measure and this is subsequently what claims of efficacy are based on. However it is unclear whether or how findings would change if levels of psychological distress were examined.

3. It is unclear whether and how outcomes for CBIs for BED vary as a function of method of delivery (e.g. group versus individual delivery).

4. It is unclear how whether and how outcomes vary for CBIs for BED between normal weight and overweight clients.

This review aimed to systematically review all published controlled trials evaluating the efficacy of CBIs for the treatment of BED, in order to address the above issues regarding the evidence base. The following questions will be considered:

1. How efficacious are CBIs for the treatment of BED?

2. What are CBIs for BED efficacious for? For example, do they have an impact on weight and shape concerns, as well as the frequency of binge-eating?

3. How do the efficaciousness of CBIs for BED vary as a function of the method by which they are delivered?

4. Do outcomes for CBIs for BED vary between normal weight and overweight individuals? If so, how?

Method

Selection of Studies

The electronic database "PsychINFO" (1806 to August 2010) was searched for potential papers using the keyword "cognitive behav*". The term "behav" was used and truncated to include both British and American spellings of "behaviour", as

well as the term "behavioural/ behavioral". This provided 22,373 articles. The same database was then searched using the keyword "Binge Eating Disorder". This provided 416 articles. The above two searches were then combined using the "AND" faculty, yielding 82 articles of potential relevance. The following limits were then applied to the search; "journal articles", "human subjects" and "English language". This yielded 57 articles of potential relevance. The search described was repeated using two further electronic databases (PUBMED, 1950 to August 2010, and EMBASE, 1980 to 2010 week 25). This yielded 92 and 126 articles of potential relevance, respectively.

The abstracts of all identified potential papers were then reviewed for relevance. Thirty-two articles were identified as being relevant, and the full text of these papers were retrieved. The reference lists of the 32 articles were hand searched for additional papers. Five further papers were found using this method, giving 37 articles of relevance that were screened against the following inclusion criteria:

Publication Type: Only articles that had been published in peer-reviewed journals and were available in the English language were included (book chapters were excluded).

Population: People meeting diagnostic criteria for BED as diagnosed by: DSM-IV (APA, 1994), DSM-III (non-purging BN; APA, 1980), and the Eating Disorders Examination (EDE; Fairburn & Cooper, 1993). Studies which included individuals with both BED and BN were excluded unless they reported separate analysis of these two diagnostic groups.

<u>Study design</u>: Only experimental designs with random assignment of participants to treatment groups and a control group (active or non-active) were included.

<u>Intervention</u>: Studies were included if they investigated the efficacy of an intervention which was based primarily on the principles of CBT. This included group, individual or (guided) self-help interventions.

Results

Twenty-nine papers, detailing 25 studies, were selected for review (see Table 1). All of the studies investigated the efficacy of interventions based on cognitive-behavioural principles for the treatment of BED. Fifteen studies compared the efficacy of CBIs to a control group or to alternative psychological therapies (Agras et al., 1995; Allen & Craighead, 1999; Carter & Fairburn, 1998; Dingemans, Spinhoven & van Furth, 2007; Grilo & Masheb, 2005; Loeb, Wilson, Gilbert & Labouvie, 2000; Munsch et al., 2007; Peterson et al., 1998; Peterson et al., 2001; Peterson, Mitchell, Crow, Crosby & Wonderlich, 2009; Shapiro et al., 2007; Tasca et al., 2006; Telch, Agras, Rossiter, Wilfley & Kenardy,1990; Wilfley et al., 1993; Wilfley et al., 2002; Wilson, Wilfley, Agras & Bryson, 2010). Five studies compared CBIs to pharmacological interventions only (Devlin et al., 2005, Devlin, Goldfein, Petkova, Liu & Walsh, 2007; Grilo, Masheb & Wilson, 2005a; Grilo, Masheb & Salant, 2005b; Grilo, Masheb & Wilson, 2005c, Molinari, Baruffi, Croci, Marchi & Petroni, 2005; Ricca et al., 2001) and one study compared CBIs to a psychological therapy and pharmacological interventions (Agras et al., 1994). A further four studies evaluated the effectiveness of CBIs as augmentations to alternative treatments, or

evaluated augmentations to CBIs (de Zwaan et al., 2005; Eldredge et al., 1997; Gorin, Le Grange & Stone, 2003; Le Grange, Gorin, Dymek & Stone, 2002).

Overview of Included Studies

The 25 studies reviewed included a total of 2208 participants. The sample size ranged from 29 to 259 (mean = 88.32, standard deviation = 54.73). Male participants (n = 255) made up 10.2% of participants. It is not possible to report the mean BMI across all studies as this measure was not reported in all papers. Mean BMIs for those studies where it was reported ranged from 32.3 to 47.1.

Table 1: Summary of Reviewed Studies: Psychological Therapy Trials

								Main Findings	
Author (date)	Method Length	Design	N Sex	Weight range[a]	Outcome Measures[b]	Assessment	Completion Rates	Primary Outcome Measures[c]	Secondary Outcome Measures
Agras (1994)	Group 12 wks (in 36-wk prog-ramme)	CBTwlt CBTwlt/d WLT	108F	Over-weight	1. 7dayCRM, % change in weight. 2. BDI, TFEQ	Pre 12 wks 24 wks Post (36 wks) 3 m f/u.	78% 83% CBTwlt 77% CBTwl/d 73% WLT	37%CBTwlt 41% CBTwlt/d 19% WLT (36 wks) (7 days) 3 month f/u: 28%CBTwlt, 32%CBT/wlt/d 14%wlt	24 weeks: TFEQ: lower hunger levels in CBTwlt/d** and CBT/wlt* than WLT Lower disinhibition levels in CBT/wlt than WLT**
Agras (1995)	Group 12 wks	CBT WLC f/b: IPT for 'non-responders'	50 43F 7M	Over-weight	1. SMon, Weight 2. BES, TFEQ, BDI, IIP, SCL, RSES	Pre Post 24 wk f/u	84% 85.7% CBT 91% WLC	55% CBT 9% WLC** (14 days)	CBT lower on BES** and disinhibition scale of TFEQ**
Allen and Wil-coxon Craig-head (1999)	Individ-ual 8 wks	AAT WLC	29F	90%-160% IBW	1. REE 2. BES, SAM-U, ESES, BDI, FNE, RSES, IBW	Pre Post	69% 74% AAT 65% WLC	0.72 AAT 4.95 WLC** (7 days)	AAT improved more than WLC for BES*, SAM-U*, BDI* and FNE*

Author (date)	Method Length	Design[a]	N Sex	Weight range[c]	Outcome Measures[d]	Assess-ment	Completion Rates	Main Findings Primary Outcome Measures[e]	Main Findings Secondary Outcome Measures[e]
Carter and Fair-burn (1998)	Self-help 12 weeks	CBTpsh CBTgsh WLC	72F	NSp BMI : M, 31.6 SD, 6.6, Range, 18.9-46.2	1.EDE 2. EDE-Q4, GSI of BSI, BMI	Pre Post 6 m f/u	88% 0% CBTpsh 67% CBTgsh 96% WLC	43% CBTpsh 50% CBTgsh 8% WLC CBTgsh-WLC** CBTpsh-WLC** 6 m f/u: 50% CBTgsh 40% CBTpsh	Mean global EDE-Q4 score lower in CBtgsh and CBTpsh than WLC** Mean GSI score lower in gsh** and psh* than WLC
Dingem ans et al., (2007)	Group 20 weeks	CBT WLC	52 49F 3M	NSp BMI: M, 38.9, SD, 7.9	1. Dutch EDE 2. SCID-I, Dutch SCL-90, BDI, UCL, YSQ, BMI	Pre 10 weeks Post 1 yr f/u	96% 93% CBT 100% WLC	63% CBT 18% WLC**	CBT group superior to WLC for EDE**, SCL-90**, BDI*
Grilo and Masheb (2005)	Self-help 12 weeks	CBTgsh BWLgsh AC	90 71F 19M	Over-weight	1. OBEs (SMon) 2. EDE-Q, TFEQ, BDI, RSES, BMI	Pre 4 weeks 8 weeks Post	78% 87% CBTgsh 66% BWLgsh 87% AC CBT-gsh – BWL-gsh*	46% CBTgsh 18.4% BWLgsh 13.3% AC CBTgsh-AC* CBTgsh-BWLgsh**	CBTgsh superior to BWLgsh on OBE* and TFEQ subscales* CBT superior to AC on RSES*

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| | | | | | | | | **Main Findings** | |
Author (date)	**Method Length**	**Design[a]**	**N Sex**	**Weight range[c]**	**Outcome Measures[d]**	**Assess-ment**	**Completion Rates**	**Primary Outcome Measures[e]**	**Secondary Outcome Measures[e]**
Loeb et al. (2000)	Self-help 10 weeks	CBT-gsh CBT-psh	40F	NSp BMI M, 35.77 SD, 9.03 .	1. EDE and EDE-Q 2. BDI, RSES, BSI, PDQ-4, BMI	Pre Post 6 m f/u	68.5% (ns btw groups)	30% CBT-gsh 50% CBT-psh	CBTgsh superior to CBT-psh for EDE-Q*
Munsch et al. (2007)	Group 16 weeks	CBT BWLT	80 40F 31M	Over-weight (BMI range 27-40)	1. German EDE, BMI 2. Mini-DIPS, SKID-II, German BDI and BAI, FLZ, SWE	Pre 8 weeks Post 12 m f/u	32.5% 31.5% CBT 25% BWLT	41% CBT 58% BWLT* 1 year f/u: 52% CBT 50% BWLT	No group differences found
Peter-son et al. (1998, 2001)	Group 8 weeks	CBTth-led CBT-ptsh CBT-stsh WLC	61F	NSp BMI: M, 34.7, SD, 7.5	1.EB-IV 2. BES, TFEQ, HDRS, RSES, BSQ	Pre Post 1 year f/u.	84% 87.5% CBTth-led 89.5% CBT-ptsh 73.3% CBT-stsh	78.6% CBTth-led 90% CBTstsh 75% CBTptsh 12.5% WLC All groups superior to WLC* (7 days) 12 month f/u: 66.7 th-led, 84.6ptsh, 75stsh	TFEQ: Greater pathology in WLC for disinhibition* and hunger factors* compared to all treatment groups

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Author (date)	Method Length	Design[a]	N Sex	Weight range[c]	Outcome Measures[d]	Assess-ment	Completion Rates	Primary Outcome Measures[e]	Secondary Outcome Measures[e]
Peter-son et al. (2009)	Group, 20 weeks	CBTth-led CBT th-ast CBT-sh WLC	259 227F 32M	Over-weight BMI ≥ 25	1.EDE 2. TFEQ, IDS-SR, RSES, IWQLL, BMI	Pre Post 6 m f/up 12 m f/up	74.1% 88.3% CBTth-led 68.3% CBTth-ast 59.7% CBT-sh 81.2%WLC	51.7% CBTth-led 33.3% CBTth-ast 17.9% CBT-sh 10.1% WLC CBTth-led and CBTth-as - WLC** CBTth-led - CBTsh** 12 month f/u: 20.8% CBTth-led 27% CBTth-ast 25.4% CBT-sh	CBTth-led greater reductions than WLC on EDE global score** and restraint subscale* CBTth-led and CBTth-ast greater reductions than WLC on disinhibition subscale of TFEQ**
Shapiro et al. (2007)	Comp-uter deliv-ered, 10 weeks	CDCBT GCBT WLC	66 61 F 5 M	NSp BMI: M, 37.72 SD, 9.45	1. Self-report questions, QEWP-R, BES 2. Treatment acceptability	Pre Post 8 wk f/u	73% 68.5%CDCBT 59.1% CBT 91% WLC	13.3% CDCBT 7.7% CBT 0% WLC (7 days) 8 wk f/u: 12.5% CDCBT 22.2% CBT 0% WLC	75% of participants in WLC chose to receive CDCBT over GCBT.

Author (date)	Method Length	Design[a]	N Sex	Weight range[c]	Outcome Measures[d]	Assess-ment	Completion Rates	Main Findings Primary Outcome Measures[e]	Secondary Outcome Measures[e]
Tasca et al. (2006)	Group 16 wks	GCBT GPIP WLC	135 123F 12M	NS BMI: M, 41.11 SD 9.95	1. EDE, 7dayCRM 2. CES-D, IIP, RSES, TFEQ, BMI, ASQ	Pre Post 6 m f/u 12 m f/u	79.5% 78.7% GCBT 77.1% GPIP 82.5% WLC	62.2% GCBT 59.5% GPIP 12.1% WLC (7 days) GCBT and CPIP-WLC** 12 m f/u: 67.7% GCBT 56.8% PIP	n/a (explored effects of attachment anxiety on BE)
Telch et al. (1990)	Group 10 weeks	GCBT WLC	44 F	NSp M, 32.6 SD, 5.1 Range, 22.2-42.6	1. 7-dayCRM 2. BDI, EDI, EAT, TFEQ	Pre Post 10 wk f/u	91% 83% GCBT 0% WLC	79% GCBT 0% WLC** (7 days) 10 week F/U: 36% CBT	No significant differences.
Wilfley et al. (1993)	Group 16 weeks	GCBT GIPT WLC	56 F	NS BMI: M, 32.8, SD 5.2, Range, 22.3-43.8	1. 7day-CRM 2. BDI, IPP, RSES, TFEQ	Pre Post 6 m f/u 1 yr f/u	78% 66% CBT 89% IPT	28% GCBT 44% GIPT 0% WLC GCBT and CIPT - WLC** (7 days) 1 yr f/u: Abstinence not reported	Disinhibition and restraint subscales on the TFEQ, CBT and IPT scores superior to WLC*.

Author (date)	Method Length	Design[a]	N Sex	Weight range[c]	Outcome Measures[d]	Assess-ment	Completion Rates	Main Findings Primary Outcome Measures[e]	Primary Outcome Measures[e]
Wilfley et al. (2002)	Group 20 weeks	GCBT GIPT	162F	Over-weight (BMI range 27-48)	1. EDE, binge days 2. EDEss, SCI for DSM-III, SC-90-R, RSES, IPP, SAS, BMI	Pre Post 4, 6, 8 and 12m f/us	90% 89% CBT 91% IPT	82% CBT 74% IPT 12 month f/u: 72% CBT 70% IPT (28 days)	No significant group differences.
Wilson et al. (2010)	Self-help guided 10 sessions (over 6 months)	CBTgsh IPT BWLT	205 161F 44 M	Over-weight BMI: Range, 27-45	1. EDE 2. BDI, RSES, SAS	Pre Post 6, 12, 18 and 24 m f/us	80% 93% IPT 72% BWL 70% CBTgsh	82% CBTgsh 87% IPT 81% BWLT (No longer meeting DSM-IV criteria for BED) 24m f/u: IPT and CBTgsh more effective than BWLT* (remission from BE)	BWLT more effective than GSH or BWLT in reducing BMI**

								Main Findings	
Author (date)	Method Length	Design[a]	N Sex	Weight range[c]	Outcome Measures[d]	Assess-ment	Completion Rates	Primary Outcome Measures[e]	Secondary Outcome Measures[e]
Devlin et al. (2005)	Individual 20 sessions (16 wks)	All BWLT: + CBT/FL CBT/PL FL PL	116 90 F 26 M	Over-weight	1.BMI 2. BDI, BSQ, BES, BSI, RSES, TFEQ, IIP, EDE-BED, SCID	Pre 8 wks Post (16 weeks)	64% 68% CBT groups 60% non-CBT groups	62% CBT 33%, non-CBT** No effect of medication Abstainers lost more weight than non-abstainers*	Fluoxetine treatment associated with greater reduction in depression* Abstinence mediated improvement on all measures
Devlin et al. (2007, f/up from 2005)	Individual 20 sessions (16 wks)	If BE freq. fell > 75%, 2 yr main-tenance phase-(monthly groups and medication)	116 90 F 26 M	Over-weight	1.SMon of BMI, BMI 2. BDI, BSQ, BES, BSI, RSES, TFEQ, IIP + EDE-BED, SCID	6, 12, 18 and 24 m f/ups	62%	24 m f/u: 74% (across groups) BE frequency reduced by 31% over 2 years Adjunctive CBT group lower BE absitence*	Fluoxetine treatment associated with greater reduction in depression* TFEQ: fluoxetine associated with less restraint over time *
Grilo et al. (2005a)	Self-help: Guided 12 wks	CBTgsh+O CBTgsh+P (addition of Orlisat)	50 44F 6M	Obese, BMI 30+	1. EDE, weight loss (BMI) 2. BDI, RSES	Pre Post 3 month f/u	78% 76% O 80% P	64% CBT/gsh+O 36 % CBT/gsh+P* 3 month F/U: 52% CBT/GSH+O 52 % CBT/GSH+P (28 days)	Significant and comparable improvements in both measures occurred across groups.

Psychological Therapy and Medication Trials

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Author (date)	Method Length	Design[a]	N Sex	Weight range[c]	Outcome Measures[d]	Assess-ment	Completion Rates	Main Findings	
								Primary Outcome Measures[e]	Secondary Outcome Measures[e]
Grilo et al. (2005b)	Individ-ual 16 weeks	FL PL CBT/FL CBT/PL	108 84F 24M	Over-weight (100-200% IBW)	1. S-Mon, EDE-Q 2.TFEQ, BSQ, BDI, BMI	Pre Post	80% 78% FL 85% PL 77% CBT/FL 79%CBT/PL	22% FL 26% PL 50% CBT/FL 61% CBT/PL (S-Mon) CBT/Pl superior to PL** and FL** CBT/FL superior to FL* and PL*	CBT/PL was superior to FL on 10/11 variables, and to PL on 7/11 variables. CBT/FL superior to FL on 10/11 and to PL on 9/11 variables.
Molin-ari et al. (2005)	Individ-ual 24 sessions over 12 months	CBT FL CBT/FL	65F	Obese	1. BE freq, % weight-loss 2. MMP2, EDI2,	Pre 6 months Post	92% 95%CBT 90% FL 85% CBT/FL	0.8 CBT 4.40 FL 2.1 CBTFL 6 month f/u: 3.28 CBT, 4.47 FL 3.20 CBT/FL (28 days)	Few differences.
Ricca et al, (2001)	Individ-ual 24 weeks	FLX FLV CBT CBT+FLX CBT+FLV	108 64F 44M	NSp BMI: M, 32.3, SD, 5.8	1. BMI, EDE 12. 2. STAI, BDI	Pre Post 1 year f/u	77% CBT 85% CBT+FLX 62.8% CBT+FLV 78.3% FLX 76.2% FLV 72.8%	8 CBT 6 CBT-FLX 8 CBT-FLV 19 FLX 18 FLV 1 year f/u: 8 CBT, 7 CBT-FLX, 8 CBT-FLV, 21 FLX, 18 FLV (BE episodes 28 days)	STAI: CBT, CBT-FLV and FLV showed greater reduction then CBT-FLX and FLX** BMI and EDE scores sig. Reduced in all CBT groups** and not FLX and FLV

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Author (date)	Method Length	Design[a]	N Sex	Weight range[c]	Outcome Measures[d]	Assess- ment	Completion Rates	Main Findings	
								Primary Outcome Measures[e]	Secondary Outcome Measures[e]
De Zwaan et al. (2005)	Group 10 weeks	VLCD VLCD/cbt (both groups 6ms VLCD: last 10wks treatment group CBT)	71F	Obese, =>50lb IBW	1. EB-IV, Weight loss, BED section of SCID 2. HDRS, BDI, RSES, BES, EDI,	Pre Post 1m, 6ms and 1yr f/u.	86.3%	58.3% VCLD/cbt 74.3% VLCD (7days) 1 Yr f/u: 33.4% VCLD/cbt 32.3%, VLCD (6 months abstinence).	6 Month f/u: VCLD/cbt had lower values than VLCD for EDI bulimia* 1 year f/u: VCLD/CBT had lower values than VLCD for EDI drive for thinness* and TFEQ perceived hunger *
Eld- ridge et al. (1997)	Group 12 weeks	CBT WLC Non-res: additional 12wks CBT (CBT+12) Res: 12 wks BWLT (BWL+12)	46 44F 2M	Over- weight	1. days BE (in 14) S- Mon, Weight, 2.RSES, IIP, BDI, TFEQ, BES, GSI- SCL-90,	Pre Post 12wks 24wks	81.4% 80%WLC 81.6% (treated, CBT+12, + BWLT+12)	68.2% treated, 19.8% control* (BE mean percentage decrease) 50% of CBT were responders: Strong trend for extension of CBT in non- responders to lead to clinical improvement	Additional 12 wks CBT: Differences over time were found for BES**, IIP** and disinhibition scale of TFEQ**

Author (date)	Method length	Design[a]	N Sex	Weight range[c]	Outcome Measures[d]	Assess-ment	Completion Rates	Main Findings	
								Primary Outcome Measures[e]	Secondary Outcome Measures[e]
Gorin et al. (2003)	Group 12 weeks	CBT CBTSp WLC	94F	Over-weight, BMI $\geq$ 25	1. 7-day CRM, EDE-Q 2.TFEQ, BDI, RSES, DAS, BMI, Spouse involvement	Pre Post 6 m f/up	66%	37% CBT 9% WLC* (7 days) 6 month f/u: 49.5% CBT No benefit of spouse involvement	CBT group (combined) fared better than WLC on BMI*, EDE-Q* (excluding restraint), BDI*, RSES*
Le Grange et al. (2002)	Group 16 wks	CBT CBT/EMA	41F	Over-weight	1. 7-dayCRM 2. SCID for DSM-IV, QEWP-R, EDE-Q , TFEQ, EES, RSES, BDI, Weight	Pre Post 1 year f/u	68% 73% CBT 63% CBT/EMA	59% CBT 37% CBT/EMA (7 days) 1 year f/u: 55% CBT 58% CBT/EMA (% diagnostic criteria for BED)	No group differences found

Note: Abbreviations: BE, binge-eating; Non-res, Non-responders; NSp, Not specified in paper; BMI, Body Mass Index; IBW, Ideal Body Weight; OBEs, Objective Binge-eating episodes;

Abbreviations Treatment Conditions: CBTwlt, Cognitive Behavioural Therapy Weight Loss Treatment; CBTwlt/d Cognitive Behavioural Therapy Weight Loss Treatment with Desipramine; WLT, Weight Loss Treatment; CBT, Cognitive Behaviour Therapy, CBT; WLC, Waiting-list Control Group; IPT, Interpersonal Psychotherapy; AAT, Appetite Awareness Training; CBTpsh, Cognitive Behavioural Therapy-pure-self-help; CBTgsh, Cognitive Behavioural Therapy-guided-self-help; BWLgsh, Behavioural Weight Loss-guided-self-help; AC, Attention Control Group; BWLT, Behavioural Weight-loss Therpay; CBTth-led, Cognitive Behavioural Therapy-therapist-led; CBT-ptsh, Cogntive Behavioural Therapy-partial-self-help; CBT-stsh, Cognitive Behavioural Therapy-structured-self-help; CBTthast, Cognitive Behavioural Therapy-therapist-assisted; CBT-sh,

Cognitive Behavioural Therapy-self-help; CDCBT, Computer Delivered Cognitive Behavioural Therapy; GCBT; Group Cognitive Behavioural Therapy; GPIP, Group Psychodynamic Interpersonal Psychotherapy; GIPT, Group Interpersonal Psychotherapy; CBT/FL, Cognitive Behavioural Therapy Fluoxetine; CBT/PL, Cognitive Behavioural Therapy Placebo; FL, Fluoxetine only; PL, Placebo only; CBTgsh+O, Cognitve Behaviour Therpay-guided-self-help Orlistat; CBTgsh+P, Cognitive Behaviour Therapy-guided-self-help Placebo; FLX, Fluoxetine; FLV, Fluvoxamine; VLCD, Very Low Calorie Diet Programme; VLCD/cbt, Very Low Calorie Diet Programme with Cognitve Behaviour Therapy: CBTSp, Cognitive Behavioural Therapy-spouse-involvement; CBT/EMA, Cognitive Behavioural Therapy Ecological Momentary Assessment.

Abbreviations Outcome Measures: 7dayCRM, 7-day Calendar Recall Method; BDI, Beck Depression Inventory; TFEQ, Three Factor Eating Questionnaire; SMon, Self-monitoring; BES, Binge Eating Scale; IIP, Inventory of Interpersonal Problems; SCL, Symptom Check List; RSES, Rosenberg Self-Esteem Scale; RRE, The Record of Eating Episodes; SAMU, The Situational Appetite Measure Urges; ESES, Eating Self-Efficacy Scale; FNE, Fear of Negative Evaluation; RSES, Rosenberg Self-esteem Scale; EDE, Eating Disorder Examination; EDE-Q, Eating Disorder Examination Questionnaire; GSI of BSI, General Severity Index of Brief Symptom Inventory; SCID-I, Structured Clinical Interview for DSM IV axis I disorders; SCL-90; The Symptom-Checklist-90; UCL, Utrecht Coping List; YSQ, Young Schema Questionnaire: BSI; Brief Symptom Inventory; PDQ-4, Personality Diagnostic Questionnaire, 4th Edition; Mini-DIPS, Screenings for mental disorders on axis-I; SKID-II, Screenings for mental disorders on axis-II; BAI, Beck Anxiety Inventory; FLZ, The Questionnaire on Life Satisfaction; SWE, Self-efficacy Scale; EB-IV, Eating Behaviour-IV; HDRS, Hamilton Depression Rating Scale; BSQ, Body Shape Questionnaire; IDS-SR, Inventory of Depressive Symptomatolgy Self-report Score; IWQLL, Impact of Weight on Quality of Life-Lite Score; QEWP-R, Questionnaire on Eating and Weight Patterns-Revised; CES-D, Centre for Epidemiological Studies Depression Scale; ASQ, Attachment Styles Questionnaire; EAT, Eating Attitudes Test; EDEss, Eating Disorders Examination Subscales; SCID, Stuctured Clinical Interview for DSM-III; SC-90-R, The Symptom-Checklist-90-Revised; SAS, Social Adjustment Scale; MMP2, Minnesota Multiphasic Personality Inventory; EDI-2, Eating Disorders Inventory-2; STAI, Stait-Trait Anxiety Inventory; EDI, Eating Disorders Inventory; DAS, Dyadic Adjustment Scale; QEWP-R, The Questionnaire on Eating and Weight Patterns; EES, Emotional Eating Scale; EES, Emotional Eating Scale.

[a] Overweight specified by BMI $\geq$ 27 unless otherwise specified

[b] 1. Primary Outcome Measures, 2. Secondary Outcome Measures

[c] Abstinence from BE over preceeding 28 days unless otherwise specified

*p< 0.05, **p<0.01

1. How efficacious are CBIs for BED?

Efficacy Compared to Waiting-List Control Groups

Three of the studies evaluated a CBI by comparing it to a waiting-list control group only (Allen & Craighead, 1999; Telch et al., 1990; Dingemans et al., 2007). Of these, Allen and Craighead (1999) evaluated the effectiveness of eight, weekly individual sessions of Appetite Awareness Training (AAT), a CBI based on the cognitive-behavioural model of BED developed by Craighead and Allen (1995). The primary outcome measure for this study was the Record of Eating Episodes (REE; Craighead & Allen, 1995), a self-monitoring form developed for AAT to record feelings of hunger and fullness, the frequency of BE and under- and over-eating. Telch and others (Telch et al., 1990) evaluated the efficacy of ten weekly 90 minute sessions of group CBT (GCBT) in an American sample. The CBT was delivered by Psychologists who followed a manual developed by the investigators. The manual was based on one previously used in research trials for the treatment of BN (Agras et al., 1989). Dingemans and colleagues (2007) evaluated the efficacy of 15 two-hour sessions of GCBT held over 20 weeks in a Dutch sample recruited via media advertisements and eating disorder clinics. The CBT therapists also adhered to a treatment manual (no reference provided).

Findings and Methodology: All three studies found statistically significant differences between experimental groups for the frequency of BE in favour of the treatment groups, regardless of the way in which BE was measured (discussed below). At surface level the results of these studies look impressive, particularly for the trial conducted by Telch and colleagues (1990) who found that 79% of the

treatment group and 0% of the control group were abstinent from BE for 28 days after treatment. However, none of the studies report intention-to-treat (ITT) analysis, meaning that the outcomes reported may be misleading. In, for example, the study by Telch and others (1990) the attrition rate for the sample overall was almost 40%, meaning ITT analysis would have produced outcomes that were less favourable for CBIs than those reported. There were a lack of adequate follow-up assessments across the three studies and those which are reported suggest that gains from CBIs are not well maintained in the long-term. Telch and colleagues (1990) assessed participants only ten weeks after treatment had ended, and found that abstinence from BE in the CBT group had dropped from 79% to 36%. Dingemans and colleagues (2007) assessed participants at one year follow-up but it is not possible to compare the treatment groups as the waiting-list control group had been treated by this time. Allen and Craighead (1999) did not include follow-up assessments.

Summary: Efficacy Compared to Waiting-list Control Groups: The findings of the studies comparing CBIs to waiting-list control groups should be interpreted with caution, due to methodological problems.

Efficacy Compared to Alternative Psychological Interventions

Six studies evaluated the efficacy of CBIs by comparing them to either variants of Behavioural Weight-Loss Therapy (BWLT) or Interpersonal Psychotherapy (IPT; Grilo & Masheb, 2005; Munsch et al., 2007; Tasca et al., 2006; Wilfley et al., 1993; Wilfley et al., 2002;; Wilson et al., 2010). Half also included a comparison to a waiting-list or attention control group (Grilo and Masheb., 2005, Tasca et al., 2006, Wilfey et al., 1993).

Behavioral Weight Loss Therapy: Grilo and Masheb (2005) and Munsch and colleagues (2007) both compared CBIs to variants of BWLT. Grilo and Masheb (2005) compared cognitive-behavioural guided self-help (CBTgsh) and behavioural weight loss guided self-help (BWLgsh) treatments using an attention control group. The guided self-help protocol for both treatment groups consisted of brief individual meetings (15-20 minutes) scheduled fortnightly over a 12 week period. The therapists adhered to manuals developed by the researchers. For the CBTgsh group, participants were advised to follow the patient manual, 'Overcoming Binge Eating' (Fairburn, 1995). For the BWLgsh group, participants followed the 'LEARN Program for Weight Management' manual (Brownell, 2004), which consists of 16 'lessons' covering various aspects of weight-loss. Munsch and colleagues (2007) evaluated 16, weekly sessions of GCBT by comparing it to group BWLT. The CBT was based on a manual (Munsch, Biedert & Keller, 2003) developed according to Fairburn and colleagues (1993) and was based on similar principles to 'Overcoming Binge Eating'.

Findings and Methodology: Grilo and Masheb (2005) found that remission from BE (no binges in the last 28 days) was significantly higher in the CBTgsh group

(46%) than in either BWLgsh (18%) or control condition (13%). These figures are impressive given the minimal contact from health care professionals that the guided self-help entailed, although longer-term outcomes cannot be evaluated due to lack of follow-up data. Munsch and colleagues (2007) concluded that both treatments were efficacious but that episodes of BE, abstainer rates and BED diagnosis all showed significantly greater improvement in the CBT compared to the BWLT group. One year follow-up assessments showed impressive results for both treatment groups, with 52% of the CBT group and 50% of BWL group abstinent from BE for the previous 28 days. Interestingly at follow up assessments few differences were found between groups. Both trials reported ITT analysis, although no power calculations were reported.

Interpersonal Psychotherapy: Three trials (Tasca et al., 2006; Wilfley et al., 1993; Wilfley et al., 2002) compared variants of GCBT to variants of group IPT (GIPT). Tasca and colleagues (2006) and Wilfley and colleagues (1993) evaluated 16 sessions of GCBT, and Wilfley and others (2002) evaluated 20 group sessions and three individual sessions of GCBT. Tasca and colleagues (2006) delivered GCBT and GIPT based on detailed treatment manuals (both unpublished). Wilfley and colleagues (1993) followed a manual used by Telch and colleagues (1990) for GCBT and used the approach by Fairburn and colleagues (1991) for GIPT. Wilfley and colleagues (2002) also followed treatment manuals which are not referenced in the paper.

Findings and Methodology: All three trials found that the CBT groups and IPT groups fared similarly to one another, and significantly better than the control conditions. These studies employed fairly rigorous methodological criteria, for

example Wilfley and colleagues (2002) used an adequate sample size to achieve 80% power on their statistical analysis and reported ITT as well as completer analysis. Tasca and colleagues (2006) and Wilfley and colleagues (1993) both analysed outcomes on an ITT basis. All three studies also included one year follow-up measures. One study reported that, at one year follow-up, 68% of the CBT group and 57% of the IPT group reported BE abstinence as measured by the seven day calendar recall method (Tasca et al., 2006). Wilfley et al (1993) found that although there was a significant BE increase from post treatment to one year follow-up, both treatment groups continued to BE significantly less frequently than at baseline, with an average of 2.4 fewer days per week for CBT and 2 fewer days per week for IPT. Wilfley (2002) found that outcomes were equivalent at one year follow-up for both groups, and that BE increased slightly through follow-up but remained significantly below pre-treatment levels.

Interpersonal Psychotherapy and Behavioural Weight Loss Therapy: Wilson and colleagues (2010) evaluated the relative efficacies of CBTgsh, IPT and BWLT. The guided self-help intervention consisted of advising participants to follow the 'Overcoming Binge Eating' CBT self-help manual (Fairburn, 1995). However 'therapists' (graduates with no previous experience of CBTgsh or treating BED) met with participants for nine 25-minute sessions and one 60-minute session. The IPT intervention consisted of 19 50-60 minute individual therapy sessions. The study methodology was sound: the statistical analysis was adequately powered, ITT analysis was reported and groups were followed up at 6 month intervals up to 24 months. It was found at post-treatment that there were no significant differences between the groups on remission from BE, reduction in days of BE, or no longer

meeting DSM-IV criteria for BED. At two-year follow-up, IPT and CBTgsh were significantly more effective than BWL in terms of remission from BE.

Attrition Rates: An important aspect of the studies which compared CBIs to alternative psychological treatments is that of attrition rates between treatment groups. Slight variations in the way completion rates were calculated means one should be cautious in making comparisons. For example, Wilson and colleagues (2010) defined dropouts as those who had missed 3 consecutive sessions for non-emergency reasons or wished to terminate treatment at any point. Peterson and colleagues (1998) specified completion as attending all sessions offered and other researchers did not specify how completion rates were calculated (e.g. Grilo & Masheb, 2005). If measurement differences are put aside, completion rates were reasonably high across groups and across studies, averaging 77% for CBT (six studies), 86% for IPT (three studies) and 70% for BWLT (three studies). Grilo and Masheb (2005) found that CBTgsh and attention control groups had significantly higher completion rates than BWLT. Wilson and colleagues (2010) found IPT to have a significantly higher completion rate than either BWL or CBTgsh. No other significant differences were found in regard to attrition rates. It appears that attrition is broadly similar across groups; however the available evidence suggests that in terms of completion rates, CBIs may be slightly superior to BWL treatments, and IPT may be slightly superior to CBIs.

Summary: Efficacy of CBIs Compared to Alternative Psychological Interventions: Trials comparing CBIs for BED to alternative psychological interventions suggest that CBIs are superior to BWLT, at least in terms of reducing frequency of BE (see Section 2 for discussion of alternative outcome measures) but

methodological issues mean one must be cautious in generalising the results. There are a small number of trials of sound methodology that show that CBIs have comparable outcomes to IPT both at end of treatment and at follow-up assessments up to one year. A guided self-help CBI was found to be equally effective to individually-delivered IPT, and superior to BWLT at two-year follow-up assessments.

Efficacy Compared to Psychopharmacological Interventions

Anti-Depressant Medications: Three studies compared the efficacy of individually delivered CBIs to anti-depressant medication, namely (across trials) Fluoxetine and Fluvoxamine (Grilo et al., 2005b; Molinari et al., 2005b; Ricca et al., 2001). One study (Grilo et al., 2005b) consisted of four treatment conditions: Fluoxetine, Placebo, CBT-plus-fluoxetine or CBT-plus-placebo. Ricca and colleagues (2001) evaluated the effect of CBT, Fluoxetine and Fluvoxamine, using four treatment groups: Fluoxetine, Fluvoxamine, CBT-plus-Fluoxetine and CBT-plus-Fluvoxamine. A total of 108 participants were assessed at pre and post intervention and at one year follow-up. In the case of both studies the CBT was based on the manualized protocol by Fairburn and colleagues (1993). Another study (Molinari et al., 2005a) allocated 65 obese females to either CBT, Fluoxetine, or CBT-plus-Fluoxetine. It was not reported that a particular CBT manual or model was used.

Findings and Methodology: All three papers concluded that CBIs were superior to pharmacological interventions for the treatment of BED. Grilo and colleagues (2005b) found that ITT BE abstinence rates (28-days) were significantly

higher for the CBI treatment groups than for the anti-depressant only groups, with the highest remission rate being in the CBT-with-Placebo group. This was one of the few trials to include a power analysis and report ITT outcome statistics. Ricca (2001) found the most favourable combination for reduction of BE was CBT-with-Fluoxetine. However no power analysis was reported and the sample size of each group was fairly small (20-23). Molinari and colleagues (2005), in a sample of 65 people, found that the two therapy groups showed reduced BE and improved psychological well-being compared to those treated with medication alone. This study also found some significant group differences on certain scales of the Minnesota Multiphasic Personality Inventory (Butcher, 1990). However the small sample size of this study and the lack of power analysis mean that the conclusions that can be drawn are limited.

Anti-Obesity Medications: Two trials reported findings relevant to the current review although they were not evaluating CBT as a primary aim. One study (Grilo et al., 2005a) evaluated the additional benefit of Orlistat, an obesity medication, to a CBTgsh. Orlisat is a lipase inhibitor, which works primarily by preventing the absorption of fats from the diet, therefore reducing calorific intake. The study consisted of two groups, one which received CBTgsh with Orlistat and one which received CBTgsh with placebo medication. The authors found significantly higher abstinence rates for the Orlistat group than the Placebo group, suggesting weight-loss medication might increase the benefit of CBIs.

CBI and Fluoxetine as an Addition to BWLT: Devlin and colleagues (2005, 2007) evaluated the additional benefits of CBT and Fluoxetine to BWLT. Four groups were included in the study, all of which received 16 sessions of BWLT over

20 weeks. The groups simultaneously (to BWLT) received either CBT with Fluoxetine, CBT with Placebo, Fluoxetine alone or Placebo alone. The CBT consisted of 20 sessions over 5 months. The trial found that the groups who had received CBT (as well as BWLT) reduced their BE by significantly more than the groups who had received BWLT only, providing evidence for the efficacy of CBT as an adjunct to BWLT. After the initial intervention participants who had reduced the frequency of the days on which they binged entered a two year maintenance phase, which consisted of monthly group meetings and continued medication. Two years after the intervention, 74% of individuals who had entered the maintenance phase had been abstinent from BE for 28 days. This is a higher figure than that reported by many other trials which include one-year follow-ups, suggesting that a maintenance phase is beneficial for maintaining treatment gains. However only initial 'responders' were included in the maintenance phase, and it may be that these participants were more motivated to reduce their BE or had less complex difficulties.

Attrition Rates: Completion rates were highest for the CBT-only groups in two studies (Devlin et al., 2005, 2007; Ricca et al., 2001) and for the placebo-only group in one study (Grilo et al., 2005a). However, differences in attrition rates were not statistically significant.

Summary: Efficacy Compared to Pharmacological Interventions: CBIs have been found to be superior to anti-depressant medications for the treatment of BED in a small number of trials of varying methodological soundness. The findings of one study (Grilo et al., 2005a) suggest anti-obesity medication might increase the benefits of CBIs.

Efficacy of CBIs as Adjuncts to Treatments

Length of Intervention: Eldredge and colleagues (1997) evaluated whether an additional 12 weeks of GCBT would enhance outcomes in those who initially did not respond to 12 weeks of GCBT. Fifty percent of the initial sample was classed as non-responders (responders were specified as being abstinent from BE for at least the last 2 weeks of treatment, with a minimum aerobic exercise program in place and having achieved stabilization or loss of weight for at least the last four weeks of treatment). The non-responders went on to receive an additional 12 weeks of CBT, while responders received 12 weeks of BWLT. The researchers found a strong but non-significant trend for an additional 12 weeks of CBT to lead to clinical improvement in initial non-responders, suggesting 12 weeks may not be an optimal length of intervention for many individuals with BED. De Zwaan and colleagues (2005) evaluated the addition of 10 weeks of GCBT to a six-month VLCD programme. The entire sample received a VLCD consisting of a 'protein-sparing modified fast' diet and 12 1.5-hour group meetings conducted by a dietician. Half of the participants also received 10 weekly sessions of group CBT. Post-treatment the CBT group had significantly more BE abstinent responders than the VLCDP only group, however at one-year follow-up the groups fared similarly, with approximately 30% abstinent from BE for the preceding 28 days.

Efficacy of Adjuncts to CBIs

Spouse Involvement and Ecological Momentary Assessment: Two studies investigated ways to improve the benefit of CBIs for the treatment of people with BED, with neither study finding their addition to be helpful. One study (Gorin et al.,

2003) evaluated the additional benefit of spouse involvement to 12 weeks of GCBT for BED. Contrary to their hypothesis, the trial found no additional benefit of spouse involvement for binge-eating, weight, eating psychopathology or general psychopathology. This was the case at end of treatment and at six month follow-up. Another study (Le Grange et al., 2002) evaluated whether Ecological Momentary Assessment (EMA), a form of self-monitoring, would improve outcomes for individuals with BED undergoing ten weeks of GCBT. Again contrary to the researchers' hypothesis, the group that did not use EMA fared better than the EMA group.

Summary: Efficacy of CBIs for BED

There are few trials of sound methodological criteria evaluating CBT for BED. The available research suggests that while CBIs are superior to WLC and BWLT for the reduction of BE in people with BED, they perform similarly to IPT. This is particularly true if long-term follow-up assessments are taken into consideration (12 months or over). There is a trend for higher completion rates for IPT and CBT groups than for BWLT groups or anti-depressant medication groups, suggesting that they are more acceptable treatments. Further issues with the evidence base are discussed below. However discussions in the following sections are tentative in some cases based on the methodological problems discussed above.

2. What are CBIs for the Treatment of BED Efficacious For?

A majority of studies measured psychological constructs as outcome measures as an addition to measurements of BE frequency. The following section will examine the various outcome measures used and attempt to answer the above question.

Binge-Eating Frequency Post-Treatment

It is difficult to compare results regarding frequency of BE directly as it was measured differently across studies. A number of studies used self-report measures such as the EDE-Q (Fairburn & Beglin, 1994), others used interview methods such as the EDE (Fairburn & Cooper, 1993) and others used self-monitoring techniques. Other measurements of BE included the '7 day calendar recall method' (Telch et al., 1990), whereby participants are asked to recall on a day-by-day basis for the past week whether they had any BE episodes and if so, how many. A further complication regarding measuring BE frequency lies in the distinction between subjective binges (SB; in which a sense of loss of control over eating is present but the quantity of food is not objectively larger than normal) and objective binges (OB; in which an objectively large amount of food is consumed and is accompanied by a sense of loss of control). Some studies measured both SB and OB while others only measured OB and many did not consider the distinction. It is likely that outcomes will vary somewhat according to the way in which BE was measured. The discussion below incorporates all measures of BE and makes no distinction between SB and OB but the limitations of this approach should be considered.

Most studies reported measures of BE abstinence although the definition of abstinence varied. Ten studies specified abstinence as zero episodes of binge-eating for the previous seven days (Agras et al., 1994; Allen & Craighead, 1999; de Zwaan et al., 2005; Gorin et al., 2003; Le Grange et al., 2002; Peterson et al., 1998; 2001; Shapiro et al., 2007; Tasca et al., 2006; Telch et al., 1990; Wilfley et al., 1993) and reported post-treatment abstinence rates for CBT, from 28% (Wilfley et al., 1993) to 79% (Telch et al., 1990) with an average of 53%. Binge-eating abstinence in WLC on the other hand ranged from 0% (Telch at al., 1990; Wilfley et al., 1990) to 12.5% (Peterson et al., 1998, 2001), averaging only 6%. This suggests that most individuals with BED are not likely to stop BE without treatment over the relatively short time-periods for which the trials were run (see Discussion for comments on spontaneous remission).

Eleven studies (Carter & Fairburn, 1998; Devlin et al., 2005; Devlin et al., 2007; Dingemans et al., 2007; Grilo & Masheb, 2005; Grilo et al., 2005b; Loeb et al., 2000; Munsch et al., 2007; Peterson et al., 2009; Ricca et al., 2001; Wilfley et al., 2002; Grilo & Masheb, 2005) specified BE abstinence as zero episodes for the previous 28 days, a stricter criterion than the seven day measures discussed above. Abstinence rates for these studies range from 41% (Munsch et al., 2007) to 82% (Wilfley et al., 2002) with an average rate of 60% for CBIs, compared to between 10% and 18% for control groups (average 9%), or 26% for control group with placebo medication (Grilo et al., 2005b). Contrary to what one might expect the abstinence rates are actually higher for this measure than for the seven day abstinence measure.

Some studies also measured BE frequency by number of BE episodes in a week (Allen and Wilcoxon, 1999; Peterson et al., 1998, 2001, Peterson et al., 2009, Telch

et al., 1990) or a month (Loeb et al., 2000). Again these outcomes show promising results for CBIs, averaging less than one episode per week, post-treatment for CBIs, compared to approximately four or five per week for WLC. Other studies examined the number of days binged per week (Gorin et al., 2003; Shapiro et al., 2007; Tasca et al., 2006; Wilfey et al., 1993). Post-treatment findings for this measure of BE vary between 0.5 – 3 days per week for CBT groups versus 2.5-4 for WLC.

Binge-eating Frequency at Follow-up Assessments

Differing results were reported regarding the maintenance of reductions in binge-eating. The majority of studies found that BE abstinence was reasonably maintained at six month follow-up (e.g. Carter & Fairburn, 1998) and at one year follow-up (e.g. le Grange et al., 2002; Tasca et al. 2006; Wilfley et al., 2002;). Conversely, Peterson and others (2009) found that abstinence dropped from 51.7% to 20.8% for the therapist-led CBT group. No significant differences were found at follow-up assessments for BE frequency or abstinence measures when comparing CBIs with variants of IPT (Tasca et al., 2006; Wilfley et al., 1993; Wilfley et al., 2002).

Summary: BE Frequency: Regardless of the way in which BE is measured CBIs have been found to reduce the frequency of BE episodes. Approximately 50% of those with BED who are treated by CBIs appear to be able to abstain from binge-eating at the end of treatment. There were mixed findings in regard to one-year follow up assessments.

Eating-Related Psychopathology

A majority of the studies measured eating-related psychopathology using self-report methods. The EDE and EDE-Q were popular measurement tools. The EDE is a semi-structured interview format for the assessment of eating disorder features. It assesses two key behavioural aspects of eating disorders, overeating and extreme methods of weight control. The EDE also provides an individual profile of scores based on the four subscales of eating restraint, eating concern, shape concern and weight concern. The global score (the mean of the four subscales) provides a measure of overall eating psychopathology and behaviour. The EDE can therefore be used to measure both ED symptoms (such as BE, as in the discussion above) and levels of ED psychopathology. The Three Factor Eating Questionnaire (TFEQ; Stunkard & Messick, 1985) was also a popular measurement tool. The TFEQ measures three subscales representing different aspects of human eating behaviour: cognitive restraint, disinhibition and hunger.

Outcomes for eating-related psychopathology were found to be generally favourable, but more variable than those for BE frequency. Nine studies measured levels of psychological distress using the EDE (Dingemans et al., 2007; Grilo & Masheb, 2005; Loeb et al., 2000; Munsch et al., 2007; Peterson et al., 2009; Ricca et al., 2001; Tasca et al., 2006; Wilfley et al., 2002; Wilson et al., 2010). All of these studies found significant pre-post improvements on either global EDE scores or some EDE subscales (other than BE behaviours) for CBI but not control groups, indicating that CBIs decreased eating-related psychopathology. Four studies also reported EDE-Q self-report scores (Carter & Fairburn, 1998; Gorin et al., 2003; Le Grange et al., 2002; Loeb et al., 2000). All but Le Grange and colleagues (2002) found significant

positive changes for the CBI groups but not for the control groups, again indicating that eating-related psychopathology had decreased as a result of CBIs.

Twelve studies measured eating-related psychopathology using the TFEQ (Agras et al., 1994; Agras et al., 1995; Devlin et al., 2005, 2007; Eldredge et al., 1997; Gorin et al., 2003; Grilo & Masheb, 2005; Le Grange et al., 2002; Peterson et al., 1998; Peterson et al., 2001, 2009; Telch et al., 1990; Wilfley et al., 1993). Three studies that compared CBIs to WLC did not find significant differences on this measure (Devlin et al, 2005, 2007; le Grange et al., 2002; Telch et al., 1990). A number of studies found that scores decreased on disinhibition and hunger subscales or increased on restraint subscales of this measure from pre to post treatment for both CBIs and comparison treatments (Grilo & Masheb, 2005; Peterson et al., 1998, 2001, 2009; Wilfley et al., 1993).

Self-Esteem

Nine studies measured self-esteem using the Rosenberg Self-esteem Scale (RSES; Rosenberg, 1965; Agras et al., 1995; Allen & Craighead, 1999; Eldredge et al., 1997; Gorin et al., 2003; Grilo & Masheb, 2005; Peterson et al., 1998, 2001, 2009; Tasca et al., 2006; Wilfley et al., 1993). Only one study found significant differences between the CBI groups and the control groups at the end of treatment (Gorin et al., 2003).

Depression

Eight studies measured levels of depression in their participants using the Beck Depression Inventory (Beck, Steer & Brown, 1996) and compared treatment groups with waiting-list or attention control groups (Agras et al., 1994; Allen & Craighead, 1999; Dingemans et al., 2007; Eldredge et al., 1997; Gorin et al., 2003; Grilo & Masheb, 2005; Telch et al., 1990; Wilfley et al., 1993). Only two studies reported significant differences between the CBT condition and the control condition when anti-depressants were not used in the CBT conditions (Dingemans et al., 2007, Gorin et al., 2007).

Weight- Loss

In general CBT was found not to have an effect on weight loss. However, a number of studies found that abstinence from BE mediated weight-loss (Agras, 1994; Agras, 1995; Devlin et al., 2005, 2007) suggesting that CBIs could have an indirect, positive effect on weight reduction. The effects of CBIs on weight-loss have been discussed elsewhere (e.g. Yanovski, 2003) and further discussion is beyond the scope of the current review.

Summary: What are CBIs for BED Efficacious For?

CBIs were found to be efficacious for reducing the frequency of binge-eating regardless of the way in which BE was measured, in approximately 50% of people undergoing CBIs (when measured at the end of treatment). Regarding eating-related psychopathology the findings were more variable, however generally CBIs were found to have positive effects when compared to WLC. CBIs for BED were not found to be efficacious for improving measures of self-esteem or depression.

3. How Does the Efficacy of CBIs for BED Vary as a Function of the Method of Delivery?

Although all reviewed trials evaluate CBIs, the interventions differ widely in the methods by which they are delivered, from programmes delivered via computers to 20 sessions of individually-delivered CBT. The following section will attempt to answer the above question by comparing CBI delivery methods.

Trials Comparing Delivery Methods

Six studies evaluated the efficacy of different modes of delivery of CBIs by comparing them to one another (Carter & Fairburn, 1998; Loeb et al., 2000; Peterson et al., 1998, 2001; 2009; Shapiro et al., 2007).

Carter and Fairburn (1998) compared 12 week programmes of CBT-pure-self-help (participants mailed 'Overcoming Binge Eating' book) to CBT-guided-self-help (book with six to eight 25 minute sessions with untrained facilitator) and a waiting-list control group. Both treatment conditions performed significantly better

to the control conditions but no significant differences were found between treatment groups post-treatment or at six month follow-up assessments. Loeb and others (2000) also compared guided to unguided-self-help CBIs. Improvements were found on all outcome measures used for both groups, but the therapist-assisted condition was found to be superior for reduction of BE frequency. This study used a relatively small sample size (40) and can therefore be viewed as pilot study regarding cognitive-behavioural self-help interventions.

Shapiro and colleagues conducted a pilot study (n = 66) comparing a 10-week CD-ROM delivered CBI (CDCBT) to 10 group CBT sessions and a WLC group. No significant differences were found between treatment groups but both conditions resulted in relatively poor abstinence rates. Interestingly 75% of waiting-list control group chose to have CDCBT over group CBT, which might indicate good levels of treatment acceptability for the former, but studies with larger sample sizes are needed to investigate this further.

Peterson and colleagues (1998, 2001) compared three group CBI delivery methods to one another: therapist-led (where in each group a psychologist provided psychoeducation for 30 minutes and led a 30 minute group discussion), partial self-help (where participants viewed a 30 minute psycho-educational videotape followed by therapist-led discussion) and structured self-help (videotape followed by group-led discussion). Abstinence rates post-treatment were favourable and no significant differences were found between groups. When this study was replicated with larger sample size (n = 259; Peterson et al., 2009) the therapist-led condition was found to be superior to other conditions in terms of both BE abstinence and attrition rates. At 12-month follow-up assessments the groups were found to perform similarly,

although BE abstinence levels had dropped to relatively low levels (between 20.8 and 27%). The latter of these studies demonstrated sound methodological criteria, reporting adequate statistical power and ITT analysis.

Cognitive-Behavioural-Guided-Self-Help

Three other reviewed studies (outlined in Section 1) also included evaluation of cognitive-behavioural guided self-help conditions (Grilo & Masheb, 2005; Grilo et al., 2005a; Wilson et al., 2010). Across all reviewed studies including cognitive-behavioural guided self-help conditions, binge-eating abstinence post-treatment rates averaged 58% (excluding CD-CBT, Shapiro et al., 2007, and studies where participants were also taking medications, Grilo et al., 2005a). However most of the studies used small sample sizes and thus further investigations with larger samples are needed in this area.

Group CBIs

A majority of the reviewed studies (14) evaluated the effectiveness of CBIs delivered in a group format (Agras, 1994; Agras, 1995; de Zwaan et al., 2005; Dingemans et al., 2007; Eldridge et al, 1997; Gorin et al., 2003; Le Grange et al., 2002; Munsch et al., 2007; Peterson et al., 1998, 2001, 2009; Tasca et al., 2006; Telch et al., 1990; Wilfley et al., 1993; Wilfley et al., 2002;). As discussed above (Sections 1 and 2), all the studies show promising results for reduction of BE frequency. Binge-eating abstinence post-treatment averaged 55.3%. However this figure was taken from studies of varying methodological soundness which used

varying methods of measurement, therefore it is difficult to ascertain the clinical meaning of this figure.

Individual Delivery

Only five of the 25 reviewed studies evaluated the efficacy of individually-delivered CBIs for BED (Allen and Craighead, 1999; Devlin et al., 2005, 2007; Grilo et al., 2005a; Molinari et al, 2005; Ricca et. al, 2001). Binge-eating abstinence cannot be examined across the studies in order to compare levels with group and self-help interventions. This is because it is either not reported, because alternative measurements of BE frequency are used (Allen & Craighead, 1999; Molinari et al., 2005; Ricca et al., 2001) or are not a true reflection of CBIs alone as participants were also receiving a placebo (Grilo et al., 2005a) or BWLT (Devlin et al., 2005, 2007). The most clinically relevant point regarding individually-delivered CBIs is the lack of empirical evaluation.

Summary: Methods of Delivery

There is not enough data regarding individually-delivered CBIs to compare them statistically to group or guided self-help CBIs. This is a significant gap. Given that resources required for individually-delivered CBIs are likely to be much greater than for group or guided-self-help CBIs, it will be important to determine whether individual delivery leads to improved outcomes. Based on the available data, guided self-help interventions and group interventions appear to have largely comparable

results and are superior to unguided-self-help interventions. There is limited available data on longer-term outcomes.

4. Do Outcomes for CBT for BED Vary for Normal-Weight and Overweight Individuals?

It has been previously reported that there is a discrepancy between the proportion of people with BED who are not overweight in community samples, and the proportion included in CBI efficacy trials (Dingemans, 2002). Fifteen of the 25 studies reviewed specified that participants should be overweight or obese, although being overweight is not a criterion for BED (APA, 1994; Agras et al., 1994; Agras et al., 1995; Devlin et al., 2005, 2007; de Zwaan et al., 2005; Eldridge et al., 1997; Gorin et al., 2003; Grilo & Masheb, 2005; Grilo et al., 2005a; Grilo et al., 2005b; Le Grange et al., 2002; Molinari et al., 2005; Munsch et al., 2007; Peterson et al., 2009; Wilfley et al., 2002; Wilson et al., 2010). The remaining ten trials did not specify being overweight as an inclusion criterion. However, a majority of the participants in these trials appear to have been overweight or obese (see Table 1).

It is not possible to statistically compare the outcomes of CBT for BED for normal and overweight participants because the few trials which included individuals of normal weight did not report differences in outcome between overweight and non-overweight participants.

Summary: Weight Discrepancies

Little is known regarding CBIs for BED for individuals who are not overweight.

Discussion

This review found that cognitive-behavioural interventions are the treatment for BED for which there is most available evidence for the reduction of binge-eating. However, problems exist with regard to the evidence-base for these treatments. There are a limited number of trials of sound methodology and limited evidence for the efficaciousness of individually-delivered CBIs. Little is known regarding cognitive-behavioural treatment for individuals with BED who are not overweight. No significant differences were found at follow-up assessments between CBIs and variants of IPT.

Are CBIs for BED the Treatment of Choice?

The evidence-base regarding CBIs for the treatment of BED is not as convincing as one might believe from initial examination of the literature, which describes CBIs for BED as the 'treatment of choice'. This claim is not untrue: CBIs are the treatment for BED that have been shown to have the most empirical support. However, this arguably says more about the lack of available, effective treatments than the utility of CBIs. As this review has shown, overall CBIs have been shown to help only approximately half of those presenting for treatment. Furthermore, IPT appears to be equally effective at follow-up assessments in trials where the two treatments have been compared. Further research is needed to evaluate the comparative benefits of these two psychological therapies. Were IPT to be more

thoroughly researched, it might emerge as the 'treatment of choice' over and above CBT.

The potentially misleading literature regarding CBT as the 'treatment of choice' for BED may in part be due to the symptomatic overlap between BED and BN. BED is sometimes viewed as a variant of BN rather than a distinct disorder and the symptoms of the two disorders overlap to a large extent. There is more empirical support for CBT for BN than there is for CBT for BED (Hay et al., 2004). The evidence-base for CBT for BN may have been assumed to apply to BED as well to BN (i.e. people may have assumed that because CBT is efficacious for BN it is efficacious for BED too).

The Natural Course of BED

This review has revealed variable findings regarding the maintenance of treatment gains at follow-up assessments. This is interesting when considered in light of findings regarding the natural course of BED in the general population. In one study 102 subjects with BED were followed-up for five years after which only 10% met the criteria for BED and 77% of the group was abstinent from BE. Only 8% of the sample had been treated for an eating disorder, suggesting that most of the sample recovered without professional help (Fairburn, Cooper, Doll, Norman & O'Connor, 2000). Another study followed women with BED in the general population for six months, after which 52% suffered from full-syndrome BED, whereas 48% appeared to be in partial remission (Cachelin et al., 1999). These findings suggest that spontaneous remission rates in BED are high. When considered in light of evidence for CBIs for BED, these studies suggest that CBIs for BED could

be less effective in the long-term than they appear upon initial examination of the research findings. As Mitchell (2008) comments, if taken at face value these findings suggest that CBIs may actually make BED worse for people. There are factors that could be hypothesised to affect this relationship, for example those individuals in research trials may have a more severe and/ or chronic form of BED than those followed in community studies. However, this issue raises interesting ethical questions regarding the allocation of resources in health services. If the findings regarding spontaneous recovery can be reliably replicated, it could be argued that resources should be allocated to eating disorders which have lower spontaneous recovery rates, such as BN and AN.

BED and Obesity

Another relevant finding is the lack of empirical knowledge regarding cognitive-behavioural treatment for individuals with BED who are not overweight. This phenomenon is likely to be in part due to the relatively high levels of obesity in those with BED presenting for treatment compared to those in the general population (Didie & Fitzgibbon, 2005). This leads to the question of why this discrepancy exists. It is possible that overweight people with BED present more commonly for treatment than healthy-weight people with BED, due to higher levels of distress and/or dissatisfaction (caused by psychological and physical issues associated with being overweight). However, Dingemans and others (2002) suggest non-overweight BED sufferers are under-represented because, although these individuals are interested in treatment, the perceived or actual availability of treatment for them is limited, due to clinicians being reluctant to refer or treat people with eating disorders

who are of a healthy weight. Further attention to the needs of individuals with BED who are not overweight is needed.

Another likely contributory factor to the discrepancy between obesity levels in the general population compared to in clinical trials is that a number of the interventions conducted in the clinical trials were primarily aimed at weight-loss. The means by which participants were recruited into the trials therefore reflected this: many used advertisements inviting people who wanted to lose weight. This may reflect the fact that at the time these trials were conducted it was not clear whether or not CBT for BED would help with weight-loss, and the researchers conceivably hypothesised that it would.

Methods of Delivery

Group and self-help methods of delivery were found to be more common than individually-delivered CBIs. Interestingly, trials evaluating individual CBT for BN are more common than trials evaluating individual CBT for BED (Hay et al., 2004), which leads to the question of why this discrepancy exists. The reviewed trials provided no discussion regarding the methods of delivery of intervention.

Pharmacological Treatment for BED

The current review showed that CBIs appear to be superior to pharmacological interventions for the treatment of BED. However numerous clinical trials have shown there is a role for medications in the treatment of BED, and a number of studies suggest that a multi-disciplinary (psychological and

pharmacological) approach is the most effective (e.g. Molinari et al., 2005; Ricca et al., 2001). One would expect however, that anti-depressants are effective only as long as people are taking them whereas CBIs may have more sustained effects, and therefore potentially be a buffer against future relapse. This hypothesis is supported by the findings that those treated with CBIs fare better at follow-up assessments than those treated with medication alone (Devlin et al., 2007; Molinari, et al., 2005; Ricca et al., 2001). Furthermore, those treated with CBIs are more likely to attribute their treatment gains to their own efforts rather than to an external agent such as medication (Schwarzer & Schulz, 2003). This would arguably increase self-efficacy in regard to recovery which would conceivably also be a buffer against future relapse.

Limitations of CBIs for BED

The current review found CBIs are only effective for approximately 50% of individuals undergoing treatment. This raises questions regarding how CBIs can be improved and why approximately half of individuals do not find them beneficial.

CBIs for BED did not positively impact on levels of self-esteem or depression. One would expect levels of self-esteem to be low in those with BED, as self-esteem is proposed as a predisposing and maintaining factor in the cognitive model of BN (Fairburn, Cooper & Cooper, 1986). However, it could be argued that low self-esteem is a chronic, underlying problem which is unlikely to be affected by short-term interventions. This raises the question of whether CBIs for BED treat only the symptoms of an underlying problem, rather than the problem itself. With regard to depression, one might predict that depressive symptoms reported by those with

BED are in part a result of BED and therefore CBIs for BED would have a secondary impact on symptoms of depression (anti-depressant medications have been found to have a positive impact on BED, which supports this hypothesis). However this was not found to be the case. It may be that, as for self-esteem, symptoms of depression often underlie BED and are unlikely to be changed by a specific short-term intervention focused on disordered eating. It might also be the case that the relationship between BED and depression varies between individuals, depending on whether the depression is primary, secondary or unrelated to binge-eating.

Conceivably BE behaviours are symptoms of multiple and varied underlying causes, such as low self-esteem, problems with affect regulation and depression. Thus increasing the effectiveness of treatments would involve addressing the idiosyncratic nature of BE problems.

Finally, as CBIs have generally been evaluated as whole treatment packages, it is not possible to ascertain what aspects of treatment are helpful and why. Thus an essential step in informing future interventions would be to use dismantling studies to examine the specific features of psychological treatments and how these link to treatment outcomes.

Clinical Implications

Clinical implications that have arisen from the current review are as follows:

1. Although CBIs are the psychological therapy for BED for which there is most empirical support, they are not efficacious for a large percentage of sufferers and little is known about how they compare to spontaneous remission.

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Therefore, in order to allow clients to provide informed consent, they should be informed of such treatment limitations prior to undertaking treatment.

2. There is only limited empirical support for the efficacy of CBT for BED delivered in an individual format, therefore clinicians should be cautious regarding the implementation of this intervention, especially given limited resources.

3. Based on the limited available data, guided-self-help CBIs compare similarly to group CBIs despite using fewer clinical resources. CBT-gsh should therefore be considered as an alternative to group CBIs.

Future Research

This review has highlighted the following areas for further research:

1. Further comparisons of individually-delivered, group-delivered and self-help interventions for the treatment of BED are necessary.

2. Further research should be conducted into treatment for BED in individuals who are of a normal weight.

3. Further research examining the natural course of BED in community samples should be conducted in order to assess the utility of CBIs in comparison to natural remission rates.

4. More research is needed into the specific components of CBIs for BED and how these link to treatment outcomes.

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PART TWO: EMPIRICAL PAPER

Are Empirically-Supported Therapies for Bulimic Symptoms Associated with

Better Self-Rated Outcomes than Non-Empirically Supported Therapies?

Abstract

Aim: To investigate whether engaging in empirically-supported psychological therapies (ESTs) is associated with improved self-rated treatment outcomes in clients with bulimia nervosa and related disorders (BN-RDs). *Method*: 98 people who had engaged in psychological therapy for BN-RD completed a questionnaire which assessed the recalled specific contents of their most recent set of psychological therapy and self-rated therapy outcomes. *Results*: Contrary to prediction, self-rated treatment outcomes did not differ between respondents who engaged in ESTs and non-ESTs, or between respondents who engaged in CBT judged as 'adequate' and CBT judged as 'inadequate'. Respondents who engaged in a specialist form of CBT for bulimia nervosa (CBT-BN) reported greater improvement than those who engaged in standard CBT. *Conclusions*: The findings suggest that treatments that are labelled as ESTs are not necessarily perceived as more beneficial by clients with eating disorders than non-ESTs. However, there is some evidence that a specific evidence-based therapy (CBT-BN) led to better self-rated treatment outcomes than standard CBT.

Introduction

Bulimia nervosa (BN) is a distressing and disabling disorder, consisting of recurrent episodes of binge-eating followed by inappropriate compensatory behaviours, such as self-induced vomiting, fasting, excessive exercise or the inappropriate use of laxatives or diuretics (American Psychiatric Association: APA, 1994). Binge-eating episodes are characterised by large amounts of food being eaten in a discrete period of time and, crucially, a sense of loss of control over eating. Over-evaluation of body weight and shape must also be present. Clinically significant eating disorders that do not meet criteria for a diagnosis of BN or anorexia nervosa (AN; see below) are captured by the residual diagnosis of eating disorder not otherwise specified (EDNOS). EDNOS is the most commonly used eating disorder diagnosis in clinical settings and 50-70% of individuals with an eating disorder are estimated to receive this diagnosis (Ricca et al., 2001; Turner & Bryant-Waugh, 2004).

Binge-eating Disorder (BED) is included in the appendix of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) as an example of EDNOS and is proposed as a new diagnostic category (APA, 1994). BED differs from BN in that sufferers binge-eat but do not regularly engage in compensatory weight-control behaviours. Binge-eating and compensatory behaviours also commonly occur in individuals with AN: however, currently a diagnosis of AN overrides a diagnosis of BN (APA, 1994). It is estimated that BN occurs in approximately 1% of young western women and that partial eating disorder syndromes and EDNOS occur in between 2 and 5% of young western women (Fairburn & Beglin, 1994; Hay, 1998). This study investigated psychological treatment for people with all eating disorders involving binge-eating unless they were significantly underweight (BMI below 17.5:

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Fairburn, Cooper & Shafran, 2008), referred to throughout this paper as bulimia nervosa and related disorders (BN-RD). Hence, respondents had suffered from either BN or EDNOS (commonly the BN subtype).

Treatment

Treatment for BN-RDs consists broadly of psychopharmacology, psychological therapy or a combination of the two. Systematic reviews have found that whilst pharmacological treatments can play a role in treatment, psychological treatments alone are a better accepted therapeutic approach, as many individuals with BN are reluctant to take anti-depressant medication (Bacaltchuk, Hay & Trifiglio, 2004; Mitchell, Agras & Wonderlich, 2007).

Cognitive Behavioural Therapy (CBT): CBT is one of two ESTs for BN-RDs (the other being Interpersonal Psychotherapy; see below) and is now widely accepted as the 'treatment of choice' (Mitchell et al., 2007). RCTs have shown that CBT is either significantly more effective, or at least as effective, as any alternative form of psychological therapy for people with BN (Agras, Schneider, Arnow, Raeburn & Telch, 1989; Agras, Walsh, Fairburn, Wilson & Kraemer, 2000; Cooper & Steere, 1995; Fairburn, Kirk, O'Connor & Cooper, 1986; Fairburn, Jones, Peveler & Carr, 1991; Freeman, Sinclair, Turnbull & Annandale, 1985; Griffiths, Hadzi-Pavlovic & Channon-Little, 1994; Hsu et al., 2001; Sundgot-Borgen, Rosenvinge, Bahr & Schneider, 2002; Walsh, Wilson, Loeb & Devlin, 1997; Wolf & Crowther, 1992).

Fairburn and colleagues developed a manualised form of CBT specifically for sufferers of BN (CBT-BN; Fairburn, Marcus & Wilson, 1993). Elements specific to BN include psycho-education regarding the effects of food restriction/ purging and addressing issues of body checking. Treatment is outpatient-based and consists of

15-20 sessions over approximately five months. Controlled trials have shown that robust and clinically meaningful improvements are produced by CBT-BN, and that the treatment fares better than other available treatments, including non-specialist CBT (Agras et al., 2000; Fairburn et al., 1986b; Fairburn et al., 1991; Walsh et al., 1997). Specialist forms of CBT for the treatment of BED have also been evaluated with RCTs and are recommended for treatment of adults with BED (NICE, 2004).

An 'enhanced' form of CBT for all eating disorders (CBT-E) has recently been developed (Fairburn et al., 2008). The approach is based on the transdiagnostic cognitive-behavioural model of eating disorders, which extends the original cognitive-behavioural theory of BN to all eating disorders (Fairburn et al., 2008). Modules are included to address features commonly found in individuals with eating disorders that are 'external' to the core eating disorder such as perfectionism, low self-esteem and interpersonal difficulties. Initial evaluations of CBT-E show promising results for individuals with BN-RD (Fairburn et al., 2009). However, CBT-E was not specifically investigated in this study, as it has been developed too recently to be a widespread treatment.

Interpersonal Psychotherapy (IPT): IPT for BN-RD is a short-term psychological therapy, which focuses on interpersonal difficulties posited to maintain eating problems rather than eating disorder symptoms per se (Fairburn, 1993). IPT has been shown to demonstrate comparable outcomes to CBT at one-year follow-up although outcomes at end of treatment are less favourable, suggesting that the treatment may take longer to effect change (Agras et al., 2000; Fairburn, Jones, Peveler & Hope, 1993a).

Treatment Availability

National Guidance recommends that individuals with BN should be offered 16-20 sessions of CBT-BN. If patients do not want or do not respond to CBT-BN, IPT should be offered as an alternative. For patients with EDNOS, the specified approach for the most similar eating disorder should be followed (NICE, 2004). The clinical recommendation was given a grade of A, meaning it is based on the highest level of evidence (at least one randomised controlled trial and a consistent and good quality body of literature; NICE, 2004). This was the first time that NICE recommended a psychological therapy as the initial treatment of choice for a psychiatric disorder (Wilson & Shafran, 2005).

Despite clear guidance, a large proportion of sufferers of BN-RDs are not receiving the recommended treatment (Haas & Clopton, 2003; Shafran et al., 2009). Studies involving clinician-participants have found that clinicians tend to apply a range of psychodynamic and cognitive behavioural interventions to work with people with eating disorders (Thompson-Brenner & Westen, 2005; Tobin, Banker, Weisberg & Bowers, 2007), only a minority of clinicians use CBT as their primary approach to eating disorders and fewer than 4% of general practitioners use national guidelines to inform their treatment decisions (Currin et al., 2007). It has been found that as few as 6.9% of individuals with BN receive CBT (Crow, Mussell, Peterson, Knopke & Mitchell, 1999). One of the reasons that CBT is underutilised in this field may be due to the relative unavailability of therapists trained to administer CBT for eating disorders (Arnow, 1999; Murphy, Straebler, Cooper & Fairburn, 2010; Thompson-Brenner & Westen, 2005; Tobin et al., 2007). The lack of availability of IPT is far more pronounced than that of CBT as there are even fewer clinicians trained to administer it.

The obstacles to accessing ESTs for people with eating disorders parallel current access difficulties in the UK for individuals suffering from depression and anxiety. CBT for depression and anxiety is empirically-supported but there is a lack of clinicians who are adequately trained to deliver it. This discrepancy was emphasised in the Layard Report which stated that, at the time of writing, only one in four people with anxiety or depression were receiving any treatment. Layard made an economic argument for the need to improve access to psychological therapies for people with these disorders (Layard et al., 2006). This report formed the basis for the recent 'Improving Access to Psychological Therapies' (IAPT) government initiative to train 10,000 more CBT therapists, which has now been implemented nationwide (www.iapt.nhs.uk). Despite such schemes, there are still major obstacles relating to the dissemination and implementation of ESTs, particularly in the field of eating disorders (Shafran et al., 2009).

Sub-Optimal Delivery of CBT

A further concern regarding treatment for people with BN-RDs is that some individuals may be receiving psychological therapy that is labelled or 'badged' as CBT but does not include the core components of CBT, i.e. those components which have been found to be efficacious in research trials. Stobie and colleagues administered a treatment history questionnaire to a sample of individuals with Obsessive Compulsive Disorder (OCD; Stobie, Taylor, Quigley, Ewing & Salkovskis, 2007). Only 40% of those who had engaged in CBT met minimal criteria for having received 'adequate' CBT (as judged by a panel of experts who were asked to rate whether techniques should be included or excluded from CBT for OCD).

Adequate CBT for OCD required, for example, that the client had been asked to expose themselves to feared situations.

Stobie (2009) repeated the above study with a larger sample size (n=166) and a group of Panic Disorder (PD) patients to control for type of disorder. A group of OCD patients from a specialist CBT clinic comparison group was also included to control for recall bias. The therapy received by this group followed a set treatment protocol and was monitored, and could therefore be compared to what participants recalled. Over 60% of participants in the standard CBT group and 80% of participants in the PD group did not meet 'bare minimum' criteria for adequate CBT. OCD and PD participants who engaged in CBT rated their treatment gains significantly more highly than those who engaged in alternative psychological therapies. OCD and PD participants who were deemed to have engaged in adequate CBT rated their improvement significantly more highly than those participants who engaged in treatment labelled as CBT that was not adequate. The recalled therapy techniques were broadly consistent with the types of therapy which the participants recalled having received, suggesting minimal recall bias.

The Clients' Perspective

The studies described above are based on outcome measures designed to objectively measure eating disorder symptoms. It is important to also investigate the views of clients on the treatment of eating disorders so that they can be integrated with the best research evidence and clinical expertise, in order to develop treatments that are both effective and acceptable to clients (de la Rie, Noordenbos, Donker & van Furth, 2006). This is arguably particularly important in the field of eating

disorders where clients are often reluctant to engage in treatments (Rosenvinge & Kuhlefelt Klusmeier, 2000).

There have been few recent investigations of treatment of eating disorders from the clients' perspective. Bell (2003) reported that a majority of studies conducted suffer from numerous methodological problems, such as low response rates and poorly defined treatment categories. Two recent studies with large sample sizes (over 300) have evaluated the self-rated helpfulness of different types of treatment in adult community samples (Newton, Robinson, & Hartley, 1993; Rosenvinge & Kuhlefelt Klusmeier, 2000). The results of these studies were broadly similar. Both found long patient delays in seeking treatment and unsatisfactory levels of treatment availability. Both studies found that outpatient individual and group psychological therapy were regarded as helpful by the majority of patients, whereas family therapy was perceived as less helpful.

Summary

CBT and IPT are the recommended treatments for sufferers of BN-RDs. However, there is evidence that a large proportion of this population do not receive these treatments. Recent studies show that even when clients with anxiety do receive a psychological therapy labelled as CBT, it often does not meet minimal criteria to warrant this label. Engaging in 'inadequate' CBT is associated with poorer treatment outcomes from the clients' perspective than engaging in 'adequate' CBT. There are few studies investigating the treatment histories of sufferers of BN-RDs, thus little is known about the important issue of client perspectives on treatment.

This study aimed to investigate whether engaging in ESTs, and particularly CBT as it is evaluated in randomised controlled trials (RCTs), is associated with

improved treatment outcomes from the clients' perspective, compared to non-ESTs. A secondary aim was to add to existing evidence regarding self-reported treatment histories of eating disorder sufferers. Specific research questions were as follows;

1. What proportion of individuals with BN-RDs who engage in psychological therapy are engaging in empirically-supported psychological therapies (CBT and IPT)?

2. Is engaging in an empirically-supported psychological therapy associated with improved self-rated treatment outcomes, relative to engaging in a non-empirically-supported psychological therapy?

The following hypotheses were generated for testing using inferential statistics:

1. Respondents who recall having engaged in ESTs for BN-RDs (CBT or IPT) will report greater self-rated treatment gains than those who recall having engaged in non-ESTs, both in relation to their eating disorders (specific treatment gains) and in relation to other aspects of their lives (general treatment gains).

2. Respondents who recall having engaged in CBT rated as adequate will report greater self-rated treatment gains than those who recall having engaged in CBT rated as inadequate and those who recall having engaged in non empirically-supported treatments, both in relation to their eating disorders (specific treatment gains) and in relation to other aspects of their lives (general treatment gains).

3. Respondents who recall having engaged in CBT meeting criteria for CBT-BN will report greater self-rated treatment gains than those who recall having engaged in non empirically-supported treatments as well as standard CBT.

This result will apply both in relation to client's eating disorders (specific treatment gains) and in relation to other aspects of their lives (general treatment gains).

Method

Participants

Sample Size Analysis: A power calculation was performed in order to determine the sample needed for the study. The calculation was informed by prior work by Stobie (2009) who tested a similar hypothesis using a treatment history questionnaire in a sample of OCD sufferers. Stobie (2009) found an effect size of $f = 0.58$ (large) for specific OCD improvement and $f = 0.29$ (medium) for 'general' improvement. Based on these effect sizes, power calculations were conducted which indicated that at a power level of 0.8, a sample size of 26 respondents (13 per group) would be needed to detect group differences in eating disorder-related treatment gains and 96 (48 per group) to detect differences in 'general' treatment gains, using a comparable measure. However, in Stobie's (2009) study only 23% of the total sample were judged as having engaged in 'adequate' CBT. Therefore it was estimated that the current study would need a sample size of 57 to detect differences in eating disorder-related treatment gains (for at least 13 participants to have engaged in 'adequate' CBT) and 126 to detect group difference in 'general' treatment gains (for at least 48 individuals to have engaged in 'adequate' CBT).

Inclusion and Exclusion Criteria: Respondents were included if they were seventeen or over and recalled having received psychological therapy for BN or a related disorder (EDNOS BN-Subtype or EDNOS BED). Respondents were excluded if they met criteria for AN or EDNOS AN-Subtype at the start of their

therapy (see Treatment of Data). These retrospective diagnoses were generated on the basis of responses to the EDE-Q.

Setting

The study was based at a University College London research department. Respondents were recruited predominantly through online methods with the help of a national eating disorder charity (*Beat*).

Ethics

Ethical approval was granted from the University College London Research Ethics Committee (see Appendix A).

Procedure

The Bulimia Treatment History Questionnaire (BTHQ; see below) was constructed in electronic and hard-copy versions. Potential respondents were directed to a webpage on the *Beat* website which briefly outlined the study. For those wishing to complete the online version, an online information sheet, consent form (Appendix B) and BTHQ could be accessed via clicking relevant hyper-links. Those wishing to complete the hard-copy version of the BTHQ were asked to email the researcher to register an interest in taking part in the study. The researcher then posted the participant information sheet, consent form and BTHQ to the potential respondent, which they could return in a supplied stamped addressed envelope.

Recruitment Strategy

Beat posted information regarding the study within the 'research requests' section of their website (Appendix C). To raise awareness of the study, a number of different strategies were employed (examples are included in Appendix C):

- *Beat* emailed their professional member's network and posted information about the study on two of their social networking websites.

- Other charities and organisations also included information about the study on their homepage websites and social networking websites.

- An email was sent to all staff and students of University College London.

- A poster was made advertising the study, which was displayed in a number of eating disorder treatment centres, GP practices and university campuses nationally.

- The researchers sent an email to colleagues in the field of eating disorders.

Design

A non-experimental design was used. Respondents were asked to recall various aspects of the most recent set of psychological therapy they had engaged in for their eating disorder by completing a retrospective treatment history questionnaire.

Measures

The Eating Disorders Examination Questionnaire Version 6 (EDE-Q; Fairburn & Beglin, 2008): The EDE-Q (Appendix D, within BTHQ) is a 28 item self-report questionnaire assessing eating disorder symptomatology. It contains

diagnostic items based on DSM-IV criteria for eating disorders which relate to bulimic episodes, dietary restriction, compensatory behaviours and influence of body shape and weight on self-evaluation (APA, 1994). For diagnostic items respondents are asked to record the number of times or number of days on which the behaviour has occurred during the last 28 days. Items are also included addressing levels of eating disorder psychopathology (e.g. 'how dissatisfied have you been with your shape?'). Respondents rate the extent to which the particular factor had affected them on a 7 point Likert scale, where 0 is 'not at all' and 6 is 'markedly'. Four separate subscales can be calculated from the EDE-Q: eating restraint, eating concern, shape concern, and weight concern. A 'global' EDE-Q score is calculated by averaging the four subscales.

The EDE-Q is derived from the Eating Disorder Examination (EDE), a semi-structured interview which has been shown to have high reliability and validity (Fairburn & Cooper, 1993). The EDE-Q itself has been shown to have good internal consistency, test re-test reliability and temporal stability (e.g., Luce & Crowther, 1999; Mond, Hay, Rodgers, Owen & Beumont, 2004).

For the purpose of the current study respondents were asked to complete the questionnaire for the 28-day period which preceded the psychological therapy they described in the BTHQ. This differs from the way in which the measure has previously been used, as participants are normally asked to complete it for the 28 days immediately preceding the day of completion. Permission was granted by the author to adapt the EDE-Q in this way (Fairburn, 2009, personal communication).

The Bulimia and Related Disorders Treatment History Questionnaire (BTHQ; adapted for current study): The BTHQ (Appendix D) is an adapted form of 'The OCD Treatment History Questionnaire' (Stobie et al., 2007). It includes items

addressing demographics, the onset and course of the respondents' eating disorder and the most recent set of psychological therapy which the respondent engaged in for their eating disorder (including duration and therapeutic modality). The content of psychological therapy is assessed using 36 statements regarding therapy (e.g. 'I monitored my eating habits in a diary or record') to which respondents are asked to answer 'yes' or 'no' according to whether they recall the item being a part of their therapy. Items also assess self-rated treatment gains in relation to improvement in eating disorder symptoms and improvement in other aspects of respondents' lives. Respondents are asked to rate treatment gains on a scale of 0-100, where 0 is no improvement and 100 is total recovery.

The BTHQ was designed in collaboration with experts in the fields of CBT (BS) and eating disorder treatments (LS and CF). It was piloted by two individuals who had received psychological therapy for an eating disorder and by a Clinical Psychologist who specialises in the psychological treatment of eating disorders (LS). Feedback from the pilot was used to design the final version of the questionnaire.

Missing Data

The number of respondents included in different stages of analyses is shown in Figure 1. 152 respondents completed the BTHQ. Due to exclusions, data pertaining to 98 respondents was analysed descriptively. Data pertaining to 79 respondents was analysed descriptively and with regard to hypotheses one, two and three. See below (Treatment of Data) for a breakdown of the reasons for exclusion. One question on the EDE-Q was not recorded properly for all but two participants due to a technical error on the online questionnaire. Therefore scores were calculated

as an average of the completed items on that subscale as recommended for missing data by Fairburn and Beglin (2008).

Figure 1

Tree Diagram showing Number of Respondents Included in Different Stages of Analysis

Completed BTHQ	152

Missing BMI	6

Sub-clinical symptoms	3

Descriptive analysis	98

AN or EDNOS AN-subtype	45

Did not know type of therapy	11

Missed more than 25% of allocated therapy sessions	8

Analyses testing, hypotheses 1-3	79
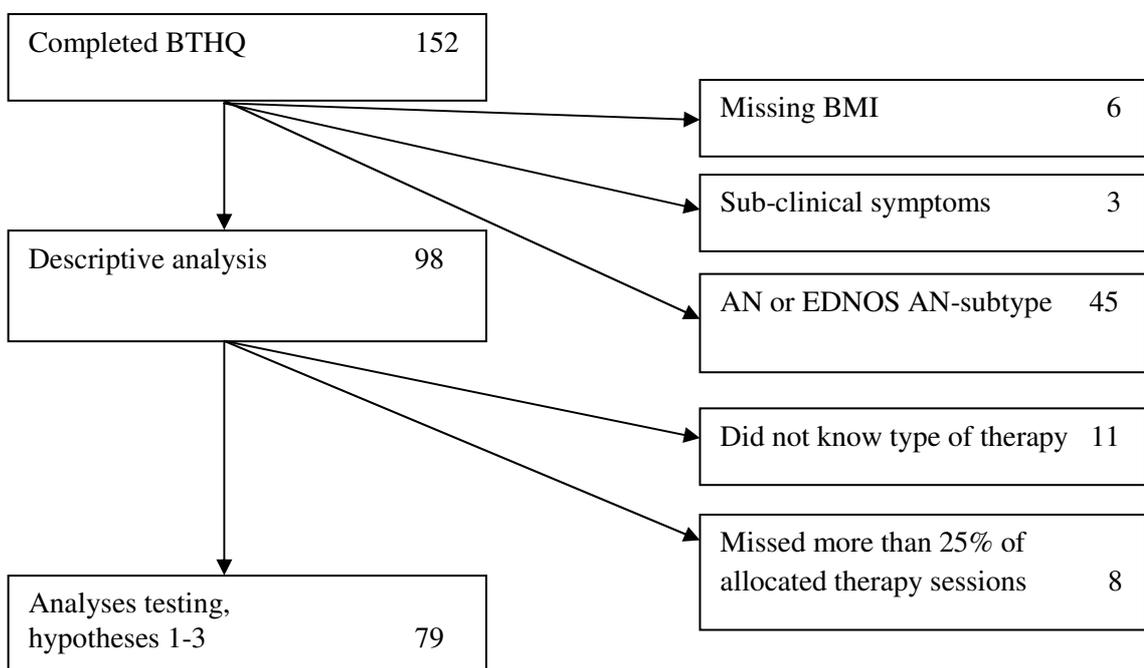
Treatment of Data

Respondents were categorised into diagnostic categories for the purposes of the study using an algorithm based on the diagnostic items on the EDE-Q (Appendix E). Thus, approximate diagnoses were made on the basis of a 28-day period rather than the 3 or 6 month periods which the DSM-IV refers to for diagnosis (APA, 1994). Of 152 respondents, 45 reported having a BMI below 17.5 at the time at which they began the psychological therapy which they described in the BTHQ.

They hence appeared to meet the above mentioned exclusion criteria of suffering with AN or EDNOS AN-subype and were excluded from all analyses. Six respondents were excluded because they had not reported information regarding their BMI and could therefore not be placed into a diagnostic category. Three participants were excluded due to reporting sub-clinical symptoms on the EDE-Q.

For analyses investigating the effect of contents of psychological therapy on self-rated treatment gains, further cases were excluded (Figure I). Firstly, respondents who were unsure what type of psychological therapy they had engaged in were excluded (N = 11). Secondly those respondents who had: a) been allocated a set number of therapy sessions and: b) had missed more than 25% of allocated sessions were excluded (N= 8). This was because it was not deemed appropriate to classify the adequacy of therapy delivered if the respondent had withdrawn from therapy prematurely or missed over a quarter of the sessions that they had been offered. 79 respondents were therefore included in subsequent analysis (as there was no overlap between respondents excluded for these two different reasons).

Respondents who recalled having engaged in CBT were classified into groups dependent on whether they were judged to have engaged in psychological therapy that met criteria for adequate or inadequate CBT (see Results). Criteria for these classifications were constructed by two expert clinicians / researchers in the field of CBT for eating disorders, CF and LS. Criteria for classifying whether the CBT respondents had engaged in was of a desirable quality was also constructed. As only nine respondents met this criteria it was not included in inferential statistical analysis. A breakdown of this classification is included in Appendix F.

Respondents who recalled engaging in CBT were also classified into groups dependent on whether their therapy was judged to have met criteria for CBT-BN. In

order to have engaged in CBT-BN respondents must have recalled engaging in CBT and answered 'yes' to five specified questions relating to CBT-BN (see Results). CBT-BN was classified separately to adequate CBT and regardless of whether the respondents' CBT was judged to be adequate or inadequate. This was due to evidence that CBT-BN is more efficacious than non-specialist CBT for BN-RDs (Hay et al., 2004; see Introduction).

Criteria for deciding whether adequate IPT had been engaged in by respondents was also developed (see Appendix F). As only two respondents recalled receiving IPT this analysis was discarded.

Statistical Analysis

Prior to any statistical analysis the data were checked for normality and homogeneity of variance. Due to significant non-normality of relevant outcome variables non-parametric tests were used. All hypotheses were tested using Mann-Whitney tests. To control for the fact that multiple significance tests were carried out, Bonferroni corrections were applied to reduce the type one error rate. In cases where analysis involved comparing more than two groups (hypotheses two and three and comparisons of Global EDE-Q scores), Kruskall Wallis tests were also performed. There were no differences between the results of significance tests when using Kruskall Wallis Tests and Mann Whitney tests with Bonferroni corrections. The latter were therefore reported due to their more conservative properties.

To provide a measure of internal consistency, Cronbach's alpha coefficients were computed for each of the EDE-Q subscales. These statistics were computed because the EDE-Q was used retrospectively in this study, which has not previously been validated to the author's knowledge.

<center>**Results**</center>

Sample Size

Once 126 participants had completed the questionnaire, the data was examined to ascertain the proportion of respondents who reported having engaged in CBT. As only 45% of the sample recalled having engaged in CBT (compared to the 61% expected based on Stobie's 2009 sample) efforts were made to extend the recruitment period to recruit a larger sample than initially planned. It was re-estimated that 177 respondents were needed for adequate power to detect differences in 'general' treatment gains. Unfortunately due to time and resource constraints only 152 respondents were recruited.

Demographics

Ninety-eight respondents met inclusion criteria for the study. Demographic data is summarised in Table 1. All but two respondents were female. The majority of participants were employed and were educated to degree or diploma level. The ages of respondents at different stages of their disorder and treatment are summarised in Table 3. All but two respondents completed the online version of the BTHQ.

Characteristics of Psychological Therapy

The characteristics of the therapy described by respondents is summarised in Table 2. A majority of the respondents described therapy which had been provided by the National Health Service on an outpatient basis. 41 respondents reported being offered a set number of sessions for their psychological therapy. The number of sessions offered ranged from 6 to 50 (M = 16 sessions).

Table 1

Respondent Demographics

	n	*%*
	(N=98)	
Gender		
- Female	96	98.0
- Male	2	2.0
Highest Educational Level		
- Degree or Diploma	57	58.2
- AS or A-levels	33	33.7
- G. C. S. E.s	8	8.2
Occupational Status		
- Employed	54	55.1
- Studying	36	36.7
- Full time parent/ carer	4	4.1
- Sick leave	2	2.0
- Unemployed	1	1.0
- Retired	1	1.0

Table 2

Characteristics of Psychological Therapy

	n	%
	(N = 98)	
Treatment Provider		
- NHS	78	79.6
- Private	18	18.4
- Not sure	2	2.0
Format		
- Outpatient	92	93.9
- Day-patient	2	2.1
- Inpatient	4	4.1
Professional		
- Psychologist	37	37.8
- Counsellor	19	19.4
- Psychiatrist	13	13.3
- Nurse Therapist	10	10.2
- Community Psychiatric Nurse	3	3.1
- Psychodynamic Psychotherapist	3	3.1
- Family Therapist	2	2.0
- Other	9	9.2
- Not Sure	2	2.0

Year of Therapy

The year in which the psychological therapy described in the BTHQ began ranged from 1994 to 2010 (Mode = 2009, 21 respondents). 92 respondents reported beginning the therapy described after January 2004 (when relevant NICE guidelines were published). Three respondents reported engaging in the therapy described before 2000.

Waiting-lists

The waiting-list times for respondents who reported this information (n = 67) ranged from 0 to 24 months (M = 5. 2 months, SD = 28.85).

Eating Disorder Course and Treatment

Data regarding respondents' eating disorder history is summarised in Table 3.

Table 3

Eating Disorder Course and Treatment (N = 98)

	M (SD) (years)	Range (years)
Age Symptoms First Developed	13.6 (3.25)	6 - 22
Age Symptoms Began Interfering Significantly with Life	16.5 (4.32)	11 - 43
Age Professional Diagnosis	19.2 (6.00)	11 - 54
Age First Sought Professional Help	19.8 (6.57)	11-54
Age First Offered Treatment	20.4 (7.48)	12-54
Age First Received Treatment	21.2 (7.31)	12-54
Duration Between Seeking Professional Help and Being Offered Treatment	0.84 (3.80)	0-18

Clinical Features at Time Psychological Therapy Commenced

Based on the diagnostic algorithm applied to EDE-Q scores (see Method), 80 respondents met criteria for BN, 18 for EDNOS BN-Subtype and 0 for EDNOS-BED at the time at which they commenced the therapy described in the BTHQ. The respondents' clinical features during the 28-day period preceding treatment are summarised in Table 4. To assess the level of symptom severity during this period, scores on the EDE-Q were compared to normative data (obtained from Mond et al., 2006). Respondents mean scores were at least 2 standard deviations higher than those obtained by a normative sample of women (with the exception of Shape Concern, which was almost 2 SDs higher), indicating that the respondents represented a clinical sample. The data was also compared to EDE-Q scores for a sample of clients beginning treatment at a London Eating Disorder Service (personal communication, Serpell, 2011). The EDE-Q global score for the sample obtained was one just over one standard deviation above that of the clinic data, suggesting that, at the time they began treatment, the current sample had more severe eating disorder symptomatology than those presenting for treatment in a London clinic. Body Mass Index (BMI; kg/M^2) ranged from 17.50 to 57.26. 18 respondents (18.37%) were underweight (BMI below 18.5), 60 (61.22%) were in the healthy range (BMI 18.5 – 24.9), 11 (11.22%) were overweight (BMI 25 – 29.9) and 9 (9.18%) were obese (BMI 30+). Mean BMI was in the healthy range and mean frequency of eating disorder behaviours ranged from 6.82 (laxative abuse) to 32.8 (vomiting) per 28 days.

Table 4

Clinical Features at Time Psychological Therapy Commenced (N=98)

	M (SD)	Cronbach's Alpha
EDE-Q		
Global Score	5.05 (0.77)	0.877
Dietary Restraint Subscale	4.67 (1.28)	0.744
Eating Concern Subscale	4.76 (0.97)	0.551
Weight Concern Subscale	5.33 (0.86)	0.683
Shape Concern Subscale	5.42 (0.78)	0.785
BMI (kg/m2)	22.95 (7.24)	
Symptom Frequency		
Binges	24.3 (25.28)	
Vomiting	32.8 (42.75)	
Laxative Abuse	6.82 (10.66)	
Compensatory exercise	11.79 (10.17)	

Type of Psychological Therapy

Table 5 shows the different types of psychological therapy that respondents recalled most recently engaging in. Just over half of respondents (54.08%) recalled engaging in CBT (51.02%) or IPT (3.06%). After CBT, the commonest therapy reported was counselling/supportive therapy (11.22%). A significant proportion of respondents (11.22%) were unsure what type of psychological therapy they had most recently engaged in.

Table 5

Most Recent Type of Psychological Therapy

	n	%
	(N = 98)	
Cognitive Behaviour Therapy	50	51.02
Counselling/ Supportive Therapy	11	11.22
Not Sure	11	11.22
Psychodynamic Psychotherapy	4	4.08
Interpersonal Psychotherapy	3	3.06
Eating Disorder Group Therapy	3	3.06
Humanistic Therapy	2	2.04
Dialectical Behaviour Therapy	2	2.04
Cognitive Analytic Therapy	2	2.04
Behaviour Therapy	1	1.02
General Group Therapy	1	1.02
Over-eaters Anonymous 12-step Programme	1	1.02
Family or Couples Therapy	1	1.02
Other	6	6.12

Distribution of Data

Prior to hypothesis testing the distribution of data was assessed. Kolmogorov-Smirnov tests were conducted to check for normality. Outcome data was found to be non-normally and bi-modally distributed, for both the variable of specific self-rated treatment gains [KS (79) = .163, p = <.000] and general self-rated treatment gains [KS (79) = .128, p = .003]. It was deemed inappropriate to transform the data due to the bi-modal distribution. The variable 'Global EDE-Q' Score was also found to be non-normally distributed [KS (79) = 1.535, p = .018]. Non-parametric tests were therefore used in all statistical analyses. This meant it was not possible to conduct an Analysis of Covariance investigating the effect of type/ contents of therapy on self-rated treatment outcomes while controlling for severity of disorder. However pre-treatment differences between groups in disorder severity are discussed below.

Cronbach's alphas were also calculated for the EDE-Q subscales to assess levels of internal consistency (i.e., the degree to which the individual items are measuring the same construct; see Table 4). The global scale and all subscales, with the exception of Eating Concern, were found to have an acceptable or good level of internal consistency (i.e. above 0.6 and below 0.9; Field, 2000).

Severity of Disorder Pre-treatment

Prior to hypothesis testing, Global EDE-Q scores were compared between groups, to explore potential pre-treatment differences in severity of eating disorder. There was found to be no significant differences in severity of eating disorder symptoms (Global EDE-Q scores) between any of the groups compared for self-rated treatment outcomes. These analyses are shown in table 6. Bonferroni corrections were applied, giving an acceptable alpha level of 0.01.

Table 6

Comparison of Retrospective Pre-treatment Global EDE-Q Scores Between Groups

ESTs	Non-ESTs	Adequate CBT	Inadequate CBT	CBT-BN	CBT Standard	Mann-Whitney		
M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	U	z	p
n = 46	n = 33	n = 17	n = 27	n = 15	n = 29			
4.94 (0.86)	5.14 (0.75)					652.5	-1.059	.290
		5.04 (0.82)	4.92 (0.89)			210.0	-.470	.638
	5.14 (0.75)	5.04 (0.82)				256.0	-.502	.616
				4.88 (1.06)	5.01 (0.75)	213.5	-.099	.921
	5.14 (0.75)			4.88 (1.06)		215.5	-.712	.476

Hypothesis Testing

Hypothesis One: Respondents who recall having engaged in an EST for BN or a related disorder (CBT or IPT) will report greater self-rated treatment gains than those who recall having engaged in a non-EST, both in relation to their eating disorders (specific treatment gains) and in relation to other aspects of their lives (general treatment gains).

Table 7 shows respondents' mean ratings for specific and general self-rated treatment gains, according to whether they recalled engaging in an EST or a non-EST. Respondents were asked to rate self-rated improvement on a 0-100 scale, where 0 indicated no improvement and 100 indicated total improvement.

To test hypothesis one, Mann-Whitney tests were conducted comparing self-rated treatment gains for the EST group and the non-EST group (Table 7). No significant differences were found between the groups for specific or general self-rated treatment gains, showing those who engaged in ESTs did not rate their treatment gains differently to those who engaged in non-ESTs.

Table 7

Comparison of Self-Rated Treatment Gains: ESTs and Non-ESTs

	ESTs	Non-ESTs			
	M (SD)	M (SD)	Mann-Whitney		
			U	z	p
	n = 46	n = 33	717.0	-4.201	.340
Specific	41.96 (31.01)	44.90 (32.17)			
General	44.30 (31.72)	49.18 (31.21)	692.5	-.662	.250

Hypothesis Two: Respondents who recall having engaged in CBT rated as 'adequate' will report greater self-rated treatment gains than those who recall having engaged in CBT rated as 'inadequate' and those who recall having engaged in non empirically-supported treatments, both in relation to their eating disorders (specific treatment gains) and in relation to other aspects of their lives (general treatment gains).

Table 8 shows the proportion of respondents who were classified as having received adequate and inadequate CBT and the proportion of respondents who answered 'yes' to the specific questions used for the classification. Table 9 shows mean self-rated treatment gains (specific and general) for respondents who recalled having engaged in CBT, according to whether the therapy described was judged to be adequate or inadequate.

To test hypothesis two, Mann-Whitney tests were conducted comparing self-rated treatment gains for the adequate and inadequate CBT groups and the adequate CBT and non-EST groups (Table 9). As multiple tests were conducted, the standard alpha level .05 was divided by the number of tests conducted, to reduce the likelihood of a type one error. This gave an acceptable alpha level of .025. There were no significant differences in self-rated treatment gains for respondents who had engaged in adequate and inadequate CBT, or between respondents who had engaged in adequate CBT and non-ESTs.

Table 8

Classification of CBT Quality (N = 44)

	Answered 'Yes'	
	n	*%*
Questions		
1.'My therapist and I both had an active role in treatment (for example, we planned how to spend therapy sessions and tasks that I would do).'	31	70.45
2.'The therapy involved carrying out regular 'homework' or self-help tasks outside of the therapy sessions.'	37	84.09
3.'I monitored my eating habits in a diary or record.'	32	72.73
4.'My therapist explained the treatment approach and the rationale behind it.'	30	68.18
Judged as Adequate CBT[a]	17	38.64
Judged as Inadequate CBT[b]	27	61.36

[a] Answered 'Yes' to questions 1-4.

[b] Answered 'No' to any of questions 1-4.

Table 9

Comparison of Self-Rated Treatment Gains; Adequate and Inadequate CBT

	Adequate CBT (a)	Inadequate CBT (b)	Non-EST (c)	Mann-Whitney U	z	p
	M (SD)	M (SD)	M (SD)			
	n = 17	n = 27	n = 33			
Specific	44.12 (32.32)	39.63 (30.09)	44.91 (32.17)			
a – b				212.5	-.412	.680
a – c				279.5	-.021	.984
General	51.53 (32.58)	38.96 (31.10)	49.18 (31.22)			
a - b				179.5	-1.214	.225
a - c				266.5	-.288	.774

Hypothesis Three: Respondents who recall having engaged in CBT meeting criteria for CBT-BN will report greater self-rated treatment gains than those who recall having engaged in non empirically-supported treatments as well as 'standard' CBT. This result will apply both in relation to clients' eating disorders (specific treatment gains) and in relation to other aspects of their lives (general treatment gains).

Table 10 shows the proportion of respondents who recalled having engaged in CBT who were classified as having engaged in CBT-BN and the proportion of respondents who said 'Yes' to specific questions used for this classification. Table 11 shows mean self-rated treatment gains for respondents who recalled having engaged in CBT, according to whether the therapy described was judged to meet criteria for adequate CBT-BN or not (CBT Standard).

To test Hypothesis three, Mann-Whitney tests were conducted comparing self-rated treatment gains for the CBT-BN and CBT Standard groups and the CBT-BN and Non-EST groups (Table 11). As multiple significance tests were conducted, the standard alpha level of .05 was divided by the number of tests conducted, giving an acceptable alpha level of .025.

Respondents who engaged in CBT-BN reported significantly higher specific and general treatment gains than respondents who recalled having standard CBT. No significant differences in specific or general self-rated treatment gains were found between those who received CBT-BN and those who received non-ESTs. These results show that respondents who engaged in CBT-BN rated their treatment gains more highly than those who engaged in standard CBT, but no differently to those who engaged in non-ESTs.

Table 10

Classification of CBT-BN (N = 44)

Questions	Answered 'Yes'	
	n	*%*
1.'We discussed the relationship between binge-eating and dieting.'	29	65.90
2.'We talked about any issues I had about looking at my own body (for example, frequently checking parts of my body or avoiding looking at parts of my body).'	27	61.36
3.'I was given advice about how to, or was encouraged to, establish a regular pattern of eating.'	38	86.36
4.'I was provided with information about weight and eating (for example, the consequences of binge-eating, self-induced vomiting, and laxative abuse).'	29	65.90
5.'We discussed how I could stop dieting or how I could stop avoiding eating.'	31	70.45
Judged as CBT-BN [a]	15	34.09
Judged as CBT Standard[b]	29	65.90

[a] Answered 'Yes' to Questions 1-5.

[b] Answered 'No' to any of questions 1-5.

Table 11

Comparison of Self-Rated Treatment Gains: CBT-BN and Standard CBT

	CBT-BN (a)	CBT Standard (b)	Non-ESTs (c)	Mann-Whitney U	z	p
	M (SD)	M (SD)	M (SD)			
Specific	n = 15	n = 29	n = 33			
	62.67	30.34	44.91			
	(22.82)	(28.56)	(32.17)			
a-b				88.5	-3.214	.001*
a-c				169.0	-1.752	.080
General	65.67	32.52	49.18			
	(22.59)	(30.34)	(31.22)			
a-b				91.0	-3.155	.002*
a-c				172.5	-1.676	.094

*significant at p<0.025

Supplementary Analysis

Maintenance of Treatment Gains: Table 12 shows respondents mean durations of maintenance of specific and general treatment gains and the proportion of respondents who reported that they had maintained their treatment gains until the time at which they completed the BTHQ. Respondents who engaged in CBT-BN reported maintaining their specific treatment gains for an average of 44.27 weeks, whereas respondents who had engaged in standard CBT reported maintaining specific gains for only 9.74 weeks. 46.67% of the CBT-BN group reported still having maintained specific treatment gains at the time of completing the questionnaire, compared to 24.13% of the standard CBT group. There was less discrepancy between the groups for general treatment gains.

Statistical analysis was not conducted in regard to maintenance of treatment gains due to issues regarding the collected data. There was much variation between respondents in regard to the duration between finishing the therapy they described and filling out the questionnaire (therapy – BTHQ duration). In other words, some participants would have only recently finished therapy when completing the BTHQ while others would have finished, for example, four years ago. Therefore, any statistical analysis involving maintenance of treatment gains would need to account for the factor of therapy - BTHQ duration. This was not possible as this factor was not measured precisely by the BTHQ.

Table 12

Maintenance of Treatment Gains

	Duration Gains Maintained[a]		Gains Currently Maintained	
	Specific M (SD)	General M (SD)	Specific N (%)	General N (%)
ESTs (n=46)	21.06 (47.62)	28.15 (53.38)	15 (32.60)	24 (52.17)
Non-ESTs (n = 33)	19.09 (58.87)	37.29 (91.45)	11 (33.33)	24 (72.72)
Adequate CBT (n=17)	29.41 (67.06)	26.29 (52.03)	8 (47.05)	10 (58.82)
Inadequate CBT (n=27)	16.54 (32.76)	30.57 (56.79)	6 (22.22)	13 (48.15)
CBT-BN (n = 15)	44.27 (76.03)	35.5 (56.76)	7 (46.67)	8 (53.33)
CBT Standard (n =29)	9.74 (17.80)	25.52 (53.87)	7 (24.13)	15 (51.72)

[a] weeks

Degree to Which Respondents Liked Their Therapist: An item pertaining to the extent to which respondents liked their therapist was included in the BTHQ, due to findings by Blake Stobie that this factor was associated with self-rated treatment gains in a sample of OCD sufferers (2009, personal communication). Respondents were asked to categorize the extent to which they liked their therapist by choosing one of four options (not at all, slightly, moderately or very much). The four response groups were collapsed into two categories for analyses: 'not at all/ slightly' and 'moderately/ very much'. Based on previous research on non-specific therapy factors, it was predicted that respondents who reported liking their therapist moderately or very much would report significantly higher specific and general treatment gains than those who reported liking their therapist slightly or not at all. Table 12 shows respondents mean self-rated treatment gains according to how much they reported liking their therapists. In order to test the above prediction Mann Whitney tests were conducted comparing the two categories of 'degree to which respondent liked therapist' (Table 13). For specific and general treatment gains, respondents' who liked their therapist moderately or very much reported significantly greater treatment gains than respondents who reported liking their therapists slightly or not at all.

Table 13

Comparison of Self-Rated Treatment Gains: Degree to Which Respondent Liked Their Therapist

	Not At All or Slightly n =23	Moderately or Very Much n = 75			
	M (SD)	M (SD)	Mann Whitney U	z	p
Specific	18.91 (22.56)	47.61 (30.37)	410.5	-3.812	.000*
General	23.04 (27.40)	50.16 (30.28)	454.0	-3.441	.001*

*significant at p = .05

Discussion

This study aimed to investigate whether engaging in ESTs, and particularly CBT as it is evaluated in RCTs, is associated with improved treatment outcomes from the clients' perspective, compared to non-ESTs. Contrary to prediction, individuals who had engaged in the ESTs of CBT and IPT did not rate their treatment gains differently to those who had engaged in a variety of non-ESTs. Respondents who had engaged in CBT-BN rated their treatment gains more highly than respondents who had engaged in standard CBT but not significantly more highly than respondents who had engaged in non-ESTs. These findings will be discussed below in relation to the research questions.

Treatment History Studies

A secondary aim of this study was to add to existing evidence regarding self-reported treatment histories of eating disorder sufferers. Results of this study add to findings of unsatisfactory treatment availability, long delays between symptom onset and seeking treatment and long delays between seeking and receiving treatment (de la Rie et al., 2006; Newton et al., 1993). Eating disorders are often hidden by sufferers (Fairburn & Cooper, 1982) and this is likely to account in part for these concerning findings. Issues relating to treatment availability are also relevant and will be discussed below in relation to further findings of the study.

What Proportion of Individuals with BN-RDs who Engage in Psychological Therapy Engage in ESTs?

Just over half (54.08%) of individuals who had engaged in psychological therapy for the treatment of BN-RDs engaged in the ESTs of CBT (51.02%) or IPT (3.06%). Although in accordance with previous research (e.g. Crow et al., 1999) this is a surprisingly low figure, considering the strong evidence-base for these treatments and clear national guidance recommending their use which was published in 2004 (NICE, 2004). Only 6.12% (n = 6) of the sample described therapy received prior to 2004.

There are likely to be a variety of reasons behind the small proportion of those with BN-RD engaging in evidence-based psychological therapies. One explanation relates to evidence of minimal use of national treatment guidelines by health professionals in the UK. One survey of general practitioners working in a diverse UK geographical region (population 6.4 million) found that only 4% reported

using local guidelines or protocols and none used national treatment guidelines (Curren et al., 2007). Another contributing factor is likely to be the lack of adequate resources available to deliver such treatments (Shafran et al., 2009). A discussion of resource constraints within the National Health Service is beyond the remit of this paper. However, it is important to acknowledge that such issues lead to low levels of psychological therapy being prescribed (Layard, Clark, Knapp, & Mayraz, 2007) despite evidence that CBT is a cost-effective treatment (Layard et al., 2007; Myhr & Payne, 2006; van Asselt et al., 2008). The IAPT scheme has attempted to address this issue for anxiety and depression but no such scheme exists for eating disorders.

Delivery of Evidence-Based Treatments: Of those respondents who recalled engaging in CBT (n = 44), only 17 (38.64%) were deemed to have engaged in adequate CBT and only 15 (34.09%) were deemed to have engaged in CBT-BN, based on minimum criteria developed by experts in the field of CBT for eating disorders. This finding supports previous evidence that CBT is often delivered differently to the way it is evaluated in RCTs (Kessler et al., 2007; Stobie et al., 2007; Stobie, 2009). Thus the findings of this study add to existing evidence that suggests that there are problems not only at the stage of dissemination of ESTs, but at the stage of implementation of ESTs by mental health professionals.

Is Engaging in an EST Associated with Greater Self-Rated Treatment Outcomes than Engaging in a Non-EST?

Issues relating to the dissemination and implementation of ESTs for eating disorders are arguably only relevant if engaging in ESTs results in improved

outcomes for clients, relative to engaging in non-ESTs. This study found mixed results regarding this issue in regard to self-rated treatment gains.

ESTs and Non-ESTs: Contrary to predictions, no differences were found in self-rated treatment gains between respondents who engaged in ESTs (CBT and IPT) and respondents who engaged in non-ESTs (hypothesis one). This surprising result differs from findings that individuals with OCD who engaged in ESTs reported higher treatment gains than those who engaged in non-ESTs (Stobie et al., 2007; Stobie, 2009) and the results of numerous RCTs that have found CBT and IPT to be efficacious for BN-RDs (Hay et al., 2004).

Mean self-rated treatment outcomes (specific and general) were slightly higher for the non-ESTs group than the ESTs group (the opposite direction to that predicted), meaning that the negative finding is unlikely to be accounted for by an underpowered statistical analysis. However, due to methodological limitations associated with this study such as sampling issues and the reliance on respondent recall (discussed below), one must be cautious in making interpretations on the basis of this finding. It is possible that ESTs for eating disorders are associated with improved treatment outcomes from the clients' perspective relative to non-ESTs and that this study failed to detect such an effect. Issues pertaining to variables that may have impacted self-rated treatment gains, such as the degree to which respondents' reported liking their therapists, are discussed below.

Other possible explanations for this finding concern broader issues relating to the evaluation of psychological therapies. Firstly, it is possible that although CBT and IPT have been found to be efficacious in RCTs, they are not as effective when applied to the population at large. There are many factors that potentially differ

between RCTs and everyday clinical practice which are likely to contribute to a potential efficacy-effectiveness gap, such as the complexity of clinical cases, the expertise of clinicians and levels of therapist supervision (Shafran et al., 2009). However, there is continued debate regarding this issue in the literature. Shafran and others (2009) point to many findings to suggest a minimal efficacy-effectiveness gap. For example, an evaluation study of CBT-E found the treatment to be equally effective for individuals with varying diagnosis (including EDNOS) as trials of CBT for BN (which have excluded EDNOS) have been (Fairburn et al., 2009). Shafran and colleagues suggest that (largely irrational) clinician beliefs regarding the efficacy-effectiveness gap (e.g. that RCTs are not applicable to everyday practice) are however an obstacle to the implementation of ESTs.

Conversely, another research group comment that RCT methodology appears to be valid for some disorders and treatments, particularly exposure-based treatments for specific anxiety symptoms, but not for others, such as eating disorder treatments (Westen, Novotny & Thompson-Brenner, 2004). The researchers argue that the use of RCT methodology applied to the evaluation of psychological therapies makes a number of assumptions that are neither well validated nor broadly applicable to most disorders and treatments, which results is an efficacy-effectiveness gap in some areas such eating disorder treatments. These assumptions include: that psychopathology is highly malleable; that most patients can be treated for a single problem or disorder; that psychiatric treatments can be treated independently of personality factors; that experimental methods provide a gold standard for identifying useful psychotherapeutic packages. The researchers state that RCT methodology least violates symptoms or syndromes that involve "a link between a specific stimulus or

representation and a specific cognitive, affective or behavioural response that is not densely interconnected with (or can be readily disrupted despite) other symptoms or personality characteristics" (p.655). Such disorders include simple phobia, panic symptoms, PTSD following an isolated traumatic experience and OCD. This argument may explain the differing results of this study to similar studies with OCD sufferers (Stobie et al., 2007; Stobie, 2009).

An alternative (or additional) explanation for the lack of difference found in self-rated treatment gains between ESTs and non-ESTs is that non-ESTs are as effective for clients as ESTs but that there is less empirical support for non-ESTs at present because these therapies are under-researched, rather than because they are less effective. Westen and others (2004) argue that some treatments that are described as non-ESTs have not been adequately evaluated. For example, the effectiveness of psychodynamic treatments for BN-RD are at best unknown (as opposed to invalidated). Research including psychodynamic treatments is sparse and when included, 'psychodynamically inspired' treatment conditions bear little resemblance to psychodynamic psychotherapy as practiced in the community (e.g. the duration of therapy is 20 sessions to match CBT conditions, when psychodynamic theory emphasizes changes in enduring personality diathesis which is likely to require much longer to take effect).

There is also a body of research which has focused on effectiveness and/ or practice-based evaluations of psychological therapy, rather than efficacy studies, which have found similar results to the current study, in that different psychological therapies have been found to perform equivalently to one another. Stiles and colleagues (Stiles, Barkham, Mellor-Clark & Connell, 2008), in replicating a

previous study (Stiles, Barkham, Twigg, Mellor-Clark & Cooper, 2006), compared outcomes for 5613 patients who received CBT, Person-centred Therapy or Psychodynamic Therapy at 32 NHS primary-care services during a three-year period. Outcomes were measured using the Clinical Outcomes in Routine Evaluation – Outcome Measure (CORE-OM). Participants presented with a variety of psychological disorders and over half were taking prescribed psychotropic medications at the start of their therapy. Treatment lasted for a variety of durations and was performed by one of 399 different therapists (characteristics not recorded). The researchers concluded that the theoretically different approaches tended to have broadly similar outcomes, although they called for caution due to methodological issues such as non-random assignment of participants and incomplete data.

Similar outcomes regarding equivalence of different psychological therapies have also been found using retrospective methodologies. Seligman (1995) points to a survey conducted by Consumer Reports in the United States (Consumer Reports, 1995) in which questions regarding previous experiences of psychological problems and treatments were included in a version of its 1994 annual questionnaire. Approximately 7000 readers responded to the questions. Again, the results showed that no specific modality of psychological therapy did any better than any other for any problem. Seligman argues that the methodology of the Consumer Reports survey has methodological strength, due to its realism: it assessed psychological therapy as it is actually performed in the field with the population that actually seeks it. Thus, the findings relating to similar outcomes for the EST and non-EST groups in the current study may be in part explained by the phenomena that psychological therapies have been found to have equivalent outcomes when evaluated using

effectiveness or practice-based studies, rather than efficacy studies. It remains unclear, however, whether the discrepancies between findings regarding effectiveness and efficacy studies are due to methodological problems or an observed actual difference.

Adequate and Inadequate CBT: Also contrary to predictions and prior research (Stobie et al., 2007; Stobie 2009), no statistically significant differences were found in self-rated treatment gains between those who were deemed to have engaged in adequate CBT and inadequate CBT or non-ESTs (hypothesis two). The means of self-rated treatment gains differed as predicted in that those who engaged in adequate CBT rated treatment gains more highly than those who engaged in inadequate CBT (although these differences were not significant). However, mean self-rated treatment gains were very similar for the adequate CBT and non-EST groups. This finding is best interpreted in the context of findings regarding CBT-BN, discussed below.

CBT-BN: As predicted, and in accordance with findings of numerous RCTs (Hay et al, 2004), respondents who were deemed to have engaged in CBT-BN reported significantly higher treatment gains (specific and general) than respondents who were deemed to have engaged in Standard CBT (hypothesis three). Examination of the data also suggests that treatment gains were maintained for longer for the CBT-BN group than the Standard CBT group, although it was not possible to test this finding for significance. Given the lack of difference found regarding self-rated treatment gains between adequate and inadequate CBT, this finding begs the question, 'what is the difference between adequate CBT and CBT-BN'? The questions used to classify adequate CBT focused on general (or non-

disorder-specific) cognitive-behavioural technique (e.g. 'my therapist and I both had an active role in treatment'). The questions used to classify CBT-BN, on the other hand, concerned applying CBT techniques to eating disorder symptoms (e.g. 'we discussed how I could stop dieting or how I could stop avoiding eating'). They were based on techniques derived from the cognitive model of the maintenance of BN (Fairburn et al., 1986a), which CBT-BN is derived from. The model states that dieting maintains binge-eating behaviour through physiological and psychological mechanisms, and that compensatory behaviours such as vomiting also encourage binge-eating because beliefs in their effectiveness negate restraints regarding over-eating. Thus, CBT-BN addresses such issues by, for example, focusing on these maintenance cycles (e.g. assessed using BTHQ item, 'we discussed the relationship between binge-eating and dieting'). Therefore, the study findings can be taken as evidence to support the utility of cognitive-behavioural model of BN. They suggest that although applying general cognitive-behavioural techniques (such as agenda setting or homework setting) are not necessarily associated with improved self-rated treatment outcomes compared to non-ESTs, applying CBT-BN techniques to bulimic symptoms are. This interpretation is supported by findings from previous treatment history studies which have found focusing on eating disorder symptoms to be an important aspect of treatment (de la Rie et al., 2006; de la Rie, Noordenbos, Donker & van Furth, 2008). However they are inconsistent with studies that have found IPT, a therapy which does not focus eating disorder symptoms, to be effective for BN-RDs (Agras et al., 2000; Fairburn et al., 1993a).

In regard to this study, it is possible that the CBT-BN group were receiving CBT by clinicians more experienced and skilled in the treatment of (CBT for) eating

disorders than the standard CBT group. It is also possible that the CBT-BN group were receiving more structured, protocol driven treatments than the standard CBT group. In other words, the standard CBT group may have been receiving a treatment that had been 'labelled' as CBT, but did not contain some of the core components of the treatment that have been found to be efficacious for BN-RDs. If so, the results can be interpreted as a warning that although cognitive-behavioural techniques are recommended in national guidelines for the treatment of bulimic disorders, they must be delivered by adequately trained professionals and must include components that have been shown to be efficacious. In other words, the blanket prescription in NICE guidelines of CBT for BN-RDs may neglect the important factors of treatment protocol and clinician expertise.

Finally, it is important to consider why those who had engaged in adequate CBT and CBT-BN did not report significantly higher treatment gains than individuals who had engaged in non-ESTs. Again these findings may be due to a lack of adequate power and/or methodological issues. Alternatively they could also be explained by the suggestion discussed above that some non-ESTs are equally as effective for BN-RDs as ESTs, but there is a lack of evidence to support these therapies at present because of issues relating to their empirical evaluation.

Influence of Other Factors

The Role of Liking One's Therapist: Supplementary analysis found that those who reported liking their therapists rated their treatment gains more highly than those who reported not liking their therapist. The causal direction of the relationship between liking one's therapist and self-rated treatment outcomes cannot be

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determined from the results of this study. It is possible that liking one's therapist contributed to improved treatment outcomes, or that improvement in therapy contributes to rating ones therapist as more likeable. Conceivably, liking one's therapist could be a mediating factor between the content of therapy and self-rated treatment outcomes. Arguably, 'liking one's therapist' is one factor involved in what is broadly referred to as the therapeutic alliance. Thus, this finding is in-line with a large body of evidence which suggests that the therapeutic alliance is strongly associated with psychological therapy outcomes (e.g. Martin, Garske & Davis, 2000). Further studies in this area would benefit from measuring the impact of therapist-client relationship factors on self-rated treatment outcomes.

Severity and Co-morbidity of Disorder: A further factor that conceivably would have affected self-rated treatment gains is that of the severity and co-morbidity of the clients' eating disorders. In relation to severity of disorder, the comparisons conducted between groups relating to Global EDE-Q scores suggested that the groups compared in the current study had broadly similar levels of eating disorder symptoms when they commenced the psychological therapy described in the BTHQ. Thus it is unlikely that this factor impacted the observed differenced in self-rated treatment gains. In relation to co-morbidity, participants included in RCTs which have shown CBT and IPT to be efficacious for BN-RD commonly do not have a co-morbid psychiatric diagnosis (as this is often an exclusion criterion) and thus are arguably likely to have less pervasive causes for their bulimic symptoms (Westen et al., 2004). It is possible that CBT approaches are perceived as more helpful or desirable by clients with a less complex presentation of BN (e.g. without a co-morbid psychiatric disorder and/or with less pervasive underlying causes for their bulimic

symptoms). The sample in this study was not assessed for co-morbid problems, and likely experienced them to a varying degree (Thompson-Brenner et al., 2005). Thus, it may be that respondents with bulimic symptoms in isolation rated CBT techniques as more helpful than respondents with, for example, co-morbid depression or borderline personality disorder (APA, 1994). Again, further studies would benefit from investigating this area.

Study Limitations and Strengths

Limitations: One limitation of the study is that, although all analyses for specific treatment gains were adequately statistically powered, the analyses for general treatment gains were underpowered. This increased the likelihood that a type two error was made (i.e. an effect was there which the analyses failed to detect). The initial power calculations assumed that only a minimal number of respondents would need to be excluded from analyses due to meeting criteria for AN or EDNOS-AN-Subtype. Unfortunately 45 respondents had to be excluded for this reason, suggesting that the information sheet was not adequately informative and/or the recruitment strategy was biased (see below). It was also assumed that a similar proportion of individuals would have received CBT for BN-RD as had received CBT for OCD is Stobie's (2009) study. Although CBT is included in NICE guidelines for the treatment of both OCD (NICE, 2005) and BN-RD (NICE, 2004), this assumption was not well supported by evidence. Barriers to the implementations of ESTs for eating disorders should have been considered, such as the element of secrecy in eating disorders and the lack of CBT therapists adequately trained to deliver ESTs for eating disorders (see Introduction).

Another key limitation of the study is that it assessed eating disorder features, contents of therapy and perceived treatment gains solely on a retrospective basis and therefore relied on the recall of respondents. Although the findings of Stobie (2009) suggest that the effects of recall bias were minimal in a similar study, there is a plethora of research investigating the inaccuracy of human memory (Barclay & Wellman, 1986; Schacter, 1999) and this factor is likely to have impacted the study results. The EDE-Q was applied retrospectively, which has not been previously validated, and this may have resulted in an over- or under-estimation of eating disorder psychopathology. This said, the modal year of treatment for therapy described was 2009, only a year before a majority of the questionnaires were completed, suggesting treatment experiences might have been relatively easy to recall for a majority of respondents.

A third key limitation relates to the representativeness of the sample. The recruitment methods employed were required to be pragmatic rather than systematic and mainly targeted people who were using eating disorder support groups. It is possible that those who did well in therapy and were subsequently recovered are less likely to use support groups and therefore were not accessed via this study. Furthermore, because all respondents self-selected there may have been a tendency for those with more severe levels of eating disorder features or particularly negative treatment experiences to respond, as these respondents would conceivably be more motivated to share their experiences than those who had positive treatment experiences. Thus the sample may represent a population with more severe eating disorder features and/or a sample that has responded less well to psychological therapy than the general population of BN-RD sufferers. This possibility is supported

by the finding that EDE-Q scores for this study are elevated relative to normative data from clients beginning psychological treatment at a London eating disorder service.

Strengths: This study is the first, to the author's knowledge, to investigate the relationship between the contents of psychological therapy and self-rated treatment outcomes in a sample of individuals with BN-RD. It benefits from investigating the clients' views on treatment, which have been previously under researched in the field of eating disorders. It has been argued that asking clients how much the therapy helped the problem that led them to treatment is a valuable method of measuring clinical significance, as it leaves little doubt regarding the human significance of the treatment (Seligman, 1995). Further strengths of the study lie in the fact that individuals with EDNOS, the most commonly applied eating-disorder diagnosis, were included in the analyses. The sample was also a heterogeneous community sample drawn from across the whole of the UK. Both of these factors increase the extent to which the findings can be generalised to the population at large. Furthermore, it has been argued that the evaluation of psychological therapies should include surveys of large numbers of people who have gone through such treatments, as a valuable addition to efficacy-study evaluations (Seligman, 1995). The current study can be viewed in such a way.

Clinical Implications

The findings of this study suggest that core CBT-BN techniques, which involve applying cognitive-behavioural strategies to bulimic symptoms and are based on the cognitive model of the maintenance of BN, are associated with improved self-

rated treatment outcomes for clients with bulimic symptoms, compared to 'standard' CBT. Thus, it suggests that when applying CBT to working with clients with bulimic symptoms, elements such as linking binge-eating with dieting and addressing issues of body checking should be incorporated into one's work. It would be helpful for all clinicians working therapeutically with people BN-RD to familiarise themselves with the core strategies of CBT-BN. The results can be interpreted as suggesting that CBT for BN-RDs should be delivered by clinicians who are well trained and supervised in CBT-BN, in order to ensure that they are able to adequately apply the treatment model.

The lack of difference found between self-rated treatment outcomes between EST and non-EST groups also potentially has important clinical implications. Currently CBT (and to a lesser extent IPT) are regarded as the 'treatments of choice' for BN-RD and it is subsequently argued that clinicians should not practice other, largely untested treatments. However, this argument loses strength in the context of evidence that ESTs are not associated with improved treatment gains from the clients' perspective relative to non-ESTs. If the results of the current study can be replicated with larger sample sizes and more thorough assessments, it would suggest that national guidance for the treatment of BN-RDs would need to be updated.

Research Implications

The findings regarding the effect of CBT-BN on self-rated treatment outcomes have important implications regarding therapeutic mechanisms of action and it is important to know whether they are replicable. A prospective investigation in this area with a larger sample size would be beneficial. Qualitative investigations of clients' perspectives on treatment would help to shed light on what clients find

helpful and why, which has arguably been neglected in the recent trend for the results of RCTs to be prioritised when designing and implementing psychological treatments. Such designs favour psychometric outcome measures and/or measure symptom levels and tend to neglect the important factor of asking clients how they feel after treatment.

More research is needed to investigate the finding that ESTs were not superior to non-ESTs in terms of self-rated treatment gains in order to ascertain whether this finding relates to methodological problems with this study, an efficacy-effectiveness gap in relation to ESTs for bulimic symptoms and/or inadequate evaluation of therapies which currently have little empirical support. More research is needed into the effectiveness of psychological therapies with general clinical populations, to see whether and how findings correspond (or not) with efficacy trials. Treatment outcomes need to be monitored not only in terms of symptom reduction, but also in terms of self-rated treatment gains, so that clients' views can be combined with findings regarding symptom reduction to design effective treatments that are acceptable to eating disorder sufferers. It would be beneficial to compare traditional outcome measures with self-rated outcomes in prospective research trials of CBT, IPT and other psychological therapies (such as psychodynamic psychotherapy), for BN-RDs. It is also important to conduct research for therapies which currently have little empirical support using varied methodological approaches.

Summary and Conclusions

The findings of this study support previous evidence that only a small proportion of people with BN-RDs are receiving ESTs as they have been evaluated

in research trials. Respondents who engaged in CBT-BN reported higher treatment gains than those who had engaged in standard CBT, suggesting that applying CBT techniques, based on the cognitive model of BN, to bulimic symptoms is perceived as helpful from the clients' perspective. Further research is needed to investigate the lack of difference found between self-rated treatment outcomes for ESTs and non-ESTs, which could be explained by methodological problems and/ or broader problems regarding the evaluation of psychological therapies.

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PART 3: CRITICAL APPRAISAL

This thesis aimed to investigate factors relating to treatment for bulimia nervosa and related binge-eating disorders (BN-RD). The first part of the thesis, the review paper, examined the efficacy of cognitive-behavioural interventions for the treatment of Binge Eating Disorder (BED). The second part of the thesis, the empirical paper, investigated the relationship between the contents of psychological therapy for bulimic symptoms and self-rated treatment gains. This third and final part, the critical appraisal, will discuss the process of completing the thesis. Conceptual and methodological issues that arose during the course of the research will be addressed. There will then be a discussion regarding personal reflections on the research process as a whole.

Conceptual Issues

Empirically-Supported Psychotherapies

The empirical research project categorised psychological therapies into two categories: 'empirically-supported' (ESTs) and non-empirically-supported (non-ESTs), a distinction that I believe warrants critical discussion. As researchers have commented, it is arguably unhelpful to make dichotomous judgements regarding whether or not a psychological therapy is 'empirically-supported' (Westen, Novotny & Thompson-Brenner, 2004). There are some treatment packages which have a good body of evidence from RCTs to suggest that they are beneficial to clients with certain disorders, thus 'empirically-supported' is an apt description. However, the label of 'non-empirically supported' is arguably somewhat misleading as such approaches may be effective but, in some cases, currently under-researched (as discussed in the empirical paper). In other words, we have not yet developed methodologies which allow us to fairly evaluate different psychological approaches against each other.

Therefore, a more accurate description of therapies referred to as 'non-ESTs' might be '*not-yet* empirically-supported psychological therapies'.

By comparing ESTs with 'non-ESTs' it was not my intention to try and find evidence that suggested the superiority of the former. Instead I was interested in how psychological therapies which have a large body of empirical support would compare to those which have less empirical-support at present, when clients' perceptions were considered and less rigorous exclusion criteria were applied. My interest in this area developed from an observation that much of the research cited in support of CBT and IPT for bulimic disorders did not evaluate clients' views on treatment outcome. This research also often excluded individuals with eating disorder not otherwise specified (EDNOS) and/or with co-morbid psychological disorders who often present in clinical settings.

Methodological Issues

Recruitment

Regrettably, although 152 respondents completed the questionnaire used for the empirical research project, 45 were excluded from all analyses as they met criteria for a diagnosis of Anorexia Nervosa or Eating Disorder Not Otherwise Specified AN-subtype (AN-RD). This meant that parts of the statistical analysis were underpowered. The fact that 45 respondents completed the questionnaire only for it to remain unused concerned me and led me to ask myself questions regarding how this could have been prevented.

When I was planning the research project I aimed to recruit respondents with BN-RD only. This was because I aimed to investigate the correlates of therapies which had a strong evidence-base. A strong evidence-base exists for the use of CBT

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for BN-RD, but to a far lesser extent for the use of CBT for AN-RD. The high proportion of respondents with AN-RD in the sample was unexpected, due to the relatively low prevalence of Anorexia Nervosa (AN) and EDNOS AN-Subtype in the population compared to bulimia nervosa and related binge-eating disorders (Fombonne, 1995; Rooney, McClelland, Crisp & Sedgwick, 1995). I was conscious that individuals commonly experience both AN and BN at different times and did not want to exclude respondents on the basis that they had previously met criteria for AN-RD. The phrasing chosen for the participant information sheet was aimed at including all potential respondents who had engaged in psychological therapy for BN-RD. In hindsight, this phrasing appears to have been too vague. It would have been beneficial to specify that the therapy described in the BTHQ should not have been for AN-RD.

As well as an over-representation of AN and EDNOS AN-Subtype, there was an apparent under-representation of respondents with BED (Grucza, Przybeck & Cloninger, 2007; Hay, 1998). This too was regrettable, particularly because a need for further research regarding treatment for BED had been highlighted in the literature review. The over-representation of AN-RD and the under-representation of BED add to other factors (discussed in the empirical paper) to suggest the sample was biased towards those with eating disorder features at the more severe end of the spectrum. This may have resulted in an overall underestimation of the effectiveness of the psychological therapies rated by participants. However this hypothesis assumes that a set of psychological therapy will result in less improvement for people with more severe and/or chronic problems than for those with less pervasive issues,

which may or may not be the case. Further research in this area should aim to recruit a more representative sample of eating disorder sufferers.

Online Psychological Research

The issues with recruitment outlined above relate to the wider methodological issues associated with conducting research online. The benefits of online research are well-documented. One research group reviewed issues regarding the conduct of psychological research online (Kraut et al., 2004). The authors highlight how the advent of online research has dramatically increased the scale and scope of the research psychologists can do. The costs of data collection are substantially reduced and opportunities for studying human behaviour are rich (for example, via on-line 'chat rooms'). Large, diverse samples can be accessed at a very low cost. For example, in one study, over 2.5 million responses were collected online over five years, in a study investigating implicit attitudes and beliefs (Nosek, Banaji & Greenwald, 2002). Personally, I was keen to conduct online research again, having experienced the benefits of it during my undergraduate research project. I suspected that this methodology would be particularly fruitful in the field of eating disorders as BN-RDs are often associated with secrecy and/or shame. Online questionnaires permit a greater level of anonymity than traditional questionnaires.

However, online research has challenges associated with it that need to be carefully considered. Kraut and colleagues (2004) highlight issues relating to sample biases. The differences between internet users and non-internet users have diminished over time, but the populations still differ on demographic, social and psychological factors (Robinson, Neustadltl, & Kestenbaum, 2002). In the U.S., for

example, it has been found that internet users are more likely to be White, young and have children than the rest of the population (U.S. Department of Commerce, 2002). One research group assessed the generalisability of internet surveys and concluded that internet sampling techniques generate samples that are diverse, but not generalisable (Best, Krueger, Hubbard & Smith, 2001). In relation to the sample used in the empirical research project, the demographic data recorded suggests that the sample were more highly educated that the general population. A limitation of the study is that I omitted to record details regarding ethnicity or age at the time the questionnaire was completed, thus further demographic comparisons with the general population are not possible. As discussed above however, it appears that the sample had differing eating disorder features to that found in studies of the general population using traditional research methodologies.

A further challenge of online research is that of the level of control which the researcher has over data collection setting. Kraut and others (2004) highlight how, in traditional research settings, researchers can identify participants' demographics, tailor instructions, judge whether they appear engaged and serious, assess their responses to the research tasks and intervene if necessary. Such monitoring and control is made difficult when conducting research online. In an effort to account for reduced control over data collection I attempted to make the information sheet as clear and informative as possible and encouraged participants to contact me via telephone or email to discuss the study before taking part. However, I could not meet with participants in order to screen them for their eligibility for the study, or discuss participation with them face-to-face. Although I informed participants that they could contact me if they felt it was necessary to de-brief after the study, none of the

respondents took this opportunity. Personally I felt less involved in the research than I believe I would have done if I had met the study participants. I suspect that I missed out on valuable observations that perhaps would have influenced my ability to appraise the research process, and even my clinical work with individuals with eating disorders.

Furthermore, the anonymous nature of the internet means that people can act in a way that is destructive to the research project. Participants can complete questionnaires with little enthusiasm or care or even submit multiple questionnaires. It is recommended that researchers should use larger sample sizes to account for the greater error induced when participants are not diligent. It is also recommended that IP addresses should be monitored to identify multiple submissions (Kraut et al., 2004). These safeguards were not possible in regard to the current project due to limited resources and technical expertise. They would certainly be factors to consider if the empirical research project were to be replicated or built upon.

As with all research methodologies, there are pros and cons to internet-based research. The method was one that I judged as appropriate to apply to the specific research question which, despite its challenges, made an ambitious research project possible. However I feel that on a personal level I did not gain as much insight as I might have done if I had met with participants face-to-face.

Measurement

A considerable amount of time and effort was devoted to the construction of the Bulimia Treatment History Questionnaire (BTHQ). Several experts were consulted in an attempt to ensure that the questions relating to the content of therapy

were linked appropriately to different therapeutic modalities, and it could thus be ascertained what 'type' of psychological therapy each individual had engaged in. However, the process of constructing the questions relating to therapy content was difficult due to obstacles in specifying what 'should' and 'should not' be happening in therapy. Different researchers had differing views on how the various therapies should be specified, showing it was far from an exact science and highlighting the potential for therapist influence on the content of therapy.

Furthermore, regardless of the level of consideration given to the wording and content of the questions there is always room for ambiguity regarding the meaning of questions. For example, one of the questions designed to assess CBT read 'my therapist explained the treatment approach and the rationale behind it'. Some therapists may have, for example, explained the CBT model using a cross-sectional formulation of the clients' difficulties, which some clients would not classify as an 'explanation of the treatment approach'. The dichotomous (yes or no) response options arguably enhanced the likelihood that answers were not representative of what actually occurred in respondents' therapy sessions. To return to the example given, it is likely that the treatment approach was explained to different degrees, which the yes/ no response options would not have captured. It perhaps would have been more appropriate to include a Likert scale as an alternative response option, although this would have made analysis considerably more complex. These measurement issues could only be adequately overcome with prospective research designs whereby psychological therapy sessions are recorded and analysed for technique.

Personal Reflections

Developing as a Scientist-Practitioner

This thesis was conducted throughout a period of more than two years, during which I was undertaking Clinical Psychology training. As I gained knowledge and experience throughout this period my views on clinical research and practice developed and changed. It is interesting to reflect on the process behind such changes and where this process has left me currently. It is also important to consider how my changing views altered my attitudes and opinions in relation to my research project at different stages of the research process, and the extent to which this might have, in turn, influenced the final product of the thesis.

Clinical Practice: My first year of training was predominantly focused on Cognitive Behaviour Therapy (CBT), both in terms of academic learning and working clinically. I was enthused by the CBT model, as during my clinical work I saw how effective it appeared to be for some clients. However I sometimes felt that CBT was not the right approach for some of the clients I was seeing. Some, for example, did not have the emotional stability or motivation to self-monitor, carry out homework tasks, or work on thought restructuring. At times I felt that certain clients needed something different, but two things stood as obstacles to this. Firstly, I was under pressure from the service I worked in to provide 'evidence-based', and particularly cognitive-behavioural, interventions. Secondly, I felt did not have enough knowledge or experience to formulate what alternative psychological approach might be beneficial to those clients who did not appear to be suited to CBT.

During my second year of training I began to integrate Systemic theory and techniques into my work, and found that I felt much more comfortable working from

this approach with clients. I felt a sense of relief at attempting to readdress power imbalances inherent in the therapist-client relationships. Post-modern ideas regarding multiple truths and the importance of context appealed to me, as did the fundamental Systemic principles that problems exist in relationships and that all systems have the inherent resources to find solutions to problems. I grappled with trying to balance my enthusiasm with the Systemic approach with issues regarding evidence-based practice, given the limited evidence-base for Systemic interventions.

Now in my third and final year of training, I have continued to learn and apply alternative therapeutic approaches such as Cognitive Analytic Therapy (CAT) and Mentalisation Based Therapy (MBT), both of which openly draw from varied psychological models, including Cognitive-behavioural, Systemic and Psychodynamic. Working from these approaches in particular has drawn my attention to the similarities between approaches rather than the differences. For example, arguments between a father and daughter might be talked about in terms of 'vicious cycles' in CBT, 'non-mentalising' in MBT or enactments of 'reciprocal roles' in CAT. I am aware that there is a small but growing evidence-base for approaches such as MBT and CAT, but also understand the obstacles to building an evidence base (as discussed above and in Part 2). Gaining a deeper and more varied knowledge into psychological theory and practice has, I feel, allowed me to develop a more balanced view towards various approaches to psychological treatment. I am aware that, due to my own background and life experiences, I will always feel more comfortable working from approaches based on certain underlying philosophies and assumptions. However I feel I am now more aware of such influences, and can therefore apply varied approaches to clinical work in a competent way.

Clinical Research: The process described above parallels a similar process that I believe was occurring regarding my clinical research. In my first year of training, I was drawn to the area investigated in the empirical research project because I was interested in both eating disorders and researching psychology in its applied form. I was aware that there was a strong evidence-base for the use of cognitive-behavioural treatments for bulimic disorders and I was interested in investigating this further. My research supervisor drew my attention to a study which had found that 'adequate' CBT for Obsessive Compulsive Disorder was associated with improved outcomes from the clients' perspective, relative to treatments which had less empirical support (Stobie, Taylor, Quigley, Ewing, & Salkovskis, 2007). I was keen to see whether or not these findings could be replicated in regard to treatments for eating disorders.

As my training progressed I learnt more about the inherent problems with clinical research: issues regarding the generalisabilty of RCTs, publication biases, personal, political and financial influences on research. Combining these issues led me to question the research methodologies which had found certain psychological therapies to be 'empirically-supported' for different psychological disorders, namely the RCT. I perhaps even began to harbour some resentment that as a (Trainee) Clinical Psychologist, I was expected to apply evidence-based practice when working in the NHS, when evidence-based practice appeared to be largely based on RCT trials (with all their flaws). I struggled with feelings that this ethos did not seem to take into account the problems with the scientific evaluation of psychological therapies, or the reality of working clinically. I was increasingly aware that research which was cited as evidence for the utility of CBT favoured this design, and that

little attention was given to alternative methodologies that investigated the clients' perspectives. On the one hand I became more enthused by my own clinical research as it was using a novel methodology to investigate clients' perspectives on cognitive-behavioural approaches. However I also began to feel disappointed that I had not chosen to research an alternative approach to CBT, which was already the most heavily researched approach to psychological therapy.

When mid-way through my third and final year of training, I embarked on the daunting prospect of analysing and interpreting my research results. Having no major personal investments in to any psychological approach, I felt open to what they might suggest and excited about what the findings might be. However, what I had not considered fully was the extent to which my own background, experiences and prejudices could influence my interpretation of the research findings. I found myself focusing initially on aspects of research which stood in contrast to previous findings, perhaps because of frustrations I had previously grappled with regarding the evaluation of psychological therapies. I paid little heed initially to positive findings regarding CBT-BN, which is likely due to my inherent assumptions that this approach is favoured over alternative approaches, perhaps unjustly. Comments from my supervisors drew my attention to this process and alerted me to the influence of interpretation bias. This helped me to take a more balanced approach to interpreting my research findings. I am aware that I will never be able to interpret research findings in a completely unbiased way, however being aware of my own assumptions and prejudices allowed me to take a step closer to this.

Conclusions

When beginning clinical training I felt confused and overwhelmed by the different psychological approaches and research methodologies applied to Clinical Psychology, and found myself asking the unhelpful question(s), 'which approach/ methodology is best?' The process of training has allowed me to gain a far deeper understanding of different clinical and research approaches, their strengths and limitations, their similarities and how they can complement one another. I have learnt that certain psychological approaches and research methodologies will always resonate more with me personally, due to my own background, experiences and beliefs. Yet, because I am aware of such influences, I am also able to appreciate alternative approaches and work competently from them. This process has led me to a stage in my clinical work where I am beginning to gain confidence in integrating varied empirical research, theory from different approaches and clients' individual contexts, needs and personalities. I am certain that this skill, which is so integral to the work of a scientist-practitioner, will develop throughout my career as I gain further knowledge and experience. Increasingly this will allow me to work with clients in a way that I feel benefits them, to contribute to useful, informative clinical research, and to feel comfortable and confident in my professional work.

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APPENDICES

Appendix A: Documents Granting Ethical Approval

UCL RESEARCH ETHICS COMMITTEE
GRADUATE SCHOOL OFFICE

Dr Lucy Serpell
UCL Research Department of Clinical, Educational
and Health Psychology
1-19 Torrington Place
University College London
London
WC1E 6BT

19 April 2010

Dear Dr Serpell

Notification of Ethical Approval:
Ethics Application: 2271/001: Bulimia and Binge-eating problems treatment history questionnaire

I am pleased to confirm that in my capacity as Chair of the UCL Research Ethics Committee I have approved your project for the duration of the study (i.e. until June 2011).

Approval is subject to the following conditions:

1. You must seek Chair's approval for proposed amendments to the research for which this approval has been given. Ethical approval is specific to this project and must not be treated as applicable to research of a similar nature. Each research project is reviewed separately and if there are significant changes to the research protocol you should seek confirmation of continued ethical approval by completing the 'Amendment Approval Request Form'.

The form identified above can be accessed by logging on to the ethics website homepage: http://www.grad.ucl.ac.uk/ethics/ and clicking on the button marked 'Key Responsibilities of the Researcher Following Approval'.

2. It is your responsibility to report to the Committee any unanticipated problems or adverse events involving risks to participants or others. Both non-serious and serious adverse events must be reported.

Reporting Non-Serious Adverse Events.
For non-serious adverse events you will need to inform Dr Angela Poulter, Ethics Committee Administrator (ethics@ucl.ac.uk), within ten days of an adverse incident occurring and provide a full written report that should include any amendments to the participant information sheet and study protocol. The Chair or Vice-Chair of the Ethics Committee will confirm that the incident is non-serious and report to the Committee at the next meeting. The final view of the Committee will be communicated to you.

Reporting Serious Adverse Events
The Ethics Committee should be notified of all serious adverse events via the Ethics Committee Administrator immediately the incident occurs. Where the adverse incident is unexpected and serious, the Chair or Vice-Chair will decide whether the study should be terminated pending the opinion of an

independent expert. The adverse event will be considered at the next Committee meeting and a decision will be made on the need to change the information leaflet and/or study protocol.

On completion of the research you must submit a brief report (a maximum of two sides of A4) of your findings/concluding comments to the Committee, which includes in particular issues relating to the ethical implications of the research.

Yours sincerely

p.p.

Sir John Birch
Chair of the UCL Research Ethics Committee

Cc. Rachel van Schaick, UCL Division of Psychology and Language Sciences

🏛 UCL

Amendment Approval Request Form

1	ID Number: 2271/001	Name and Address of Principal Investigator:
		Rachel von Schaick
		Flat 90, 5/7 Hornsey Street, N7 8GD

| 2 | Project Title: Bulimia and Binge-eating Problems Treatment History Questionnaire. |

3	Information about the amendment:
	(a) Is the amendment purely administrative? ☐ Yes ☒ No ☐ N/A
	(b) Has the Participant Information Sheet/Consent Form been changed as a result of the amendment?
	If yes, please enclose a copy ☐ Yes ☒ No ☐ N/A

| 4 | Summarise the issues contained in the amendment: |

The amendments refer only to the advertising of the research study. In the previous application to the ethics committee, ethical approval was granted to advertise the study via:

- An advert in 'Up Beat' magazine, the magazine of 'Beat' (the Eating Disorders Association).
- 'Beat' sending an email to their professional members' network.
- If necessary posting adverts on the websites of other UK charities for those affected by eating disorders, and other online eating disorder support groups.

In order to try and maximise potential for recruiting the 126 participants needed for the study we would also like to advertise the study:

1. By sending an email to staff and students at UCL (wording attached). Please note the researchers will approach staff or students directly about taking part.
2. By putting up advertisements on site at UCL (wording attached)
3. By possibly placing an advert in a free London newspaper, if funds permit (wording attached)
4. By setting up a 'Facebook' group for the research project, which would have on the homepage details about the project and a link to the online information sheet, etc. This would be for the purpose of facilitating access to the online questionnaire, as the project is targeting a population that are likely to have a 'Facebook' account. For example, after seeing an advert, someone could 'search' for the 'Facebook' group from within their 'Facebook' account, rather than entering the specific web address on the flyer. Please note the researchers would not personally invite potential participants to join the group.

5. By contacting UK eating-disorder services around the UK (private and NHS) to ask whether they could put a flyer up (as in 2.) advertising the study (and if so sending them a flyer)

| 5 | Please give any other information you feel may be necessary: |

I understand that point 5 may not be permissible as it may constitute recruiting from within the NHS, and therefore would need to be reviewed by an NHS ethics committee. If amendments 1,2, 3 and 4 are approved but amendment 5 is unable to be approved, please could this be indicated

in correspondence to me.

Signature of Principal Investigator:	Date of Submission:
	13/5/10

FOR OFFICE USE ONLY:

Amendments to the proposed protocol have been approved.... by the Research Ethics Committee.

Chair's Signature: _[signature]_ Date: 07/02/2010

Please return completed form to:

Appendix B: Participant Information Sheet and Consent Form

Information Sheet

Title of Project: Bulimia and Binge-eating Problems Treatment History Study

This study has been approved by the University College London Research Ethics Committee
[Project ID number 2271/001]

I would like to invite you to participate in this research project.

I would like to invite you to fill out a questionnaire about the most recent psychological treatment that you received for your eating problem. Before you decide whether or not to take part it is important for you to understand why the research is being done and what it will involve. Please read the following information and discuss it with others if you wish, and ask me if there is anything that is not clear or if you would like to know more. My name is Rachel van Schaick and details of how to contact me are at the end of this sheet.

What is the project about?

The project aims to investigate the kinds of treatment received by people who have suffered from bulimia nervosa and binge-eating problems, and how helpful they found that treatment. I am interested in this because there is some evidence that people with bulimia nervosa and binge-eating problems are not being offered the best available treatment. It is hoped that the results of this study will help to improve available treatments for those with eating problems in the future.

Can I take part?

To take part in the study you must:
- Be aged 17 years or above
- Have experienced a binge-eating problem (either bulimia nervosa, binge-eating disorder or an 'atypical' eating disorder involving binge-eating)
- Have received psychological therapy (sometimes called psychotherapy or talking treatment) as treatment *for your eating problem.* This must have taken place *within the UK.*

If you are not sure whether you meet these criteria, please see the appendix at the end of this page, which explains the above in more detail. You can also discuss this with me.

Will my taking part be kept confidential?

Yes, only you will know if you decide to take part unless you choose to tell other people. If you want to talk about taking part with anyone that's fine, but if you don't, no one else will. I will ask you to provide your name and contact details so that I can contact you if there is any missing information needed for the study, but you can choose not to give me this information if you prefer. All information about you will be kept confidential. Your name will not be used when I look at the study data, you will be assigned a code if you take part and we will use this instead. This means only you and I will know that you are taking part.

Do I have to take part?

No, it is completely up to you to decide whether or not to take part. If you do decide to take part, you will be able to change your mind and withdraw your questionnaire at any time, up to four weeks after it is completed. To do that, contact me and tell me your code number and I will remove your information from the study. Only you and I will know if you choose to do that.

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What would be involved in the study if I decide to take part?

If you decide to take part in the study, you will be directed to a website via a link at the bottom of this page. You will be asked to complete an online consent form, which says that you are happy to take part. You will then be directed to an online questionnaire, which will take approximately 30 minutes to complete. You will be asked to answer questions about your eating problem and the treatment that you received for it. In particular, you will be asked about what you and your therapist did in treatment sessions.

If you would prefer to fill out the questionnaire on paper, you can email or phone me requesting a paper version and I will send out a copy to you by post, with a stamped addressed envelope included for you to return it.

Are there any risks involved in taking part?

The risks involved in taking part are minimal. However, you will be asked to reflect on your eating problem, and this may involve some uncomfortable thoughts and emotions. If you would like to talk to somebody about your eating problem, we have provided the details of an eating disorder helpline at the bottom of this page.

Are there any benefits involved in taking part?

There are no direct benefits involved in taking part. However, for every complete questionnaire we receive we will donate £2 to *B-eat*. You also may find it beneficial to reflect on your treatment experiences. Finally, the results of the study will hopefully contribute towards providing better treatment for people with bulimia nervosa and binge-eating problems in the future.

What will happen to the results of the study?

The results will form part of my Doctorate in Clinical Psychology and may be published in scientific journals. The results also may be presented at conferences or in poster presentations. If you would like I will send you a summary of the final results after I have completed my course. A summary of the results will also be posted on the *Beat* website.

Who is organising & supporting the research?

The project is organised and supported by University College London as part of my course.

All data will be collected and stored in accordance with the Data Protection Act 1998.

Rachel van Schaick, Trainee Clinical Psychologist
Research Department of Clinical, Educational and Health Psychology, University College London, Gower Street, London WC1E 6BT

Email: <u>XXX</u>   Telephone: XXX

Supervised by Dr Lucy Serpell, Lecturer and Clinical Psychologist
Research Department of Clinical, Educational and Health Psychology

If you would like to take part in this project please follow the link below, you will be directed to an online consent form and questionnaire. Alternatively you can email or telephone the researcher to request a paper version of the consent form and questionnaire, which we will send to you in the post with a stamped addressed envelope to return it.
-<u>hyperlink</u>-

Appendix – Check whether you are able to take part in the study

Have you received psychological therapy?
Psychological therapy is a term used to describe therapies which work through talking to a professional (rather than taking medication). It includes 'Cognitive Behaviour Therapy' (CBT), Interpersonal Psychotherapy, Counselling, Psychodynamic Psychotherapy, and lots of other different kinds of 'therapies'. Usually psychological therapy involves meeting with a professional on a regular basis. Sometimes therapy is conducted over the phone or on a computer. Please note, meeting with a psychiatrist regularly to review medication does not count as psychological therapy.

Have you experienced bulimia nervosa and/or a binge-eating disorder?
If you have ever engaged in binge-eating on a regular basis then we would like to invite you to take part in this study. Binge-eating is defined as eating a large amount of food in a discrete period of time, and is accompanied by a sense of loss of control.

Please complete the Informed Consent Form below:

Title of project: Bulimia and Binge-eating Problems Treatment History Study

Have you read the information sheet on the previous page?   **Yes / No**

Have you been given the opportunity to ask questions and
discuss the study (by phoning or emailing the researcher on
the previous page, should you wish to)?   **Yes / No**

If you asked questions, were these answered adequately?   **Yes /No /
                                                                            Not
                                                                            applicable**

Do you understand that you are free to leave the study:

- At any time? and
- Without having to give a reason for leaving?   **Yes / No**

Do you agree to participate in the study by completing the attached
questionnaire?   **Yes / No**

Name (in block letters)   ………………………………………………….

Signature (or tick box if online)   ..…….……..……..……..………..……..…………..……..……..

Date   ………..…..…………………………………………..

Appendix C: Documents Used for Recruitment of Participants

- Information on Research Requests Section of *Beat* Website

- Email Sent to Beat Professional Members Network, UCL Staff and Students and Researchers' Colleagues

- Posts on Charity Websites and Social Network Websites

- Poster Used to Advertise the Study

Bulimia and Binge-eating Problems Treatment History Study

My name is Rachel van Schaick. I am a Trainee Clinical Psychologist at University College London. I am carrying out a research project which aims to investigate the kinds of treatment received by people who have suffered from bulimia nervosa and binge-eating problems, and how helpful they found that treatment.

Can I take part?

To take part in the study you must:

- Be aged 17 years or above
- Have experienced a binge-eating problem (either bulimia nervosa, binge-eating disorder or an 'atypical' eating disorder involving binge-eating)
- Have received psychological therapy (sometimes called psychotherapy or talking treatment) as treatment *for your eating problem.* This must have taken place *within the UK*.

What would be involved in the study if I decide to take part?

If you decide to take part in the study, you will be directed to a website via a link at the bottom of this page. You will be asked to complete an online consent form, which says that you are happy to take part. You will then be directed to an online questionnaire, which will take approximately 30 minutes to complete. You will be asked to answer questions about your eating problem and the treatment that you received for it. In particular, you will be asked about what you and your therapist did in treatment sessions.

What should I do if I would like to take part in this study?

If you are interested in taking part in this project please follow the link below, you will be directed to an information sheet where you can find out more about the study.

-hyperlink-

Email Title:

University College London Bulimia and Binge-eating Problems Treatment History Study: Call for participants

Email Body:

We are conducting a research study investigating the treatment experiences of those who have received psychological therapy for bulimia nervosa or a binge-eating disorder.

We are looking for volunteers to fill out a questionnaire about their eating problems and their treatment experiences, which should take around 30 minutes.

For every completed questionnaire we receive we pledge to donate £2 to Beat, a national charity for those affected by eating disorders.

If you are interested in taking part you must be aged 17 or over and have received psychological therapy for bulimia nervosa or a binge-eating problem.

If you are interested in taking part in the study or you know anyone who might be, please follow this link for further information:

http://www.b-eat.co.uk/Supportingbeat/ResearchRequests/TreatmentTherapy

Thank you for your time,

Dr Lucy Serpell, Clinical Psychologist and Miss Rachel van Schaick, Trainee Clinical Psychologist

Research department of Clinical, Educational and Health Psychology, University College London
Gower Street, London WC1E 6BT

Email: xxx

Tel: xxx

Have you received psychological therapy for bulimia or a binge-eating problem?

If so you might be able to help us at University College London with a research project by filling out a questionnaire about your treatment experiences.

For every complete questionnaire we receive we will donate £2 to 'Beat', a national charity for those affected by eating disorders.

Please go to http://www.b-eat.co.uk/Supportingbeat/ResearchRequests/TreatmentTherapy for further information.

-

University College London
Bulimia and Binge-eating Study

Take part and raise money for Beat, the leading UK eating disorders charity

Have you received psychological therapy for bulimia or a binge-eating problem?

We are looking for volunteers to fill out a brief online questionnaire about their treatment experiences. It is hoped the research will help towards providing better treatment in the future for people who suffer from eating disorders.

For every complete questionnaire £2 will be donated to Beat

For further information please go to the website below or visit our facebook group:

'UCL Bulimia and Binge-eating Study; raise money for Beat'

http://www.b-eat.co.uk/SupportingBeat/ResearchRequests/BulimiaBingeEating

http://www.b-eat.co.uk/SupportingBeat/ResearchRequests/BulimiaBingeEating

http://www.b-eat.co.uk/SupportingBeat/ResearchRequests/BulimiaBingeEating

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http://www.b-eat.co.uk/SupportingBeat/ResearchRequests/BulimiaBingeEating

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Appendix D: The Bulimia Treatment History Questionnaire Including the Adapted EDE-Q6

Binge-eating Disorders Treatment History Questionnaire

Section A: Your Details

Please note questions 1 and 2 are optional. If you choose to answer them we will be able to contact you regarding any missing or unclear answers. We won't use these details to contact you for any other reason.

Q1: Your name (optional):

[   ]

Q2: Your telephone number and/or email address (optional):

[   ]

Q3: Please enter today's date:

DD/MM/YY

[   ]

Q4: Are you male or female?

◯ Male   ◯ Female

Q5: Please indicate the highest level of education that you have completed:

◯ School not completed due to health reasons   ◯ Left school at 16, but did not sit/pass exams
◯ GCSE / CSE / O-levels   ◯ A-S levels
◯ A-levels   ◯ Diploma or Degree
◯ Other (please specify)

If you have chosen "other", please specify:

[   ]

Q6: Are you currently: (choose one or more options)

- [ ] Employed full-time?
- [ ] Full-time parent and /or carer?
- [ ] Retired?
- [ ] Employed part-time?
- [ ] On sick leave?
- [ ] Unemployed?
- [ ] Studying?
- [ ] On disability living allowance?
- [ ] Other?

If you have chosen "other", please specify:

[   ]

Section B: Course of the problem and treatment

In the next set of questions we will ask you about your eating problem.

Q7: How old were you when your eating problem first started?

[   ] years [   ] months

Q8: How old were you when your eating problem started to interfere significantly with your life?

[   ] years [   ] months

Q9: Have you ever been told by a health-professional that you have a problem related to food or eating (this can include being given a diagnosis of, for example, Bulimia Nervosa)?

○ Yes ○ No

Q10: If you answered 'Yes' to question 9, how old were you when you were first told by a professional that you had an eating-problem?

[   ] years [   ] months

Q11: How old were you when you first sought help for your eating problem from a professional?

[   ] years [   ] months

Q12: How old were you when you were first OFFERED treatment for an eating problem that was recognised/diagnosed as such?

[   ] years [   ] months

Q13: How old were you when you first RECEIVED treatment for an eating problem that had been recognised/diagnosed as such?

[   ] years [   ] months

Q14: How long was the waiting list for your therapy?

[   ] months [   ] weeks

○ Not sure

Q15: Since the eating problem first started, approximately what is the longest amount of time you have been free of eating-disorder symptoms (continuously, NOT in total)?

[   ] years [   ] months [   ] weeks

Section C: What was done in therapy?

We would now like to ask you some questions about THE MOST RECENT SET OF THERAPY that you have received for your eating problem. By this we mean the most recent set of therapy that you have now finished or stopped, i.e. NOT any therapy that you might CURRENTLY be engaged in. Therefore, please do not include any therapy which you are having at the time of completing this questionnaire, nor medication-based treatments.

In order to help you remember your most recent set of therapy please answer the following questions....

Q16: In what year did the therapy start?

[   ]

Q17: In what month did the therapy start?

◯ January   ◯ February   ◯ March   ◯ April   ◯ May   ◯ June

◯ July   ◯ August   ◯ September   ◯ October   ◯ November   ◯ December

Q18: How would you describe the therapy in one word?

[   ]

Now that you have your most recent set of therapy for your eating problem in mind, remember that the following page of questions all refer to this set of therapy...

We understand that it may be hard for you to remember answers to all of the questions. If you are not sure please give your best guess.

Q19: What was the main aim of this treatment?

[   ]

Q20: Was the main aim of this treatment to address an eating-related problem?

◯ Yes   ◯ No

Q21: Who did you see?

◯ Counsellor   ◯ Psychologist

◯ Psychiatrist   ◯ Nurse Therapist

◯ Psychodynamic Psychotherapist   ◯ CPN (Community Psychiatric Nurse)

◯ Family Therapist   ◯ Not sure

◯ Other (please specify)

If you have chosen "other", please specify:

[   ]

Q22: Were you a private or NHS patient?

◯ Private   ◯ NHS   ◯ Not sure

Q23: Were you an inpatient, day patient or outpatient?

◯ Inpatient (residential setting / stayed (nights) at the facility).
◯ Day patient (visited the facility during the day e.g. 9-5).
◯ Outpatient (visited the facility/service for your therapy sessions).

Q24: Were you offered a set amount of therapy sessions (e.g. 12 sessions)?

◯ Yes ◯ No

Q25: If so, how many sessions were you offered?

☐

Q26: How many therapy sessions did you attend approximately?

☐

Q27: Did you stop attending sessions before the allocated sessions had been completed, or before the therapy was 'finished'?

◯ Yes ◯ No

Q28: Did you miss some of your therapy sessions?

◯ Yes ◯ No

Q29: If you did NOT attend all the sessions that were offered, what were your reasons for this? (please tick all that apply)

☐ Practical (e.g. did not have time, was too far to travel)
☐ The sessions were not helpful
☐ The sessions were helpful but I did not feel I wanted any more
☐ I forgot to go to them
☐ The sessions were making me feel worse
☐ I did not want people to know I was attending them
☐ Other (please specify)

If you have chosen "other", please specify:

Q30: How frequently were appointments with your therapist scheduled for?

○ More than once a week   ○ Once a week   ○ Once every 2 weeks
○ Once every 3 weeks   ○ Once every 4 weeks   ○ Less than once every 4 weeks
○ It varied

Q31: How long did each session last approximately?

[_____] hours [_____] minutes

Q32: Over approximately how many months did the sessions take place?

[_____]

Q33: What type of therapy was done?

○ Behaviour Therapy   ○ CBT (Cognitive Behaviour Therapy)
○ Counselling / Supportive Therapy   ○ Eating Disorder Group Therapy
○ Family or Couples Therapy   ○ General Group Therapy
○ Humanistic Therapy   ○ Interpersonal Psychotherapy
○ Over-eaters Anonymous 12-step programme   ○ Psychodynamic Psychotherapy
○ Not sure   ○ Other (please specify)

If you have chosen "other", please specify:

Q34: How much did you like your therapist? (If you had more than one therapist, you can answer the question regarding the therapist that you spent most time with, or skip the question).

○ Not at all   ○ Slightly   ○ Moderately   ○ Very Much

Question 35 below is the most important part of this questionnaire. Please take time to consider whether all of the statements applied to your most recent set of therapy.

Q35: Please indicate whether these statements applied to the therapy you are describing:

	Yes	No
My therapist and I both had an active role in treatment (for example, we planned together how to spend therapy sessions and tasks that I would do).	○	○
My therapist explained that the therapy was designed to help me recognise and work on relevant problems in relationships.	○	○
We focused mainly on my present and my future rather than my past.	○	○
We looked at links between my thoughts, feelings and behaviours.	○	○
We discussed the relationship between binge-eating and dieting.	○	○

My therapist talked about 'deeper' levels of meaning of which I had not always been aware.	○	○
We talked about any issues I had about looking at my own body (for example, frequently checking parts of my body or avoiding looking at my body).	○	○
My therapist told me his/her views about how my present feelings and experiences linked to the past.	○	○
The therapy involved carrying out regular 'homework' or self-help tasks outside of the therapy sessions.	○	○
We reviewed my home-work or self-help tasks in our therapy sessions.	○	○
I was given advice about how to, or was encouraged to, establish a regular pattern of eating.	○	○
We reviewed important relationships from my past in terms of their positive and negative aspects.	○	○

We explored repetitive patterns in my relationships with others.	○	○
I was encouraged to weigh myself once a week (no more and no less).	○	○
We did not make a plan for how my therapy sessions would be spent; I was encouraged to talk and reflect freely about what was on my mind at the time.	○	○
I kept records or diaries of my thoughts.	○	○
I explored alternative or more helpful thoughts.	○	○
I monitored my eating habits in a diary or record.	○	○
My therapist implied that exploring the past can help to understand the present better.	○	○

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We explored ways to bring about change in difficult relationships with other people.	○	○
I was provided with information about weight and eating (for example, the consequences of binge-eating, self-induced vomiting, and laxative abuse).	○	○
We worked mainly on issues to do with my relationships with others, rather than directly addressing eating, weight and shape.	○	○
My therapist told me his/her thoughts about how I was relating to him/her (for example if I found him/her critical, helpful or judgemental).	○	○
We designed and carried out experiments to 'test-out' any problematic or unhelpful thoughts I was experiencing.	○	○
There was a focus on my early childhood experiences.	○	○
We carried out a review of my past which looked at the history of my eating problem.	○	○

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My therapist explained the treatment approach and the rationale behind it.	○	○
We explored my expectations about my relationships with others.	○	○
We linked symptoms of my eating problem to relationship problems.	○	○
We worked on problem-solving skills.	○	○
We focused on things that were keeping the problem going rather than things that contributed to the problem developing.	○	○
We discussed how I felt about my body.	○	○
We linked symptoms of my eating problem to difficulty coping with recent changes in my life.	○	○

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We talked about how my relationships with others were going, in terms of how intimate they were, how equal they were, or aspects of my relationships that I found satisfying or unsatisfying.	○	○
We discussed how I could stop dieting or how I could stop avoiding eating.	○	○
We made a plan for how I would manage once therapy had ended.	○	○

Q36: On a 0-100 scale, how helpful was this therapy in terms of SPECIFICALLY IMPROVING THE EATING PROBLEMS by the end of the sessions (0 = absolutely no improvement, 100 = total improvement)?

[   ]

Q37: Approximately how long did you maintain this specific improvement for?

[   ] years [   ] months [   ] weeks

Please type 'yes' here if you feel you have maintained this improvement to the present day:

[   ]

Q38: On a 0-100 scale, how helpful was this therapy in terms of specifically IMPROVING OTHER ASPECTS OF YOUR LIFE, rather than the eating problem (0 = absolutely no improvement, 100 = total improvement)?

[   ]

Q39: Approximately how long did you maintain this general improvement for?

☐ years ☐ months ☐ weeks

Please type 'yes' here if you feel you have maintained this improvement to the present day:

☐

Section D: Description of how your eating problem was before your therapy

Nearly finished!

This is the last section of the questionnaire.

The following questions ask you in detail about what your eating problem was like in the FOUR WEEK PERIOD JUST BEFORE you began the therapy which you have described on the previous page. Please try to cast your mind back to how you felt at this time, and answer all the questions for this time period.

Again, we understand that it may be hard for you to remember answers to all of the questions. If you are not sure please give your best guess.

Q40: On how many days out of the 28 days just before the therapy began......

	No days	1-5 days 	6-12 days	13-15 days	16-22 days	23-27 days	Every Day
Did you deliberately TRY to limit the amount of food you ate to influence your shape or weight?	○	○	○	○	○	○	○

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Did you go for long periods of time (8 waking hours or more) without eating anything in order to influence your shape or weight?	○	○	○	○	○	○	○
Did you TRY to exclude from your diet any foods which you liked in order to influence your shape or weight (whether or not you suceeded)?	○	○	○	○	○	○	○
Did you TRY to follow definite rules regarding your eating (for example, a calorie limit) in order to influence your shape or weight (whether or not you succeeded)?	○	○	○	○	○	○	○
Did you have a definite desire to have an EMPTY stomach with the aim of influencing your shape or weight?	○	○	○	○	○	○	○

Did you have a definite desire to have a TOTALLY FLAT stomach?	○	○	○	○	○	○	○
Did thinking about FOOD, EATING OR CALORIES make it very difficult for you to concentrate on things you were interested in (for example working, following a conversation, or reading)?	○	○	○	○	○	○	○
Did thinking about SHAPE OR WEIGHT make it very difficult for you to concentrate on things you were interested in (for example working, following a conversation, or reading)?	○	○	○	○	○	○	○
Did you have a definite fear of losing control over eating?	○	○	○	○	○	○	○

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Did you have a definite fear that you might gain weight?	○	○	○	○	○	○	○
Did you feel fat?	○	○	○	○	○	○	○
Did you have a strong desire to lose weight?	○	○	○	○	○	○	○

Questions 40 - 45: Remember that the questions refer to the four weeks (28 days) before the therapy began.

Q41: Over the 28 days before the therapy began, how many TIMES did you eat what other people would regard as an UNUSUALLY LARGE AMOUNT OF FOOD (given the circumstances)?

☐

Q42: .... On how many of these times did you have a sense of having lost control over your eating (at the time you were eating)?

☐

Q43: Over the 28 days before the therapy began, on how many DAYS did such episodes of overeating occur (i.e., you ate an unusually large amount of food AND had a sense of loss of control at the time)?

```
[          ]
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Q44: Over the 28 days before the therapy began, how many TIMES did you make yourself sick (vomit) as a means of controlling your shape or weight?

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[          ]
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Q45: Over the 28 days before the therapy began, how many TIMES did you take laxatives as a means of controlling your shape or weight?

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[          ]
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Q46: Over the 28 days before the therapy began, how many TIMES did you exercise in a "driven" or "compulsive" way as a means of controlling your weight, shape or amount of fat, or to burn off calories?

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[          ]
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Questions 46 - 48: Please note that for these questions the term "binge-eating" means eating what others would regard as an unusually large amount of food for the circumstances, accompanied by a sense of having lost control over eating.

Q47: How many days did you eat in secret (ie furtively)?... Do not count episodes of binge-eating

○ No days   ○ 1-5 days   ○ 6-12 days   ○ 13-15 days   ○ 16-22 days   ○ 23-27 days
○ Every day

Q48: On what proportion of the times that you ate did you feel guilty (felt that you had done wrong) because of it's effects on your shape or weight?... Do not count episodes of binge-eating

○ None of the times   ○ A few of the times   ○ Less than half   ○ Half of the times
○ More than half   ○ Most of the time   ○ Every time

Q49: Over the 28 days before the therapy began, how concerned were you about other people seeing you eat?.... Do not count episodes of binge-eating

○ Not at all   ○ .   ○ Slightly   ○ .   ○ Moderately   ○ .   ○ Markedly

Please remember that the questions refer to the four weeks (28 days) before the therapy began.

Q50: Over the 28 days before the therapy began...

	Not at all	.	Slightly	.	Moderately	.	Markedly
Did your WEIGHT influence how you thought about (judged) yourself as a person?	◯	◯	◯	◯	◯	◯	◯
Did your SHAPE influence how you thought about (judged) yourself as a person?	◯	◯	◯	◯	◯	◯	◯
How much would it have upset you if you had been asked to weigh yourself once a week (no more, or less often) for four weeks?	◯	◯	◯	◯	◯	◯	◯

How dissatisfied were you with your WEIGHT?	○	○	○	○	○	○	○
How dissatisfied were you with your SHAPE?	○	○	○	○	○	○	○
How uncomfortable did you feel seeing your body (for example, seeing your shape in the mirror, in a shop window reflection, while undressing or taking a shower)?	○	○	○	○	○	○	○
How uncomfortable did you feel about OTHERS seeing your shape or figure (for example, in communal changing rooms, when swimming, or wearing tight clothes)?	○	○	○	○	○	○	○

Q51: What was your weight just before starting the therapy you have described?

☐ kilograms OR ☐ stone / pounds

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Q52: What was your height just before starting the therapy you have described? (In metres / centimetres OR feet / inches)

Q53: If female: Over the three-to-four months just before starting the therapy you have described, did you miss any menstrual periods?

○ Yes ○ No

Q54: If so, how many?

Q55: Had you been taking the contraceptive pill?

○ Yes ○ No

Q56: Is there anything else it would be helpful for us to know about?

Q57: Do you have any comments / feedback about this questionnaire?

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Q58: A summary of the findings of this study will be posted on the website of B-eat. Please indicate if you would also like to be sent a copy of the findings of the study, via post or email, and provide the relevant details. We will only use these details to send you a copy of the report.

◯ No, don't send me a copy   ◯ Yes, send me a copy

My email / postal address is:

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Appendix E: Algorithm Used for Classifying Participants into
Diagnostic Categories

	BN	**EDNOS BN-Subtype**	**EDNOS BED-Subtype**
Criteria	IF BMI > 17.4 AND binging = 8+ times AND EITHER: fasting = 6-12+ days OR vomiting = 8+ times OR laxative = 8+ times OR exercise = 8+ times	IF BMI > 17.4 AND binging = 4+ times AND EITHER: fasting = 1-5+ days OR vomiting = 4+ times OR laxative = 4+ times OR exercise = 4+ times	IF BMI > 17.4 AND binging = 4+ times AND fasting = no days AND vomiting = < 4 times AND laxative = < 4 times AND exercise = < 4 times
N	**80**	**18**	**0**

	AN	**EDNOS AN-Restrictive-Subtype**	**EDNOS AN-Binge-Purge Subtype**
Criteria	IF BMI < 17.5 AND Amenorrhea > 2 episodes	IF BMI < 17.5 AND Amenorrhea < 3 episodes AND vomiting = < 4 times AND laxative = < 4 times AND exercise = < 4 times	IF BMI below 17.5 AND binging =4+ times AND EITHER: vomiting = 4+ times OR laxative = 4+ times OR exercise = 4+ times
N	**22**	**5**	**18**

Total N

- BN Diagnosis = 98

- AN Diagnosis = 45

- Subclinical Symptoms = 3

- No BMI given = 6

    = 152

Appendix F: Criteria for Classifying 'Desirable CBT' and 'Adequate' IPT

Classification of CBT Quality (N = 44)

	Answered 'Yes'	
	N	%
Adequate CBT Questions		
1. 'My therapist and I both had an active role in treatment (for example, we planned how to spend therapy sessions and tasks that I would do)'	31	70.45
2. 'The therapy involved carrying out regular 'homework' or self-help tasks outside of the therapy sessions'	37	84.09
3. 'I monitored my eating habits in a diary or record'	32	72.73
4. 'My therapist explained the treatment approach and the rationale behind it'.	30	68.18
'Adequate' CBT[a]	17	38.64
'Inadequate' CBT[b]	27	61.36
Desirable CBT Questions		
5. 'We focused mainly on my present and my future rather than my past'	27	61.36
6. 'We looked at links between my thoughts, feelings and behaviours'	41	93.18
7. 'We designed and carried out experiments to 'test out' any problematic or unhelpful thoughts I was experiencing'	17	38.64
'Desirable' CBT[c]	9	20.45

[a] Answered 'Yes' to Questions 1-4

[b] Answered No to any of Questions 1-4

[c] Answered 'Yes' to Questions 1-7

Classification of IPT (N = 2)

	Answered 'Yes'	
	N	%
Adequate IPT Questions		
1. 'My therapist explained that the therapy was designed to help me recognise and work on relevant problems in relationships'	2	100
2. 'We explored ways to bring about change in difficult relationships with other people'	2	100
3. 'We worked mainly on issues to do with my relationships with others, rather than directly addressing eating, weight and shape'	1	50
4. 'We talked about how my relationships with others were going, in terms of how intimate they were, how equal they were, or aspects of my relationships that I found satisfying or unsatisfying'.	2	100
'Adequate' IPT (1-4 = 'Yes')	1	50
'Inadequate' IPT	1	50

Appendix G: List of Abbreviations

AAT	Appetite Awareness Training
AN	Anorexia Nervosa
APA	American Psychiatric Association
BE	Binge-eating
BED	Binge Eating Disorder
BN	Bulimia Nervosa
BN-RDs	Bulimia Nervosa and Related Disorders
BMI	Body Mass Index
BWLT	Behavioural Weight-loss Therapy
BWLgsh	Behavioural Weight-loss Guided Self-help
BTHQ	Bulimia Treatment History Questionnaire
CORE-OM	Clinical Outcomes in Routine Evaluation – Outcome Measure
CBI	Cognitive-behavioural Intervention
CBT	Cognitive Behaviour Therapy
CBT-BN	Cognitive Behaviour Therapy - Bulimia Nervosa
CBT-E	Cognitive Behaviour Therapy - Enhanced
CBTgsh	Cognitive Behavioural Therapy Guided Self-help
CD-CBT	Computer-delivered CBT

DSM-III	Diagnostic and Statistical Manual of Mental Disorders – Volume Three
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders – Volume Four
ED	Eating Disorder
EDE	Eating Disorders Examination
EDE-Q	Eating Disorders Examination – Questionnaire Version
EDNOS	Eating Disorder Not Otherwise Specified
EMA	Ecological Momentary Assessment
EST	Empirically-supported Psychological Therapy
GCBT	Group Cognitive Behaviour Therapy
GIPT	Group Interpersonal Psychotherapy
IAPT	Improving Access to Psychological Therapies
ICD-10	International Classification of Diseases – Volume Ten
IPT	Interpersonal Psychotherapy
ITT	Intention to Treat
LCD	Low Calorie Diet
LEARN	Lifestyle, Exercise, Attitude, Relationships, Nutrition
NICE	National Institute of Clinical Excellence

NHS	National Health Service
OB	Objective Binge
OCD	Obsessive-Compulsive Disorder
PD	Panic Disorder
RCT	Randomised Controlled Trial
REE	Record of Eating Episodes
RSES	Rosenberg Self-Esteem Scale
SSRI	Selective Serotonin Reuptake Inhibitors
SB	Subjective Binge
TFEQ	Three-factor Eating Questionnaire
VLCD(P)	Very Low Calorie Diet (Programme)
WLC	Waiting-list Control Group