Exploring Therapist Factors and the use of Implementation Intentions among Clinicians Practicing Family Based Treatment with Children and Adolescents with Eating Disorders

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Declaration

I declare that this thesis has been submitted for the award of Doctorate in Clinical Psychology at the University of Sheffield. It has not been submitted for any other qualification or to any other academic institution.

Structure and Word Counts

Literature Review

Excluding tables, figures, references and appendices ...…….…...7991

Including tables, figures and references, excluding appendices …….……...13835

Research Report

Excluding tables, figures, references and appendices ...……... 8000

Including tables, figures and references, excluding appendices ……. 10532

Total

Excluding tables, figures, references and appendices ...……...15991

Including tables, figures and references, excluding appendices ……..24367

Lay summary

Family Based Treatment (FBT) is a recommended therapy for children and adolescents living with an eating disorder; it is founded on research evidence, and is most effective when it is delivered according to the manual. Routine and regular weighing of clients is an essential component of FBT (Lock & le Grange, 2013). Despite the importance of weighing, nearly half of therapists delivering FBT do not weigh as suggested by the manual (Kosmerly et al., 2015). Deviation from the model might be a result of factors relating to the therapist, as opposed to being driven by the client's needs. Therefore, this thesis aimed to a) review the literature to better understand whether and how therapist factors influence the delivery of FBT, and b) investigate whether asking FBT therapists to make implementation intentions (a specific 'if-then' plan that states exactly when, where, and how a behaviour will be carried out (Gollwitzer, 1993)) could support them to adhere to evidence-based weighing. Ultimately, the project hoped to inform how clinicians can be supported to deliver FBT in accordance with protocol, to the benefit of the client.

The first part of this thesis identified nineteen studies to be included in a literature review. Findings suggested that therapists' emotions (e.g. whether they felt anxious), cognitions (e.g. whether they believed FBT could meet the needs of certain clients), and behaviours (e.g. if family members could be engaged with the treatment) were linked to a) whether treatment was carried out in line with protocol, b) how well the client engaged in the treatment, and c) the extent of the client's eating disorder symptoms. Other factors, such as when parents felt empowered, and where a team had access to training and support also positively impacted on outcomes for the client. However, the methods used by several studies included in the review were criticised, therefore conclusions should be interpreted with caution.

The second part of this study aimed to investigate whether prompting FBT clinicians to set a goal intention and form an implementation intention would help them to increase

weighing behaviour. This study randomly allocated eighty-four FBT therapists to one of two conditions: 1) 'experimental' (participants were asked to make an implementation intention) or 2) 'control' (participants continued providing FBT as usual) condition. All participants completed an online survey, at three time points. Participants were asked questions relating to their general anxiety, specific anxiety about weighing, intentions to weigh, and the percentage of their clients that they weighed. Only the experimental group were given information about the importance of weighing, and asked to form an implementation intention to weigh their clients. Findings showed that clinicians experienced an increase in anxiety about weighing once they had made an implementation intention. Furthermore, forming implementation intentions only increased weighing behaviour among clinicians who already had strong intentions to weigh their clients. Future research is needed to explore further ways in which FBT therapists can be supported to work in line with the research evidence.

Together, these findings help us to begin to understand therapist's experience of delivering FBT, and how we might better support therapists to carry out FBT in line with the manual.

Acknowledgments

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To my incredible husband, Will, you have seen this journey through with me. You have been flexible, accommodating and good-humoured, as always. You have made this endeavour an obtainable and enjoyable one, and I am forever grateful for the light-hearted way you have taught me to approach life. Finally, to my greatest achievement to date; Imogen Eve. Part way through third year you changed my world. You have filled my life with sunshine, my heart with pride and my future with even greater expectations. Let this thesis be a reminder to you that anything is possible.

List of Contents

Please note that this project was developed in parallel with a similar project that investigated the effects of prompting CBT practitioners working with adults with eating disorders to form implementation intentions to weigh their clients.

PART ONE: Literature Review

What Therapist Factors Influence the Delivery and Outcomes of Family Based Treatment for Children and Adolescents with Eating Disorders? A Systematic Review

Abstract

Objectives

Fidelity to Family Based Treatment (FBT) is associated with better outcomes, however therapists often deviate from evidence-based protocols. This review aimed to explore whether therapist factors influenced treatment delivery and/or clinical outcomes when delivering FBT for children and adolescents with eating disorders.

Methods

A systematic search of five databases identified 2,089 articles, which were screened in accordance with inclusion and exclusion criteria. Nineteen studies of both quantitative and qualitative design were included in the review. Study quality was rated.

Results

Seven therapist factors were identified. Certain factors were found to be related to clinician adherence to FBT protocol and clinical outcomes (e.g., weight gain, ED symptomology and drop out). Therapist emotions were linked to FBT delivery. For example, a negative relationship was identified between therapist anxiety and delivery of core tenets of FBT. Furthermore, therapist cognitions, behaviours and organisational factors were both positively and negatively related to model fidelity, client engagement and ED symptomology.

Conclusions

Findings are discussed in light of existing theory relating to safety behaviours and therapist drift. Strengths and limitations of the review are considered, including how the observational nature of most included studies limited the strength of the conclusions able to be drawn. Future research might consider a more robust approach, such as a meta-analysis.

Practitioner Points

- Clinician experience of anxiety and negative beliefs is related to non-adherence to protocol

- Positive treatment outcomes are linked to parental empowerment
- Team access to FBT training has the potential to enhance collegial support, and a consistent approach to FBT implementation

Introduction

In the UK, eating disorders (EDs) affect an estimated 1.25 million people - a number that is reported to be increasing year on year (BEAT, 2019). Approximately 75% of EDs are seen among females, with the majority of problems beginning during adolescence (BEAT, 2019). According to the Diagnostic and Statistical Manual of Mental Disorders (fifth edition) (American Psychiatric Association, 2013), EDs are recognised as anorexia nervosa, bulimia nervosa, binge-eating disorder, avoidant/restrictive food intake disorder, and other specified feeding or eating disorder (American Psychiatric Association, 2013). EDs can have serious consequences on psychological, physical, and neurological health (Palla & Litt, 1988; Rosen, 2003; Smink et al., 2012), and account for the highest mortality rate of all mental health disorders (Arcelus et al., 2011). During adolescence specifically, the psychological implications of living with an ED include disruption to psychosocial development, interpersonal relationships and the emergence of autonomy and independence (Herpertz-Dahlmann et al., 2010; Ratnasuriya et al., 1991; Ruuska et al., 2007). To prevent or minimise symptom severity, access to effective treatment early on in the course of the ED is imperative (Treasure & Russell, 2011), and the strongest of treatments is FBT (e.g., Agras et al., 2014; Couturier et al., 2013a; LeGrange et al., 2016).

Evidence Base for FBT of ED in Children and Adolescents

The UK's National Institute for Health and Care Excellence (NICE) recommend a family therapy approach to treat EDs in people under the age of 18 (NICE, 2017), on the basis of the evidence to date in support of Family Based Treatment (FBT) (Agras et al., 2014; Couturier et al., 2013a; LeGrange et al., 2016; LeGrange et al., 2007; Lock et al., 2010). FBT is a manualised psychological intervention, validated for use with adolescents stable enough for treatment within outpatient settings (Lock & LeGrange, 2013). FBT is associated with low

drop-out and positive outcomes at the point of discharge and at long-term follow-up (e.g., Rienecke, 2017; Robin et al., 1998).

FBT is behaviourally-based and separated into three phases. The first phase empowers parents to retake control and disrupt problematic eating behaviours that maintain their child's low weight, until weight restoration is achieved. The second phase involves the responsibilities for eating being gradually returned to the adolescent under parental supervision. Once a healthy weight is reached, the final stage involves working with the family to support the adolescent to resume appropriate independence by addressing issues such as autonomy, integration with peers and sexuality (Lock & LeGrange, 2013). Despite the favourable evidence-base, rates of remission following FBT are around 50% (Lock et al., 2010; Lock & LeGrange, 2019), thus indicating scope for improvement.

Several client factors have been associated with positive clinical outcomes using FBT, for instance having a shorter duration of illness, higher levels of motivation and experiencing less parental criticism (Darcy et al., 2013; Doyle et al., 2010; Zaitsoff & Taylor, 2009). Furthermore, the client's wavering motivation and autonomous decision making contributes to whether FBT tasks are routinely fulfilled (Muhlheim, 2018). Less research has been conducted on the therapist's influence on FBT outcomes. Better understanding of whether and how therapist factors influence the delivery of FBT and/or outcomes could enable targeted support of the therapist, with ultimate benefit to the client receiving treatment. To date, research does not appear to have provided a formal definition of 'therapist factors', however Lutz and Barkham (2015) define a very similar concept, 'therapist effect' to capture effects unexplained by treatment modality or therapy technique. Thus, it is proposed that therapist factors are understood as characteristics, qualities or variables associated with the therapist. Research suggests that therapist factors can impact on how well therapists deliver therapy, and treatment outcomes (e.g., Treasure et al., 2011; Turner et al., 2014; Waller et al.,

2012; Wampold & Carlson, 2012; Wonderlich et al., 2012). A brief overview of the evidence is outlined below.

Therapist Factors

The existing evidence base indicates that several factors pertaining to the clinician bear on treatment delivery and clinical outcomes. In terms of a framework to address these variables, it is proposed that therapist factors are organised under the following seven subheadings seen in Table 1. The research evidence is outlined below.

Table 1:
Categorisation of Therapist Factors

Category	Therapist Factor
Emotion	Anxiety, liking the client, empathy
Cognition	Attitude towards protocol, beliefs about client presentation
Behaviour	Practical use of a manual, weighing, conducting the family meal
Capacity to Build Alliance	Therapeutic alliance, therapeutic relationship, interpersonal skills
Experience and Knowledge	Length of FBT practice, training experience (i.e., self-directed, professional training course)
Organisational	Access to training, supervision, organisational attitudes and support
Demographics	Age, gender, profession

The therapist's emotional experience during therapy can impact on the delivery of evidence-based protocols for adults with EDs (e.g., Treasure et al., 2011; Waller et al., 2012). Waller (2009) comments that therapists' emotional experiences can impact on their clinical behaviour. Emotions can be both positive and negative. For example, Westra et al. (2012) state that when therapists have positive feelings early in the therapy, such as a sense of connection, enjoyment and liking the client, significantly lower levels of client resistance are seen. Other research shows that therapists experiencing negative emotions, such as anxiety, avoid core elements of treatment to reduce or avoid their own unwanted feelings (Meyer et al., 2014; Turner et al., 2014; Waller, et al., 2012). In the absence of research exploring

similar variables within FBT, it could be hypothesised that FBT therapists' emotional experiences will also impact upon how treatment is delivered, subsequently influencing outcomes for clients.

Therapist's cognitions are also reported to influence implementation of evidence-based ED interventions, with potential implications for clinical outcomes. For example, Waller et al. (2013) showed that depressed therapists have negative attitudes towards the use of manualised treatments and how effective they are for adults with EDs. A further belief that can impede the use of evidence-based approaches is that the therapeutic alliance should be prioritised over the use of behavioural interventions (e.g., Waller & Mountford, 2015; Brown et al., 2013a). Therapists' beliefs about the importance of the therapeutic relationship may lead it to be prioritised above the use of evidence-based techniques (D'Souza Walsh et al., 2019). Furthermore, some therapists may avoid key tasks such as weighing the client, despite it being central to an evidence-based model, for reasons such as the patient was weighed by somebody else (Waller & Mountford, 2015). Similarly, evidence suggests that therapists omit elements of effective manualised protocols based on beliefs they hold relating to the presentation of the client (Wonderlich et al., 2012). Meehl (1973) coined the term 'broken leg exceptions' to describe this pattern. The evidence outlined above suggests that a therapist's deviation from evidence-based practice can be driven by their beliefs about the model and their client, with assumed implications for clinical improvements.

Related to emotions and cognitions, therapists can behave in ways that enhance or interfere with the efficacy of evidence-based practice (Cukrowicz et al., 2011; Waller, 2009; Waller & Turner, 2016). For instance, therapists who treat adults with EDs are known to avoid conducting key tasks such as behavioural experiments, and weighing the client (Turner et al., 2014; Waller & Turner, 2016). Avoidance of tasks can be understood as a clinician safety behaviour, arising as a result of the therapist's own need to avoid causing their clients

distress, as opposed to the needs of the client (Turner et al., 2014). It is unclear whether a similar phenomenon is mirrored amongst FBT therapists.

Similar to therapists' behaviours during treatment, the research highlights the importance of building alliance within the complex dynamics of relationships between individuals partaking in family-based interventions (Diamond et al., 1999; Hogue et al., 2006). It is the responsibility and skill of the therapist to develop and maintain potentially complex and challenging relationships with and between family members (e.g., Diamond et al., 1999; Friedlander et al., 2006a). General psychotherapy research suggests that good therapeutic alliance (including effective resolution of ruptures) is associated with continued engagement in therapy and better treatment outcomes (e.g., Martin et al., 2000; Safran et al., 2001). More specifically to outcomes in FBT research, Graves et al. (2017) show that for young people receiving FBT, therapeutic alliance predicted clinical outcomes, which differed from adult CBT cases where clinical change occurred prior to the development of alliance. However, as aforementioned, more recent literature suggests that alliance may be overvalued (Brown et al., 2013a; D'Souza Walsh et al., 2019). A better understanding of the relationship between therapeutic alliance and clinical outcomes will inform how important prioritising alliance is for this treatment group.

Clinical experience and knowledge might also be related to the delivery of evidence-based protocol. Turner et al. (2014) found that therapists with greater therapeutic experience demonstrate increased use of manualised CBT techniques when treating adult ED clients, suggesting that model adherence strengthens with time. In contrast, however, Simmons et al., (2008) found that therapists with fewer years' experience were more likely to embrace manual-based treatments. Similar to level of clinical experience, variability exists amongst therapists' training experiences in psychotherapies. Intensive ED training packages are known to be difficult to disseminate (Fairburn & Wilson, 2013), resulting in therapists attending brief

workshops, self-directed study, or indeed learning through observation alone (Herschell et al., 2010; Fairburn & Wilson, 2013). Such variability of training may affect the skillsets and competency levels amongst clinicians, and arguably impacts on how well clinicians deliver FBT. Taken together, it is important to identify whether and how the therapists' degree of therapeutic training and experience is associated with the delivery and outcomes in FBT for child and adolescent EDs.

Organisations, or systems in which a therapist operates are also reported to have bearing on clinical practice. Specifically, Couturier and Kimber (2015), concluded that supporting FBT therapists to implement FBT enhances treatment fidelity and produces favourable clinical outcomes. Research indicates the importance of clinician's having access to a competent supervisor to sustain quality of treatment delivery (Herschell et al., 2010; Waller, 2009; Waller & Turner, 2014). In addition, evidence suggests that having a team motivated and unified towards a treatment approach is important for therapists to feel able to implement evidence in practice (Aarons, 2006; Couturier & Kimber, 2015; Murray et al., 2012). To further highlight the importance of the team in which the therapist is embedded, strong organisational beliefs ingrained within service culture are found to influence the individual's attitude towards delivery of CBT, and have been shown to negatively impact patient care (Lowe et al., 2011). More specific to child and adolescent therapy, a study found that a positive and proactive staffing culture was associated with more positive therapist attitudes toward the implementation of evidence-based practice, whereas a poor organisational climate was linked to deviation from it (Aarons & Sawitzky, 2006). Findings from the study highlighted that the system in which the therapist operates may influence how the therapist delivers FBT, which might have subsequent clinical implications. Together, research evidence points to the importance of considering the team, therapist support systems and organisational culture in the context of FBT for EDs.

Finally, studies have investigated the role of clinician demographics, (e.g. gender, age and profession), and their relationship with outcomes in manualised treatments for EDs (e.g. Turner et al., 2014; Waller & Katzman, 1998). For example, older, more experienced therapists show less concern delivering components of CBT to adults with EDs (Turner et al., 2014), suggesting that core tasks of CBT are less likely to be avoided. In a related vein, a preference for female therapists is found in the treatment of adult EDs (Waller & Katzman, 1998). Furthermore, psychologists are a profession with greater positivity towards the implementation of exposure-based techniques (Waller et al. 2016). It may be that similar findings are reported within the FBT evidence base.

Outcomes

In accordance with the aims of this review, outcomes of interest include those relating to therapists delivery of FBT, and also clinical outcomes for the client. Therapist adherence to protocol (typically measured by 3rd person ratings of video recordings) has previously been studied in relation to family therapies (Couturier et al., 2010; Hogue et al, 2008). In addition, child and adolescent clinical improvements or outcomes have previously been captured by monitoring the following clinical outcomes: Body Mass Index, weight, binge/purge frequency, measures of ED psychopathology, menstruation and therapy drop-out (Graves et al., 2017; Robin et al., 1999; Zaitsoff et al., 2015).

The Current Review

A range of therapist factors might influence the delivery and outcomes of FBT. Findings from the broader ED evidence base show that therapists normally deviate from evidence-based protocols (e.g., Tobin, 2007; Waller, 2009). Failure to adhere to treatment manuals has been linked to therapist factors. Available evidence suggests fidelity to FBT is associated with low drop-out rates and better outcomes (Robin et al, 1998). Therefore, reducing the discrepancy between protocol and clinical application is important (Brownson et

al., 2018). This review will explore whether therapist factors influence therapist delivery, and subsequent clinical outcomes (e.g., weight gain, ED symptomology and drop out) in FBT for children and adolescents with EDs. The possibility of conducting a meta-analysis was considered. However, the limited number and variable quality of the available research (including case studies and qualitative studies) meant that such approach was not viable. Therefore, a narrative systematic review was adopted.

Aims

The aim of this systematic review is to explore whether therapist factors influence treatment delivery and/or outcome when delivering Family Based Treatment (FBT) for children and adolescents with EDs.

Method

Design

This systematic review examined the relationship between therapist factors and therapeutic outcomes. Systematic literature reviews identify, select, appraise and synthesise the research evidence specific to an identified area (Centre for Reviews and Dissemination, 2009), and have been commended for their contributions to clinical practice (Petticrew & Roberts, 2006). To enhance the quality of this review, it followed relevant items from reporting principles from the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) checklist (Moher et al., 2009).

Search Strategy

The following databases were systematically searched during October 2018: PsychInfo, PsychArticles, Medline, Scopus, Pubmed, and Proquest Dissertations and Theses to identify both published and unpublished studies of relevance. The search included all studies recorded prior to October 2018. The following terms were used to identify papers:

1) (“FBT” OR “family based treatment” OR “family therapy”) AND

2) (“eating disorder*” OR “anorex*” OR “anorexia nervosa” OR “bulimi*” OR “bulimia nervosa”) AND
3) (“therapist*” OR “clinician”)

Titles were screened for relevance. Abstracts and full papers as appropriate were accessed for further assessment where the research appeared to be exploring therapist factors, as per the eligibility criteria described below.

Article Selection: Inclusion and Exclusion Criteria

Articles were retained based on the following inclusion criteria:

1. The study addressed therapists’ emotions (mood, anxiety, guilt), cognitions (beliefs, cognitions, perspectives, views, attitudes), behaviours (model adherence, conducting the family meal, weighing), alliance (interpersonal approach, rapport), FBT knowledge and/or training (years of FBT practice, training), experiences within the organisation (training, supervision, organisational attitude) and demographics (age, gender, profession);
2. Therapist factors were reported from a therapist or client perspective;
3. The intervention was Family Based Treatment for children and adolescents;
4. The client was being treated for anorexia nervosa, bulimia nervosa, binge-eating disorder, avoidant/restrictive food intake disorder (ARFID) or eating disorder not otherwise specified (EDNOS);
5. The study was published in English.

Articles were removed using the following exclusion criteria:

1. Not an empirical study (e.g., a book chapter);
2. Not written in English;
3. Multi-faceted interventions (i.e. FBT was not the sole intervention);
4. Approaches other than family therapy or FBT (e.g., CBT);

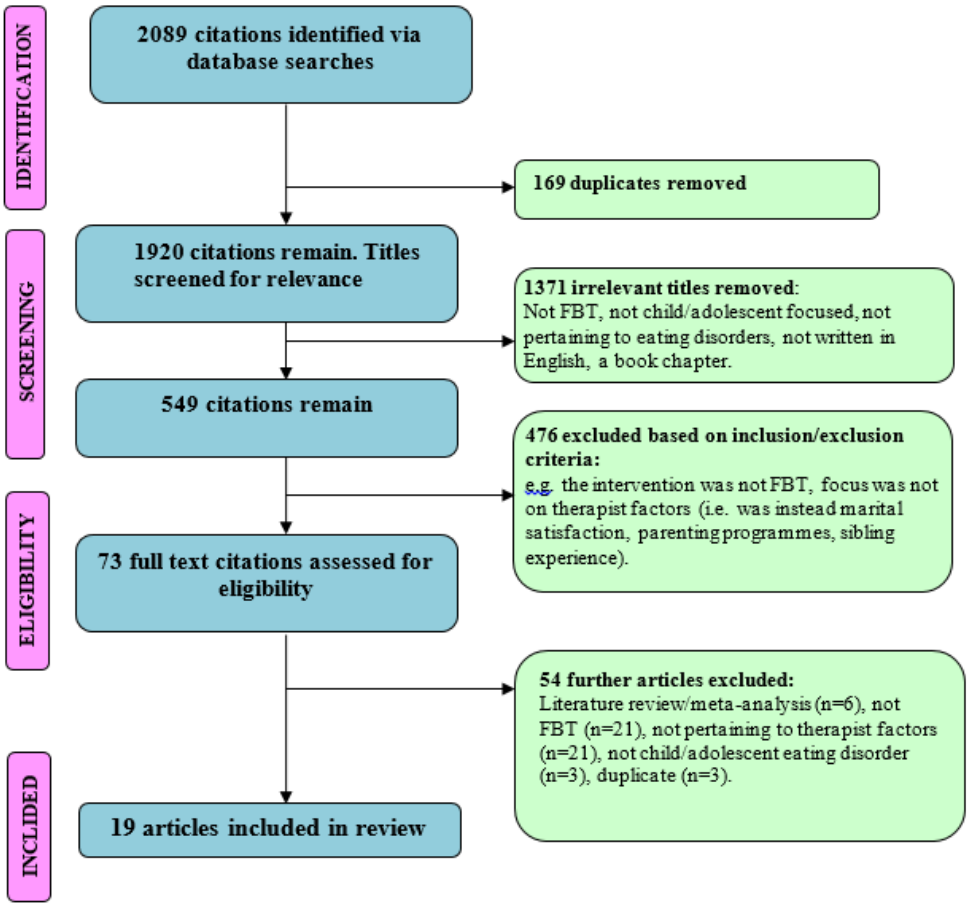
5. Research focus did not relate to the therapist (e.g., ‘sibling experiences’);
6. Research focused on other disorders (e.g., conduct disorder).

Meta-analyses and systematic reviews were removed. Original studies were accessed where relevant. Early scoping searches indicated limited evidence in this area, therefore inclusion of case studies was deemed relevant and appropriate.

A total of 2,089 papers were initially identified. Following removal of duplicates, papers were then discarded on the basis of irrelevant titles, reducing the count to 549. Subsequently, abstracts were read and 476 papers were removed according to inclusion/exclusion criteria. The remaining 73 full-text papers were obtained and read, and inclusion/exclusion criteria were applied again to discard 54 papers. A total of 19 studies remained for inclusion in the review. The PRISMA diagram in Figure 1 illustrates this process.

Figure 1:

Adapted PRISMA Diagram (Boland et al., 2014)



Data were extracted from all included articles. Background descriptive data were reported, including; information about the authors, year of publication, country of data collection, participant demographics (sample size, age, gender, profession and/or diagnosis), and the research design/methodology, including recruitment. Moreover, relevant study characteristics were extracted, including; therapist factor(s), and outcomes measured (e.g., ED symptomology measure, weight). Finally, summary details of relevant key findings/themes were extracted. Due to the diversity of the primary study designs, consistency in data extraction adhered to the following rules. 1) Both direct measures (e.g., observed therapist behaviours) and indirect measures (e.g., therapist's beliefs regarding the effect of clinician

emotion on FBT delivery) were extracted. 2) In experimental studies, measures compare baseline to end of treatment, and if not, this is made explicit.

Appraisal of Study Quality

Study quality was assessed using established quality appraisal tools. Due to the diversity of study designs, three independent quality assessment tools were used. First, for qualitative studies, the 10-item 'CASP: Qualitative Checklist' (Critical Appraisal Skills Programme (CASP), 2017) (Appendix A) was used to score all items either 'yes' (1) or 'no/not considered adequately' (0). It is not recommended to apply a numerical scoring system to the tool (CASP, 2017), however, for the purpose of comparison of quality between all included studies, scores were applied and categorised as; 'low' (0-4), 'moderate' (5-8) and 'high' (9-10) (where lower scores indicated higher risk of bias).

Second, a modified version of the Downs and Black (1998) checklist (Appendix B) appropriate for randomised and non-randomised studies was applied to all studies with a quantitative design. Scoring was conducted in accordance with Downs and Black's criteria, and items typically received either 'yes' (1), 'no' (0) or 'unable to determine' (0). The final item was altered so scores of '1' represent studies that report on power analysis, and '0' where sample size calculation was omitted. Due to the range of quantitative study designs, items were only scored where relevant (e.g., cross-sectional studies were measured against 14 of the 27 items). Qualitative categories of 'low' (0-14), 'moderate' (15-23) and 'high' (23-27), were guided by previous categorisations (O'Connor et al., 2015). Lower scores indicated higher risk of bias. Categorisation aided consistent quality comparison across all studies in the review.

Finally, the Mixed Methods Appraisal Tool (MMAT) (Hong et al., 2018) was used to appraise the single study adopting a mixed methods design (Krautter, 2002) (Appendix C). In accordance with the MMAT guidelines, 17 items were rated. Again, for categorisation and

comparison to other studies, a rating system ('yes' (1), or 'no/inadequate' (0)) and qualitative labels of 'low' (0-6), 'moderate' (7-11) and 'high' (12-17) was applied, where lower scores indicated poorer quality studies. Overall, lower quality studies are at risk of greater bias, and are criticised for poor reliability of results (Higgins et al., 2019). Quality appraisal was used to recognise bias and identify limitations of the included studies, as opposed to exclude studies (e.g. Hong et al., 2018; McDonagh et al., 2013).

The first author undertook the quality appraisal, and a clinician experienced in quality appraisal acted as a second rater, appraising 20% (a total of 4) randomly selected studies. The second reviewer was blind to the first authors' ratings. Differences between scores were discussed and final appraisal scores were agreed.

Results

Study Characteristics

Seventeen research papers and two unpublished theses were included in the review (Table 2). The sample sizes of the studies ranged from 1 to 305, with larger samples typically being associated with cross-sectional research. Where available, information indicated that clinical samples predominantly consisted of adolescents with anorexia nervosa. Therapist samples were mostly sourced from professional networks or compiled databases of clinical contacts. Participants were recruited from the USA (7), Canada (6), and Australia (4), therefore represented the behaviours of therapists and clients from these countries.

Risk of Bias

Risk of methodological bias varied across research papers (see appendix D, E and F). Five research papers were found to be of 'high' quality, eight were appraised as 'moderate' quality, and six studies were categorised as 'low' quality. Upon review, the quantitative studies were deemed at greater risk of bias, in comparison to the qualitative studies.

Several studies (Forsberg et al., 2013; Forsberg et al., 2014; Isserlin & Couturier, 2012; Murray et al., 2015; Murray et al., 2018) did not provide adequate depth of detail regarding descriptions of recruitment methods and sample characteristics, therefore limiting replicability. Two studies did not state the sample population's location (Isserlin & Couturier, 2012; Pereira et al., 2006). The majority of studies provided sufficient information regarding sample eligibility criteria, enhancing replicability of the research. Replicability and generalisability of findings is compromised by several studies presenting vague detail of recruitment procedures. Use of samples that were self-selected was common across studies, therefore risking sampling bias. Thirteen studies investigated participant experience or views obtained by retrospective reports. Retrospective accounts were prone to error of recall and issues of participant reactivity. In contrast, three studies conducted independent observation of behaviour via session recordings. This reduced bias associated with self-assessment. All but one study (Murray et al., 2018) referred to receiving ethical clearance. However, it was unclear how the safety and protection of participants was ensured by most papers.

It was unclear whether the studies were adequately powered as all authors fail to report sample size calculations. Finally, the majority of studies were non-randomised and without control conditions or comparison groups. The absence of a control group restricted the strength of the conclusions able to be drawn. However, all authors provided a critique, described implications of their findings and offered suggestions for future research. Overall, all studies clearly presented the aims of the research, conducted analyses appropriate to the research question(s), and offered a discussion in accordance with the findings. Specific details highlighted by the quality appraisal process, and how this implicates interpretation of the studies, are discussed below.

Findings from Qualitative Studies

Ten studies used a qualitative approach. Two studies appeared to be conducted with the same pool of participants (Couturier et al., 2013; 2014). Different aims and methodologies were used but the use of overlapping samples was not made explicit by the authors. Both papers were included in the review as they investigated independent aims and reported findings exclusive from one another. However, caution should be given to the weight of these findings as including the same participants more than once could have implications for the validity of the results. With the exception of one study (Couturier et al, 2014), all relevant papers detailed the interview schedule, which increases replicability and offers insight into how question wording might influence responses. Reflexivity was only acknowledged by Wiese (2014) and Couturier et al. (2014) which raised questions regarding the impact of researcher bias for other qualitative studies. Nine studies reported that data was coded by a second coder, which increases confidence in the rigor of data handling in these studies.

Findings from Quantitative Studies

Nine studies used a quantitative approach; four of which were case series (Ellison et al., 2012; Forsberg et al., 2014; Isserlin & Couturier, 2012; Pereira et al., 2006). Three of those case series involved secondary analysis on data taken from one arm of larger randomised controlled trial (RCT). Two of the quantitative studies were survey-based cross-sectional research (Kosmerly et al., 2015; Robinson & Kosmerly, 2015), and two studies were RCTs (Forsberg et al., 2013; Zaitsoff et al., 2008). Both experimental studies failed to state whether participants were blinded to conditions. Studies by Forsberg et al. (2014) and Forsberg et al. (2013) used different study designs, however conducted secondary analysis of data drawn from the same RCT.

The studies using outcome measures typically adopted well validated tools. For example, positive psychometric properties were reported for versions of the well-established Eating Disorder Examination (e.g., Cooper & Fairburn, 1987) and versions of the Working

Alliance Inventory (WAI) (e.g., Horvath & Greenberg, 1989). The WAI was the most commonly used measure. Isserlin and Couturier (2012) used the System for Observing Family Therapy Alliances (SOFTA) (Friedlander et al., 2006b) which was specifically developed for application with families, and therefore arguably a more appropriate tool. Where FBT intervention was conducted, only two studies (Ellison et al. 2012; Isserlin & Couturier, 2012) gave (limited) descriptions of delivery settings, which again raises issues around validity and replicability.

Amongst quantitative studies, all papers provided estimates of random variability, reporting either confidence intervals and/or probability values, therefore strengthening interpretation of the results. However, the cross-sectional and correlational nature of the majority of quantitative studies means causal relationships cannot be deduced.

Table 2:

Characteristics of the Primary Studies Included in the Review; Including Their Methodology and Key Findings

Authors (year)	Country	Key sample characteristics	Design/Methodology	Recruitment	Main outcome(s) measured	Key findings/themes
QUANTITATIVE STUDIES						
Forsberg et al. (2013)	USA	N = 78 professionals 7 males, 71 females SW (4), psychologist (2), psychiatrist (20) Patients with AN Age not reported	RCT - secondary analysis. Session recordings (approx. session 4) of FBT/AFT analysed and rated for comparison of groups	Sample drawn from a larger RCT-selected based on audible recordings	Therapeutic alliance (WAIo) and clinical outcomes (EDE, weight)	TA was significantly greater in AFT, M= 5.31 (SD=0.67) than FBT, M = 4.25 (SD=0.99), d = 1.26, $p < .001$. The total alliance score was predictive of outcome ($p = .021$), as alliance increased by one unit, the chance of being partially remitted by weight increased (>85%) by a factor of 3.32. Good TA in FBT did not lead to better outcomes, nor did the lack of a strong alliance negatively affect outcomes.
Zaitsoff et al. (2008)	USA	N = 80 clients 2 males, 78 females BN Aged 12-19 years	RCT – random assignment to FBT or SPT Measures administered at baseline, session 1, 2, 10 and 20	Recruited from the Eating Disorders Program at University of Chicago via telephone call - formed the FBT arm of larger RCT	Therapeutic alliance (HRQ), clinical outcomes (EDE-Q) client's treatment acceptability, depression (BDI), and self-esteem (RSE)	Amongst other findings; TA is rated positively in both FBT, M= 20.17 (SD=11.70), and SPT, M= 19.56 (SD=9.25). Those in receipt of FBT felt they had made greater improvements by mid therapy t=3.01, ($p < .01$). More severe symptoms were related to poorer alliance in FBT, z = -3.16, ($p < .05$). SPT clients felt more understood than FBT clients, t= -2.46 ($p < .05$), but FBT clients felt they understood themselves better and felt more able to cope if not in treatment than SPT clients, t= 3.82 ($p < .001$).
Kosmerly, Waller, & Robinson (2015)	Canada	N = 117 therapists 108 females, 9 males Psychologists (51), psychiatrists (12), social workers (34), nursing (4), OT (3) Aged 26-64 Clients with AN	Cross Sectional Study - Online survey	Via Canadian eating disorder database compiled by authors. Snowball methods utilised for additional recruitment.	Therapist anxiety (BSI-Anxiety) and protocol adherence via a survey of utilised FBT techniques.	Anxiety, age of client and case distribution is associated with therapist drift. Cluster analysis showed that approx. 1/3 therapists deviate from FBT protocol. Therapist is more likely to drift if not using a manual, X^2 (1, 86) = 8.15, ($p < .005$). Increased anxiety is related to reduced adherence to weighing protocol, r = .319, ($p < .01$), and larger caseloads of AN clients are related to increased protocol adherence, r = .30, ($p < .01$).

Robinson & Kosmerly (2015)	Canada	N= 305 therapists 25 males, 280 females SW (63), psychologist (62) nursing (49), dietetic (38), medic (25), psychiatrist (14), OT (2), other (47) Age unknown	Cross sectional study – online survey, with random assignment to 'own' or 'colleague' version of the survey	Via a database of professionals compiled by the authors	Therapist emotion (either own or that of others) and perceived impact on clinical decision making/adherence to protocol	Only 30.5% (n = 86) of therapists endorse the negative effect of emotion on clinical decision making. Where it was endorsed, it was more likely to be for that of colleagues (40.0%), than for themselves (21.1%), $\chi 2$ (1) = 11.85, $p <$. 001. Furthermore, decisions made involving the family were perceived as the most emotionally charged, $F(1, 49) = 4.42, p < .05$. Therapist emotion also had a negative impact on decisions regarding food and weight, $F(1, 49) = 9.12$, $p < .05$, and autonomy and control $F(1, 49) = 4.18$, $p < .05$.
Ellison et al. (2012)	Australia	N = 59 patients 3 males, 56 females AN Aged 12-18 years	Case series - measures completed over 20 sessions of FBT	Participants pooled from larger RCT. Patients receive FBT following discharge from short vs long inpatient treatment	Therapeutic alliance (WAI), parental adherence to FBT tasks (CTOCRS), and the impact on client outcomes (EDI-3, weight, drop-out)	Treatment effect was significant, $F(1, 962) = 448.23$, $p < .01$. Amongst other findings, stronger maternal alliance predicted greater weight gain, $F(1,654) = 14.26$, $p < .01$, however stronger alliance with father predicted significantly less weight gain, $F(1,494) = 9.62$, $p <.01$.
Forsberg et al. (2014)	USA	N = 38 patients 5 males, 33 females AN Mean age 14	Case series – secondary analysis of video sessions from larger study sample	Recruited sample based on audible early sessions from FBT arm of larger RCT	Therapeutic alliance (WAI) and clinical outcomes (EDE, Weight)	Therapeutic alliance with both mothers and fathers is higher than alliance with adolescents in early therapy, $t = 5.93$, ($p < .001$), and $t = 5.90$ ($p < .001$), respectively. Logistic regression found that after controlling for early recovery, parental alliance did not predict outcomes at the end of treatment.
Pereira, Lock, & Oggins (2006)	Not reported	N = 41 patients 4 males, 37 females AN Aged 12-18	Case series – measures administered, clinical data from FBT sessions obtained	FBT arm of a larger RCT	Therapeutic Alliance (WAIo) and clinical outcomes (weight, EDE)	Therapeutic alliance with both parents and adolescents was evident throughout therapy. Strong early alliance with adolescents was associated with early weight gain, $r = .29$, ($p <$ .04). Strong early alliance with parents (as measured by therapy goals) was linked to prevention of drop-out (completers M=6.28 (SD=.67), drop-outs M= 5.71 (SD=.90), F= 4.08, (p<0.05). Later parental alliance predicted total weight gain at end of treatment (baseline M=103.67 (SD=17.23), 12 months = M=120.75 (SD=18.10), F=5.68, ($p < .05$))

Isserlin & Couturier (2012)	Not stated	N = 14 female patients with AN Aged 12-17 years	Pilot study, case series design - clinical data and session recordings used to complete outcome measures	From a paediatric eating disorder clinic	Therapeutic Alliance (SOFTA) and clinical outcomes (weight, EDE, remission and dropout)	Weight restoration at end of treatment is associated with stronger parental alliance at 2nd session (t= 2.95, p < .05). Psychological improvement was found in adolescents with a 'shared sense of purpose' (item measuring TA) early in treatment (t= 3.51, p < 0.01).
QUALITATIVE STUDIES						
Murray et al. (2018)	USA	N = 38 therapists/ researchers 8 males, 30 females Psychologist (16), psychiatrist (9), medic (6), other (7) Aged 29-70 Patients with AN	Qualitative Content Analysis - data obtained from survey	Random sampling of therapists who had published articles relating to adolescent AN, identified via PubMed search. 87.8% practice FBT	Practitioner perceptions of the mechanisms of change resulting in weight restoration in FBT	Facilitating parental input via tasks such as meal support is seen as the crucial mechanism for weight restoration. Weight restoration is key in cognitive symptom relief (as is ERP which is not a component of FBT). Attributing blame to parents or the family system is apparent in non-successful outcomes. Comorbidities are perceived to interfere with the efficacy of FBT, as do inappropriate weight goals and a long illness duration.
Conti et al. (2017)	Australia	1 female adolescent with AN (aged 11 start of treatment), treated for 3 years using FBT	Qualitative Critical Discursive analysis - data obtained from retrospective interviews	Self-selecting – family responded to advertising via health professional networks	Family experience of receiving FBT	Model adherence encouraged commitment to therapy, but continued rigidity to the model threatened alliance. Feeling to blame during times of difficulty hindered interfamilial relationships. No space for client voice.
Couturier et al. (2013)	Canada	N = 40 therapists 3 males, 37 females SW (22), psychologist (6), psychiatrist (4), psychometrist (4), counsellor (4) Aged 25-56 Clients with AN	Qualitative Content Analysis - data obtained from in depth semi-structured telephone interviews	Purposeful sampling via Ontario Network or Eating Disorders	Therapist perceptions of what affects therapist uptake and adherence to FBT	Therapists find the clear structure of FBT and empowering parents to take control an advantage. However, fidelity to the model is not practiced. Over 50% of therapists believe 'one size does not fit all'. Barriers to the delivery of FBT include; attitude towards facets of FBT such as weighing and implementation of the family meal; organisational support; team buy in; interpersonal factors; training and experience; perceived parental motivation; complexity and comorbidity of AN. 95% of therapist request further training.

Murray et al. (2015)	Australia	N = 3 clinical psychologists Gender/age unknown Working with clients with AN	Qualitative descriptive report x3 case examples – data transcribed from unstructured interviews	Private practice – specific details unknown	Therapist perceptions of alliance with colleagues and how non-alliance impacts on FBT uptake/engagement	Collegial non-alliance (misinformation about FBT, inconsistent messages) is reported to impact on FBT uptake/engagement, drop-out and outcome.
Couturier et al. (2014)	Canada	N = 40 therapists, 3 males, 37 females SW (22), psychologist (6), psychiatrist (4), psychometrist (4), other (4) Aged 26-60 Clients with AN	Qualitative Content Analysis – data obtained from semi-structured interviews	Via professional eating disorder network in Ontario	Therapists views about what factors support the transfer of research evidence of FBT into clinical implementation	Therapists requested a comprehensive training programme in FBT primarily focused on the practical elements of delivery, access to the evidence base and team investment in the model. They suggested that 'best practice' guidelines were available and supported at a systemic level. Training needs to be targeted at whole teams to promote implementation, and services need to permit time and resources for staff to access it. Supervision acts to increase accountability and increase confidence in delivering FBT.
Couturier et al. (2017)	USA	N = 8 therapists 2 males, 6 females Treating adolescents with AN Aged 28-60	Qualitative Thematic Analysis - data gathered from transcribed videotapes of 35 consultation sessions recorded across 4 sites over 2 years	From a larger, multi-site study where participants were recruited for training and consultation in FBT	Interested in what themes arise in clinical consultations for FBT therapists	10 common themes including; managing the family meal, discussing the role of mothers, father and siblings, how to facilitate alignment of parents; motivating parents; transitioning between model stages; supervising mealtimes and weighing. Therapists perceived weighing and comorbidities as barriers to FBT implementation. Therapist reported difficulties knowing how to manage parent emotions/relationship.
Dimitropoulus et al. (2017)	Canada	N= 30; 1 male, 29 females. Aged 24-63 Treating adolescents with ED SW (10), psychologist (8), psychiatrist (5), other (7)	Qualitative Thematic Analysis - data gathered from 6 focus groups	Information and invitation disseminated to multi-disciplinary eating disorder programmes across Ontario. Self-selecting sample	Therapist perspectives about what components of FBT are necessary for effective treatment outcome	Parental empowerment (PE) perceived as central to clinical recovery from ED. Application of FBT principles (externalisation, taking an agonistic view of the illness, raising parental anxiety and concern, and psychoeducation) increase PE.

Dimitropoulus et al. (2015)	Canada	N= 34 (2 male, 32 female) Aged 24-61 Treating older adolescents aged 16-21 with AN or BN SW (11), psychologist (10), psychiatrist (5), other (8)	Qualitative Content Analysis – data collected from 7 interviews and 6 focus groups	Information disseminated to managers of paediatric multi-disciplinary eating disorder teams across Ontario. Self-selecting sample	Therapist experience of delivering FBT to older adolescents aged 16-21	Adaptations to all 3 phases, and most significantly the final stage of FBT occur when working with older adolescents, in comparison to younger adolescents, as the model is perceived as developmentally inappropriate. This was dependent on adolescent age, perceived independence, and status of transition into adult care. Changes include; more time with the adolescent without family presence (to engage), greater collaboration with adolescent; greater flexibility and independence regarding eating promoted in phase 3, including one to one cognitive work. Parental involvement continues to be perceived as necessary to facilitate change in stage 1. Endorsing adaptations to FBT did not differ amongst therapists with formal FBT training compared to those without
Plath, Williams & Wood (2016)	Australia	N= 20 (5 male, 15 female) Age not reported Treating adolescents with AN Psychologist (8), dietitian (4), SW (2), psychiatrist (2), nurse (2), Aboriginal counsellor (1), OT (1)	Qualitative Content Analysis and IPA –data gathered from initial survey, with semi-structured follow up interviews conducted either face to face or telephone.	Clinical leads of CAMHS across NSW were asked to identify clinicians providing FBT, who were then invited to participate	Therapist views on parental involvement in FBT for the treatment of adolescents with AN	On the whole, therapists value the content of FBT, however fidelity to the model is not always practiced, as therapists question the suitability of all aspects of the model for all families. Therapists make decisions about FBT depending on family needs and adjust the model based on factors such as cultural appropriateness, how the model influences family dynamics, and how the client progresses in early therapy. Therapists believe building the relationship with parents, involving parents in treatment, supporting parent's capability and knowledge via psychoeducation/teaching techniques, and systemic family work are all important for therapy success. Contrastingly, poor parental engagement, failing to tend to parental well-being, and inconsistency in the FBT approach are considered unhelpful.

Wiese (2014)	USA	N= 15 (2 male, 13 female) Aged 44-59 Parents of children aged 11-21 with AN	Qualitative analytic induction methodology – data collected via semi structured parent interviews	Purposeful sampling via online advertising (social media, websites, blogs) options to undertake interview by phone, web chat, or face-to-face	Parental perceptions of what factors contributed to the effectiveness of FBT	Parents being provided with practical suggestions was one of two conditions considered sufficient for FBT treatment success. 18 conditions were deemed necessary for treatment success, and five of these related to aspects of FBT sessions or parents' relationship with the FBT therapists, including 1) parents received sufficient education about FBT, 2) parents felt supported by the therapist, 3) parents felt understood, 4) parents felt empowered by the FBT team, and 5) parents experienced reduced guilt and blame about their child's ED.
MIXED METHODOLOGY						
Krautter (2002)	USA	34 families (35 mothers, 31 fathers, 31 adolescents) Adolescents with AN, aged 12- 18 (2 males, 32 female)	Written survey (Outcome Effectiveness Survey (OES)) administered upon completion of FBT. Quantitative data collected via a likert scale (ANOVA and t-test analysis). Qualitative data via open ended questions (Phenomenological Content Analysis)	Self-selecting sample, recruited from an existing trial (where families were randomised to 6 or 12 month FBT)	Family perceptions of reasons for successful FBT using the OES (as measured by decrease in ED symptomology). Therapist factor = the therapeutic rapport	There was a significant difference between how mothers, fathers and adolescents rated how effective TA was ($F(2) = 4.98$, $p = .01$). Mothers found therapeutic rapport more effective than fathers ($p < .01$) and adolescents ($p < .01$) (nb. Means reported as 4.71, 4.19, and 4.19, respectively. T-values not reported). Qualitative findings showed that clients who describe FBT as "mostly ineffective" typically report therapeutic rapport as "mostly effective". The author surmises that although therapeutic rapport is a seemingly important component of therapeutic treatment (according to the current participants and existing literature base), the current findings suggest that therapeutic rapport alone does not result in treatment success.

Note. AFT = Adolescent Focused Therapy, AN = anorexia nervosa, BN = bulimia nervosa, EDE-Q= Eating Disorders Examination Questionnaire, EDE = Eating Disorders Examination, IPPA= Inventory of Parent and Peer Attachment; IPA = Interpretative Phenomenological ANBSI-Anxiety = Brief Symptom Inventory- Anxiety Scale, CTOCRS= Core Treatment Objectives Clinician Rating Scale, OES = Outcome Effectiveness Survey, WAI = Working Alliance Inventory, EDI-3 = Eating Disorder Inventory Third Edition, HRQ = Helping Relationships Questionnaire, BDI = Beck Depression Inventory, RSE= Rosenberg Self Esteem Scale, SPT = Supportive Psychotherapy, WAIo = Working Alliance Inventory-Observer's Rater's Version, SOFTA = 'System for Observing family therapy alliances – observational', SW = social worker, OT = occupational therapist, TA = Therapeutic alliance. *M* = mean.

Outcomes: Therapist Factors

The review is organised as per the aforementioned categorisation of seven therapist factors (see Table 1). Therapist factors are reported from both the therapist and client perspective, and more than one therapist factor is identified in some studies. Outcomes related to therapist delivery of FBT, and/or clinical outcomes (e.g. weight gain, ED symptomology).

Therapist Factor: Emotions

Four studies (Couturier et al., 2013; Couturier et al., 2017; Kosmerly et al, 2015; Robinson & Kosmerly, 2015) reported on therapists' emotions in FBT. Clinician anxiety was identified in themes arising from clinical consultations conducted by Couturier et al. (2017). Difficult emotions arose for therapists managing maternal emotions of guilt and anger, and when addressing difficulties within the parental relationship. Furthermore, therapists reported feeling anxious about delivering nutrition advice, as they perceived this to be beyond their competency (Couturier et al., 2013). Robinson and Kosmerly (2015) found that 30.5% of therapists reported that therapist emotions had a negative influence on their treatment decisions. Further analyses showed that the most emotionally charged situations related to decisions involving the family. Specifically, decisions relating to food and weight, and decisions regarding autonomy and control were negatively associated with treatment execution (Robinson & Kosmerly, 2015). Finally, higher therapist anxiety was associated with lower adherence to the weighing protocol (Kosmerly et al., 2015).

Therapist Factor: Cognitions

The majority of research reported on therapist beliefs and attitudes relating to the acceptability and delivery of FBT. Eight papers reported themes relating to the therapists' perception of barriers to the delivery of FBT.

FBT is Demanding. Couturier et al. (2013) identified a number of barriers to the implementation of FBT, including therapists' beliefs about the demanding nature of the model (e.g., delivering the family meal, time commitment). In addition, Couturier et al. (2017) reported that regular weighing was perceived as a barrier to FBT delivery. Thirty-four of the 40 therapists considered dietitians to be better placed to weigh clients. This was based on the belief that providing nutrition advice was beyond their competency, even though FBT does not require involvement of a dietitian (Couturier et al., 2013).

FBT Does Not Match Client Needs. Comorbid diagnoses and case complexity influenced therapists' loyalty to FBT, as therapists believe that FBT fails to address the individual needs of certain clients (Couturier et al., 2013). Similarly, Couturier et al. (2017) found that clinicians were less likely to conduct treatment with fidelity when clients present with comorbidities. Similarly, Murray et al. (2018) identified that therapists perceived a negative relationship between client case complexity (comorbidity and long illness duration) and how effective FBT treatment will be. Making exceptions for clients with comorbid diagnoses is not necessary for treatment of EDs using FBT (LeGrange et al., 2012). Such findings highlighted a possible disconnect between therapists beliefs and the research evidence.

Certain Cases Are Not Suitable. Therapists typically valued the content of FBT. However, fidelity was lost because therapists questioned the suitability of all aspects of the model for all families, and consequently adjusted FBT depending on the perceived individual needs of the family (Couturier et al., 2013; Kosmerly et al., 2015: Plath et al., 2016). Furthermore, clinicians believed that adherence to FBT protocol is inappropriate for older adolescents, and adaptations were made to compensate for this (Dimitropoulos et al., 2015; Kosmerly et al., 2015).

Parental Involvement is Important. Therapists believed that building relationships with parents, involving parents in treatment, and supporting parental competency was important for successful outcomes (Plath et al., 2016). Qualitative findings highlighted that expressing empathy towards parents early in treatment was essential for family engagement (Plath et al., 2016). Additionally, facilitating parental efficacy, as per FBT protocol, was perceived as crucial for weight gain according to over three quarters of therapists (Murray et al., 2018). Similarly, empowering parents through use of FBT techniques was believed to be key to effective outcomes (Dimitropoulos et al., 2015; Dimitropoulos et al., 2017). Couturier et al. (2013) also stated that to not involve parents was a disservice to the treatment process. Wiese (2014) similarly found that necessary conditions for treatment success related to parents feeling supported, understood and empowered. Contrastingly, poor parental engagement and failing to tend to parental well-being were considered unhelpful for treatment outcomes (Plath et al., 2016). Overall, therapists' positive attitudes towards engaging and involving parents in FBT appeared to be positively related to clinical outcomes.

In summary, therapists have a number of beliefs that potentially influence their delivery of FBT.

Therapist Factor: Behaviours

Six studies highlighted that clinician behaviours were of cost and benefit in FBT.

Use of the Manual. Therapists who did not use a manual were more likely to drift from FBT protocol and apply non-manualised techniques (Kosmerly et al., 2015). In contrast, those who did use a manual were more likely to implement manual-recommended techniques (Kosmerly et al., 2015).

Failing to Engage Family Members as Allies in the Treatment. Conti et al. (2017) reported that unsuccessful treatment outcomes occurred in cases where therapists attributed blame to family members, whether intentionally or not. Wiese (2014) also found that one

'necessary condition' for successful FBT was for parents to experience reduced guilt and blame about their child's ED. In contrast, Conti et al. (2017) conducted interviews with a family who felt disabled by their experience of FBT. Family members reported that therapist adherence to the model was initially encouraging of their commitment to FBT. However, the continued rigidity to the model compromised the therapeutic relationship and failed to provide the family with the space to address emotions. The latter study offered depth of insight, however the case report design is criticised for generalisability issues.

Avoiding the Family Meal. Despite being an integral component of FBT, Couturier et al. (2013) highlighted that 75% of clinicians avoided regularly conducting the family meal. Reasons for such avoidance included the therapist feeling anxious, intimidated, and incompetent, suggestive that therapists engaged in safety behaviours to minimise or avoid their own difficult emotions. Similarly, Kosmerly et al. (2015) found that although a third of clinicians routinely carried out the family meal, a similar proportion did not. Comparable findings were evident in the study by Plath et al. (2016) who noted avoidance of the family meal as a common deviation from protocol. Furthermore, clinical consultations revealed that therapists could be more thorough in supporting mealtime activity (Couturier et al., 2017), implying that therapists have a tendency to avoid this task.

Weighing the Client. Kosmerly et al. (2015) noted that 43% of clinicians failed to weigh their clients at each contact. They also identified that weighing clients is less likely to occur at every session when the client is under the age of 12, or when they are transitioning between child and adult services.

In summary, use of a manual to guide practice, difficulties engaging the family, and avoidance of key behavioural tasks have bearing on treatment fidelity and family engagement in FBT. In contrast to the adult ED research evidence, FBT studies to date pay little attention to the bearing of clinician safety behaviours on the delivery of FBT.

Therapist Factor: Therapeutic Alliance

Seven of the nineteen papers included in the review reported on the therapeutic relationship. Findings were mixed.

Alliance Can Bear on Clinical Outcomes. Stronger alliance with the parents was associated with overall weight gain (Isserlin & Couturier, 2012; Pereira et al, 2006) and prevented drop out from therapy (Pereira et al., 2006). These relationships seem to be true for mothers, but not fathers, where the opposite pattern was found (Ellison et al., 2012). In addition, Pereira et al. (2006) show that strong early alliance with adolescents is associated with early weight gain (an indicator of treatment success).

Alliance is Irrelevant for Outcomes. Forsberg et al. (2014) found that the alliance with parents did not predict favourable end of treatment outcomes. Furthermore, families who rated FBT as "mostly ineffective" typically reported the therapeutic rapport as "mostly effective", suggesting that therapeutic rapport alone did not result in treatment success (Krautter, 2002). Similarly, an RCT comparing FBT to supportive psychotherapy found that despite positive alliance existing in both treatment groups, only FBT was associated with greater improvement by mid therapy (Zaitsoff et al., 2008). This finding suggested that factors beyond alliance contributed to clinical improvement. Finally, Forsberg et al. (2013) found that the strength of the therapeutic relationship between therapist and adolescent was not related to improved nor unfavourable outcomes in FBT.

To summarise, three of seven studies found the therapeutic relationship to have bearing on outcomes in FBT. The remaining evidence suggests that the alliance is irrelevant.

Therapist Factor: Experience and Knowledge

Therapists interviewed by Couturier et al. (2013) reported that therapists' practice FBT with fidelity when they feel comfortable working with children and families. Such confidence is attributed to therapists' who have experienced training in family therapies (Couturier et al., 2013). In contrast, Kosmerly et al. (2015) did not find clinician experience to have bearing on the delivery of FBT.

Therapist Factor: Organisational

Four papers presented findings relating to team support, training needs, therapist experience, caseload size and access to resources.

Team Alliance. Research highlighted the importance of the system in which the FBT therapist operates. Based on a case report, Murray et al. (2015) found that conflict between colleagues (e.g., in mixed messages about FBT) negatively impacted client uptake of FBT and enhanced early dropout from treatment. In contrast, Couturier et al. (2013; 2014) reported that organisational and administration support, and collective team 'buy-in' to the model had positive impact on FBT delivery.

Access to Training at a Team Level. Therapists reported that comprehensive training programmes that addressed practical skills and provided relevant research evidence would increase implementation of evidence-based FBT (Couturier et al., 2014). Similarly, findings from Couturier et al. (2014) highlighted the value of consistent messages about FBT, targeted at the whole team to promote consistency and credibility of the model. Interviews also revealed that training at a local level, support to attend such training and supervision would increase confidence in delivery. Couturier et al. (2014) concluded that therapists desire further training and systemic support to increase uptake and implementation of FBT. Similarly, Couturier et al. (2013) found 95% of FBT therapists would like further training in the model.

Caseload. Clinicians with larger caseloads were more likely to follow protocol by tasking parents with the refeeding of their child (Kosmerly et al., 2015). Although arguably due to practice effects, it may also be that an increased caseload encouraged clinicians to delegate and charge parents with the refeeding responsibilities as per protocol.

Facilities. Practical constraints such as a lack of or inappropriate space were reported to inhibit conducting the family meal (Couturier et al., 2013).

Overall, organisational factors appeared to influence the clinician on a practical and psychological level.

Therapist Factor: Demographics

Age was the only demographic factor identified in the review. Age was not found to be related to the use of FBT techniques (Kosmerly et al., 2015).

Discussion

Overview of Findings

The aim of this review was to identify whether therapist factors influence the delivery of FBT for children and adolescents with EDs and, if so, which therapist factors impact on what clinical outcomes. Quality appraisal processes identified that included studies ranged in quality, from 'low' to 'high'. Overall, the included studies were praised for clear aims, and appropriate choice of methodology to answer the research questions. However, a repeated concern for the qualitative papers was the lack of reference to reflexivity, and absence of detail regarding ethical considerations. Quantitative and mixed methods research were criticised for issues relating to recruitment, samples lacking generalisability, and failure to report power calculations, despite adequate reporting of tests and statistics.

Findings indicate a number of therapist factors were evident, and potentially influence the delivery of and outcomes in FBT. Such therapist factors can be organised into seven key

areas of emotions, cognitions, behaviours, therapeutic alliance, knowledge and experience, organisational, and demographic. However, findings should be interpreted with caution due to the variable quality of papers included in the review. Critique of the current literature review, as well as implications for clinical practice and future research are discussed below.

Key Findings

- Therapist emotions are associated with therapist adherence to FBT. For instance, a negative relationship exists between therapist anxiety and delivery of core tenets of FBT (i.e., routine weighing)
- Therapist cognitions, behaviours and organisational factors impact upon both FBT delivery and client engagement with the model, ED symptomology, and weight gain
- In some cases, alliance with family members is related to client engagement in FBT and weight gain. Alliance with parents is possibly more important than with the adolescent

Findings from predominantly high quality papers indicate that therapist beliefs (that FBT is too demanding, clients are too complex, some cases are unsuitable, parental involvement and empowerment is important) potentially influence the delivery of FBT (e.g., Couturier et al., 2013; Couturier et al., 2017; Kosmerly et al., 2015: Plath et al., 2016). Beliefs relating to client presentation arguably fit with existing 'broken leg exceptions' theory; whereby therapists exclude clients from therapy based on certain experience or characteristics (Meehl, 1973). This deviation from protocol prevents clients from accessing potentially helpful treatment (Meyer et al., 2014). Related to beliefs, therapist's negative emotions also have undesirable effects on model fidelity (e.g., Turner et al., 2014; Waller & Mountford, 2015; Waller, et al., 2012). More specifically, evidence indicates that clinicians may experience discomfort when conducting behavioural elements of FBT. This finding is not unique to FBT, as similar issues arise for therapists delivering CBT with adults (Meyer et al., 2014). Considering the emotional and cognitive experience of the clinician, failure to

adhere to protocol could be explained by therapist drift. Therapist drift is the notion that therapists' beliefs, anxiety and engagement in safety behaviours can result in 'drift', or movement from evidence-based ‘doing’ in therapy, to talking therapy (Waller, 2009). Although findings of the current review are typically exploratory in nature, they indicate potentially useful areas to target therapist support.

Building on the above, findings highlight that the organisation’s attitude and/or team culture has influence on the therapist’s beliefs and emotions, with subsequent bearing on therapist engagement with FBT. Research suggests that having a team that is motivated and unified towards a treatment approach is important for model implementation (Couturier & Kimber, 2015; Murray et al., 2012). This fits with existing evidence from literature beyond child and adolescent ED, regarding team attitudes (e.g. Aarons, 2006; Aarons & Sawitzky, 2006; Couturier & Kimber, 2015) and clinician support in the form of supervision (e.g. Herschell et al., 2010). Indeed, two studies categorised as high quality, report that clinicians consistently request access to further FBT training, ‘best practice’ guidelines and supervision; elements believed to be key for increasing FBT implementation (Couturier et al., 2013; Couturier et al., 2014). Overall, findings flag the importance of the organisation or system holding the therapist, and its power to influence the therapist’s delivery of FBT.

Comparable to research on adults, mixed findings exist regarding the role of therapeutic alliance on outcomes in FBT. Three of seven relevant studies, ranked low to moderate in quality, found the therapeutic relationship to have bearing on outcome, mirroring findings from the broader psychotherapy literature (e.g., Martin et al., 2000; Safran et al., 2001). However, alliance with parents specifically appears to be most related to positive outcomes, and is possibly more important than the relationship with the adolescent. This is arguably due to FBT depending on engagement of parents, who are charged with the responsibility to refeed their child. The remaining evidence suggests that the alliance is

irrelevant for outcomes, offering support to the idea that the importance of the therapeutic relationship may be overvalued (Brown et al, 2013a; D'Souza Walsh et al., 2019). However, these findings are extracted from research papers deemed low to moderate in quality.

Finally, in contrast to existing evidence, studies included in the current review offer limited evidence for the impact of clinician knowledge and experience in FBT (Couturier et al., 2013; Kosmerly et al., 2015). Furthermore, unlike findings from research with adults with EDs (e.g., Turner et al., 2014; Waller & Katzman, 1998), the studies included in the review did not investigate factors including therapist profession or gender on FBT implementation nor outcome, and only one study investigated the effect of clinicians' age on FBT delivery and concluded that there was no effect (Kosmerly et al., 2015). This indicates the infancy of research interested in therapist factors for this treatment model.

Considering the variable quality of studies included in the review, conclusions are drawn with caution, however offer a foundation from which to further explore the impact of therapist factors on FBT delivery and clinical outcomes.

Limitations of the Review

The research evidence addressed by the current review was limited by the search strategy and inclusion criteria. Inclusion criteria were set to studies written in English due to time constraints, subsequently excluding 44 papers at screening stage, which potentially restricts the cultural representativeness of findings. Selecting studies written only in English also risks bias, as publication in an English-language journal is more likely where results are positive (Higgins et al., 2019). The review did include searches for dissertations, which enabled identification of relevant unpublished studies, therefore reducing the impact of publication bias. Bias could be further minimised by translating non-English studies, and expanding grey literature searches.

The heterogeneity of the primary study's design, participants and outcome measured highlights the diversity of approaches used to investigate therapist factors. Consequently, studies may not be directly comparable, which limits succinct synthesis and the use of statistical approaches, like meta-analysis. Despite the challenge of integrating qualitative and quantitative studies (Boland et al., 2014) it was necessary to include a diversity of studies as relevant research was limited. A strength of the current review is the use of appraisal tools to assess study quality. Despite being criticised for their subjective nature, quality appraisal tools offer a means to critically and systematically evaluate research (Katrak et al., 2004). Heterogeneity amongst studies challenged the selection of an appropriate tool that would support a comprehensive synthesis of findings. In the absence of a singular measure, three independent appraisal tools were used, and given qualitative categorisations of 'low', 'moderate', or 'high' quality, to permit crude comparison. This process is criticised due to the arbitrary nature of a classification system. More specifically, using the Downs and Black checklist across differing quantitative designs resulted in the redundancy of non-applicable items for certain studies, which threatens reliability of the tool. An alternative approach might have been to use a measure intended for each specific design. However, this would again limit comparison as each study would similarly not be appraised against the same criteria.

All studies recruiting from clinical populations typically exclude clients with comorbidities, therefore weakening generalisability of findings to a client group where comorbidities commonly exist. Furthermore, studies were conducted in large, Westernised cities, which again limits the relevance of findings. Nevertheless, typical of FBT teams, professional samples consisted of a range of staff from diverse training backgrounds, therefore somewhat improving generalisability.

Inclusion of research utilising qualitative analyses offers depth and richness of experience unavailable from quantitative designs. However, although methodological

approach was somewhat captured by the quality appraisal process, important considerations such as rigour of analyses is missing from discussion in this review. Similarly, statistical evidence of effect sizes are underreported within the research, which inhibits comparison of the strength of findings across quantitative studies. Finally, as only two of the nineteen identified studies included a control group, it is difficult to conclude whether therapist factors are indeed responsible for the outcomes reported. Generally, the rigour of the primary studies is limited, and most of them were exploratory in nature, pointing to the need for further research. As data from future research becomes available a more robust approach to a review, such as a meta-analysis or meta-synthesis, would be beneficial to make strategic comparisons between studies, enabling stronger conclusions to be drawn.

Clinical Implications

This review highlights that therapist factors have the capacity to positively and/or negatively influence FBT. Finding ways to increase the positive factors, and address those that lead to unfavourable outcomes is important.

Risk factors associated with therapist non-adherence to protocol appear to be related to clinician experience of anxiety, and negative beliefs/attitudes about FBT. For instance, attitudes towards components of the model, or beliefs regarding client suitability. Where the clinician has specific risk factors for drifting from protocol, these could be addressed during supervision, or training. For example, clinicians may benefit from cognitive challenge, managing anxiety via exposure, revisiting the FBT evidence base, and practice delivering core tenets of the model. It is possible that even brief training could enhance treatment delivery (Waller et al., 2016).

Furthermore, supporting team access to FBT training would arguably promote a cohesive team attitude, and enhance support between colleagues, enabling a consistent and credible approach to FBT implementation, with consequential benefits for clients. Finally,

favourable treatment outcomes are linked to parents who feel empowered and experience reduced guilt and blame about the ED. Therefore, clinicians might be mindful of their relationship with parents, without neglecting model adherence.

Future Research

In light of the variable quality and methodological weaknesses of the included studies, future research should adopt more rigorous and reliable ways of exploring specific therapist factors, such as RCTs to isolate specific therapist effects on the delivery of FBT. For example, to investigate the bearing of additional FBT training on the therapist's attitudes towards and adherence to the FBT manual, participants could be randomised to an experimental group in receipt of additional FBT training, versus a 'treatment as usual' control, and monitored for treatment fidelity. Future studies might also seek to further understand what variables might influence the relationship between the therapist and FBT. For instance, whether access to regular supervision acts to moderate the relationship between therapist anxiety and fidelity to FBT.

Furthermore, as findings indicate that FBT research does not address the impact of clinician safety behaviours as well as the adult literature, future research might be interested in expanding on emerging evidence to consider the impact that engagement in safety behaviours has on treatment outcome for this client group.

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Appendices

Appendix A: Critical Appraisal Skills Programme Qualitative Research Checklist

CASP
Critical Appraisal Skills Programme

Paper for appraisal and reference:

Section A: Are the results valid?

1. Was there a clear statement of the aims of the research?

Yes ☐ Can't Tell ☐ No ☐

HINT: Consider
- what was the goal of the research
- why it was thought important
- its relevance

Comments:

2. Is a qualitative methodology appropriate?

Yes ☐ Can't Tell ☐ No ☐

HINT: Consider
- If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants
- Is qualitative research the right methodology for addressing the research goal

Comments:

Is it worth continuing?

3. Was the research design appropriate to address the aims of the research?

Yes ☐ Can't Tell ☐ No ☐

HINT: Consider
- if the researcher has justified the research design (e.g. have they discussed how they decided which method to use)

Comments:

CASP
Critical Appraisal Skills Programme

4. Was the recruitment strategy appropriate to the aims of the research?

Yes ☐
Can't Tell ☐
No ☐

HINT: Consider
- If the researcher has explained how the participants were selected
- If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study
- If there are any discussions around recruitment (e.g. why some people chose not to take part)

Comments:

5. Was the data collected in a way that addressed the research issue?

Yes ☐
Can't Tell ☐
No ☐

HINT: Consider
- If the setting for the data collection was justified
- If it is clear how data were collected (e.g. focus group, semi-structured interview etc.)
- If the researcher has justified the methods chosen
- If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews are conducted, or did they use a topic guide)
- If methods were modified during the study. If so, has the researcher explained how and why
- If the form of data is clear (e.g. tape recordings, video material, notes etc.)
- If the researcher has discussed saturation of data

Comments:

CASP
Critical Appraisal Skills Programme

6. Has the relationship between researcher and participants been adequately considered?

Yes ☐
Can't Tell ☐
No ☐

HINT: Consider
- If the researcher critically examined their own role, potential bias and influence during (a) formulation of the research questions (b) data collection, including sample recruitment and choice of location
- How the researcher responded to events during the study and whether they considered the implications of any changes in the research design

Comments:

Section B: What are the results?

7. Have ethical issues been taken into consideration?

Yes ☐
Can't Tell ☐
No ☐

HINT: Consider
- If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained
- If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study)
- If approval has been sought from the ethics committee

Comments:

CASP
Critical Appraisal Skills Programme

8. Was the data analysis sufficiently rigorous?

Yes ☐
Can't Tell ☐
No ☐

HINT: Consider
- If there is an in-depth description of the analysis process
- If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data
- Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process
- If sufficient data are presented to support the findings
- To what extent contradictory data are taken into account
- Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation

Comments:

9. Is there a clear statement of findings?

Yes ☐
Can't Tell ☐
No ☐

HINT: Consider whether
- If the findings are explicit
- If there is adequate discussion of the evidence both for and against the researcher's arguments
- If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst)
- If the findings are discussed in relation to the original research question

Comments:

CASP
Critical Appraisal Skills Programme

Section C: Will the results help locally?	
10. How valuable is the research?	HINT: Consider • If the researcher discusses the contribution the study makes to existing knowledge or understanding (e.g. do they consider the findings in relation to current practice or policy, or relevant research-based literature • If they identify new areas where research is necessary • If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used
Comments:	

Appendix B: Adapted Downs and Black (1998) Quality Checklist

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Appendix C: Mixed Methods Appraisal Tool (MMAT) Qualitative Research Checklist

Part I: Mixed Methods Appraisal Tool (MMAT), version 2018

Category of study designs	Methodological quality criteria	Responses			
		Yes	No	Can't tell	Comments
Screening questions (for all types)	S1. Are there clear research questions?				
	S2. Do the collected data allow to address the research questions?				
	Further appraisal may not be feasible or appropriate when the answer is 'No' or 'Can't tell' to one or both screening questions.				
1. Qualitative	1.1. Is the qualitative approach appropriate to answer the research question?				
	1.2. Are the qualitative data collection methods adequate to address the research question?				
	1.3. Are the findings adequately derived from the data?				
	1.4. Is the interpretation of results sufficiently substantiated by data?				
	1.5. Is there coherence between qualitative data sources, collection, analysis and interpretation?				
2. Quantitative randomized controlled trials	2.1. Is randomization appropriately performed?				
	2.2. Are the groups comparable at baseline?				
	2.3. Are there complete outcome data?				
	2.4. Are outcome assessors blinded to the intervention provided?				
	2.5 Did the participants adhere to the assigned intervention?				
3. Quantitative non-randomized	3.1. Are the participants representative of the target population?				
	3.2. Are measurements appropriate regarding both the outcome and intervention (or exposure)?				
	3.3. Are there complete outcome data?				
	3.4. Are the confounders accounted for in the design and analysis?				
	3.5. During the study period, is the intervention administered (or exposure occurred) as intended?				
4. Quantitative descriptive	4.1. Is the sampling strategy relevant to address the research question?				
	4.2. Is the sample representative of the target population?				
	4.3. Are the measurements appropriate?				
	4.4. Is the risk of nonresponse bias low?				
	4.5. Is the statistical analysis appropriate to answer the research question?				
5. Mixed methods	5.1. Is there an adequate rationale for using a mixed methods design to address the research question?				
	5.2. Are the different components of the study effectively integrated to answer the research question?				
	5.3. Are the outputs of the integration of qualitative and quantitative components adequately interpreted?				
	5.4. Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?				
	5.5. Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?				

Appendix D: Appraisal Summary CASP Qualitative Checklist

Authors and Year	Design	Clear aims	Qualitative method appropriate	Research design appropriate	Recruitment strategy appropriate	Data collection appropriate	Relationship and reflexivity considered	Ethical considerations made	Rigorous analysis of data	Findings clearly outlined	Value of research	Total score	Quality Classification
Murray et al. (2015)	Qualitative	✔	✔	✔	?	✔	☒	☒	☒	✔	✔	6	Moderate
Couturier et al. (2014)	Qualitative	✔	✔	✔	✔	✔	?	✔	✔	✔	✔	9	High
Couturier et al. (2013)	Qualitative	✔	✔	✔	✔	✔	☒	✔	✔	✔	✔	9	High
Murray et al. (2018)	Qualitative	✔	✔	✔	✔	?	☒	?	✔	✔	?	6	Moderate
Conti et al. (2017)	Qualitative	✔	✔	✔	✔	✔	☒	✔	?	✔	✔	8	Moderate
Couturier et al. (2017)	Qualitative	✔	✔	✔	✔	✔	☒	✔	✔	✔	✔	9	High
Dimitropoulos et al. (2015)	Qualitative	✔	✔	✔	✔	✔	☒	?	✔	✔	✔	8	Moderate
Dimitropoulos et al. (2017)	Qualitative	✔	✔	?	✔	✔	☒	?	✔	✔	✔	7	Moderate
Plath, Williams & Wood (2016)	Qualitative	✔	✔	✔	✔	✔	?	✔	✔	✔	✔	9	High
Wiese (2014)	Qualitative	✔	✔	✔	✔	✔	✔	✔	✔	?	✔	9	High

Key: ✔ - yes/adequate (1) ☒ - no (0) ?cannot tell/inadequate (0)

Appendix E: Appraisal Summary Downs and Black Checklist

Authors and Year	Design	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10	Item 11	Item 12	Item 13	Item 14	Item 15	Item 16	Item 17	Item 18	Item 19	Item 20	Item 21	Item 22	Item 23	Item 24	Item 25	Item 26	Item 27	Total score	Quality Classific
Zaitsoff et al. (2008)	RCT	1	1	1	1	1	1	1	0	0	1	0	0	0	0	0	1	1	1	1	1	1	1	1	0	1	0	0	17	M
Forsberg et al. (2013)	RCT	1	1	1	1	1	1	1	0	0	1	0	0	0	0	0	1	1	1	0	1	0	0	0	0	1	0	0	13	L
Ellison et al. (2012)	Case series	1	1	1	0	*	1	1	0	1	1	0	0	1	*	*	1	*	1	0	1	*	0	*	*	0	1	0	12	L
Forsberg et al. (2014)	Case series	1	1	1	1	*	1	1	0	0	1	0	0	0	*	*	1	*	1	0	1	*	0	*	*	0	0	0	10	L
Pereira, Lock & Oggins (2006)	Case series	1	1	1	0	*	1	1	0	0	1	0	1	0	*	*	1	*	1	0	1	*	0	*	*	1	0	0	12	L
Isserlin & Couturier (2012)	Case series	1	1	1	1	*	1	1	0	1	1	1	*	1	*	*	1	*	1	*	1	*	0	*	*	1	1	0	15	M
Kosmerly, Waller & Robinson (2015)	Cross-sectional	1	1	1	*	*	1	1	0	*	1	0	0	*	*	*	1	*	1	*	1	*	*	*	*	1	*	0	10	L
Robinson & Kosmerly (2015)	Cross-sectional (randomised to condition)	1	1	1	*	*	1	1	0	*	1	0	0	*	1	*	1	*	1	*	1	1	0	1	0	0	*	0	12	L

Key: 1 = yes/adequate, 0 = no/unable to determine, * not relevant for study design, L = low, M = Moderate, H = High

Appendix F: Appraisal Summary Mixed Methods Appraisal Tool (MMAT) Qualitative Checklist

Authors and Year	Design	Screening: Clear research questions	Screening: Data addresses research questions	Qualitative: approach appropriate	Qualitative: Data collection adequate	Qualitative: Findings adequately derived	Qualitative: Results substantiated by data	Qualitative: Coherence of qualitative data and results	Quantitative: Randomisation adequate	Quantitative: Groups comparable at baseline	Quantitative: Complete outcome data	Quantitative: Assessors blinded to intervention	Quantitative: Participants adhere to interventions	:Mixed Methods: Adequate rationale	Mixed Methods Components effectively integrated	Mixed Methods : Findings adequately interpreted	Mixed Methods: Inconsistencies adequately addressed	Mixed Methods: Differing components of adequate quality	Total score	Quality Classification
Krautter (2002)	Mixed methods	1	1	1	1	1	0	1	0	0	0	0	1	1	0	0	1	0	7/ 15	M

Key: 2 = yes, 1 = poor/inadequate, 0 = no/unable to determine (adapted scoring), M = Moderate

PART TWO: Research Report

Does Forming Implementation Intentions Help Clinicians Practicing Family Based Treatment to Weigh Children and Adolescents with Eating Disorders?

Abstract

Objective

Clinicians often deviate from treatment protocols, despite evidence suggesting that treatment delivered to protocol is most beneficial for client outcomes. The aim of this project is to investigate whether forming if-then plans (or 'implementation intentions') helps FBT therapists to adhere to protocol driven weighing of children and adolescents with eating disorders.

Method

The study adopted a randomised control trial (RCT) design. Eighty-four participants were randomly allocated to either an experimental or control condition. All participants completed an online survey measuring their general anxiety, specific anxiety about weighing, intentions to weigh, and the percentage of their clients that they weighed. Participants in the experimental group were given information about the importance of weighing, and asked to form an implementation intention to weigh their clients. Participants in the control group delivered FBT 'as usual'. Missing data were managed using multiple imputation. T-tests explored the differences between the two groups, and change over time.

Results

While no significant differences were found in weighing behaviour between the control or experimental conditions across the sample as a whole, the strength of clinicians' intentions to weigh moderated the relationship between forming implementation intentions and weighing behaviour, such that forming plans only benefited clinicians who had strong intentions to weight their clients. In contrast to expected findings, a significant increase in specific anxiety about weighing occurred, following making an implementation intention.

Conclusion

Forming an implementation intention only increased weighing behaviour, for clinicians who had strong initial intentions to weigh. Being asked to make an implementation intention also resulted in increased anxiety about weighing. Future research is needed to understand a) clinicians' experiences of being asked to make an implementation intention, and b) how further behaviour change strategies might support clinicians to adhere to FBT protocol.

Practitioner Points

- It may be important to increase the strength of therapists' intentions to weigh alongside asking them to form an implementation intention
- Together, clinicians and supervisors might explore any anxiety about weighing and how this impacts on clinician weighing behaviour
- Further understanding of what impedes the use of implementation intentions among FBT therapists, and how this could be addressed, is necessary

Introduction

Eating disorders (EDs), including anorexia nervosa and bulimia nervosa, are the third most common chronic health condition among children and adolescents, after asthma and obesity (Fisher et al., 1995; Herpertz-Dahlmann, 2015). An estimated 13% of adolescents will develop an ED by the age of 20 (Stice et al., 2013). Considering the high mortality rate (Arcelus et al., 2011) and the harmful psychological, physical and neurological health complications associated with EDs amongst adolescents (Rosen, 2003), effective treatment is crucial. Family Based Treatment (FBT) is recommended for the treatment of childhood EDs by the National Institute for Health and Care Excellence (NICE, 2017). Empirical evidence supports the use of FBT as the first line therapeutic intervention for adolescents with anorexia nervosa (Lock & le Grange, 2013: Rienecke, 2017), and has also been successfully adapted for children with bulimia nervosa (le Grange & Lock, 2007). FBT is an intensive manualised therapy for children and adolescents who are well enough to be treated in the community. The programme involves three phases of therapy delivered collaboratively with the child and their parents, who are considered crucial in supporting the child's return to health (Lock & le Grange, 2013).

Evidence-Based Weighing Behaviour

Adherence to evidence-based treatment is more likely to result in better outcomes for clients with EDs (Waller & Mountford, 2015). The regular weighing of clients at the beginning of each meeting is an integral and essential component of FBT (Lock et al., 2001; Lock & le Grange, 2013). Clients should also be made aware of their weight ('open weighing'). This approach has multiple benefits. First, it ensures the physical safety of the client, by minimising any risk associated with the client's weight. Second, it tracks any sudden or longer-term changes in eating and weight patterns. Third, it addresses the client's anxiety about being weighed, through discussion and exposure-based techniques. Finally, it

addresses the 'broken cognition' in EDs - the belief that any food intake will have catastrophic effects on weight (Waller & Mountford, 2015).

Despite the importance of weighing, ED research with adults suggests that weighing is a key task of treatment that are often omitted by clinicians (Turner et al., 2014; Waller et al., 2012; Waller & Turner, 2016). FBT therapists also fail to weigh their clients routinely, despite claiming to be delivering protocol-driven FBT (Couturier et al., 2013; Couturier et al., 2017). In fact, evidence suggests that nearly half of FBT clinicians do not weigh their clients in accordance with the model (Kosmerly et al., 2015). Inadequate delivery or failure to adhere to protocol by a person trained to work within a particular model is known as 'therapist drift' (Waller, 2009).

Why Do Clinicians Deviate from the Evidence Base?

A number of variables are associated with, and may help to explain, why clinicians divert from delivering treatment as recommended. In the field of EDs, the degree of experience that the therapist has is negatively associated with adherence to evidence-based protocols (Simmons et al., 2008). In addition, clinicians' beliefs influence protocol adherence. For instance, where negative beliefs about exposure exist, exposure-based tasks (such as weighing) are less likely to be implemented (Meyer et al., 2014; Waller et al., 2013; Daglish & Waller, 2019). In terms of FBT specifically, the systemic nature of the model can lead clinicians to assume that parents are responsible for change - a cognition that subsequently interferes with their willingness and ability to deliver according to the evidence base (Couturier et al., 2013).

Why Do Clinicians Not Weigh Their Clients?

Clinicians report various reasons for failing to weigh their clients. For example, they may not weigh the client themselves because the client had already been weighed by somebody else (Waller & Mountford, 2015). Similarly, Couturier et al. (2017) found that

failure to weigh occurs when clinicians perceive another professional as more competent to conduct the weighing (despite a lack of empirical support for this). Furthermore, clinicians reported that they are less likely to weigh when the client met certain criteria, such as a child under the age of 12, or at an age where they are transitioning into adult services (Kosmerly et al., 2015). Finally, clinicians may avoid weighing clients because they believe their client's presentation is 'too complex' (Simmons et al., 2008). The latter phenomenon is known as 'broken leg exceptions' (Meehl, 1973); whereby clinicians justify deviation from evidence-based protocol based on client presentation, despite their being no empirical evidence for such reasoning (Meyer et al., 2014).

FBT research evidence mirrors findings that suggest therapist anxiety is related to avoidance of integral components of FBT, including routine weighing (Couturier et al., 2013; Kosmerly et al., 2015). Specifically, failure to weigh has been linked to the emotional discomfort of the therapist (Couturier et al., 2013). Such behavioural avoidance may be explained by safety behaviours, where the therapist is driven by their own need to avoid difficult feelings (anxiety about causing client distress) (Turner et al., 2014). Critically, the more anxious the therapist, the more likely it is that exposure-based tasks, such as weighing, will be avoided (Levita et al., 2016; Meyer et al., 2014). Intolerance of uncertainty is a facet of anxiety where a person has a tendency to react negatively to unpredictable events (e.g., with anxiety, avoidance, lacking clarity of thought), regardless of the likelihood of a particular outcome (Ladouceur et al., 2000). Having a low tolerance of uncertainty is associated with reduced problem solving ability, and avoidance of situations where the outcome is ambiguous (Dugas et al., 1997). It might be that therapists who generally have a higher intolerance of uncertainty are more likely to drift from protocol, including the avoidance of weighing clients. In support of this idea, a study of therapists delivering CBT to adults found that higher trait anxiety scores (as measured by the IUS-12; Carleton et al.,

2007) were associated with a failure to adhere to protocol (Turner et al., 2014).

Promoting Adherence to Evidence-Based Protocols

Taken together, the empirical evidence reviewed above highlights that a gap exists between what trained therapists might deliver and what actually occurs within therapy. A priority, therefore, is to find ways to promote adherence to evidence-based protocols. Three approaches to behaviour change will be discussed below; educational intervention, goal-setting, and use of implementation intentions.

Research on the treatment of adults with EDs has found that a brief educational intervention had a large, positive effect on a therapist's attitudes towards exposure-based tasks (Waller et al., 2016), suggesting that education can improve clinicians' beliefs about and motivation to deliver exposure-based interventions. Indeed, Waller et al. found that this effect was greater amongst therapists with poorer attitudes towards exposure at the offset. However, a positive attitude towards engaging in exposure does not necessarily ensure that the clinician will conduct exposure-based tasks.

Studies of goal-setting (e.g., Locke & Latham, 2006) report a positive relationship between setting a specific goal and subsequent goal attainment. Therefore, it might be that helping therapists to specify exactly what they want to achieve (e.g., by forming a goal intention) would support them to attain goals relating to protocols. However, intending to act towards a goal does not guarantee goal attainment. For example, Webb and Sheeran (2006) report that a medium to large-sized change in intentions typically only results in a small to medium-sized change in behaviour. In short, setting goals can be helpful, but even where people are motivated, goal attainment does not always follow. This disconnect between intention and behaviour is known as the intention-behaviour gap (see Sheeran & Webb, 2016). This gap is thought to be a result of volitional difficulties encountered during different phases of goal actualisation, specifically when attempting to commence, stay on task, and

successfully close a goal (Webb & Sheeran, 2006).

A key question therefore, is how to help people translate motivation into action, or how to bridge the intention-behaviour gap. One potential strategy is to form an if-then plan, or 'implementation intention' (Gollwitzer, 1993, 2015). Unlike goal intentions, implementation intentions are if-then plans that specify when, where, and how a behaviour will be carried out (Gollwitzer, 1993). By making an implementation intention, people link a critical situation (the 'if' part) with a helpful response (the 'then' part). Research suggests that forming an implementation intention results in behaviour change of a medium-to-large sized effect (Gollwitzer & Sheeran, 2006). Therefore, 'if-then' planning can have effects on outcomes over and above goal-setting alone (e.g., Gollwitzer, 1999). These findings raise the interesting and potentially valuable prospect that prompting therapists to form if-then plans could help them to adhere to protocol, resulting in positive clinical outcomes. In particular, can forming such implementation intentions help clinicians to openly weigh clients, as recommended (Waller & Mountford, 2015)?

The Current Study

The current research investigates how FBT therapists can be supported to better adhere to protocol-driven weighing of children and adolescents. Specifically, the research explores whether setting a goal intention and creating an implementation intention will support the execution of that goal. Using a randomised control trial (RCT) design, the research will compare an intervention group who are prompted to form implementation intentions and a control group who continue to practice 'FBT as usual'. Use of the control

group will enable any experimental effect to be detected (i.e., whether changes in weighing behaviour arise). The study will also test whether any effects persist over time.

Aims and Hypotheses

The aim of this research is to investigate whether forming implementation intentions increases adherence to protocol-driven weighing of clients in FBT for children and adolescents with EDs. Post-hoc analyses will explore any relationship between forming an implementation intention and weighing in more detail. First, do levels of general anxiety moderate the relationship between forming implementation intentions and weighing? As higher levels of general anxiety are associated with greater avoidance of exposure tasks (Couturier et al., 2013; Kosmerly et al., 2015), therapists with high levels of general anxiety may be less likely to weigh their clients, and therefore may be most likely to benefit from making an implementation intention. Second, does the strength of therapists' intentions to weigh act as a moderator? Those who are more motivated to weigh (i.e. have a strong goal intention) will potentially respond more favourably to the intervention (Sheeran et al., 2005). Finally, post-hoc analyses will consider specific weighing anxiety as a mediator. Therapists' specific anxiety about weighing will potentially mediate the effect of the intervention on weighing behaviour, given that anxiety is likely to influence commitment to FBT tasks, such as weighing (Courturier et al., 2013; Kosmerly et al., 2015).

Therefore, the hypotheses are:

1) A greater increase in weighing behaviour will be found among therapists who are reminded of the importance of weighing and prompted to form implementation intentions, compared to those who receive no intervention.
2) Therapists who form implementation intentions will maintain the increase in weighing behaviour over time.

3) Levels of general anxiety will moderate the strength of the relationship between forming an implementation intention and weighing behaviour, such that therapists with high levels of anxiety will benefit more from forming implementation intentions.

4) The strength of therapists' intentions to weigh their clients will moderate the relationship between forming implementation intentions and weighing behaviour.

5) Therapist's specific anxiety about weighing will mediate the effect of the intervention on weighing.

Method

Design

A quantitative methodology, in the form of a randomised control trial (RCT) compared differences between two groups over time. The experimental group were given information about the importance of self-weighing and asked to form an implementation intention to weigh their clients. The control group did not receive any instructions about weighing, and continued to provide FBT 'as usual'. Frequency of weighing, intentions to weigh, and anxiety about weighing were measured at three time points: i) baseline/intervention, ii) post-intervention (two weeks post-baseline/intervention), and iii) follow up (8 weeks post-baseline/intervention).

Ethical Considerations

Ethical approval was granted from the Research Ethics Committee in the Department of Psychology at the University of Sheffield (Appendix A). Participants were informed that participation in the research was voluntary. A degree of deception was involved, as the researchers were not transparent about the aim of the study (to explore the use of implementation intentions to promote weighing behaviour). Participants were also not told the nature of other allocated conditions, or that there were different versions of the survey.

However, participants were told that further information about the research would be provided after data collection was complete. Participants could decline to answer any questions, and were able to withdraw from the study pre data analyses. All participants received debrief information detailing the importance of weighing and instructions regarding how to make 'if-then' plans.

Data Security

Participant data were managed by Qualtrics software. All data were treated confidentially, and anonymised once data from different time points were matched. The survey was protected by password to enhance security. Data were processed in accordance with university regulations. As this is a randomised control trial, any risk would have been processed using the adverse incident/event form (Appendix B), however no incidents occurred.

Patient and Public Involvement

Consultations were held with therapists working with people with EDs, to aid the development of questions about the specific anxieties that therapists might associate with weighing clients. Therapists also informed the development of the volitional help-sheet (see below).

Pilot Work

Volitional Help-Sheet

A volitional help-sheet (Appendix C) was empirically developed in conjunction with a parallel project. The volitional help-sheet is an aid that supports the person to form implementation intentions (Armitage, 2008). It provides examples of situations that might make it difficult to carry out the intended behaviour, and a number of potential solutions to increase the likelihood the behaviour is carried out. The volitional help-sheet offers a platform from which a person can develop tailored implementation intentions on their own,

and has been found to help reduce unhealthy habits, and promote positive health behaviours (Armitage, 2008; Armitage & Arden, 2010).

The volitional help sheet was developed in two stages.

Stage One. Firstly, scoping searches of the evidence base generated understanding of common barriers clinicians face when weighing clients. Secondly, a semi-structured telephone interview (Appendix D), was created and conducted by the author and a DClinPsy colleague carrying out a similar project (focusing on clinicians delivering CBT – see Appendix N). Five, UK-based therapists practicing within NHS ED services were identified from a professional contacts list (see '*Recruitment'* for further detail) and invited to take part in this phase of the research. The interview schedule aimed to explore common challenges that clinicians face when weighing patients with EDs, and how therapists thought they might overcome such problems. This informed the development of potential 'solutions' that would be used in the 'then' part of the plans. Therapists who were interviewed were excluded from participation in the main study.

Stage Two. The second stage combined the evidence-based information with the feedback from the therapists to create 'situations' and 'solutions'. Nine 'if' and nine 'then' statements made up the volitional help-sheet (see Table 1 and Table 2, respectively). All 'if' and 'then' statements were refined and checked for appropriate properties. For example, the items were detailed enough to meet the requirements of an implementation intention plan, whilst also being general enough to apply to clinical scenarios typically encountered in relation to weighing.

Measure of Specific Anxiety

A measure of specific anxiety about weighing clients was also created based on the identified barriers and solutions to weighing clients with EDs gathered from the telephone interviews. See below for further detail.

Table 1:

List of 'If' Statements

'If' statements
If my clients becomes distressed…
If weighing my client makes me feel anxious…
If I feel uncomfortable sitting with my client's distress…
If I struggle to fit weighing into my session or I run out of time…
If I think that it is unlikely that I will weigh my client this session…
If I don't think that it's important to weigh this client…
If there are practical challenges to weighing my client…
If I think that I won't weigh because my client looks like they've gained weight or are a healthy weight…
If my client refuses to be weighed…

Table 2:

List of 'Then' Statements

'Then' statements
Then I will remind myself that weighing my client is an opportunity to explore their thoughts and emotions!
Then I will take my feelings/experience to supervision and access support!
Then I will include 'weighing' on my session agenda, and weigh my client at the start of the session!
Then I will remind myself of the expectation of weighing in the treatment contract!
Then I will revisit the evidence-based protocol and remind myself of the rationale for weighing clients!
Then I will ensure that I have access to scales prior to the session!
Then I will remind myself of the importance of using objective measures to monitor my client's weight!
Then I will explain the rationale of weighing to them, and discuss their commitment to treatment!
Then I will not present being weighed as an option, but will ask when my client wants to be weighed during the session (e.g., "now or after 10 minutes?")!

Participants and Recruitment

Power

Based on the design, a priori power analysis using Cohen's tables (Cohen, 1988) suggested that 26 participants per group would provide 95% power to detect a medium-to-large effect (d = 0.70, as reported by Gollwitzer & Sheeran, 2006) of forming implementation intentions on weighing. A further 12 participants were recruited to allow for attrition. Therefore, we aimed to recruit 64 therapists at baseline.

Recruitment

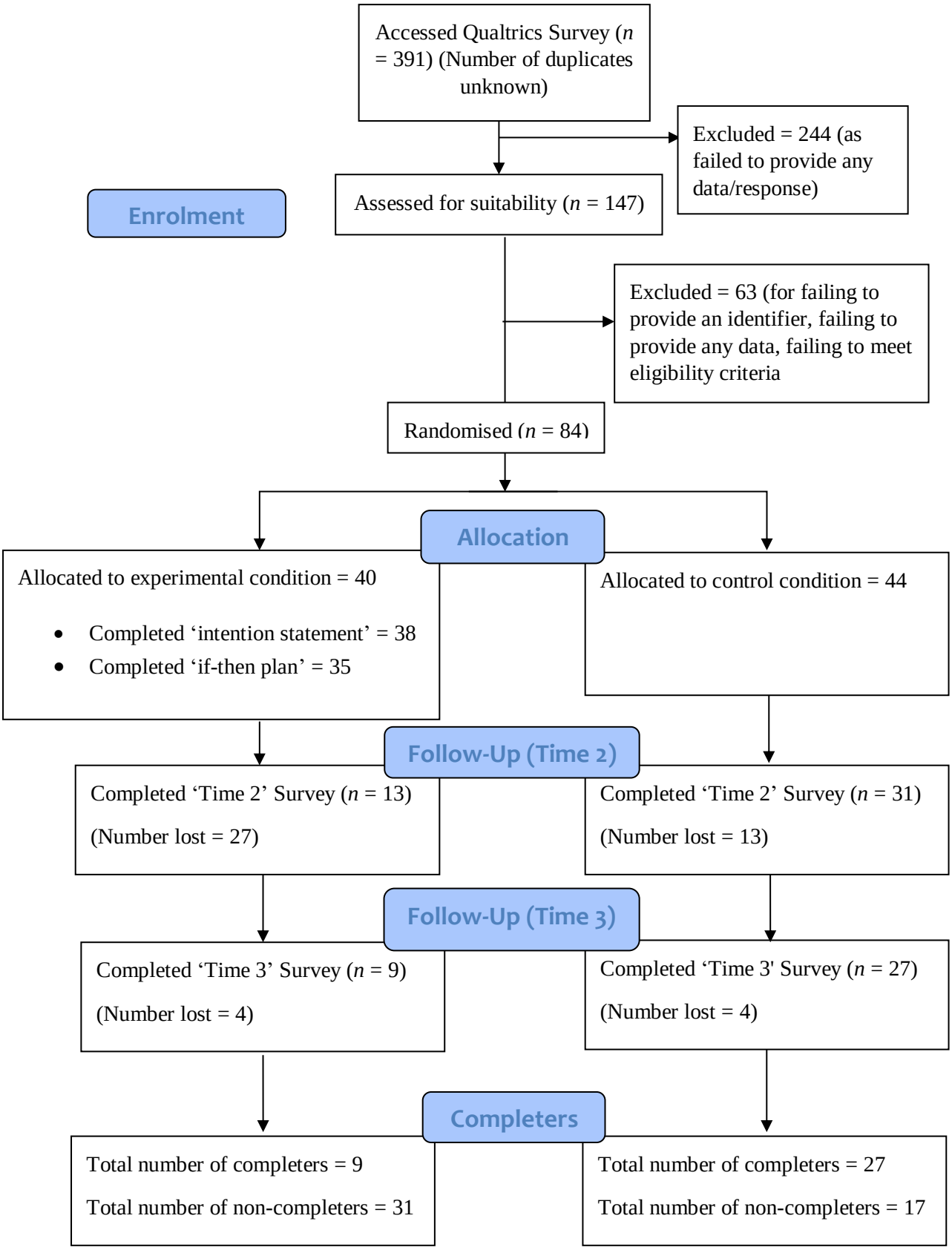
Therapists working with children and adolescents in ED Services and practicing FBT were contacted using professional contacts (known to one member of the research team). Therapists were based in the UK, Netherlands, USA, New Zealand, and Australia. The study was also advertised verbally and in paper form to professionals attending international conferences and training events in the UK, Netherlands, USA, Australia, and Sweden. Recruitment occurred between July 2018 and March 2019. An opportunistic snowballing method was adopted; participants were asked to share knowledge of how to participate in the study with colleagues. Participants were invited by email to complete an online survey hosted by Qualtrics. Consent to participate was requested at the beginning of the first online survey.

Inclusion criteria required participants to be able to read and write in English, to be trained in FBT, and to be currently active in FBT practice with families with children with an ED. Therapists who were not currently working in clinical practice, who had never used FBT, or who did not have any training in FBT were excluded from the study.

All participants were contacted two and then eight weeks after completion of the baseline survey. A total of 84 participants (76 female, eight male) were randomly allocated to the experimental (n = 40) or control (n = 44) conditions. Figure 1 shows the flow of participants from recruitment to study completion.

Figure 1:

Consort Flow Diagram (Schulz et al., 2010) Showing the Process of Participation



Measures

Data Collected at Baseline

Demographic Information. The survey requested information regarding the participants' age, gender, level of training, and years spent in clinical practice.

General Anxiety. The short form of the Intolerance of Uncertainty Scale (IUS) (Appendix E) (Carleton et al., 2007) was used to measure general anxiety. The IUS is a 12-item scale that measures two domains of intolerance of uncertainty; (i) prospective (e.g., 'Unforeseen events upset me greatly'); and (ii) inhibitory (e.g., 'The smallest doubt can stop me from acting'). The IUS has been shown to have high concurrent validity with other measures of anxiety (Carleton et al., 2007) and strong psychometric properties (Hale et al, 2017).

Anxiety Specific to Weighing. Six questions based on research by the current author reflected therapist anxious beliefs about weighing (Appendix F). For example, 'I am unlikely to weigh my clients because I do not want to increase their anxiety'. Questions were combined to create a single index.

Internal Reliability Checks. The internal reliability of the measures of general and specific anxiety were checked for the sample at baseline, using Cronbach's alpha (Cronbach, 1951). Assuming $\alpha = .70$ is a marker of high internal reliability (Tavakol & Dennick, 2011) both the IUS-12 (used to measure 'general anxiety) the measure of specific anxiety were found to have acceptable internal consistency ($\alpha = .77$, and $\alpha = .84$, respectively).

Weighing Behaviour. Participants were asked about their involvement with clients treated for an ED over the last two working weeks. Specifically, information was requested about how many clients were i) not weighed at all, ii) blind weighed (where the client was weighed but not told their weight), iii) open weighed, when the client's weight is shared with the client, and iv) weighed by somebody else.

Intentions to Weigh. The strength of therapists' intentions to weigh their clients over the next two working weeks was measured. Based on the forthcoming two-week period, participants were asked to rate the statement 'I intend to weigh all of the clients I am treating for an eating disorder' using a 7-point Likert scale, ranging from 'strongly disagree' to 'strongly agree'. In order to minimise desirability bias, this question was placed among similar questions relating to therapist behaviours (e.g., the strength of therapist's intention to encourage the family to eat together).

Data Collected at Two and Eight Weeks Post Intervention

At two and eight weeks following the initial contact, the following data were collected again, using the same measures as at baseline:

a) Anxiety specific to weighing,

b) The proportion of clients who were weighed over the last two working weeks

c) Intentions to weigh clients over the next two working weeks.

Procedure

Potential participants were contacted via email (Appendix G) and invited to follow a link should they be interested in taking part in research on the use of FBT for children and adolescents with EDs. The project was also advertised at international conferences, by distributing a paper copy of the aforementioned email or requesting an email address to be contacted at by the researcher. The email provided brief information about the research and informed participants that they would be required to complete an additional survey two weeks following the initial survey completion. The precise aims of the study were not made transparent at this point.

The first survey asked participants to confirm that they met the inclusion. Participants who did not meet inclusion criteria were informed that they were not eligible to take part. Participants meeting the inclusion criteria specified above were randomly allocated to a

condition by Qualtrics randomizer software. The researchers and participants were blind to the allocation.

Baseline: All Conditions

At baseline, all participants were asked to provide information regarding their gender, age, level of qualification in FBT, number of years practicing FBT, and number of clients/families on their current caseload being seen in clinical practice for the treatment of an ED. Participants also reported the proportion of their clients who they weighed, their level of anxiety related to weighing clients, and the strength of their intentions to weigh clients in the future. All participants were asked to complete the short IUS at baseline only.

Baseline: Between Group Conditions

Experimental Group. In addition to the questions detailed above, participants in the experimental group were also given information about the importance of weighing clients (Appendix H) and were asked to complete an 'intention statement' using a free text box to state that they intended to weigh each client at every session, or to check a box indicating that they did not intend to weigh each client at every session. Participants were then prompted to form an implementation intention using the aforementioned 'volitional help-sheet', which guided participants to form an 'if-then' plan designed to help them to weigh their clients.

Control Group: Therapy as Usual. Participants in the control group were asked to respond to questions relating to demographics, intentions to weigh, the proportion of clients weighed, general and specific anxiety. They did not receive an intervention.

Post Intervention Follow-Up: All conditions

Two weeks following completion of the baseline survey, participants were contacted again via the email address provided in the first survey, and asked to take part in the second part of the study by following the Qualtrics link (Appendix I). The second survey was similar

but shorter than the initial survey. All participants in all conditions were asked the same questions as detailed at baseline for 'all conditions' (except for the demographic questions).

Final Follow-Up: All Conditions

Finally, participants were contacted via email eight weeks after their initial involvement in the study, and asked to complete the third and final stage of the research, by following the Qualtrics link (see Appendix J). The third survey repeated the same questions asked at the post-intervention stage. Participants were not previously told about this second follow-up, in order to minimise desirability bias. All participants were fully debriefed via Qualtrics at the end of the study. This included being informed about the full intention of the study, and the rationale for not being transparent about the aims of the study at recruitment (see Appendix K).

All of the information provided by participants was treated confidentially, password protected, and used only for the purpose for which it was intended. Data extracted for analyses were anonymised (once all data across the three time-points was matched). Participants were informed of their right to refuse participation, and their right to withdraw their information from the study prior to data analysis. No participants requested to be withdrawn from the study.

Data Analysis

Data from all participants who completed at least the first survey were transferred from Qualtrics to Microsoft Excel for the responses to different surveys to be matched. Anonymised data were analysed using the Statistical Package for Social Sciences (SPSS) Version 25. This included data from participants who did not complete the surveys at all three time points. Baseline means and standard deviations for the total sample and each individual group (experimental and control) were produced (Appendix L). Initial ANOVAs explored

whether any significant differences existed for the variables of interest, over time. Intention to treat analyses (using multiple imputation) were used, to account for missing data.

Data Distribution

Histograms (Appendix M) were used to test the normality of data distribution for the experimental and control conditions. Further Kolmogorov-Smirnov tests found that most data were not normally distributed. Non-normally distributed data was managed by the use of non-parametric tests, where possible (see below).

Attrition Analysis

Attrition analysis, using bivariate logistic regression, compared the baseline characteristics and beliefs of participants who completed with those who dropped out of the study, to ensure that there were no systematic differences. No differences required controlling for in the main analyses. Missing data were managed by multiple imputation - a robust method that generates 'best guesses' to complete an otherwise incomplete dataset (Rubin, 1987).

Hypothesis Testing

t-Tests. Following multiple imputation, t-tests were used to investigate the between (experimental and control condition) and within (three time points) group differences.

Post-Hoc Moderator Analysis via Hierarchical Regression. Moderator analyses (Baron & Kenny, 1986) were planned. These used hierarchical multiple regression to explore whether levels of general anxiety and strength of intentions interacted with implementation intentions (i.e., condition) to predict weighing behaviour.

Post-hoc Analysis Using Hayes Bootstrapping. PROCESS macro methods (Hayes, 2009) were planned to test the fifth hypothesis, that the therapists' specific anxiety about weighing would mediate the relationship between the intervention (i.e., goal setting and forming implementation intentions) and weighing.

Results

Descriptive Statistics and Baseline Data

The total sample consisted of 84 therapists practicing FBT. Table 3 describes the characteristics of the sample. The sample ranged in age from 25 to 69 years (M = 44.45, SD = 9.42). The majority of participants were female (90.5%, n = 76). All participants had some form of training in FBT (e.g., professional training; postgraduate training). Just over half of the participants had been in practice for five or more years (51%, n = 43). Within the experimental condition, 95.00% (n = 38) participants completed an intention statement, and 87.5% (n = 35) completed an 'if-then plan'.

Table 3:

Sample Characteristics

	Experimental (n = 40)	**Control (n = 44)**
Age, ***M (SD)***	44.00 (9.53)	44.84 (9.42)
Gender	4 male (10.00%), 36 female (90.00%)	4 male (9.10%), 40 female (90.90%)
Training		
Professional training	23 (57.50%)	20 (45.50%)
Postgraduate training	11 (27.50%)	13 (29.50%)
No training	0 (0.00%)	0 (0.00%)
Other	6 (15.00%)	11 (25.00%)
Length of Practice		
< 1 year	2 (5.00%)	3 (6.80%)
1-2 years	8 (20.00%)	3 (6.80%)
2-5 years	13 (32.50%)	12 (27.30%)
> 5 years	17 (42.50%)	26 (59.10%)
Intention statement complete	38 (95.00%)	N/A
If-then plan complete	35 (87.50%)	N/A

Effect of Condition Over Time: Completer analysis

Table 4 shows the descriptive statistics for the key outcome variables at each time point by condition. Data checks (Kolmogorov-Smirnov tests; visual checks of histograms) suggested that the data were not normally distributed for all variables. Therefore, non-parametric Friedman's two-way ANOVAs were used to conduct a completer analyses, to test for differences within the groups across the three time points. There were no differences over time in the control or experimental condition for the percentage of clients weighed, general anxiety, or intentions to weigh. There was, however, a significant difference in specific anxiety over time in the experimental condition (but not the control condition). Post-hoc Wilcoxon Signed Rank tests were run with a Bonferroni correction applied (p = .017). Mean specific anxiety levels following making an implementation intention for time 1, time 2 and time 3 were 1.10 (SD = 0.20), 1.18 (SD = 0.25) and 1.00 (SD = 0.00), respectively. Findings showed that specific anxiety significantly differed between time 1 and time 2 (Z = -2.03, p = .042), indicating that participants felt significantly more anxious about weighing at time 2, after making an implementation intention. However, there were no significant changes in anxiety about weighing between time 2 and 3 (Z = -1.86, p = .063), or time 1 and time 3 (Z = -1.00, p = .317).

Table 4:
Completer Analyses Showing Descriptive Statistics for Outcome Variables by Time and Condition

	Timepoint			Friedman's test		
	Baseline (T1)	Post intervention (T2)	Follow-up (T3)	X^2	df	*P*
% Clients weighed						
Control, *M (SD)*	66.44 (36.39)	66.03 (35.93)	71.83 (35.30)	2.74	2	.26
N	39	31	27			
Experimental, *M (SD)*	69.60 (36.49)	71.85 (31.48)	70.00 (38.59)	2.21	2	.33
N	38	13	10			
General anxiety						
Control, *M (SD)*	1.77 (.45)	1.77 (.42)	1.77 (.46)	0.43	2	.80
N	43	31	27			
Experimental, *M* (*SD*)	1.74 (.32)	1.74 (.27)	1.69 (.19)	0.50	2	.78
N	40	13	9			
Intentions to weigh						
Control, *M* (*SD*)	6.18 (1.10)	6.10 (1.33)	6.15 (.95)	1.34	2	.502
N	39	31	27			
Experimental, *M* (*SD*)	6.34 (1.02)	6.08 (1.75)	5.44 (2.35)	2.00	2	.37
N	38	13	8			
Specific anxiety						
Control, M (SD)	1.20 (.38)	1.19 (.26)	1.13 (.20)	2.68	2	.262
N	43	31	27			
Experimental, M (SD)	1.10 (.20)	1.18 (.25)	1.00 (.00)	6.50	2	.039
N	40	13	9			

Attrition Analyses: Completer analysis

Figure 1 shows the flow of participants through the study. The rate of attrition between baseline (time 1) and post-intervention (time 2) for the total sample was 48% (67.50% and 29.55% for the experimental and control conditions, respectively). The rate of attrition between post-intervention (time 2) to follow-up (time 3) for the total sample was 18% (44.00% and 14.80% for the experimental and control conditions, respectively). The rate of attrition between baseline (time 1) and follow up (time 3) across the whole sample was 57% (77.5% and 31.8% for the experimental and control conditions, respectively).

Chi-squared tests were run to compare participants who completed the study and those who dropped out after time 1, using baseline data. No significant differences were detected.

Binomial logistic regression was used to determine whether baseline characteristics were associated with whether or not someone would complete the study (see Table 5). Considering the higher dropout rate among participants in the experimental condition relative to those in the control condition, variables were examined according to condition. No baseline variables predicted whether or not someone would complete the study in the control condition X^2 (7) = 4.74, p= .691. However, baseline variables did predict dropout in the experimental condition X^2 (7) = 16.89, p= .018. Younger participants, those with a weaker intention to weigh, and those who had been practicing for longer were more likely to drop out of the experimental condition.

Table 5:

Predictors of Attrition by Condition

	Control Condition			*Experimental Condition*		
Variable	Beta	*(SE)*	*p*	Beta	*(SE)*	*p*
Gender	-.24	1.54	.877	1.65	1.50	.270
Age	-.01	.05	.828	-.17	.08	.028
Years of practice	.60	.51	.243	2.10	.91	.020
General anxiety	1.94	1.26	.125	1.92	1.64	.240
Specific anxiety	.28	2.41	.908	-13.36	6.88	.052
% clients weighed	-.00	.014	.790	.02	.02	.204
Intention to weigh	.37	5.07	.418	-1.24	.58	.034

Effect of Condition Over Time: Intention to Treat Analysis

Multiple imputation was employed to address missing data, which became an issue as a relatively large proportion of the participants did not complete follow-up measures. Using observed data from completers, values are randomly imputed to create a complete dataset by making best estimates of the missing data, whilst accounting for variability (Rubin, 1987). In light of the level of missing data (attrition rates of 57% across the whole sample) and based on recommendations by Bodner (2008) and White et al. (2011), a total of 50 multiple imputations were entered into SPSS with the intention to improve the precision of the reported p-values. As SPSS does not allow for repeated measures ANOVAs (or non-parametric equivalents) for imputed data, paired t-tests were used to compare scores at each time point for the control and experimental condition separately. Effect sizes (Cohen's *d*) were also calculated using for each effect and interpreted in line with Cohen's descriptive categories (*d* = 0.10 = small, *d* = 0.30 = medium, *d* = 0.50 = large) (Cohen, 1992). Imputed means and the standard error for each of the key variables are presented in Table 6.

Table 6:

Imputed Mean Scores for Outcome Variables by Time and Condition (50 imputations)

	Time 1		Time 2		Time 3		Time 1-Time 2			Time 1 – Time 3			Time 2 – Time 3		
Variable	*Mean*	*(SE)*	*Mean*	*(SE)*	*Mean*	*(SE)*	*t*	*p*	*d*	*t*	*p*	*d*	*t*	*p*	*d*
% clients weighed															
Control	67.30	(5.95)	65.09	(7.44)	73.82	(7.30)	0.33	.746	1.54	1.01	.311	0.15	1.56	.121	0.23
Experimental	67.78	(6.24)	70.71	(10.77)	74.74	(10.00)	0.27	.786	0.05	0.76	.447	0.15	0.52	.603	0.09
Specific anxiety															
Control	1.19	(0.06)	1.24	(0.06)	1.14	(0.05)	0.96	.337	0.15	1.06	.291	0.16	2.05	.041	0.35
Experimental	1.10	(0.03)	1.26	(0.07)	1.08	(0.06)	2.02	.045	0.40	0.38	.704	0.06	2.10	.038	0.37
General anxiety															
Control	1.76	(0.68)	1.75	(0.08)	1.75	(0.09)	0.14	.885	0.00	0.17	.865	0.00	0.03	.976	0.00
Experimental	1.74	(0.05)	1.77	(0.10)	1.72	(0.10)	0.28	.777	0.06	0.21	.836	0.04	0.43	.670	0.09
Intentions to weigh															
Control	6.18	(0.18)	6.06	(0.27)	6.06	(0.27)	0.78	.437	0.07	0.51	.613	0.08	0.36	.723	0.00
Experimental	6.27	(0.18)	5.90	(0.45)	5.96	(0.44)	0.86	.395	0.14	0.79	.433	0.14	0.11	.916	0.03

No significant differences were found between time points (time 1 and time 2, time 2 and time 3, and time 1 and time 3) for the control or experimental group in their weighing behaviour (% clients weighed), general anxiety, or intentions to weigh. For specific anxiety, no significant differences were found for the control group between time 1 and time 2, or time 1 and time 3, nor for the experimental group between time 1 and 3. However, the significant difference found for the control group (specific anxiety between time 2 and time 3) indicated that participants in the control condition felt significantly less anxious about weighing at time 3 than at time 2. Participants in the experimental group also showed significant differences in specific anxiety between time 1 and time 2, and between time 2 and time 3. The findings suggested that specific anxiety about weighing significantly increased after setting an implementation intention (i.e., between time 1 and time 2), and then significantly reduced by follow-up (i.e., between time 2 and time 3). Cohen's *d* showed a medium-sized effect in each case where there was significance.

Independent-samples t-tests were used to explore differences between the control and experimental conditions at each time-point (Table 7). There were no significant differences found between groups at any time-point for the percentage of clients weighed, general anxiety, or intentions to weigh. For the variable specific anxiety, a significant difference was found at follow-up only, suggesting that specific anxiety was greater for participants in the control condition at time 3. Please note, the slight difference in table 6 and table 7 means is due to the different Ns included in the datasets.

Table 7:

Imputed Mean Scores for Outcome Variables Showing Differences by Time and Condition

	Time 1		Time 2		Time 3		Time 1			Time 2			Time 3		
Variable	*Mean*	*(SD)*	*Mean*	*(SD)*	*Mean*	*(SD)*	*t*	*df*	*P*	*t*	*df*	*P*	*t*	*df*	*P*
% clients weighed															
Control	66.44	36.39	66.03	35.93	71.83	35.30	-.38	75	.705	-.51	42.00	.615	.137	35	.892
Experimental	69.59	36.49	71.85	31.48	70.00	38.59									
Specific anxiety															
Control	1.20	.38	1.19	.26	1.13	.20	1.37	81	.173	.17	42.00	.869	3.40	26	.002
Experimental	1.10	.20	1.18	.25	1.00	.00									
General anxiety															
Control	1.77	.45	1.77	.42	1.77	.47	.30	75.93	.763	.32	33.99	.750	.81	32.36	.422
Experimental	1.74	.32	1.74	.27	1.69	.19									
Intentions to weigh															
Control	6.18	1.10	6.10	1.32	6.15	.95	-.67	75	.503	.04	42	.967	.87	8.88	.405
Experimental	6.34	1.02	6.08	1.75	5.44	2.35									

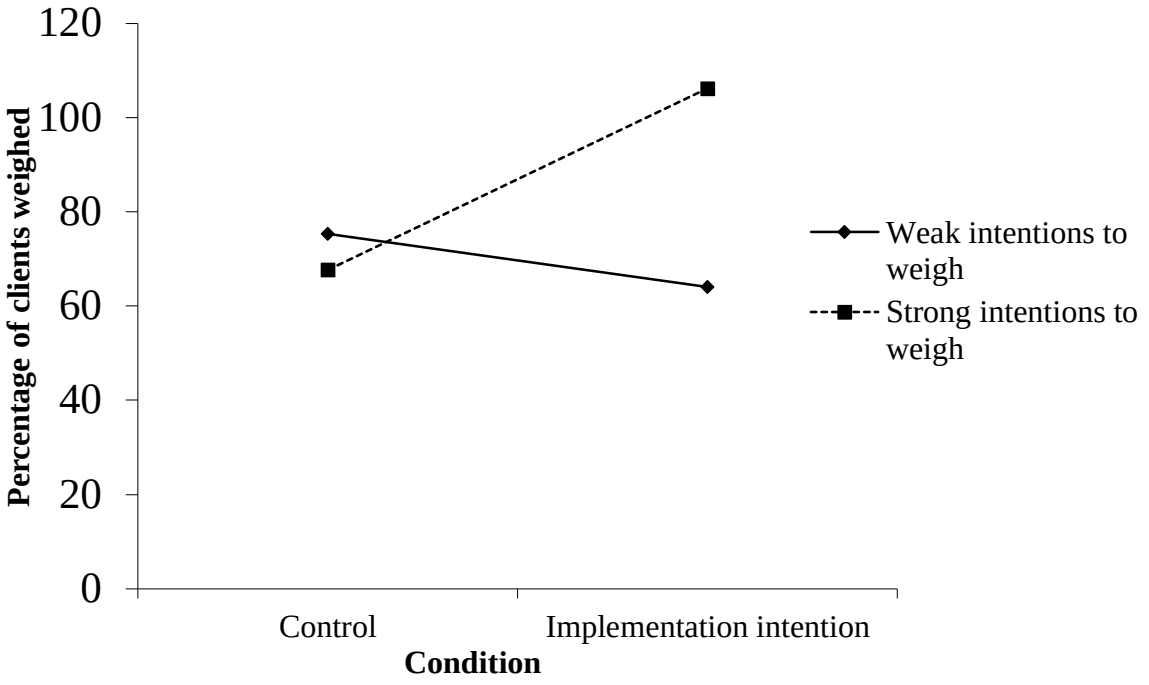
Moderator Analysis

Moderator analyses were in keeping with Baron and Kenny's (1986) methodology. Two hierarchical multiple regressions were conducted to independently explore whether general anxiety and the strength of therapists' intentions to weigh moderated the relationship between forming an implementation intention and weighing. Scores for the predictor variables in each analysis (i.e., general anxiety and intentions to weigh) were standardised to reduce multicollinearity (Aiken & West, 1991). Both the independent variable (implementation intention) and moderator variables (general anxiety and intentions to weigh) were entered into the first step of the regression. The second step of the regression then added the interaction term between implementation intentions and general anxiety/intentions to weigh.

No significant results were found for general anxiety as a moderator of the relationship between making an implementation intention and weighing. However, intentions to weigh were found to significantly moderate the relationship between forming an implementation intention and weighing. When added to the model, the interaction between intentions to weigh and making an implementation intention accounted for a significant amount of the variance (11%) in clinicians' weighing behaviour (adjusted $R^2 = .11$, $p = .023$). A simple slopes plot (Figure 2) shows that making an implementation intention only increased weighing behaviour for clinicians who had strong initial intentions to weigh. There was no impact for clinicians with weak intentions to weigh.

Figure 2:

Simple Slopes Plot to Show the Interaction Between Intentions to Weigh and Implementation Intentions on Weighing Behaviour



A post-hoc power analysis (g*power 3.1 (Faul et al., 2007)) confirmed the moderator analysis was sufficiently powered (*d*=.86) to detect a medium sized effect (Cohen, 1988). However, the use of post-hoc power analyses are criticised as calculation of power is directly related to the p-value (which was significant) (e.g. Lakens, 2014). Consequently, the analysis could have still been underpowered, therefore this finding should be interpreted with caution.

Mediator Analysis

As a relationship between forming an implementation intention and weighing behaviour was not found, mediation analyses for specific anxiety was not viable.

Discussion

The aim of the current research was to investigate whether forming implementation

intentions increased FBT clinicians' adherence to protocol-driven weighing of clients. The primary hypotheses were that: a) a greater increase in weighing behaviour would be found among clinicians who were reminded of the importance of weighing and prompted to form implementation intentions, compared to those who receive no intervention; and b) that clinicians who formed implementation intentions would maintain the increase in weighing behaviour over time. Neither hypothesis was supported. Further hypotheses that a) general anxiety would moderate the relationship between forming an implementation intention and weighing, and b) specific anxiety about weighing would mediate the effect of the intervention on weighing were also not supported. However, the strength of clinicians' intentions to weigh did moderate the relationship between forming implementation intentions and weighing, such that forming an implementation intention did promote weighing behaviour, but only among clinicians who had strong intentions to weigh. The findings are discussed below, in relation to existing evidence.

How Do the Current Findings Fit with Existing Research Evidence?

Regardless of intervention, rates of weighing in the current study remained similar to those reported in existing FBT research that does not promote the use of volitional interventions (e.g., Couturier et al., 2013; Kosmerley et al., 2015). The only other known research to have explored the use of implementation intentions with clinicians is the aforementioned parallel project (Trivasse, 2019). Similarly, Trivasse (2019) reported no significant main effects for CBT clinicians making an implementation intention on weighing behaviour. Considering the lack of support for the primary hypotheses, further understanding of the use of implementation intentions and what might act as a barrier to their effectiveness is necessary amongst this population.

As evidenced by Gollwitzer and Sheeran (2006), the current study indicates that forming implementation intentions was effective in promoting changes in behaviour,

however this was only apparent for individuals who had strong initial intentions to weigh. This finding supports existing research. For example, Sheeran et al. (2005) similarly found that making an implementation intention was of benefit to goal attainment only when the underlying goal intention is strong. In line with what might be anticipated by behaviour change interventions (i.e., Gollwitzer & Sheeran, 2006), it might be that the application of implementation intentions to promote behaviour change is useful amongst clinicians working with clients with EDs. However, this finding should be interpreted with caution considering that the moderator analyses might not have been adequately powered.

Current findings indicate that in comparison to the control group, clinicians' anxiety about weighing significantly increased after forming an implementation intention. This finding might offer insight into the lack of effect on weighing behaviour (and also reasons for the high attrition in the experimental condition. It might be that making an implementation intention was not effective for clinicians who had weak intentions to weigh, as forming if-then plans exacerbated their anxiety. The experience of anxiety about weighing could be understood in terms of safety behaviours. If clinicians feel anxious about delivering certain components of FBT (e.g., Couturier et al., 2013; Robinson & Kosmerly, 2015), and anxiety is negatively related to weighing behaviour (Kosmerly et al., 2015), then clinicians might avoid difficult clinical tasks (and indeed might drop-out of the study all together) in order to escape their own feelings of anxiety or discomfort (Couturier et al., 2013; Levita et al., 2016; Turner et al., 2014). Thus, the presence of anxiety for some people, leading to engagement in safety behaviours, might have overturned any effect of making an implementation intention.

The finding that FBT clinicians experienced greater anxiety about weighing following making an implementation intention was not seen for CBT therapists (Trivasse, 2019). Existing research might help to explain why FBT therapists tended to feel more anxious about weighing (Kosmerly et al., 2015). Perhaps clinicians are more concerned about

distressing younger clients, or encountering conflict with young adults who exercise their autonomy about being weighed. Furthermore, unlike CBT treatment for adults, FBT clinicians are subject to the challenges of routinely managing family dynamics, which has been linked to increased emotional difficulty for the clinician (Couturier et al., 2013) and possible decrease in carrying out tasks in line with protocol (Robinson & Kosmerly, 2015).

Similar to the work of Trivasse (2019), the current study reports striking rates of attrition. While the current control group had close to 30% drop-out, attrition was over double that for those asked to make implementation intentions. It is possible that something about asking FBT therapists to make implementation intentions about weighing acted as a barrier to engagement. The rate of drop-out among FBT therapists could be predicted based on baseline characteristics. Specifically, drop-out from the experimental condition was more likely for participants who were younger, had weaker intentions to weigh, and had more years of experience. Within the literature on CBT for EDs, greater length of clinician experience has been linked to a reduced use of evidence-based strategies (e.g., Simmons et al., 2008). Therefore, it might be that more experienced FBT therapists dropped out of the study due to their reluctance to deliver treatment according to protocol. Alternatively, extraneous factors might explain attrition. For example, Couturier et al. (2013) identified that therapists believed that FBT is demanding (resource heavy/large time commitment), which acts as an obstacle to model adherence. Therefore, pressures of committing to research that focused on engagement in a therapy task may have been too demanding for already overloaded therapists. Providing the control group with a 'filler task' (of equal demand to the experimental task), and/or measuring caseload severity might have offered insight into whether attrition was specifically about making an implementation intention, or more generally about busy clinicians feeling burdened.

Linking Findings to Theory

The absence of a main effect between making an implementation intention and weighing behaviour is inconsistent with research that suggests that forming implementation intentions lead to behaviour change of a medium-to-large-sized effect (e.g. Gollwitzer & Sheeran, 2006). As aforementioned, the lack of such an effect might be explained by an increase in anxiety about weighing when asked to make an implementation intention, resulting in a reduction in weighing behaviour. Therefore, considering how clinicians can be supported to both maintain and/or enhance their intentions to weigh, and also to address their anxiety about making implementation intentions to weigh, is important.

Self-Affirmation Theory (Sherman & Cohen, 2006) suggests that information received by individuals can sometimes threaten their sense of self or personal integrity, resulting in self-protective defensiveness. It might be that being reminded about the importance of weighing and/or having a sense of expectation to weigh as a result of being asked to make an implementation intention was experienced by clinicians as threatening, resulting in a defensive response (as seen in drop-out rates, and/or increased anxiety about weighing). Sherman and Cohen (2006) note that self-affirmation (an action that positively influences ones sense of self, often by promoting personal values) can serve to reduce defensive responses towards information about desired behaviour (e.g., protocol-driven weighing). Self-affirmation can enable greater openness in responding to and accepting messages perceived as threatening to one's identity, resulting in increased motivation and engagement in the intended behaviour. In a meta-analysis, Epton et al. (2015) found that the use of self-affirmations contributed towards increasing openness to informational messages, motivation to change, and engagement in an intended behaviour. The use of self-affirmations might therefore be important to offset any defensiveness FBT clinicians experience when being prompted to carry out evidence-based weighing.

Study Strengths, Limitations and Future Research Direction

This RCT had a number of strengths and limitations. The recruited sample has strong ecological validity, as it consisted of clinicians active in FBT practice. However, recruiting via one researcher risks selection bias and demand characteristics. For example, participants might have been more likely to participate in the study, and perform 'favourably', due to their knowledge/relationship with the person recruiting. Although opportunistic snowball sampling was used to compensate for selection bias, future research might look to further mitigate concerns by broadening the recruitment approach (e.g. by contacting practicing therapists across all UK child and adolescent ED services). As noted, drop-out rates were much higher than assumed in calculating the necessary sample size. Subsequently, the current study might have been underpowered. Any future research would benefit from increasing the sample size to account for this level of attrition. Future research might involve use of qualitative methods to understand the attrition rate and, thus, how it might be managed.

Although there was a relatively high rate of drop-out, multiple imputation was used to address missing data. Multiple imputation is considered a robust and reliable means of data analysis, because it accounts for the missing data by making 'best guesses' based on all other data available in the data set (Rubin, 1987). However, SPSS software does not permit non-parametric tests to analyse imputed data sets. Therefore, the current analyses used parametric tests post multiple imputation, despite the non-parametric properties of the data, which arguably compromises the reliability of findings. However, the vast majority of results were not statistically significant and, as non-parametric tests are typically more conservative (Harris et al., 2008), the likelihood of the findings changing if non-parametric tests were used following multiple imputation seems low. Missing data could have been processed using alternative methods, such as 'last observation carried forward' (LOCF). However, this would be at the sacrifice of the benefits of the multiple imputation approach, with the added limitations of

LOCF, such as underestimation of variability, and unreliable estimates of treatment effect (Salim et al., 2008).

A further consideration relates to data collection methods. The honesty of the clinicians who completed the survey was relied upon for data integrity. Online, anonymous completion of surveys may have enhanced participants' ability to be truthful when answering questions, as it reduces social desirability associated with face-to-face data collection (Krumpal, 2013). However, the reliance on self-reporting might enhance response biases (conscious or otherwise), for example due to inaccurate recall of information (Spencer et al., 2017). Therefore, key variables, including the percentage of clients weighed, might have been misreported by participants. To corroborate findings and enhance reliability of reporting methods, future research might plan for data to be triangulated (e.g., with clinic records and/or observational methods).

A final limitation of the methodology is the reliability and validity of variable measurement. Specifically, intentions to weigh was measured by a single item scale, which could be criticised for poor construct validity, limited sensitivity and inability to gauge internal consistency. In addition, despite having good internal reliability, the developed measure of specific anxiety was also not a validated tool. Validity and reliability of the measure could be further tested by evaluation of the scale within a larger sample, with specific focus on the scales' test-retest reliability, and construct validity.

Clinical Implications

Implementation intentions are a relatively low-resource (i.e., time, money), easily executed (via supervision, training) behaviour change method. Theoretically, they could maximise the potential for adherence to FBT protocols and enhance patient outcomes. However, it is necessary to understand what might hinder the use of implementation intentions among FBT therapists. Current findings indicate that increasing therapists'

intentions to weigh might promote the effectiveness of making an implementation intention, and subsequent weighing behaviour. However, anxiety about weighing clients is increased when clinicians are asked to make an implementation intention. Therefore, recognising and understanding these barriers (e.g., clinician anxiety) is important, as is supporting clinicians to increase or maintain strong intentions to weigh. This could be achieved through supervision, training, and reflective practice.

Conclusion

This study examined whether making an implementation intention would increase the weighing behaviour of FBT therapists. Making an implementation intention only increased weighing behaviour for clinicians who already had strong intentions to weigh. Forming an implementation intention appeared to increase levels of anxiety about weighing, at least in the short-term. Further research is needed to understand clinicians' experiences of being asked to make an implementation intention, and to explore the use of additional behaviour change interventions (e.g., self-affirmations) to promote weighing behaviour. Clinicians might be supported to explore their own anxiety about weighing in order to increase their weighing of clients with EDs, in accordance with the FBT model.

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Appendices

Appendix A: Letter Confirming Ethical Approval

The University Of Sheffield.

Downloaded: 15/12/2017
Approved: 17/11/2017

Elizabeth Benson
Registration number: 160124411
Psychology
Programme: Doctor of Clinical Psychology

Dear Elizabeth

PROJECT TITLE: Does Forming Implementation Intentions Help Clinicians Practicing Family Based Treatment to Weigh Children and Adolescents with Eating Disorders?
APPLICATION: Reference Number 016728

On behalf of the University ethics reviewers who reviewed your project, I am pleased to inform you that on 17/11/2017 the above-named project was **approved** on ethics grounds, on the basis that you will adhere to the following documentation that you submitted for ethics review:

- University research ethics application form 016728 (dated 10/11/2017).
- Participant information sheet 1037046 version 1 (10/11/2017).
- Participant information sheet 1037044 version 1 (10/11/2017).
- Participant information sheet 1037043 version 1 (10/11/2017).

If during the course of the project you need to deviate significantly from the above-approved documentation please inform me since written approval will be required.

Yours sincerely

Thomas Webb
Ethics Administrator
Psychology

Appendix B: Adverse Event Form

Adverse Incident/Complaint Form (Psychology Version)

for health care research projects that the University of Sheffield is the research governance sponsor of

This report form is for use if and when an adverse event incident occurs or a complaint is made relating to a health care research project where the University is the research governance sponsor. It should be completed by the Principal (or Chief) Investigator of the project and agreed with the Chair of the Ethics Committee or if a Clinical Unit project with the Director of Research Training. It will then be discussed with the Head of Department.

Guidance notes are included at the end of the report form (boxes on the form can be expanded).

1. Research Project Title:	
2. 6 digit URMS number (if applicable):	
3. Principal/Chief Investigator:	
4. Supervisor/s:	
5. Who initially discovered the adverse event/Complaint?	
6. When was the adverse event/complaint reported to the Principal/Chief Investigator?	
7. When was the adverse event/complaint reported to the Head of Department/School?	
8. When did the adverse event/complaint actually occur?	
9. Where did it happen?	

10. What actually happened and what was the impact of the adverse event/complaint?
11. Why did the adverse event/complaint occur?
12. Describe what action(s) have been taken to address the impact of this specific adverse event/complaint:

13. Describe what action(s) have been taken or are planned to limit the risk of a similar event/complaint re-occurring (add any general notes here to qualify the information given elsewhere in the report):	
Agreed and authorised by:	
Name of Principal/Chief Investigator: *Insert name here* Signature:	Date: *insert date here*
Name of Head of Chair of Ethics Committee/Director of Research Training: *Insert name here* Signature:	Date: *insert date here*

Guidance Notes:

1. Adverse events/complaints should be reported to the Head of Department/School as soon as possible and normally within **5 working days**. If the time exceeds this, this should be a consideration in 13.

2. Once complete, this report should be kept in the project's site file for reference and a copy sent to Research and Innovation Services, New Spring House, 231 Glossop Road marked for the attention of the Head of the Planning and Business Support Section (Mrs Deborah McClean).

3. Advice and guidance on completion of the report, analysis of the event and potential actions can be obtained from Research and Innovation Services (Richard Hudson: ext. 21448).

4. **An 'adverse event' is an unexpected event that includes, but is broader than, unintended errors and mistakes which arise as a result of research activity and result in one or more research participants having symptoms or being caused physical or psychological harm or serious distress.**

Examples of this include:

- **A human participant has an adverse reaction to a drug treatment, the use of which had been approved by a Research Ethics Committee.**
- An invasive instrument is used incorrectly, the use of which had been approved by a Research Ethics Committee, and the human participant suffers harm or has an extended stay in hospital.
- A human participant is asked a series of questions regarding his/her sex life, a line of questioning that a Research Ethics Committee approved. However, for the

interviewee, the questions revive painful memories of being abused as a child and the interviewee suffers serious distress such as to warrant therapy.

5. **A ‘complaint’ is any approach made by a research participant to the researcher, their supervisor or collaborator with respect to the conduct of the study**

Appendix C: Volitional Help-Sheet

Many therapists can find it challenging to weigh their clients at every session. Evidence suggests it can be helpful to form a plan to address difficult situations you might experience when weighing clients.
Please identify one situation and a related response that you will use should that challenging situation arise. Please see below for some suggested examples. The situation and responses are not linked, and may be paired in a way that fits for you.

Please identify an if- statement that you think represents a challenge you face when weighing clients, and then identify a response that feels relevant to you.

If …	Then …
If my clients becomes distressed …	Then I will remind myself that weighing my client is an opportunity to explore their thoughts and emotions!
If weighing my client makes me feel anxious …	Then I will take my feelings/experience to supervision and access support!
If I feel uncomfortable sitting with my client's distress …	Then I will include 'weighing' on my session agenda, and weigh my client at the start of the session!
If I struggle to fit weighing into my session or I run out of time …	Then I will remind myself of the expectation of weighing in the treatment contract!
If I think that it is unlikely that I will weigh my client this session …	Then I will revisit the evidence-based protocol and remind myself of the rationale for weighing clients!
If I don't think that it's important to weigh this client …	Then I will ensure that I have access to scales prior to the session!
If there are practical challenges to weighing my client …	Then I will remind myself of the importance of using objective measures to monitor my client's weight!
If I think that I won't weigh because my client looks like they've gained weight or are a healthy weight …	Then I will explain the rationale of weighing to them, and discuss their commitment to treatment!
If my client refuses to be weighed …	Then I will not present being weighed as an option, but will ask when my client wants to be weighed during the session (e.g., "now or after 10 minutes?")!

Please now write out your plan below using the format if [situation], then I will [response] and commit yourself to carrying it out. You can use one of the examples, or create an original plan relevant to you.

Appendix D: Semi-Structured Telephone Survey

Participants to be provided information about the purpose of the interview

- I am conducting a study with clinicians who work with children and young people with an eating disorder. The project is interested in why some clinicians might not weigh their clients with an eating disorder.
- By weighing, I am referring to you as the clinician using scales to take the weight of your client, measured in either stones, pounds or kg, within a therapy session.
- I am trying to identify what things clinicians find make weighing easy / difficult and how they might address the challenges.
- This interview will help inform the development of a help sheet, which is designed to help therapists to form specific 'if-then' plans that have been shown to be effective in supporting people to make behaviour changes.

Consent and right to withdraw

- You are under no obligation to take part in this interview.
- You have the right to withdraw at any point, or refuse to answer any questions.
- Any information that you provide will be kept confidential.
- Note that taking part in this interview excludes you from taking part in the main study.
- Do you have any questions? Are you still happy to take part in the interview?

Identification of challenges/barriers to weighing

- I am interested in your experience of weighing clients with eating disorders.

- Typically, how often would you say that you weigh your clients?

- Are there any times that you would choose not to weigh your client?

  PROMPT: You say you don't find weighing difficult… could you say what you think *other clinicians* may find difficult about weighing clients with eating disorders?

  PROMPT: you say you don't think it is important to weigh clients with eating disorders at each contact…. could you tell me more about your reasoning for this?

- Are there any things that make weighing clients with eating disorders difficult or awkward? And why?
  PROMPT: Does your client's likely reaction to being weighed (e.g. anxiety, distress, anger etc.) influence your decision to weigh them?

  PROMPT: Do you think that your emotions (e.g., feelings of anxiety or uncertainty) impact on your decision to weigh? Could you say more about that?

  PROMPT: do you/other clinicians think that weighing a client with an eating disorder could impact on your therapeutic relationship? How?

- In which circumstances are you <u>most</u> likely to weigh your clients with eating disorders?

Identification of potential strategies for overcoming challenges

One aim of our research is to identify ways that clinicians might be helped to weigh their clients with eating disorders. This is thought to be important because existing evidence suggests that, despite routine weighing being a recommended part of the evidence based therapeutic treatment of people with an eating disorder, many clinicians don't regularly weigh their clients.

- Were you aware of this aspect of the protocol/evidence base underlying the treatment model that you use (i.e., FBT)?

Now that we have talked about the importance of weighing, I'd like to move on to think about ways that we might support clinicians to be able to weigh in line with treatment protocol.

- Do you have any ideas or solutions that would increase the likelihood that you would weigh your client?

PROMPT: You mentioned 'x' as a barrier to weighing, is there anything that would help you feel more inclined to weigh in this scenario?

PROMPT: Could any practical arrangements be made to help you weigh your client?

PROMPT: (where appropriate) it sounds like the emotional experience of weighing a client has an impact, is there anything that would help you feel more inclined to weigh when this situation arises?

- Can you think of any solutions for other clinicians who may find it difficult to weigh their clients?
- If you had to arrive at the 'top 5 solutions' for regular and routine weighing of clients, what would these be?

Ending

- I've completed all the questions I wanted to ask you today. Are there any questions that you'd like to ask?
- I would like to ask for your discretion, and that you do not discuss the content of the interview with other clinicians working in the field as they may take part in the research at a later date.
- Thank-you for taking the time to talk with me today

Appendix E: Short Form of the Intolerance of Uncertainty Scale (Carleton et al., 2007)

Please circle the number that best corresponds to how much you agree with each statement…

Information removed for copyright purposes

Appendix F: Measure of Clinician Specific Anxiety About Weighing

1. I feel anxious about weighing my clients because I think that they might be distressed by the experience, and I find that hard to tolerate.
2. I avoid weighing my clients because I anticipate that weighing will lead to a 'fight' or drama.
3. I feel uncomfortable weighing my clients because it feels intrusive and not collaborative to ask them to do something they may not want to do.
4. I am concerned about weighing my clients in case it causes deterioration (e.g., my clients stop eating or the therapy 'goes backwards' as a result).
5. I worry about weighing my clients because I am unsure how to respond if they refuse to be weighed.
6. I am unlikely to weigh my clients because I do not want to increase their anxiety.

Appendix G: Invitation to Participate Email

You are invited to take part in an online study which investigates the use of Family Based Treatment (FBT) for children and adolescents with eating disorders.

If you are currently working in this area, then we would be very grateful if you could complete two online surveys. The first will take up to 30 minutes to complete, and will ask questions about you, your beliefs, and different aspects of your therapeutic approach. We will ask you to complete a second survey in 2 weeks' time, which should take no longer than 15 minutes to complete.

Participation in this study is voluntary, and all data will be treated in strict confidence. You may choose to exit the study at any time without giving reason. The time that you contribute to this research will add value to the existing evidence base, and we intend to publish the findings in a peer reviewed journal. A full explanation of the aims and objectives of the study will be available following participation

If you would like to take part, then please click on the following link to view the first survey:

www.qualtricslink....

If you have any questions or would like further information about the study, then please contact ebenson1@sheffield.ac.uk (Elizabeth Benson, Trainee Clinical Psychologist).

This research has received ethical approval from the Research Ethics Committee in the Department of Psychology at the University of Sheffield. Any complaints regarding this study should be directed towards the supervisors of the research Professor Glenn Waller, Head of Department (g.waller@sheffield.ac.uk) and Dr Thomas Webb, Reader in Psychology (t.webb@sheffield.ac.uk), or Dr Andrew Thompson, Director of Research Training (a.r.thompson@sheffield.ac.uk).

Appendix H: Information About the Importance of Weighing

Why we should weigh patients with eating disorder(s)?

In the vast majority of cases, it is recommended that patients with eating disorders are weighed in every session and made aware of their weight. There are four key reasons for weighing patients in therapy sessions:

1. Patient safety

Common to all psychotherapies is the need to ensure that patients are physically safe. Weighing allows clinicians to monitor a patient's weight (or weight loss) to identify and minimise risk.

2. Identifying changes in eating patterns

Weighing provides a more accurate indication of changes in weight and eating patterns (e.g. changes in weight due to undisclosed binge-eating or laxative abuse) than does patient's (likely, post-hoc) reports of their weight or food intake.

3. Reducing anxiety about weighing

Patients may be anxious about being weighed. Weighing 'in session' provides the opportunity to address this anxiety through exposure or behavioural experimentation. Specifically, weighing may provide an opportunity for you to discuss and address maladaptive cognitions around weighing (e.g., "I will have to starve myself if I know my weight").

4. Addressing the 'broken cognition'

Weighing patients provides data that can be used to challenge schemas and test predictions about weight gain based on changes to eating. For example, many patients with an eating disorder may reduce their intake of food because they have an erroneous or 'broken' understanding of the relationship between eating and weight gain. That is, despite patients having a very precise idea about what they have eaten, any food intake may be seen to be likely to have a catastrophic effect on weight.

Appendix I: Invitation to Complete Survey: Part 2

Two weeks ago you agreed to take part in a study interested in the use of Family Based Treatment (FBT) when working with children and adolescents with eating disorders.

Thank you for completing the first part of this study. Please find below the link to the second part of the online survey. This should take no longer than 15 minutes to complete.

www.qualtircslink

As we explained at the start of the study, participation is voluntary and you may choose to exit the study at any time. However, your contributions to this study are greatly valued.

If you would like any further information about the study please contact ebenson1@sheffield.ac.uk (Elizabeth Benson, Trainee Clinical Psychologist)

The project is supervised by:

Professor Glenn Waller, Clinical Psychology Unit, University of Sheffield
Dr Thomas Webb, Department of Psychology, University of Sheffield

Appendix J: Invitation to Complete Survey: Final Part

Eight weeks ago you agreed to take part in a study interested in the use of Family Based Treatment (FBT) as a treatment approach when working with children and adolescents with eating disorders. We did not tell you at the time, but we would like to ask you to complete one final short questionnaire, which you can do by following the link below:

www.qualtircslink

As before, participation in this study is voluntary and you may choose to exit the study at any time. However, your contributions to this research area are **greatly** valued. A full explanation of the aims and objectives of the research will be provided at the end of this questionnaire.

If you would like any further information about the study, then please contact ebenson1@sheffield.ac.uk (Elizabeth Benson, Trainee Clinical Psychologist).

The project is supervised by:

Professor Glenn Waller, Clinical Psychology Unit, University of Sheffield
Dr Thomas Webb, Department of Psychology, University of Sheffield

Appendix K: Debrief Information Sheet

Thank-you for taking the time to complete this study.

Sometimes in psychological research it is necessary to not tell people about the true purpose of a study at the beginning, as so doing may affect how a person responds to the questions, and this would change the results in way that may make them invalid.

The purpose of the current study was to investigate whether forming specific 'if…. then…' plans (known as 'implementation intentions') increases clinicians adherence to evidence based protocol; in this case, the weighing of clients with eating disorders. To investigate this hypothesis, we asked one group of clinicians in this research to form an if-then plan to weigh their clients and compared how frequently they reported doing to a group of participants who continued practice as usual

If you have any questions about this research, then please contact *ebenson1@sheffield.ac.uk*.

As this is an ongoing study, other professionals working with people with eating disorders will be asked to get involved. It is therefore important for the integrity of the study that you do not talk about the study's true purpose, until all data is collected. Data is expected to be collected by December 2018.

Your participation in this research is very important, and we hope that you understand the reasons why we did not tell you about the final questionnaire or exactly what we were investigating. However, it is not uncommon to feel dissatisfied in having participated in research where the intentions were not fully stated at the outset. Therefore, if you no longer want your data to be used for the purpose of this research, then you can request that your responses be withdrawn by *emailing ebenson1@sheffield.ac.uk*.

If you would like to know more about the findings of this research, then please *email ebenson1@sheffield.ac.uk*.

Thank-you once again for taking part.

The project is supervised by:

Professor Glenn Waller, Clinical Psychology Unit, University of Sheffield
Dr Thomas Webb, Department of Psychology, University of Sheffield

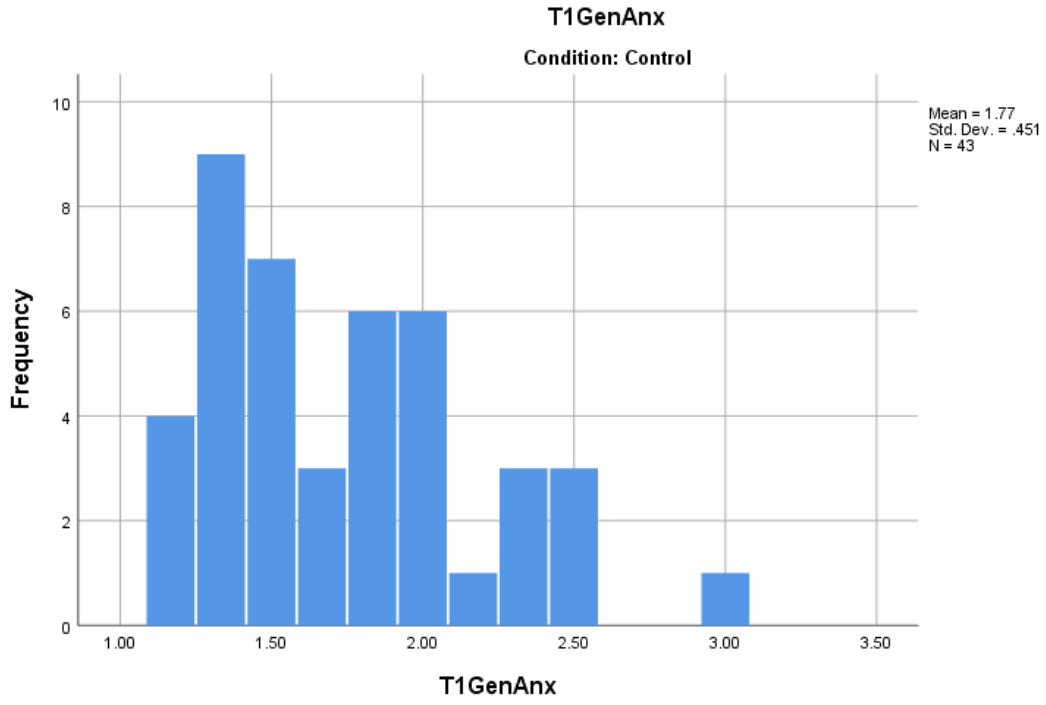
Appendix L: Raw Descriptive Statistics

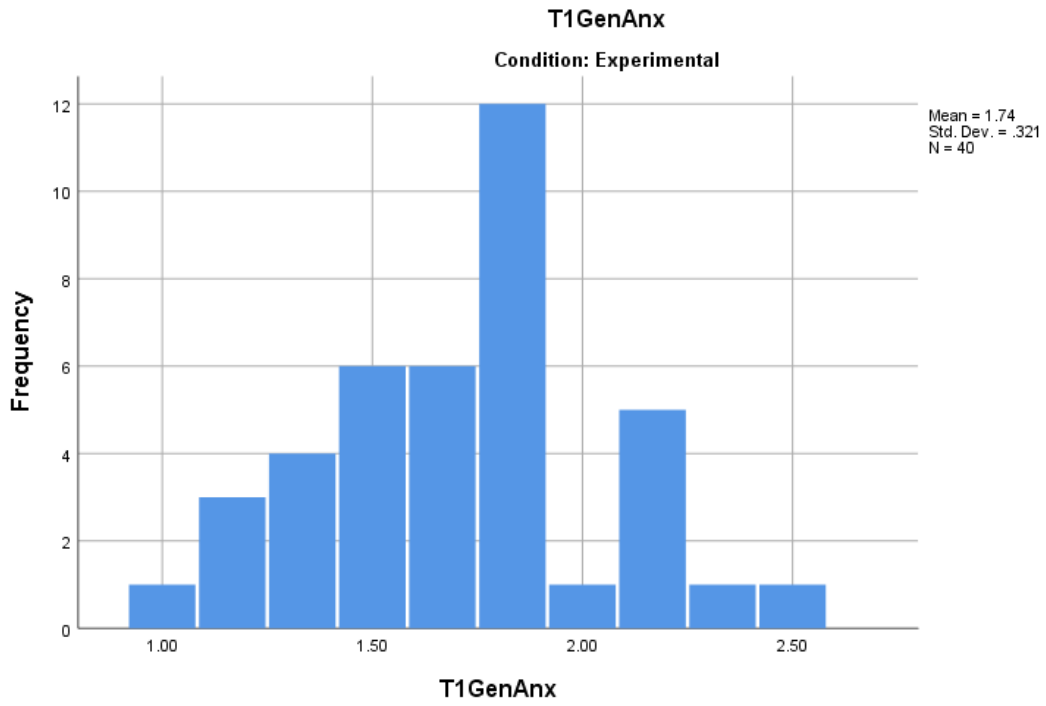
Variable	**Control (n = 44)**	**Intervention (*n* = 40)**
Baseline weighing behaviour, *M (SD)*	66.44 (36.39)	69.59 (36.49)
N	39	38
Post-intervention weighing behaviour, *M (SD)*	66.03 (35.93)	71.84 (31.48)
N	31	13
Follow-up weighing behaviour, *M (SD)*	71.83 (35.3)	70 (38.59)
N	27	10
Baseline general anxiety, *M (SD)*	1.77 (.45)	1.74 (.32)
N	43	40
Post-intervention general anxiety, *M (SD)*	1.77 (.42)	1.74 (.27)
N	31	13
Follow-up general anxiety, *M (SD)*	1.77 (.47)	1.69 (.19)
N	27	9
Baseline specific anxiety, *M (SD)*	1.2 (.38)	1.10 (.20)
N	43	40
Post-intervention specific anxiety, *M (SD)*	1.19 (.26)	1.18 (.25)
N	31	13
Follow-up specific anxiety, *M (SD)*	1.13 (.20)	1.0 (.00)
N	27	9
Baseline intent to weigh, *M (SD)*	6.18 (1.10)	6.34 (1.02)
N	39	38
Post-intervention intent to weigh, *M (SD)*	6.10 (1.32)	6.08 (1.75)
N	31	13
Follow-up intent to weigh, *M (SD)*	6.14 (.95)	5.44 (2.35)
N	27	9

Appendix M: Tests for Normal Distribution

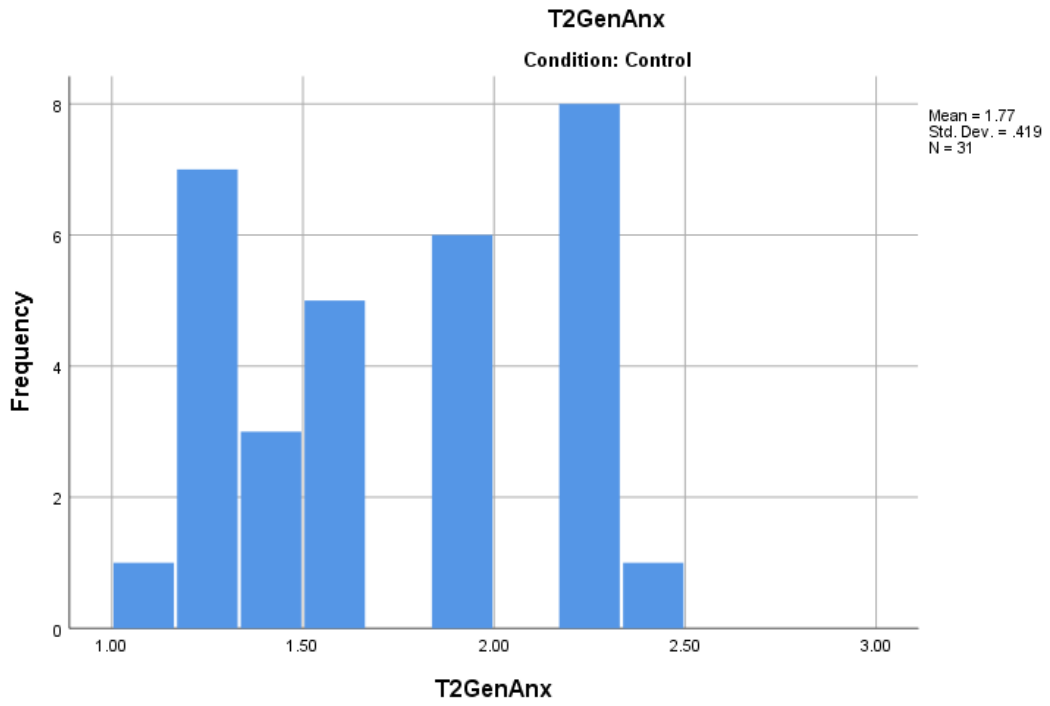
Histograms for General Anxiety at Pre-Intervention (A), Post-Intervention (B) and Follow-Up (C)

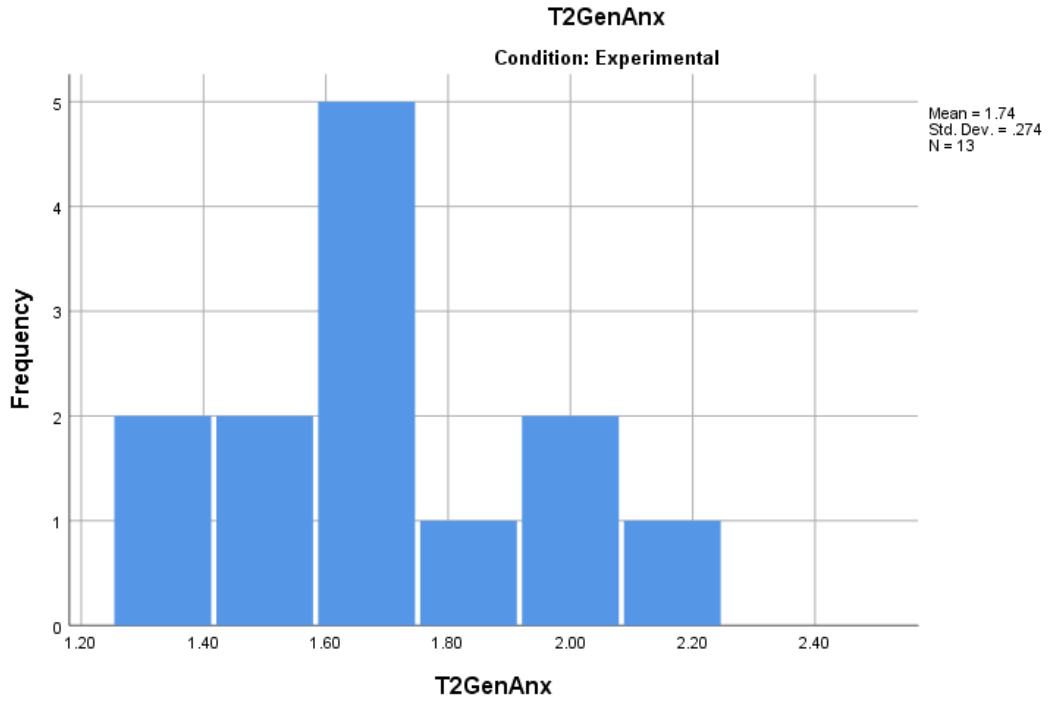
(a)



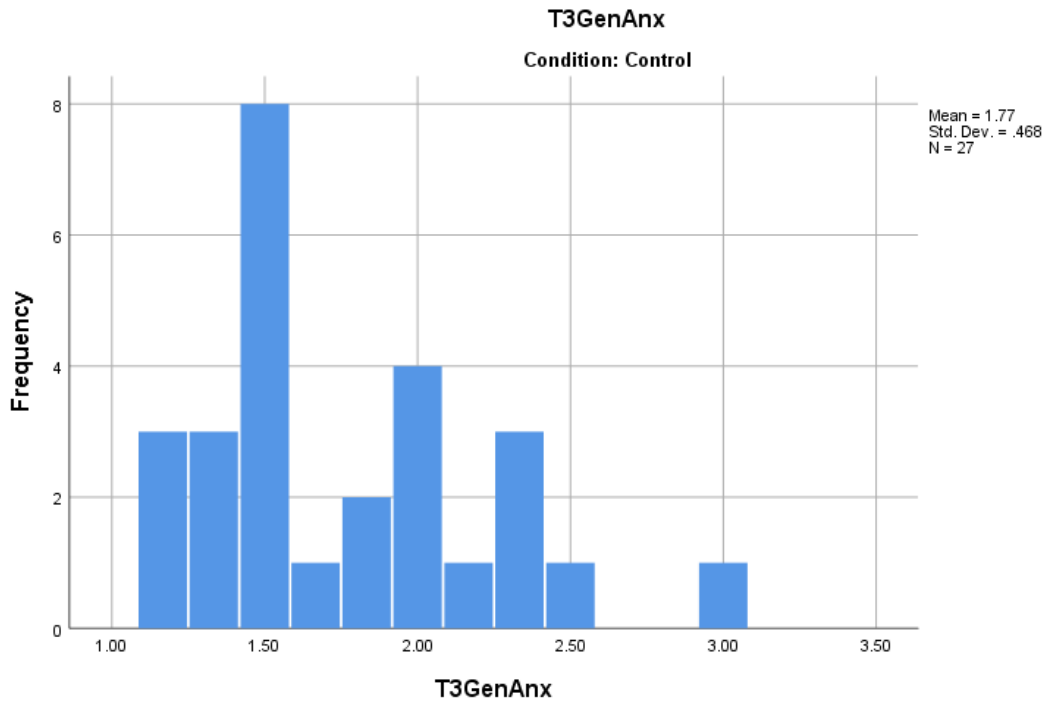


(b)


T2GenAnx
Condition: Control
Mean = 1.77
Std. Dev. = .419
N = 31
Frequency
0
2
4
6
8
1.00
1.50
2.00
2.50
3.00
T2GenAnx


T2GenAnx
Condition: Experimental
Mean = 1.74
Std. Dev. = .274
N = 13
Frequency
0
1
2
3
4
5
1.20
1.40
1.60
1.80
2.00
2.20
2.40
T2GenAnx

(c)


T3GenAnx
Condition: Control
Mean = 1.77
Std. Dev. = .468
N = 27
Frequency
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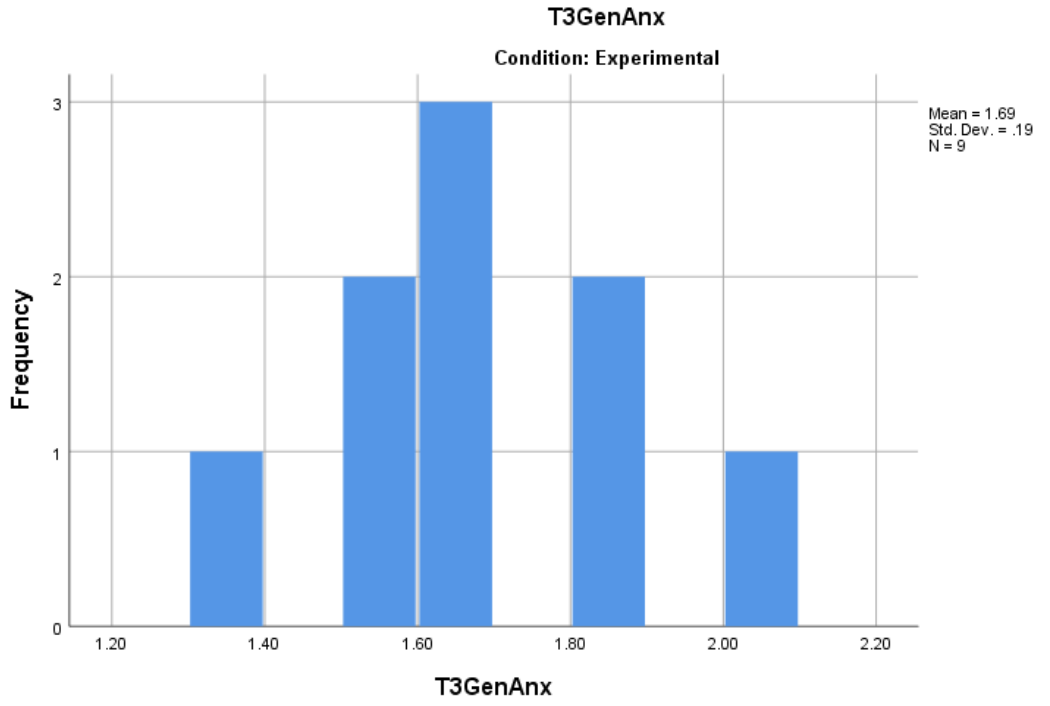
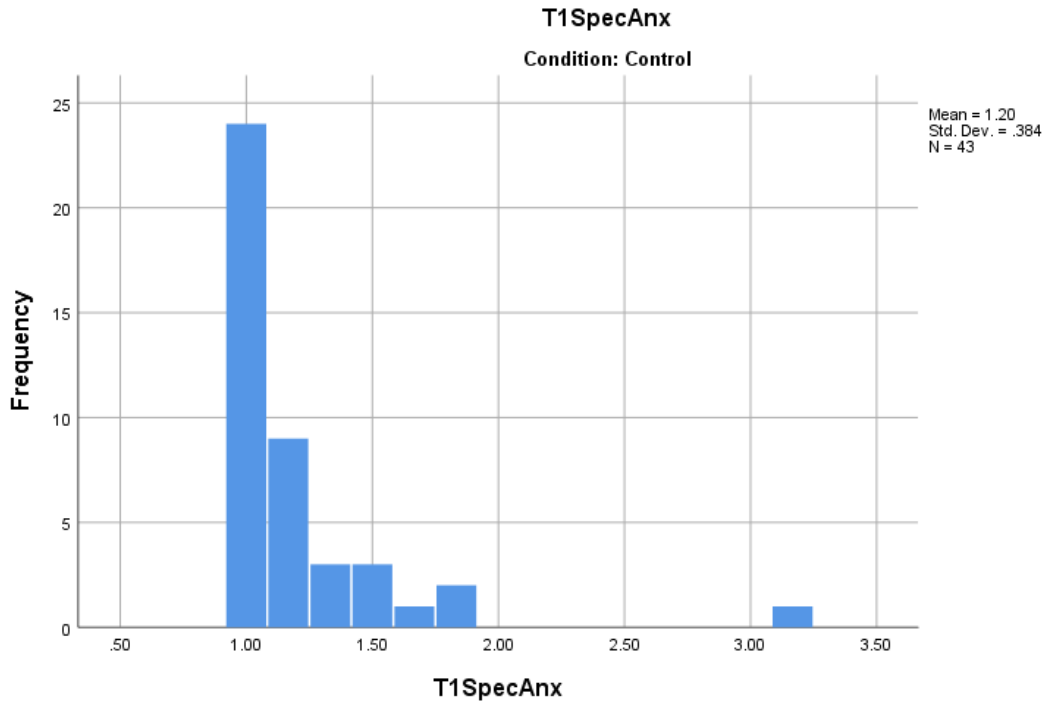
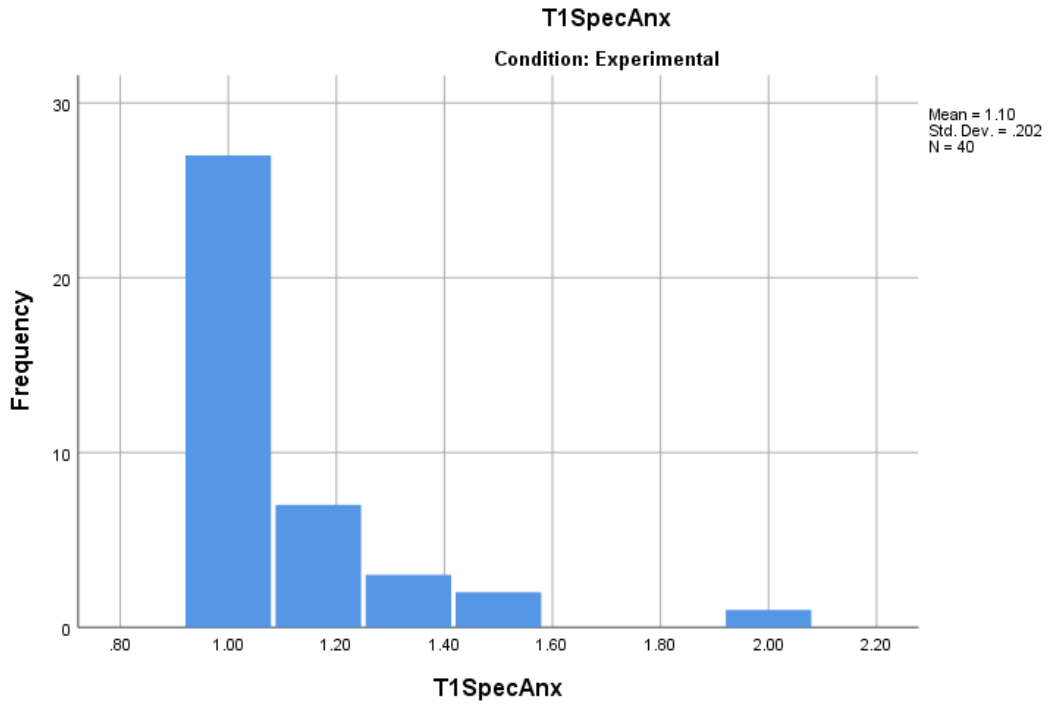
2
4
6
8
1.00
1.50
2.00
2.50
3.00
3.50
T3GenAnx


T3GenAnx
Condition: Experimental
Mean = 1.69
Std. Dev. = .19
N = 9
Frequency
0
1
2
3
1.20
1.40
1.60
1.80
2.00
2.20
T3GenAnx

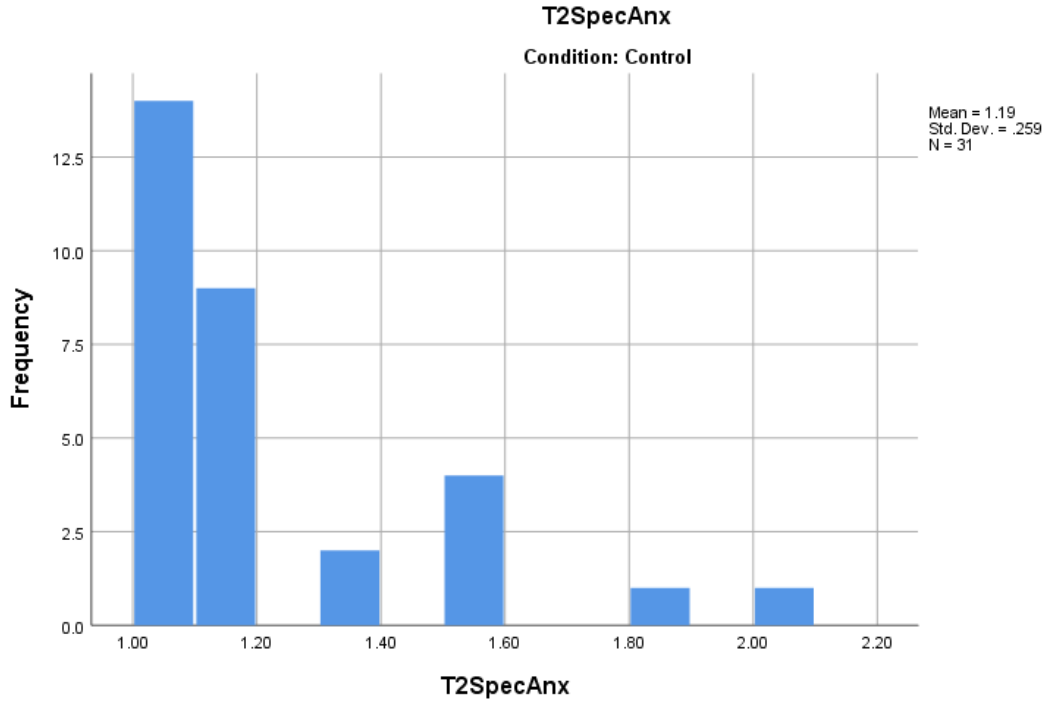
Histograms for Specific Anxiety at Pre-Intervention (A), Post-Intervention (B) and Follow-Up (C)

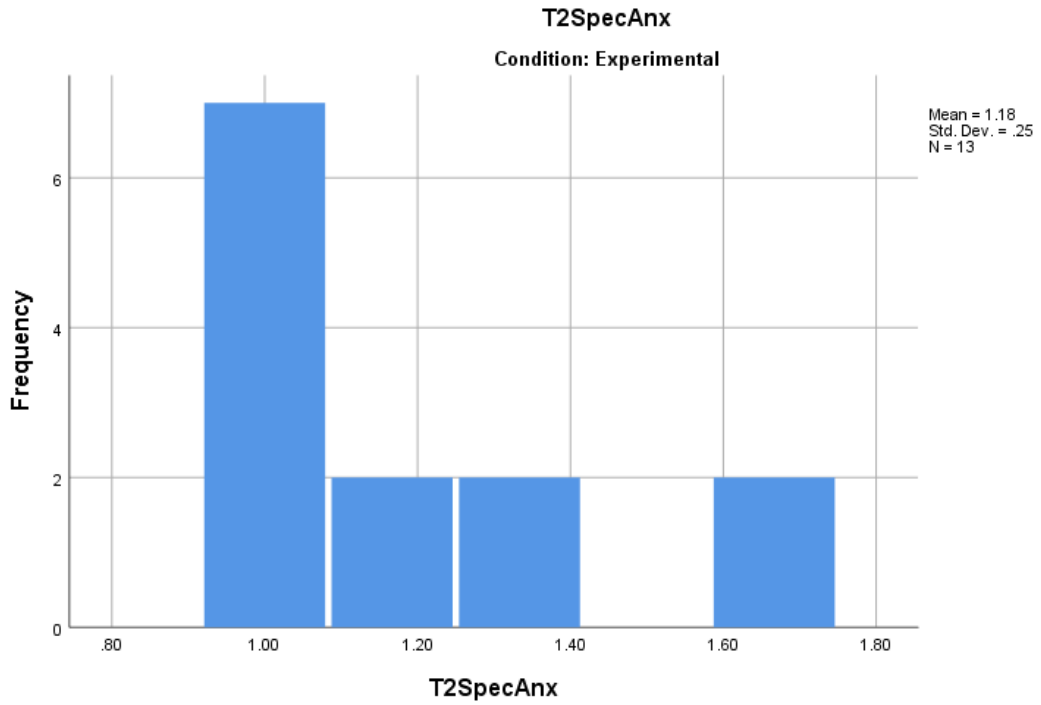
(a)



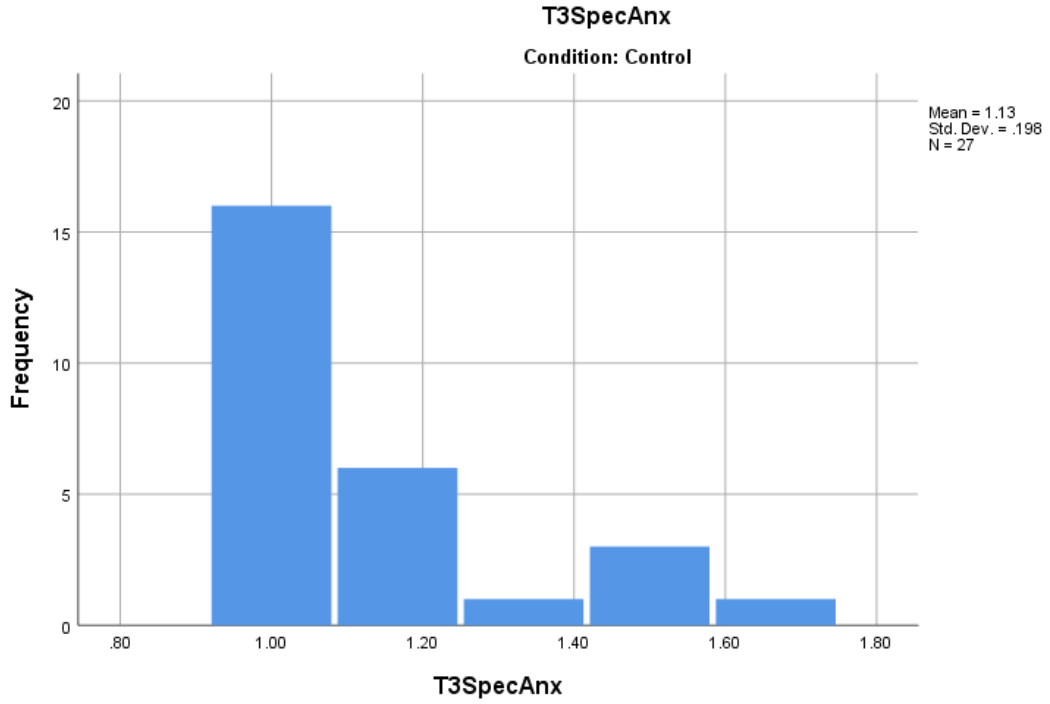


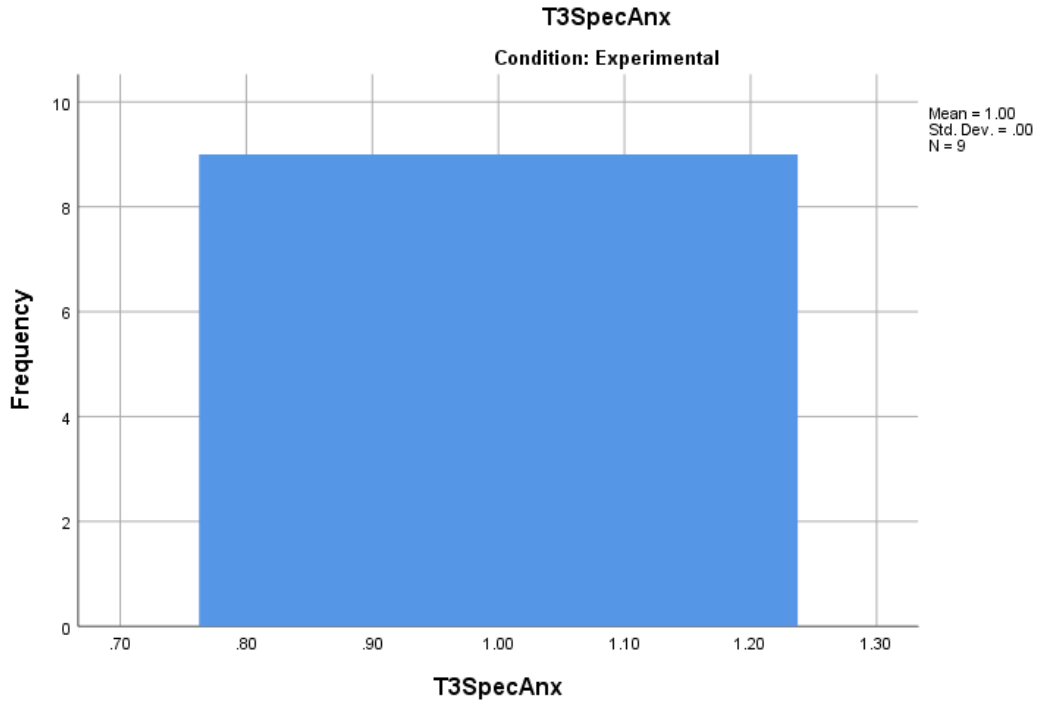
(b)


T2SpecAnx
Condition: Control
Mean = 1.19
Std. Dev. = .259
N = 31
Frequency
12.5
10.0
7.5
5.0
2.5
0.0
1.00
1.20
1.40
1.60
1.80
2.00
2.20
T2SpecAnx


T2SpecAnx
Condition: Experimental
Mean = 1.18
Std. Dev. = .25
N = 13
Frequency
6
4
2
0
.80
1.00
1.20
1.40
1.60
1.80
T2SpecAnx

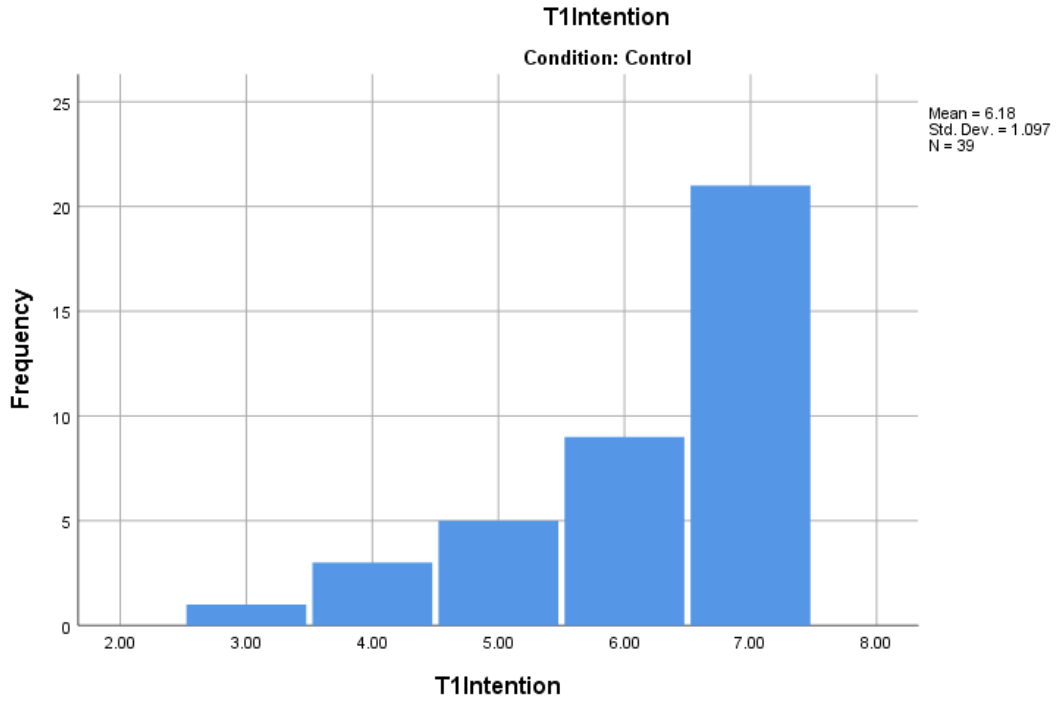
(c)

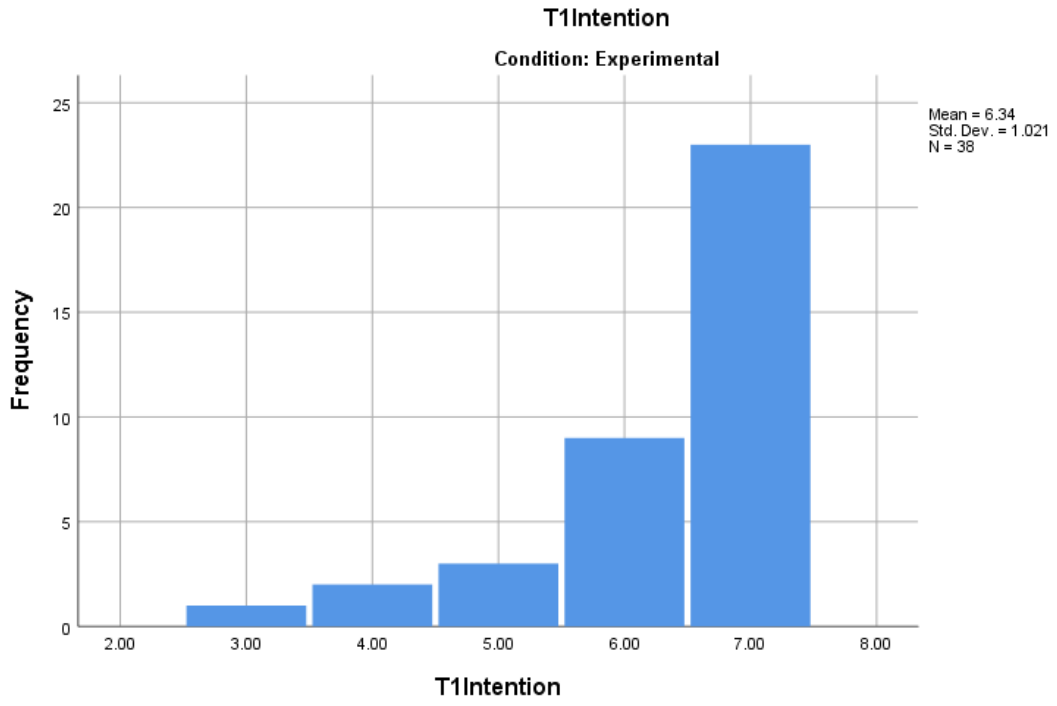

T3SpecAnx
Condition: Control
Mean = 1.13
Std. Dev. = .198
N = 27
Frequency
20
15
10
5
0
.80
1.00
1.20
1.40
1.60
1.80
T3SpecAnx


T3SpecAnx
Condition: Experimental
Mean = 1.00
Std. Dev. = .00
N = 9
Frequency
10
8
6
4
2
0
.70
.80
.90
1.00
1.10
1.20
1.30
T3SpecAnx

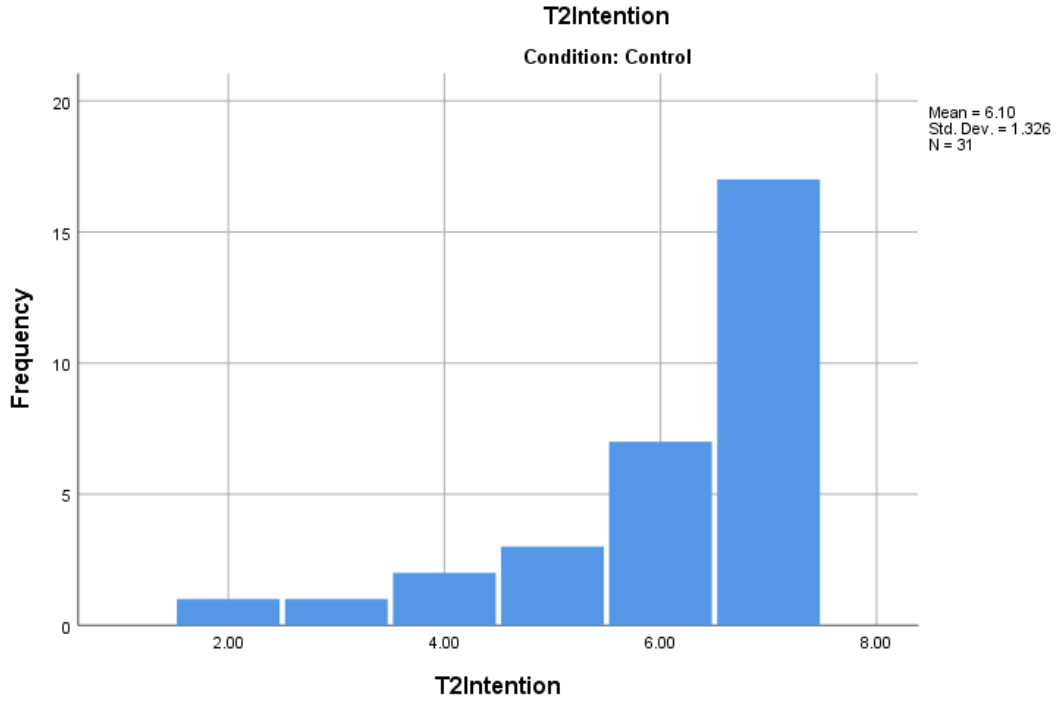
Histograms for Intentions to Weigh At Pre-Intervention (A), Post-Intervention (B) and Follow-Up (C)

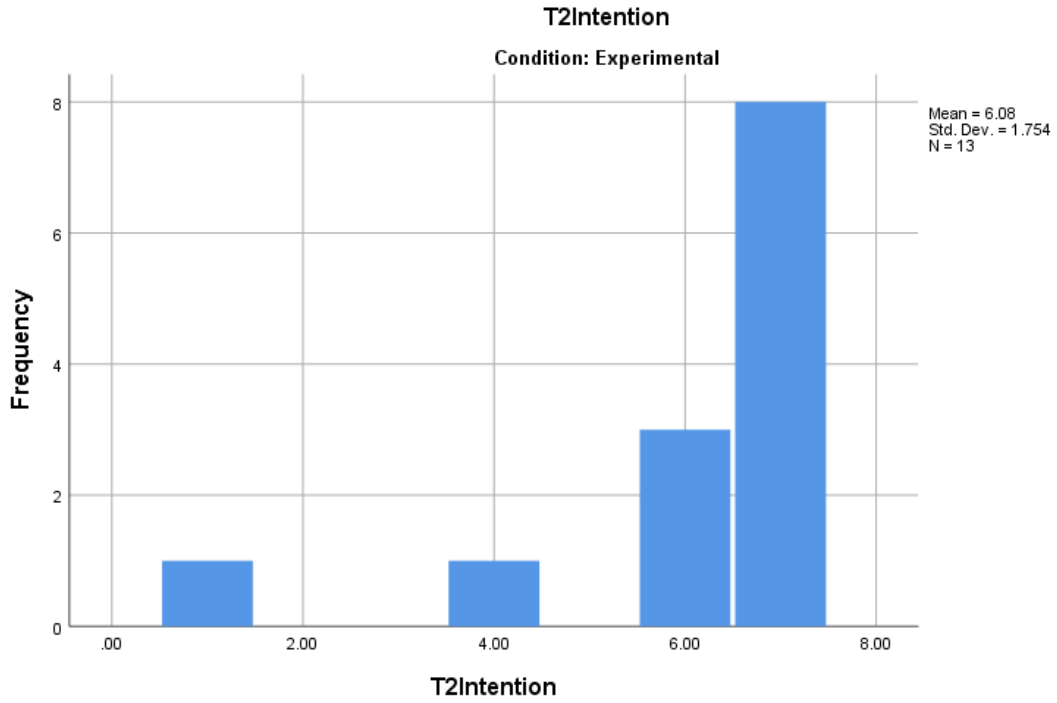
(a)



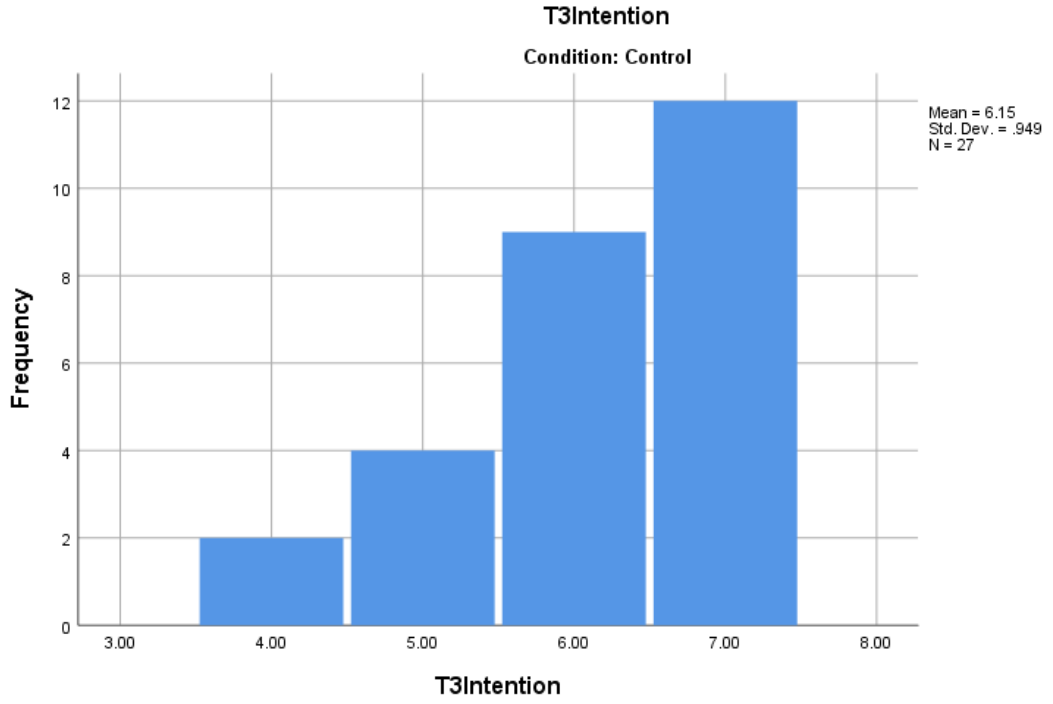


(b)


T2Intention
Condition: Control
Mean = 6.10
Std. Dev. = 1.326
N = 31
Frequency
20
15
10
5
0
2.00
4.00
6.00
8.00
T2Intention


T2Intention
Condition: Experimental
Mean = 6.08
Std. Dev. = 1.754
N = 13
Frequency
8
6
4
2
0
.00
2.00
4.00
6.00
8.00
T2Intention

(c)


T3Intention
Condition: Control
Mean = 6.15
Std. Dev. = .949
N = 27
Frequency
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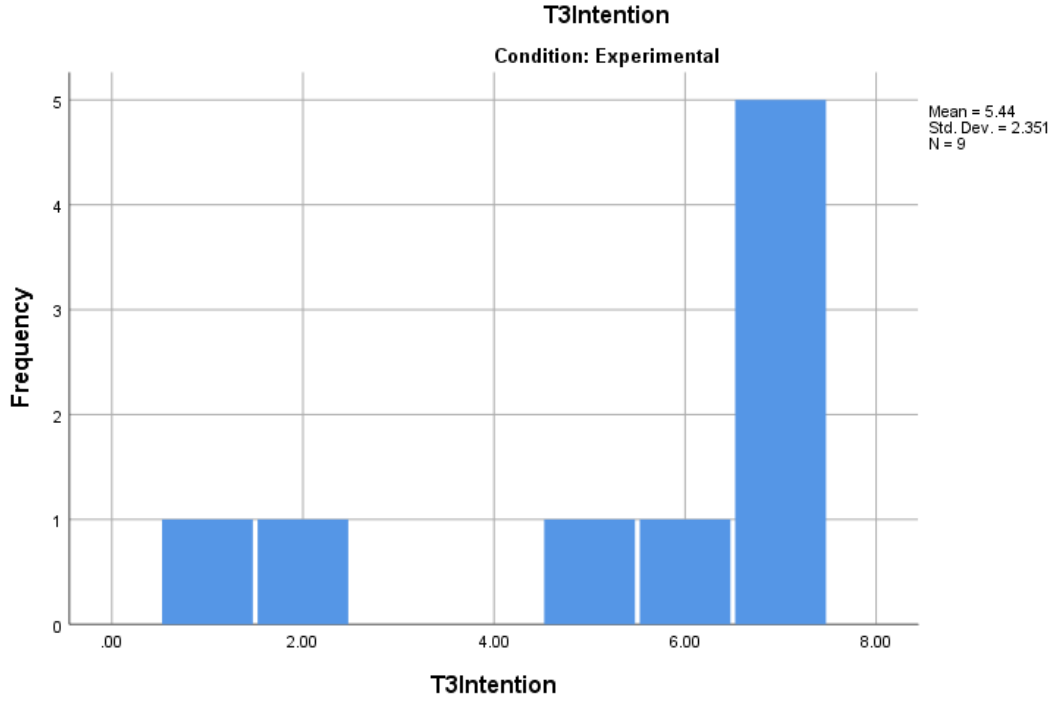
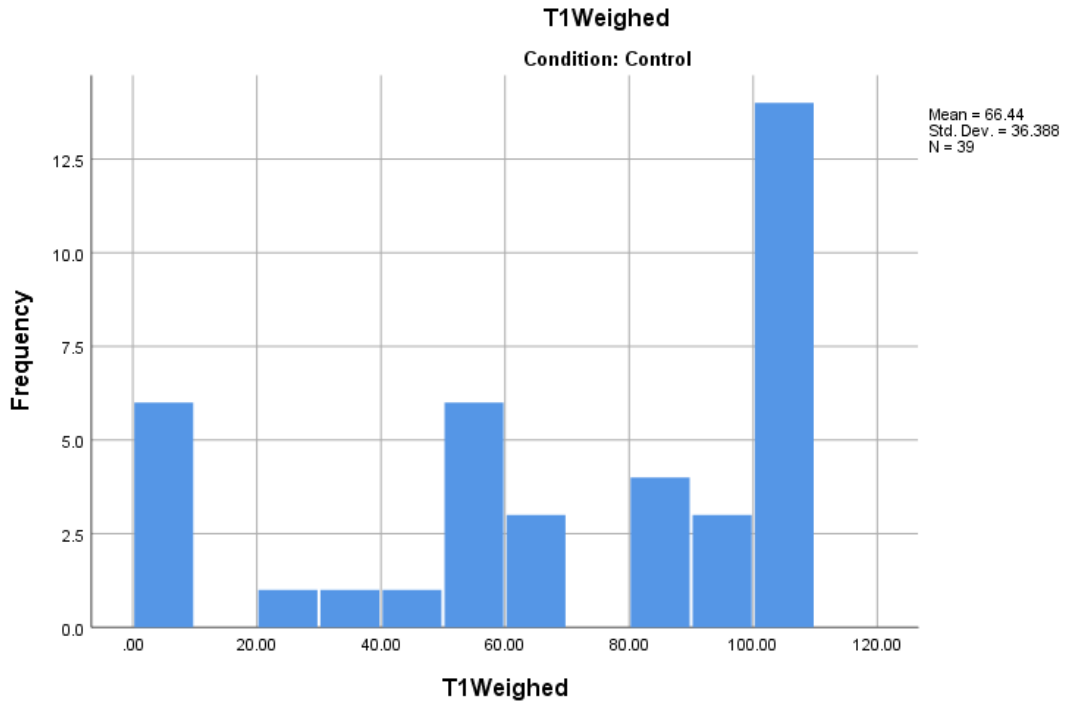
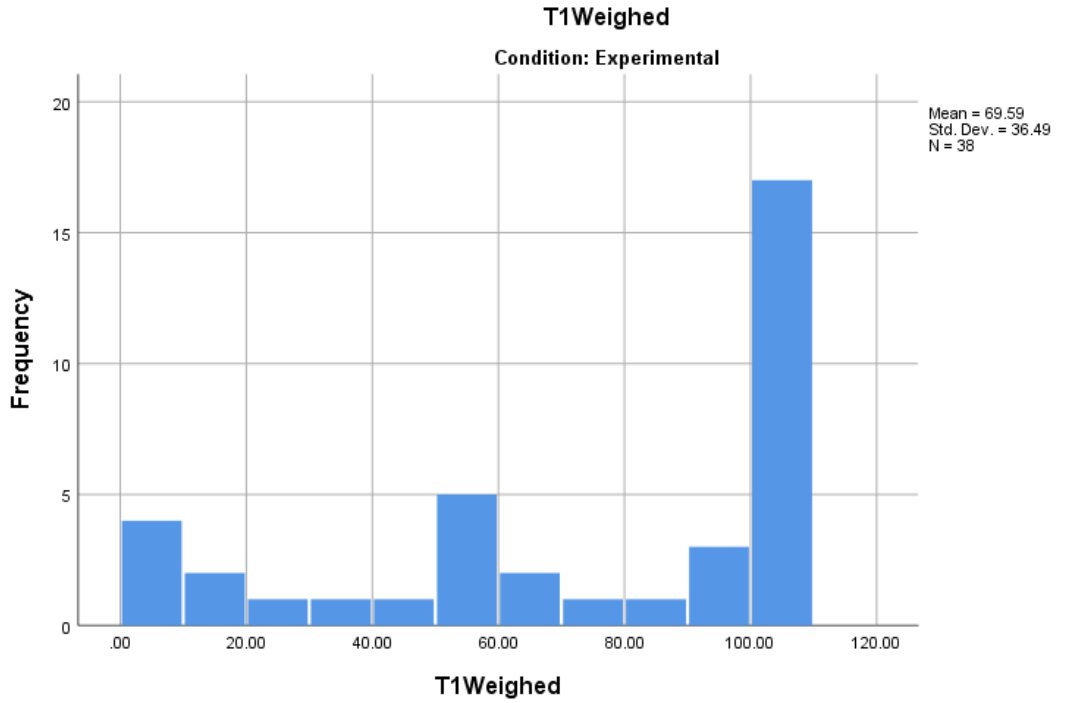
10
8
6
4
2
0
3.00
4.00
5.00
6.00
7.00
8.00
T3Intention


T3Intention
Condition: Experimental
Mean = 5.44
Std. Dev. = 2.351
N = 9
Frequency
5
4
3
2
1
0
.00
2.00
4.00
6.00
8.00
T3Intention

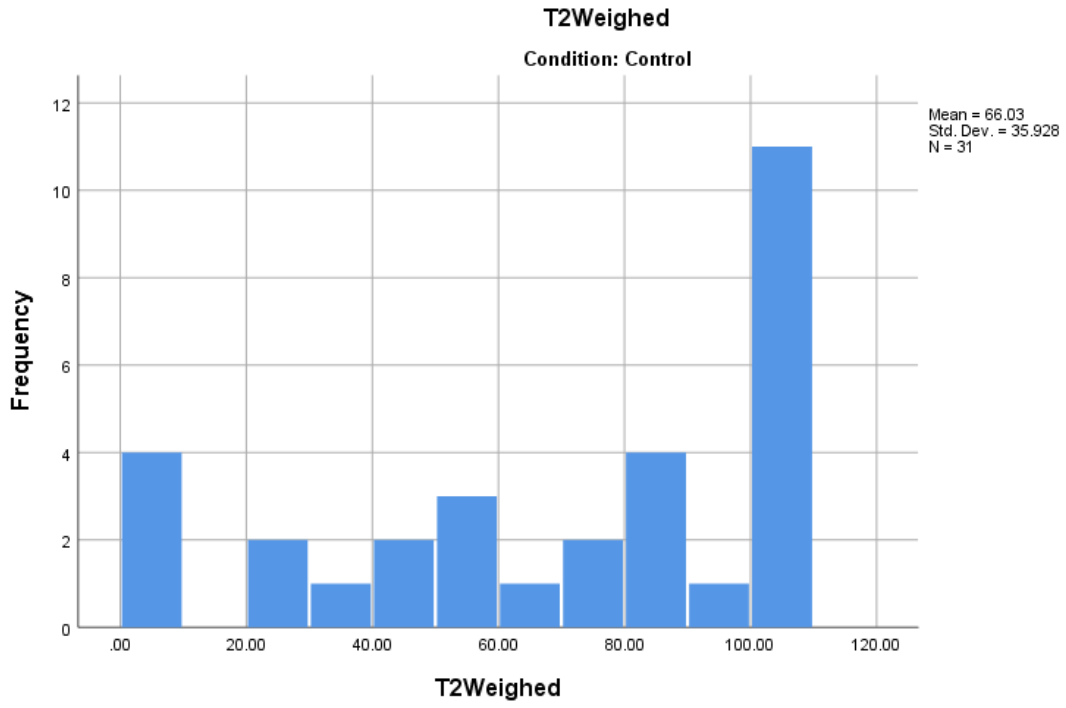
Histograms for Weighing Behaviour at Pre-Intervention (A), Post-Intervention (B) and Follow-Up (C)

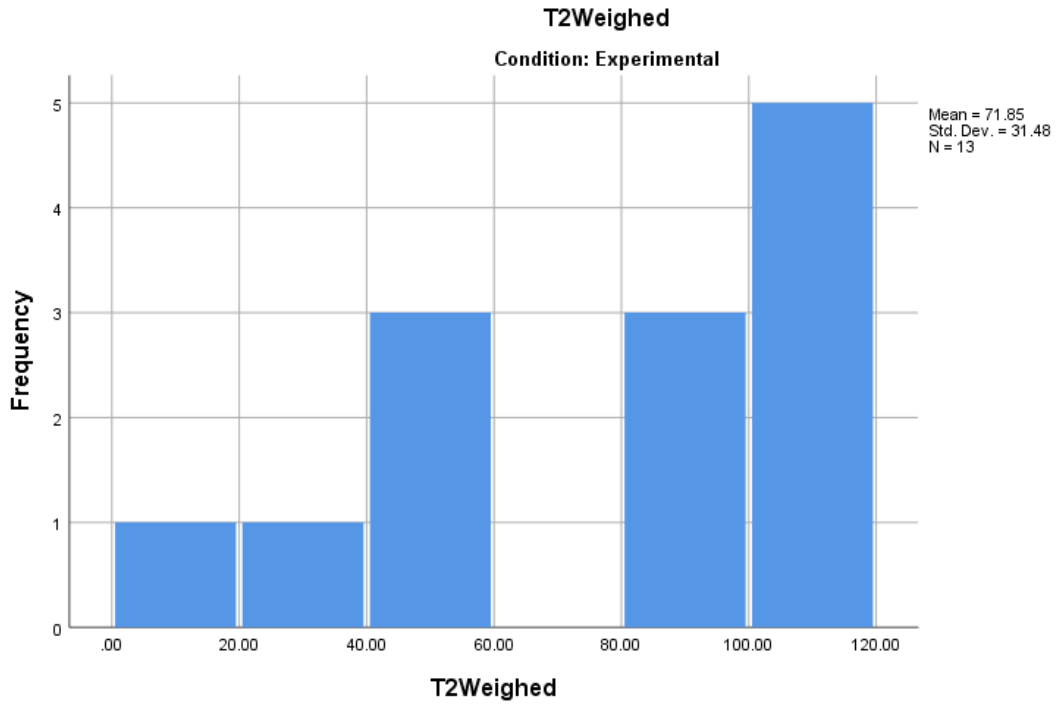
(a)



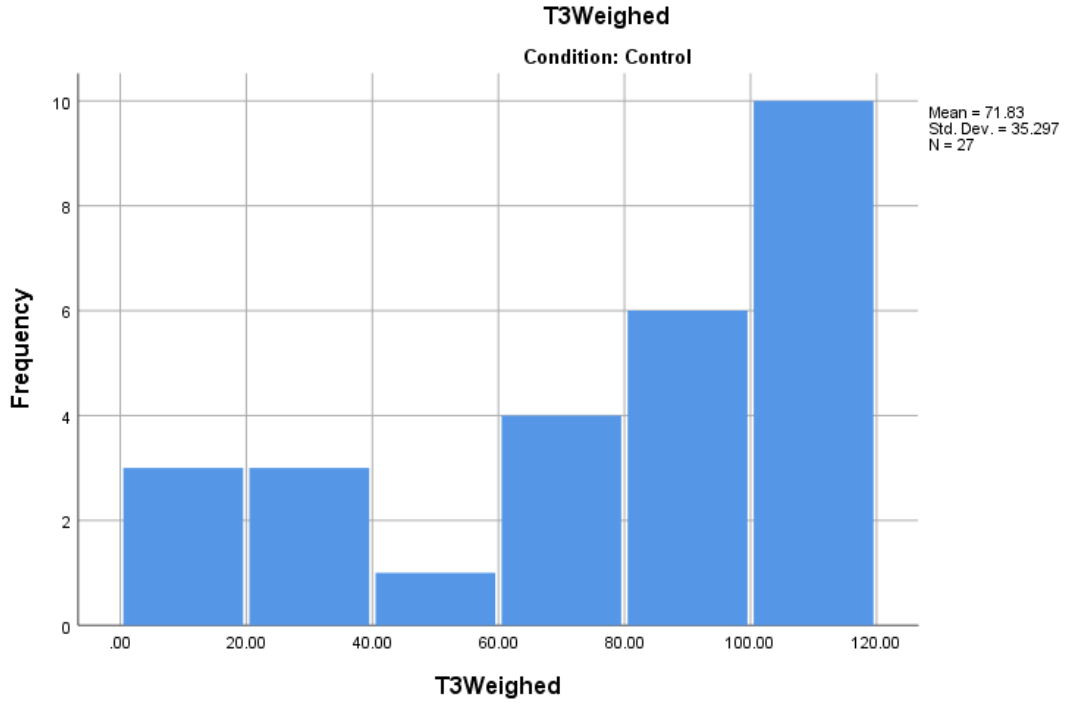


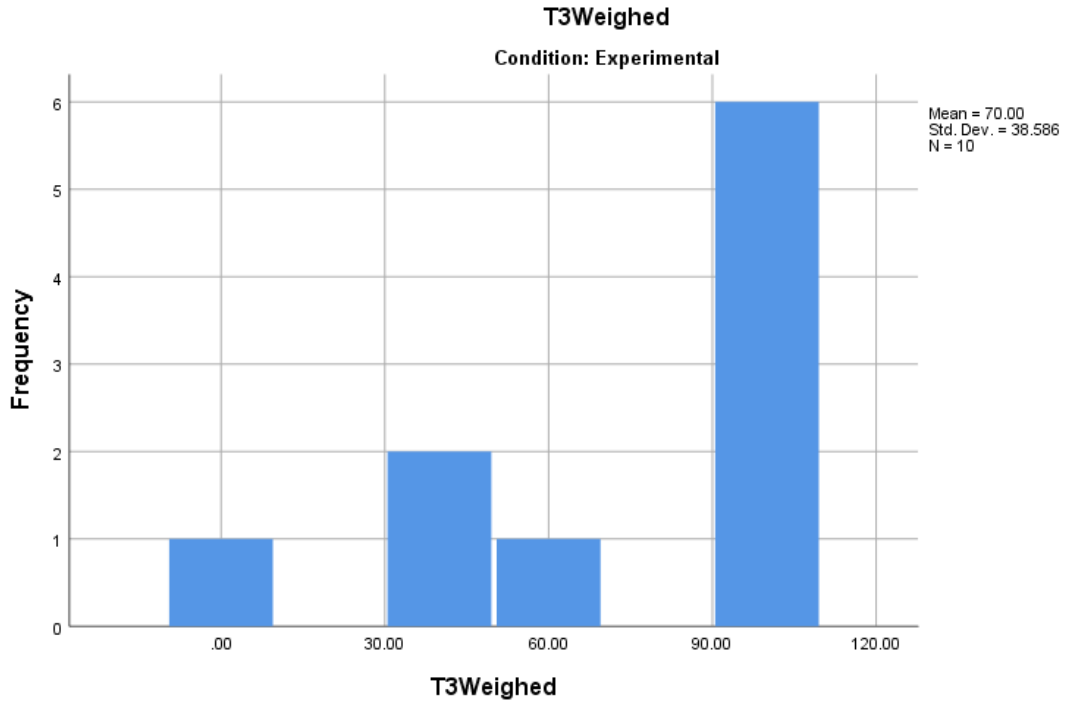
(b)


T2Weighed
Condition: Control
Mean = 66.03
Std. Dev. = 35.928
N = 31
Frequency
0
2
4
6
8
10
12
.00
20.00
40.00
60.00
80.00
100.00
120.00
T2Weighed


T2Weighed
Condition: Experimental
Mean = 71.85
Std. Dev. = 31.48
N = 13
Frequency
0
1
2
3
4
5
.00
20.00
40.00
60.00
80.00
100.00
120.00
T2Weighed

(c)


T3Weighed
Condition: Control
Mean = 71.83
Std. Dev. = 35.297
N = 27
Frequency
0
2
4
6
8
10
.00
20.00
40.00
60.00
80.00
100.00
120.00
T3Weighed


T3Weighed
Condition: Experimental
Mean = 70.00
Std. Dev. = 38.586
N = 10
Frequency
0
1
2
3
4
5
6
.00
30.00
60.00
90.00
120.00
T3Weighed

Appendix N: Summary of Parallel Research Project

A fellow DClinPsy training colleague simultaneously commenced an independent research project. This parallel project adopted the same design, and planned to conduct similar analyses on the collected data. Different to the current project, the parallel piece of research was interested in Cognitive Behavioural Therapy with adults with eating disorders. Preliminary stages in the research development, such as the pilot work and Qualtrics questionnaire, were conducted jointly. Each project was then conducted, analysed and written-up independently of the other.