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# The impact of teaching clinicians about implementing exposure therapy with patients with eating disorders: A non-randomised controlled study

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# The impact of teaching clinicians about implementing exposure therapy with patients with eating disorders: A non-randomised controlled study


## Abstract

**Objective:** Exposure therapy is a central part of cognitive behavior therapy (CBT) for eating disorders, but is underused in routine clinical practice, at least partly because clinicians often hold very negative views about this technique. While uncontrolled cohort studies suggest that teaching clinicians to use exposure improves their attitudes, there is a need for more robust empirical designs. This study uses a non-randomised controlled design to test whether teaching on exposure improves clinicians' attitudes to its use, and whether clinician characteristics influence such change

**Methods:** Forty-seven clinicians undertook 90 minutes of teaching on exposure therapy within CBT, while 42 other clinicians undertook 90 minutes of teaching on CBT for eating disorders. Each completed the Therapist Beliefs about Exposure Scale at the outset and end of the intervention, and the Intolerance of Uncertainty Scale at the outset.

**Results:** Both groups showed improved attitudes to exposure therapy following the teaching, but the change was substantially larger in the Exposure teaching group ($d = 0.85$) than in the Comparison group ($d = .30$). Pre-teaching characteristics did not have any substantial influence on this change in attitudes to exposure.

**Discussion:** These findings strengthen the conclusion that a simple teaching intervention can improve clinician attitudes to the exposure therapy element of CBT (and other therapies). However, the non-randomised design and self-selected sample limit the interpretability of the findings. Further research is suggested to develop these findings and determine their link to clinician behavior in therapy.


**Keywords:**

exposure therapy; cognitive behavior therapy; eating disorders; anxiety; teaching

# The impact of teaching clinicians about implementing exposure therapy with patients with eating disorders: A non-randomised controlled study

Exposure therapy is a key element of evidence-based cognitive behavioral therapy for eating disorders (CBT-ED; National Institute for Health and Care Excellence, 2017). It is used in the form of exposure to feared foods, exposure to emotional and interpersonal triggers to eating, body image exposure, binge cue exposure, and working with comorbid anxiety-based disorders (e.g., Becker, Farrell & Waller, in press; Fairburn, 2008; Waller, Cordery, Corstorphine, Hinrichsen, Lawson, Mountford, & Russell, 2007; Waller, Turner, Tatham, Mountford & Wade, 2019). It is relevant for use in the full range of settings where eating disorders are treated, including outpatient and more intensive units. However, just as exposure is an essential element of CBT for anxiety disorders (e.g., Barlow, 2002) but is under-used in treating such patients (e.g. Harned, Dimeff, Woodcock, & Contreras, 2013; van Minnen, Hendricks, & Olff, 2010), exposure therapy is substantially under-used in treating eating disorders (e.g., Cowdrey & Waller, 2015; Mulkens, de Vos, de Graaf & Waller, 2018; Turner, Tatham, Lant, Mountford, & Waller, 2014; Waller, Stringer & Meyer, 2012).

The lack of use of this key therapeutic technique is related to clinicians' own anxiety and distress levels (Deacon & Farrell, 2013; Waller et al., 2012) and clinicians' negative beliefs about exposure therapy (e.g., Harned, Dimeff, Woodcock, & Contreras, 2013). However, it is also possible that clinicians are not aware of or comfortable in using exposure-based techniques (e.g., Becker, Zayfert, & Anderson, 2004).

The need to train clinicians in the .1competent delivery of exposure therapy has been identified as a priority (McHugh & Barlow, 2010). Given the factors that seem to prevent clinicians using exposure, such an intervention is likely to need to address clinicians' knowledge, attitudes and anxiety in relation to this technique. Suggestions have included experiential interventions such as attitude inoculation, use of role plays, and use of case material (e.g., Farrell, Deacon, Dixon, & Lickel, 2013). However, such interventions are likely to be expensive and difficult to disseminate widely.

A less expensive and more easily implemented approach is to teach clinicians' about exposure therapy, so that their enhanced knowledge might improve their attitudes and willingness to implement this therapeutic technique. Early educational interventions have proven promising in this way. Deacon et al. (2013) have shown that a one-day didactic workshop has a very substantial positive effect on improving attitudes towards exposure therapy among clinicians working with anxiety. In the field of eating disorders, Waller, D'Souza Walsh, and Wright (2016) have shown a similar impact of a 90-minute didactic teaching session on clinicians' attitudes to exposure. In both cases, the effect size of the intervention was very large (Cohen's $d$ = ~1.6).

While the Deacon et al. (2013) and Waller et al. (2016) studies show promising results, they are both limited by the lack of any control condition. It could be hypothesised that there is no need for the specific teaching to be related to exposure therapy, and that simply reviewing the eating disorders more generally in teaching might trigger clinicians to think more positively about treatment methods for such patients. Therefore, to confirm the value of teaching clinicians about the use of exposure therapy, a meaningful comparison condition is needed – in this case, generic teaching about eating disorders.

This study will replicate the work of Waller et al. (2016) by testing the effects of the same teaching on a similar group of eating disorder clinicians' attitudes to exposure therapy, and will extend that work by comparing the impact of such teaching with the impact of a generic teaching session (of the same length). The main hypothesis is that exposure-specific teaching will result in improved attitudes to exposure therapy, to a greater degree than generic teaching. It is also hypothesised that exposure-specific teaching will have a greater impact on such attitudes among some clinicians – particularly those who are more anxious and who have more negative attitudes to exposure at the outset of the teaching.

## Method

### Ethics

Ethical approval was granted for the study by the University of Sheffield's Department

of Psychology Research Ethics Committee. All participants gave informed consent.

**Design**

The study employed a non-randomised controlled design, with between-subject (teaching condition) and within-subject (time) factors. One teaching condition group received teaching on exposure for eating disorders, and the other received general teaching on eating disorders. Data were collected at the beginning and end of the teaching sessions.

**Sample size calculation**

Sample size analysis (G*Power v 3.1.5, Faul, Erdfelder, Lang, & Buchner, 2007) was conducted using the primary outcome variable of attitude to exposure therapy scores as influenced by the type of intervention (assuming two groups at two time points). With an alpha of 0.05, a power of 0.9, and an effect size of $f = 0.25$, a total sample size of 46 participants would be needed (i.e., 23 per group). If the effect size were lower, then more participants would be needed (e.g. with an effect size of $f = 0.2$, then 34 would be needed per group). Given the effect sizes of the previous studies (Deacon et al., 2013; Waller et al., 2016), these *f* values are relatively conservative, meaning that a smaller sample would be likely to be adequate.

**Participants**

The participants were all qualified clinicians, specialising in delivering therapy to eating-disordered patients. They were recruited at two teaching sessions regarding treating eating disorders. Forty-seven participants took part in the exposure teaching, while 42 took part in the comparison teaching group. Thus, the study was adequately powered.

Table 1 shows the mean age, time working as a therapist, time working with eating disorders and contact hours with patients for each of the two groups. The only difference was in the time that the members of the two groups had spent working with eating disorders, with the exposure teaching group having worked longer with them than the comparison teaching group. In the Exposure group, 85.1% were female, versus 76.2% in the Comparison group. Considering ethnicity, 85.1% of the Exposure group were Caucasian, versus 71.4% in the Comparison group.

Insert Table 1 about here

**Measures**

The participants completed three measures prior to receiving the teaching: the Intolerance of Uncertainty Scale – IUS-12 (Carleton, Norton, & Asmundson, 2007); the Therapist Beliefs about Exposure Scale – TBES (Deacon et al., 2013); and a measure of the frequency of use of exposure techniques (Frequency of Exposure – FOE) designed for this study. As the primary aim was to determine change in clinician's attitudes to exposure, they then completed the TBES again at the end of the teaching session.

The **IUS-12** is a short, 12-item version of the original 27-item Intolerance of Uncertainty Scale (Freeston, Rhéaume, Letarte, Dugas, & Ladouceur, 1994), measuring responses to uncertainty, ambiguous situations, and the future. The scale consists of two subscales - Prospective Anxiety and Inhibitory Anxiety (Carleton, 2007). It has good convergent and discriminant validity, as well as internal consistency (Carleton et al., 2007; McEvoy & Mahoney, 2011). In this sample, the internal consistency (Cronbach's *alpha*) of the Prospective Anxiety scale was .818, and the internal consistency of the Inhibitory Anxiety scale was .824. Higher scores indicate greater intolerance of uncertainty.

The **TBES** consists of 21 items (e.g., 'Most clients have difficulty tolerating the distress exposure therapy evokes'; 'Exposure therapy is difficult to tailor to the needs of individual patients'), where the participant is asked to indicate how strongly they agree or disagree with each statement. The TBES has a clear single-factor structure, excellent internal consistency, and high six-month test-retest reliability (Deacon et al., 2013). Its internal consistency in this study was *alpha* = .891. Higher TBES scores indicate more negative beliefs about the value of exposure therapy.

The **FOE** was developed for this study to ascertain how frequently clinicians report using exposure techniques with their clients, rating each of 12 items on a 5-point Likert scale

(1 = Never; 2 = Rarely; 3 = Occasionally; 4 = Frequently; 5 = Every time I have seen my patients). Clinicians are asked: 'Thinking back over the last two months, how often have you used the following techniques in sessions with your patients?', followed by items such as: 'Asked my patients to eat feared foods', 'Asked my patients to carry out body image exposure in front of a mirror in the session' and 'Let my patients know their specific weight after weighing'. A higher item mean score (range = 1-5) indicates that the clinician using more exposure-based methods within therapy. The internal consistency of the FOE scale was satisfactory (*alpha* = .896). This measure is available on request from the authors.

**Intervention**

Both teaching sessions were delivered in the same year, as workshops to groups of clinicians attending international conferences on eating disorders. Attendees signed up for each workshop as part of a wider range of options. Therefore, each clinician had a specialist interest in eating disorders and in the topic of the specific workshop. No attendees overlapped the two sessions. Each workshop was delivered by one of the authors (GW), so that there would not be an effect due to different teachers for the two topics.

Clinicians who attended the exposure teaching intervention group undertook a 90-minute teaching session on exposure therapy for eating disorders. Those attending the comparison teaching intervention group had a 90-minute teaching session relating to CBT and eating disorders, without any specific teaching about exposure therapy as an element of CBT. Each session was a combination of didactic presentation, role play, case presentations, and discussion of attendee case material and experiences. The slides from the two teaching sessions are available on request from the authors.

**Data Analysis**

Kolmogorov-Smirnov tests showed that all of the scales were normally distributed, with the exception of the IUS-12 Inhibitory Anxiety scale. Given the preponderance of normally distributed scores, parametric tests were used throughout.

Analysis of Covariance (time x group) was used to compare the pre- and post-teaching TBES scores of each group, correcting for clinicians' pre-teaching levels of anxiety. Paired t-

tests were used to interpret any interaction, with Cohen's *d* (corrected for within-subject analyses) used to determine effect sizes. Stepwise multiple regressions were used to determine whether pre-treatment clinician characteristics were associated post-intervention TBES scores, once the pre-intervention TBES scores had been accounted for.

## Results

### Group characteristics

In addition to the temporal characteristics outlined above, Table 1 details the mean scores on the IUS-12, FOE and TBES for the two groups. There were no group differences on the two IUS scales, but the Exposure teaching group had a lower score on the TBES and a slightly higher score on the FOE, indicating that they were slightly more likely to use exposure and less negative about exposure before the teaching sessions. It should be noted that the mean TBES scores of each group were higher than those of the group of clinicians working with anxiety reported by Deacon et al. (2013). Therefore, it can be concluded that clinicians working with eating disorders are no more positive about exposure therapy than clinicians working with anxiety.

### Impact of exposure teaching on beliefs about exposure

Table 2 shows the mean TBES scores of the two groups before and after the teaching sessions. The group (teaching condition) x time (pre/post) ANCOVA showed no significant main effect of time ($F = 0.07$, *NS*) and no significant covariate effects of the IUS Prospective and Inhibitory scales ($F = 0.55$ and $F = 0.57$, respectively). There was a main effect of group ($F = 20.8$, $P < .001$), showing that those who attended the Exposure teaching had lower TBES scores overall than those who attended the distraction teaching. However, this main effect is subsumed by the significant interaction between group and time ($F = 10.8$, $P < .002$).

Insert Table 2 about here

Paired t-tests were used to interpret this interaction. They showed that TBES scores fell during the teaching for each group, indicating that attitudes towards exposure therapy improved. However, that the effect was substantial and very large for those who attended the exposure teaching ($d = 0.85$), but was smaller for those who attended the comparison teaching session (medium effect size; $d = 0.30$). The confidence intervals for the two effect sizes did not overlap, supporting the conclusion that the effect of the exposure teaching was much more substantial than the effect of the comparison teaching condition.

**Association of clinician characteristics with impact of exposure and control teaching**

Multiple regression analyses were used to determine whether improvements in TBES scores were associated with clinician characteristics (age, duration of time delivering therapy/working with eating disorders, number of cases seen, anxiety, use of exposure). The regressions were carried out separately for each group. They used a stepwise approach, whereby the initial TBES score was entered ahead of the remaining variables in order to determine which of the remaining variables had any association with the final TBES score above and beyond the impact of the initial TBES score. Table 3 shows the result of each analysis. In each case, the initial TBES score was the strongest predictor of the post-group TBES score. There was only one additional effect – in the Exposure teaching group, those who had spent less time working with eating disorders showed greater reductions ended the intervention with a higher level of TBES scores. However, there was no evidence of the hypothesised effects of anxiety.

Insert Table 3 about here

## Discussion

This non-randomised controlled trial has built on the work of Deacon et al. (2013) and Waller et al. (2016). Both of those studies demonstrated that teaching clinicians about exposure is effective in improving clinicians' attitudes to exposure therapy – a key determinant

in whether clinicians use this highly effective element of CBT for anxiety and eating disorders. However, the lack of any control condition in those previous studies means that it was not possible to determine whether any disorder-related teaching would have had this effect. This study has demonstrated two key features in relation to exposure-related teaching, with an adequate power. First, teaching clinicians about exposure does impact positively on their beliefs about the value of this technique. While the clinicians who had more generic teaching showed a small improvement in their TBES scores ($d$ = 0.30), the effect of the specific teaching was much larger ($d$ = 0.85). The large effect of exposure teaching here and in previous work (Deacon et al., 2013; Waller et al., 2016) supports the conclusion that exposure-specific teaching has an effect on clinicians' beliefs about exposure. Second, this change in beliefs is a general one, which is largely unrelated to clinicians' pre-intervention characteristics, including anxiety and temporal characteristics, meaning that characteristics such as anxiety reduce clinicians' use of exposure-based techniques (e.g., Arch, Twohig, Deacon, Landy, & Bluett, 2015; Turner, Tatham, Lant, Mountford, & Waller, 2014), but does not stop them learning from training and changing their attitudes to this key therapeutic method for addressing eating disorders.

The use of a comparison group allows for firmer conclusions about the value of teaching CBT clinicians about exposure than the previous work in this area. However, the non-randomised nature of the design is a major limitation, as it might mean that the attendees were primed for greater attitudinal change because they were already interested in the topic that they chose. Each group attended the workshops by choice, so there is a self-selection bias that is likely to be relevant to the findings (e.g., the lower initial TBES score in the group who opted for the Exposure training). This self-selection bias involved in who attended what teaching session needs to be considered in future controlled studies, using randomisation in group allocation. It will also be important to ensure that such teaching effects are not teacher-, site- or disorder-specific, by rolling out this evidence-based approach to training to by different teachers, in different settings and to clinicians working with a wider range of clinical groups. Future research should also determine whether these findings are influenced by other clinician

characteristics, such as qualification, profession and work setting. Evidence-based training needs to be considered as a research priority in developing greater clinician competence with a range of elements of CBT, and with other therapies.

Of course, the studies to date have focused on changing clinician attitudes. The next stage in such research will be to conduct longer-term follow-up studies, with an adequate sample size, where changes in clinician behavior can be measured. It is possible that the attitudinal changes that have been demonstrated to date (Arch et al., 2015; Deacon et al., 2013; Waller et al., 2016) will be adequate to result in clinicians using exposure more in their everyday practice. In that case, the training should show longer-term changes in clinician adherence to protocols and in patient outcomes. Alternatively, it is possible that the attitudinal change will only be effective in the context of focused supervision (e.g., Öst, Karlstedt, & Widén, 2012) or where educational approaches are used in combination with effective behavior change methods, such as the development of implementation intentions (e.g., Webb & Sheeran, 2006). Alternatively, there might need to be consideration of other educational interventions, such as addressing clinician's unevidenced concerns about 'patient fragility' (Meyer, Farrell, Kemp, Blakey, & Deacon, 2014). It is also possible that the TBES is not the ideal tool for measuring short-term change in attitudes, and further research might extend the validation of the TBES by exploring this element of its clinical utility.

To summarise, simple education about the use of exposure-based methods within CBT is an effective strategy, which might go some way to ensuring that this highly effective intervention is used by many more clinicians (Harned et al., 2013). Furthermore, such education is most effective when working with clinicians who might be seen as needing it most (those who are more anxious and who hold more negative views about exposure as part of the treatment of eating and other disorders). In the eating disorders, there is clearly a need to ensure that more clinicians use the most effective therapies, including CBT-ED (Tobin, Banker, Weisberg, & Bowers, 2007), and that they use them appropriately (Turner et al., 2014; Waller et al., 2012). Exposure is key to the implementation of techniques such as changing eating, reducing bulimic behaviors, weighing patients and effective body image interventions (e.g.,

Becker, Farrell & Waller, in press; Fairburn, 2008; Waller, Cordery, Corstorphine, Hinrichsen, Lawson, Mountford, & Russell, 2007; Waller, Turner, Tatham, Mountford & Wade, 2019; Waller, Cordery, Corstorphine, Hinrichsen, Lawson, Mountford, & Russell, 2007), many of which apply more widely than CBT-ED (e.g., Lock & Le Grange, 2012; Waller & Mountford, 2015). Therefore, it will be important to ensure that clinicians understand and implement exposure work across therapies for the eating disorders.

**Authors' declaration of interest**

The authors have no interests to declare.

**Data statement**

The data used are available on reasonable request to the corresponding author.

**References**

Arch, J. J., Twohig, M. P., Deacon, B., Landy, L. N., & Bluett, E. J. (2015). The credibility of exposure therapy: Does the theoretical rationale matter? *Behaviour Research and Therapy, 72*, 81-92.

Barlow, D. H. (2002). *Anxiety and its disorders: The nature and treatment of anxiety and panic (2nd ed*). New York, NY: Guilford Press.

Becker, C. B., Farrell, N., & Waller, G. (in press). *Exposure therapy for eating disorders.* Oxford, UK: Springer.

Becker, C. B., Zayfert, C., & Anderson, E. (2004). A survey of psychologists' attitudes towards and utilization of exposure therapy for PTSD. *Behaviour Research and Therapy, 42*, 277–292. doi: 10.1016/s0005-7967(03)00138-4

Carleton, R. N., Norton, M. A., & Asmundson, G. J. G. (2007). Fearing the unknown: A short version of the Intolerance of Uncertainty Scale. *Journal of Anxiety Disorders, 21*, 105-117. doi: 10.1016/j.janxdis.2006.03.014

Cowdrey, N.D., & Waller, G. (2015). Are we really delivering evidence-based treatments for eating disorders? How eating-disordered patients describe their experience of cognitive behavioral therapy. *Behaviour Research and Therapy, 75,* 72-77. doi: 10.1016/j.brat.2015.10.009

Deacon, B. J., & Farrell, N. R. (2013). Therapist barriers in the dissemination of exposure therapy. In Storch, E., & McKay, D. (Eds.), *Treating variants and complications in anxiety disorders (pp. 363-373)*. New York, NY: Springer.

Deacon, B. J., Farrell, N. R., Kemp, J. J., Dixon, L, J., Sy, J. T., Zhang, A. R., & McGrath, P. B. (2013). Assessing therapist reservations about exposure therapy for anxiety disorders: the Therapist Beliefs about Exposure Scale. *Journal of Anxiety Disorders*, 27, 772-780. doi: 10.1016/j.janxdis.2013.04.006.

Fairburn, C. G. (2008). *Cognitive behavior therapy and eating disorders*. New York, NY: Guilford.

Farrell, N. R., Deacon, B. J., Kemp, J. J., Dixon, L. J., & Sy, J. T. (2013). Do negative beliefs

about exposure therapy cause its suboptimal delivery? An experimental investigation. *Journal of Anxiety Disorders, 27,* 763-771.

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, *39*, 175-191.

Freeston, M., Rhéaume, J., Letarte, H., Dugas, M. J., & Ladouceur, R. (1994). Why do people worry? *Personality and Individual Differences, 17*, 791-802. doi: 10.1016/0191-8869(94)90048-5

Harned, M. S., Dimeff, L. A., Woodcock, E. A., & Contreras, I. (2013). Predicting adoption of exposure therapy in a randomized controlled dissemination trial. *Journal of Anxiety Disorders, 27*, 754-762. doi: 10.1016/j.janxdis.2013.02.006

Lock, J., & Le Grange, D. (2012). *Treatment manual for anorexia nervosa: A family-based approach* (2nd ed.). New York, NY: Guilford Press.

McEvoy, P. M., & Mahoney, A. E. J. (2011). Achieving certainty about the structure of intolerance of uncertainty in a treatment-seeking sample with anxiety and depression. *Journal of Anxiety Disorders, 25*, 112-122. doi: 10.1016/j.janxdis.2010.08.010

McHugh, R. K., & Barlow, D. H. (2010). The dissemination and implementation of evidence-based psychological treatments: A review of current efforts. *American Psychologist, 65*, 73-84. doi: 10.1037/a0018121

Meyer, J. M., Farrell, N. R., Kemp, J. J., Blakey, S. M., & Deacon, B, J. (2014). Why do clinicians exclude anxious clients from exposure therapy? *Behaviour Research and Therapy, 54*, 49-53. doi: 10.1016/j.brat.2014.01.004

Mulkens, S., de Vos, C., de Graaff, A., & Waller, G. (2018). To deliver or not to deliver cognitive behavioral therapy for eating disorders: Replication and extension of our understanding of why therapists fail to do what they should do. *Behaviour Research and Therapy, 106,* 57-63. doi: 10.1016/j.brat.2018.05.004

National Institute for Health and Care Excellence (2017). *Eating disorders: Recognition and treatment.* London, UK: National Institute for Health and Care Excellence.

Öst, L-G., Karlstedt, A., & Widén, S. (2012). The effects of cognitive behavior therapy delivered by students in a psychologist training program: An effectiveness study. *Behavior Therapy, 43,*160–173.

Tobin, D. L., Banker, J. D., Weisberg, L., & Bowers, W. (2007). I know what you did last summer (and it was not CBT): A factor analytic model of international psychotherapeutic practice in the eating disorders. *International Journal of Eating Disorders, 40,* 754-757.

Turner, H., Tatham, M., Lant, M., Mountford, V. A., & Waller, G. (2014). Clinicians' concerns about delivering cognitive-behavioural therapy for eating disorders. *Behaviour Research and Therapy, 57*, 38-42. doi: 10.1016/j.brat.2014.04.003

van Minnen, A., Hendriks, L., & Olff, M. (2010). When do trauma experts choose exposure therapy for PTSD clients? A controlled study of therapist and client factors. *Behaviour Research and Therapy, 48*, 312-320. doi: 10.1016/j.brat.2009.12.003

Waller, G., D'Souza Walsh, K., & Wright, C. (2016). Impact of education on clinicians' attitudes to exposure therapy for eating disorders. *Behaviour Research and Therapy, 76,* 76-80. doi: 10.1016/j.brat.2015.11.014

Waller, G., Cordery, H., Corstorphine, E., Hinrichsen, H., Lawson, R., Mountford, V., & Russell, K. (2007*). Cognitive-behavioral therapy for the eating disorders: A comprehensive treatment guide*. Cambridge, UK: Cambridge University Press.

Waller, G., & Mountford, V. A. (2015). Weighing patients within cognitive behavioural therapy for eating disorders: how, when and why. *Behaviour Research and Therapy, 70*, 1-10. doi: 10.1016/j.brat.2015.04.004

Waller, G., Stringer, H., & Meyer, C. (2012). What cognitive behavioral techniques do therapists report using when delivering cognitive behavioral therapy for the eating disorders? *Journal of Consulting and Clinical Psychology, 80*, 171-175. doi: 10.1037/a0026559

Waller, G., Turner, H. M., Tatham, M., Mountford, V. A., & Wade, T. D. (2019). *Brief cognitive behavioural therapy for non-underweight patients: CBT-T for eating disorders.* Hove,

UK: Routledge.

Webb, T. L., & Sheeran, P. (2006). Does changing behavioral intentions engender behavior change? A meta-analysis of the experimental evidence. Psychological Bulletin, 132, 249-268. doi: 10.1037/0033-2909.132.2.249

**Table 1**

Temporal characteristics and scores on the measures of the two groups prior to the training sessions

| | **Exposure group** | | **Comparison group** | | **t-test** | |
|---|---|---|---|---|---|---|
| **Measure** [1] | *M* | *(SD)* | *M* | *(SD)* | *t* | *P* |
| Age (years) | 38.3 | (11.4) | 40.8 | (10.8) | 1.00 | *NS* |
| Time working as a therapist (years) | 10.8 | (9.80) | 9.1 | (10.8) | 0.94 | *NS* |
| Contact time with patients (hours/week) | 17.4 | (10.1) | 16.6 | (8.7) | 0.38 | *NS* |
| Time working with eating disorders (years) | 9.3 | (9.0) | 4.3 | (6.0) | 2.77 | .05 |
| Initial TBES score | 39.0 | (10.2) | 45.2 | (9.2) | 2.6 | .05 |
| Initial FOE score | 3.9 | (0.6) | 3.5 | (0.8) | 2.63 | .05 |
| Initial IUS Prospective score | 15.2 | (4.6) | 14.2 | (3.9) | 1.03 | *NS* |
| Initial IUS Inhibitory scores | 7.4 | (2.4) | 8.1 | (3.1) | 1.08 | *NS* |

[1] TBES = Therapist Beliefs about Exposure Scale; IUS = Intolerance of Uncertainty Scale; FOE = Frequency of Exposure Scale.

**Table 2**

Impact of different teaching sessions (exposure-based vs comparison) on clinicians' attitudes to exposure therapy (Therapist Beliefs about Exposure Scale scores)

| | | **Time point** | | **Post hoc paired t-tests** | | **Effect size** | |
|---|---|---|---|---|---|---|---|
| **Teaching group** | | Pre teaching | Post teaching | *t* | *p* | *d* | 95% CI for effect sizes |
| Exposure (*N* = 47) | Mean (*SD*) | 39.03 (10.57) | 30.87 (8.51) | 8.21 | .001 | 0.85 | 0.62 - 1.08 |
| Comparison (*N* = 42) | Mean (*SD*) | 45.17 (8.43) | 42.34 (10.55) | 2.52 | .017 | 0.30 | 0.11 - 0.48 |

**Table 3**

Regression analyses, showing the relationship between clinician variables and post-group Therapist Beliefs about Exposure Scale (TBES) scores, controlling for initial TBES scores.

| | **Step 1** | | | **Step 2** | | | | |
|---|---|---|---|---|---|---|---|---|
| | Overall effect F | Independent variable | Variance explained | Overall effect | Additional variance explained | Independent variable | T | Beta |
| Exposure | 70.3 *** | Initial TBES | 67.1% | 14.1 *** | 8.4% | Initial TBES | 8.04 *** | .819 |
| | | | | | | Age | 0.90 | .184 |
| | | | | | | Face to face contact | 0.59 | .067 |
| | | | | | | Years in practice | 1.55 | .445 |
| | | | | | | Years working with ED | 2.07 * | -.568 |
| | | | | | | FOE | 0.36 | .032 |
| | | | | | | IUS Prospective | 0.67 | .100 |
| | | | | | | IUS Inhibitory | 2.01 | -.270 |
| Comparison | 27.7 *** | Initial TBES | 58.4% | 4.54 *** | 1.2% | Initial TBES | 5.07 *** | .787 |
| | | | | | | Age | 1.01 | -.265 |
| | | | | | | Face to face contact | 0.62 | .119 |
| | | | | | | Years in practice | 1.51 | .458 |
| | | | | | | Years working with ED | 0.25 | -.049 |
| | | | | | | FOE | 0.85 | .134 |
| | | | | | | IUS Prospective | 2.01 | .393 |
| | | | | | | IUS Inhibitory | 1.15 | -.227 |

Notes: TBES = Therapist Beliefs about Exposure Scale; IUS = Intolerance of Uncertainty Scale; FOE = Frequency of Exposure Scale. * $P < .05$; *** $P < .001$