



## **Therapist Factors That Influence the Use of Exposure Therapy**

Diane Langthorne

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Department/School of Psychology

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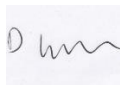
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## **Structure and Word Count**

### **Section One: Literature Review**

Excluding references and tables	5558
Including references and tables	9962

### **Section Two: Research Report**

Excluding references and tables	6194
Including references and tables	8691

### **Total Word Count**

Excluding references and tables	11752
Including references and tables	18653

## **Lay Summary**

Exposure therapy is a type of therapy used to treat anxiety disorders. Exposure therapy aims to reduce a person's fear or anxiety response to a particular object or situation. During exposure therapy, a therapist might ask a client to repeatedly engage with the situation or object that causes the client anxiety so that the client can become more confident in their ability to cope. Although there is a large amount of evidence that demonstrates the effectiveness of exposure therapy, it can be challenging for the client, to begin with. Therapists also report that it can feel stressful to ask clients to do something that may increase their anxiety in the short term, even though there is evidence to suggest that it will be helpful in the long term. Therapists sometimes avoid using exposure therapy with clients even though it would be an appropriate treatment for the client's anxiety. The systematic review and empirical study that form this thesis aimed to develop a further understanding of which therapist factors influence the use of exposure therapy.

The first half of this thesis is a systematic review. The review investigated which therapist factors are associated with a therapist's intent to use exposure therapy. The findings showed that therapist factors such as younger age, more positive beliefs about exposure therapy, identifying with a Cognitive Behavioural Therapy therapeutic orientation, increased education, lower levels of anxiety and receiving training in exposure therapy were associated with a therapist's increased use of exposure therapy. The quality of the studies included in the review was low, the implications of this and recommendations for future research were discussed.

The second half of the thesis is an empirical study investigating the role of supervisee and supervisor characteristics on the advice a supervisor gives their supervisee whilst using exposure therapy to treat social phobia. The empirical study found that a supervisor's negative beliefs about exposure therapy were associated with advising supervisees to delay the implementation and prioritisation of delivering exposure therapy, as well as other therapeutic elements. In contrast to previous research, no effect was found of supervisee anxiety, gender or supervisor anxiety on the advice given to supervisees. The strengths and limitations of this study are discussed, along with the

implications for clinical practice and recommendations for future research.

## **Acknowledgements**

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## List of Contents

Access to thesis.....	2
Declaration .....	4
Structure and word count.....	5
Lay summary .....	6
Acknowledgments .....	8
<b>Section 1: Literature Review</b>	
Title .....	10
Abstract .....	11
Introduction .....	12
Method.....	14
Results .....	16
Discussion .....	29
References .....	38
Appendices .....	46
<b>Section 2: Research Report</b>	
Title .....	52
Abstract .....	53
Introduction .....	54
Method.....	59
Results .....	64
Discussion .....	78
References .....	84
Appendices .....	89

## **Section One: Literature Review**

### **Which Therapist Factors are Associated with a Therapist's Intent to use Exposure Therapy?**

## Abstract

**Background:** Exposure therapy is widely underused despite strong evidence demonstrating that it is an effective intervention for anxiety-based disorders. Previous research has attributed this underuse to factors such as therapist drift and negative beliefs about exposure therapy. The current systematic review aimed to synthesise previous research findings to identify which therapist factors are associated with a therapist's intent to use exposure therapy.

**Method:** A systematic review was conducted through a search of three databases (Scopus, Psycinfo and Web of Science). Twenty-five eligible studies were identified. Following a quality assessment, the findings of the studies were extracted and synthesised.

**Results:** Younger therapists, those with a CBT orientation, increased education, training in exposure, lower anxiety and more positive beliefs about exposure therapy were more likely to use exposure. The majority of studies relied on a survey design, meaning the quality of the research was often poor.

**Conclusion:** Future research would benefit from a more controlled design. It is also important to consider the contribution of organisational factors. Interventions designed to increase therapist use of exposure could also be considered.

*Keywords:* Therapist factors; Exposure therapy; Beliefs about exposure therapy

### Practitioner Points

- Several therapist factors are associated with a therapist's intent to use exposure therapy. These factors include age, therapeutic orientation, beliefs about exposure therapy, education, training and anxiety
- The quality of research investigating therapist factors associated with intent to use exposure therapy is low due to an overreliance on survey designs

## **Introduction**

### **Background Literature**

Exposure and response prevention is a technique used during Behaviour Therapy and Cognitive Behavioural Therapy (CBT), which involves repeatedly approaching anxiety-inducing stimuli whilst not engaging in activities or safety behaviours to reduce the fear or anxiety response. Exposure therapy can take several forms, such as imaginal, interoceptive, virtual reality or in vivo. It may be patient-led or therapist-assisted (Gramlich et al., 2021).

Exposure and response prevention works on the premise that it is necessary to reduce the avoidance of feared stimuli that reduces anxiety in the short term but that exacerbates symptoms in the long term. Avoidance also reduces the quality of life as the individual implements additional strategies to avoid feeling anxious (Craske et al., 2014).

The primary goal of exposure therapy is to reduce anxiety. However, secondary effects include a change in cognition around the feared stimuli and improved self-efficacy. Research suggests that the effectiveness of exposure therapy is mediated by changes in the association between the stimuli and threat cognitions, expectancy of harm and the individual's beliefs about their ability to cope with anxiety-provoking situations or sensations (Breuninger et al., 2019).

Exposure therapy has been found to be effective for numerous anxiety-based disorders, such as social anxiety, specific phobias, Post Traumatic Stress Disorder (PTSD) and obsessive-compulsive disorder (OCD). The treatment effect remains significant in a variety of populations, even when treatment expectations and the placebo effect are controlled for (Carpenter, et al., 2018).

Despite the effectiveness of exposure therapy, it is widely underused. Furthermore, when exposure therapy is used, it is often adapted in line with the therapists' clinical judgement, which can reduce treatment efficacy (Stobie et al., 2007). Many clinicians report finding exposure stressful to implement (Schumacher, et al., 2015), and often opt for techniques such as progressive muscle relaxation or deep breathing over the use of exposure therapy (Deacon et al., 2018), despite the evidence that exposure is superior to these.

The phenomenon of clinicians choosing not to use evidence-based therapy or deviating significantly from best practice protocols has been referred to as ‘therapist drift’ (Waller, 2009). The reduced effectiveness of evidence-based therapy in practice in comparison to its efficacy in randomised control trials is often attributed to such therapist drift (Waller & Turner, 2016). However, this phenomenon assumes that the therapist has sufficient knowledge of methods such as exposure to utilise them effectively, which might not be the case. Whilst there are numerous examples of therapist drift leading to ineffective implementation of exposure therapy (Brosan et al., 2006), in many cases, it is not used at all (Whiteside et al., 2016). Research has repeatedly shown that a significant proportion of clinicians do not use exposure therapy to treat anxiety disorders, even if the clinician is reportedly orientated towards the use of CBT (Becker et al., 2004). Freiheit et al. (2004) found that even though 71% of their sample listed CBT as their theoretical orientation, only 12-38% of them used exposure to treat anxiety disorders.

This pattern of individual differences means that it is important to identify which factors are associated with a therapist’s intent to use exposure therapy. Identifying these factors would allow the development of interventions for therapists to bridge the research-practice gap. Such interventions might involve support such as further training or supervision. Although there is a growing field of research identifying the relationship between therapist factors and their intent to use exposure therapy (e.g., Deacon et al., 2013), there has not yet been a systematic review to synthesise these findings, to identify any gaps in the literature, to direct future research, and to provide implications for clinical practice.

There are numerous suggestions as to why clinicians might be less likely to use exposure therapy, despite the evidence base (Waller & Turner, 2016). Organisational issues have been considered, such as being unable to provide enough sessions to follow manualised treatment (Royal College of Psychiatrists, 2013) or negative views towards manualised treatment in general (Addis & Krasnow, 2000). Alternatively, clinicians may fear negative outcomes when using exposure therapy. There is some evidence that clinicians who over-value the therapeutic relationship as a

method of change may be avoidant of utilising exposure therapy, due to fears of causing the patient distress and damaging the relationship (Brown et al., 2013). It is also possible that clinicians are lacking in knowledge or have not had enough training in exposure therapy. However, research suggests that evidence-based therapies are still underutilised in clinician populations where awareness and knowledge of appropriate therapies are high (Simmons et al., 2008). Therefore, it is important to understand which therapist factors are associated with the use of exposure therapy, to inform support for therapists and organisations and to ensure that patients are accessing evidence-based therapy.

### **Aims of the Current Review**

The current review aims to consider a wider range of therapist variables that might be associated with a therapist's intent to use exposure therapy. The quality of existing research will also be considered.

### **Method**

The protocol for this review was pre-registered on Open Science Framework ([https://osf.io/pwg3d/?view\\_only=1255a474841540e9a1855e2517bf4a13](https://osf.io/pwg3d/?view_only=1255a474841540e9a1855e2517bf4a13)).

### **Inclusion and Exclusion Criteria**

Studies were included if they investigated the use of exposure therapy in a mental health setting. Studies must include a measure of therapist characteristics, as well as intent to use exposure therapy, and consider the relationship between these characteristics and exposure use as part of their analysis. Studies investigating the use of exposure therapy in any population were included if they were quantitative and written in English. Grey literature, systematic reviews or meta-analyses, single case studies and studies not written in English were excluded. Studies investigating the effectiveness of interventions to increase the use of exposure therapy were excluded due to a pre-existing meta-analysis (Trivasse et al., 2020)

### **Search Strategy**

A title, abstract and keyword search was conducted on the databases Scopus, Psych Info and

Web of Science on the 13<sup>th</sup> of September 2021. The search was performed using the keywords “therapist” “exposure therapy” and “characteristics”. The following combination was used: (Therapist\* OR "CBT therapist\*" OR "cognitive behavio\*ral therapist\*" OR psychologist\* OR "clinical psychologist\*" OR clinician\* OR psychotherapist\*) W/3 (anxiet\* OR characteristic\* OR factor\* OR belief\* AND "exposure therap\*"). The full syntax for the search strategy is presented in Appendix A.

Following the search, duplicates were removed and then the title and abstracts were screened. If the title and abstract did not mention exposure therapy and therapist characteristics, then the paper was excluded. No previous reviews were found with the same aims and methodology as the current review. If the title and abstract seemed relevant or it was unclear, the whole article was read to see if it met the inclusion criteria. The references of the papers that met the inclusion criteria were manually searched for other relevant articles. A citation search was also conducted using Web of Science to see if other papers that had cited included papers met the inclusion criteria.

### **Quality Assessment**

The Effective Public Health Practice Project (EPHPP) was utilised to assess the quality of studies that were included in the review (EPHPP, 2020, Appendix B). The EPHPP has been shown to have high levels of construct validity in relation to other highly rated measures and maintains strong interrater reliability (Thomas et al., 2004).

The EPHPP rates quality indicators such as selection bias, study design, confounding variables, data collection methods and withdrawal and dropout rate. The “blinding” component was removed for the current review as none of the studies were randomised control trials. Items are scored 1 for strong, 2 for moderate and 3 for weak. A quality rating dictionary is supplied to assist the rating of every area of assessment (EPHPP, 2017; Appendix C). Specific criteria are provided for each area that should be met if the study is to be rated strong. A study was given an overall score of strong if none of the 6 items were rated as weak, moderate if one item was rated weak, and weak if two or more items were rated as weak.

25% of the papers included in the review were selected using a random number generator and quality assessed by an independent reviewer, and discrepancies were resolved through discussion between the reviewers. Cohen's kappa was calculated to assess interrater reliability. There was a strong rate of agreement between the reviewers ( $K = 1, p = .014$ ).

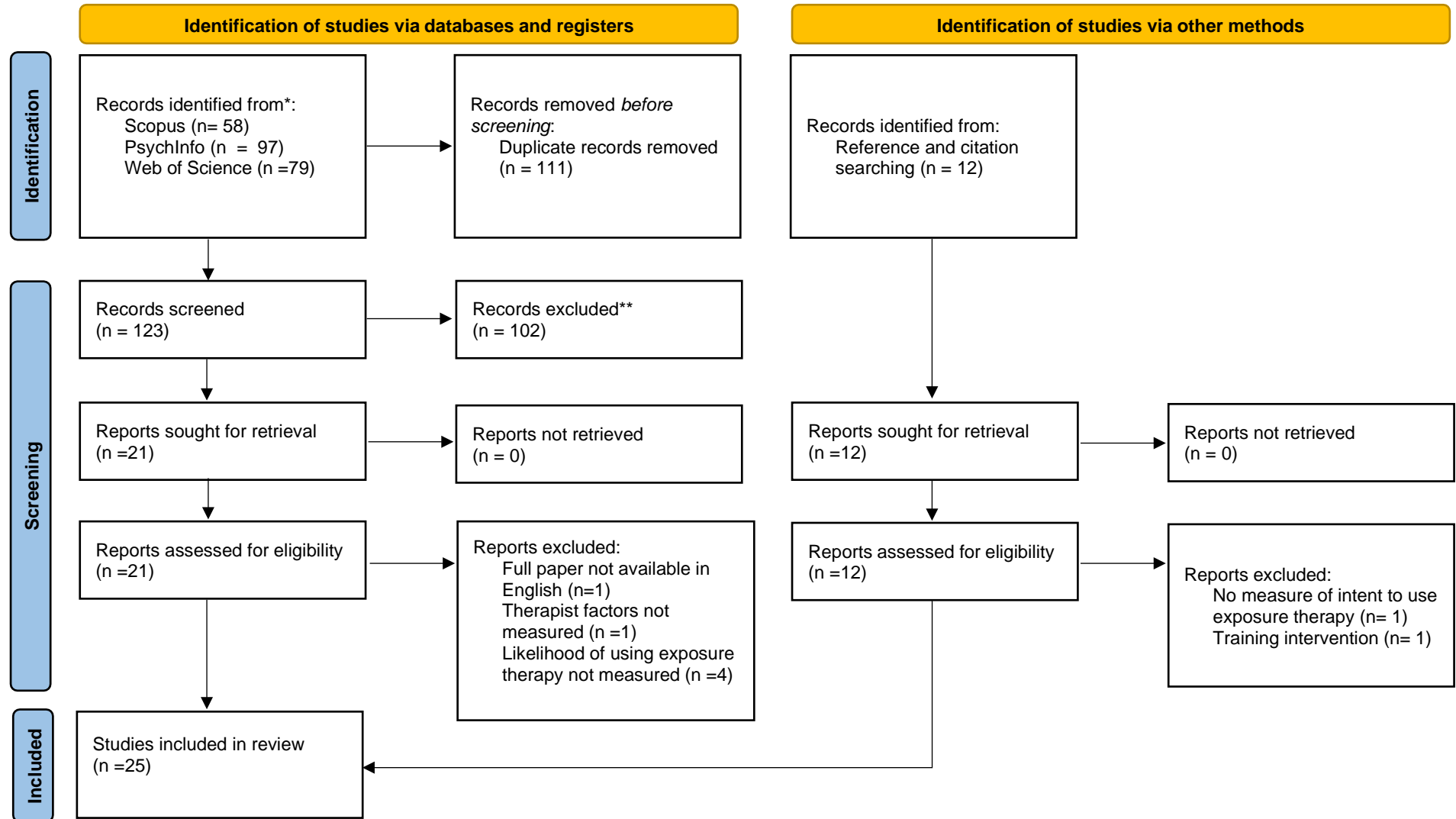
## **Results**

The results of the search yielded 234 papers. Following the removal of duplicates, there were 123 papers. After title and abstract screening, 15 papers met the inclusion criteria. A citation and reference search of these 15 papers yielded a further 10 papers that met inclusion criteria. The search process is represented in a PRISMA flow diagram in Figure 1.



**Figure 1**

*Prisma Flow Diagram*



## **Quality of Papers**

In total, 25 papers were included in the review. All but one of the papers received a global quality rating of ‘weak’. One received a rating of ‘moderate’ (Scherr et al., 2015). However, all studies were retained to give an accurate view of the field and to identify areas for future research. The completed quality assessments can be found in Appendix D. Twenty-three studies used an exclusively survey-based design, two studies used an experimental design with correlational elements (Scherr et al., 2015; Van Minnen et al., 2010). The use of survey design led to a lack of experimental control meaning that the findings are correlational, and causation cannot be assumed.

## **Outcomes of Papers**

There was a total of 5717 participants. Of the 20 studies that reported gender demographics, on average 73% of participants were female.

The most common therapist factors measured were Therapist Beliefs about Exposure Therapy (TBES; Deacon et al., 2013), anxiety, therapeutic orientation, and demographics (age, gender, and years of experience). Intent to use exposure therapy was measured either in response to a clinical vignette or by self-report from the therapists’ own practice.

The key findings and quality assessments of papers are presented in Table 1.

### **Table 1**

*Table Showing Authors, Key Variables, and Findings of Included Papers*

Authors, year and country	Sample size, gender and age	Measure of therapist factors	Measure of exposure use	Findings	Global quality rating
(Becker-Haimes, et al., 2017), USA	$N= 335$ , $F= 80\%$ Age: $M= 38.8$ , $SD= 11.7$	The Evidence-Based Practice Attitude Scale (Aarons, 2004), The Therapist Procedures Checklist – Family Revised (Weersing, et al., 2002), years of experience	The Knowledge of Evidence-Based Service Questionnaire (Stumpf, Higa-McMillan, & Chorpita, 2009) Indicates whether clinicians endorse using exposure for anxiety.	Use of relaxation techniques associated with lower use of exposure ( $OR = 2.18$ , $95\% CI = 0.91-5.22$ , $p = 0.08$ ). Higher EBPAS openness scale scores were associated with increased exposure use ( $OR = 3.72$ , $95\% CI = 0.96-14.40$ , $p = 0.06$ ). Years of experience not associated with exposure use ( $OR = 1.06$ , $95\% CI = 0.96-1.17$ , $p= 0.22$ ).	Weak
(Becker et al., 2004), USA	$N= 543$ , $F=$ Not reported Age: Not reported	Perceived barriers, theoretical orientation, primary professional setting, patient hours per week, and number of PTSD patients treated.	Self-reported use of exposure	Exposure was not widely used even amongst those with interest and training. Respondents trained in exposure were significantly more likely to use it $\chi^2 (1, N = 206) = 83.45$ , $p < .001$ . Experienced PTSD clinicians were more likely to report currently using IE, $\chi^2 (2, N = 194) = 32.97$ , $p < .001$ .	Weak
(Deacon, et al., 2013) USA	$N=113$ , $F= 65.5\%$ , Age: $M=34.1$ $SD=12.5$	TBES	Therapist beliefs about exposure scale, response to vignette- distress reduction, intense delivery, safety behaviour acquiescence	TBES scores demonstrated a significant positive correlation with distress reduction ( $r = .75$ , $p < .001$ ), safety behaviour acquiescence ( $r = .52$ , $p < .001$ ), and a significant negative correlation with intense delivery ( $r = -.36$ , $p = .005$ ). Therapists who chose the lowest hierarch item had significantly higher TBES scores than therapists who chose any other item $t(60) = 2.97$ , $p = .004$ , $d = 0.75$ .	Weak

Authors, year and country	Sample size, gender and age	Measure of therapist factors	Measure of exposure use	Findings	Global Quality Rating
(De Jong, et al., 2020), Netherlands	<i>N</i> = 207, F= 93%, Age range= 20-69	Dutch TBES (Deacon et al., 2013), The Depression Anxiety and Stress Scale (De Beurs et al., 2011), age and experience	Retrospective self-report of exposure use (% of cases)	166 participants reported using exposure. Older therapists and those with more negative beliefs about exposure less likely to use exposure ( $r_s(164) = -.22, p < .01$ ; $r(164) = -.37, p < .01$ ). CBT orientation two years post master's education more likely to use exposure ( $t(164) = -3.83, p < .001$ , Cohen's $d = .59$ ; $t(164) = -4.13, p < 0.001$ ). No significant relationship between depression, anxiety and stress and use of exposure.	Weak
(Jelinek et al., 2022), Germany	<i>N</i> = 353, F= 83 % Age: $M = 37.36$ , $SD = 10.72$	Age, gender, therapeutic orientation, Thought action fusion (TAF) behavioural task, TAF scale	Asked whether did (ERP+) or did not (ERP-) recommend use of Exposure and response prevention (EPR) in OCD case example, self-reported ERP use in clinical practice	No difference between groups regarding gender, number of sessions a week, mean years of experience. However, in ERP+ group participants were younger ( $M = 40.14, SD = 12.59, t(198.45) = 3.36, p = .001$ ) and had CBT orientation ( $n = 206, 79\%$ ). ERP- group showed higher TAF for both behavioural task and scale ( $d = 0.39$ ). No difference between those who were and were not familiar with the experiment. Those who scored higher TAF were less likely to use ERP in their own clinical practice ( $\rho = -.22, p < .001$ ).	Weak
(Kannis-Dymand et al., 2022), Australia	<i>N</i> = 171, F= 78% Age: Not reported	TBES, therapeutic orientation, gender, age	Main Exposure Questionnaire (Deacon et al., 2013)	Less than half the sample used exposure. Use of exposure correlated with CBT orientation and training in exposure, $d = 0.59$ . Clinical psychologists had significantly fewer negative beliefs about exposure. Not using outcome measures related to lower exposure usage (26.1% versus full sample average of 51.2%). <u>However not tested statistically. No difference in</u>	Weak

gender, older age correlated with increasingly negative beliefs about exposure ( $r=.25, p<.001$ ). Those who did not use exposure had more negative beliefs than those who did ( $d = 1.26$ )

<b>Authors, year and country</b>	<b>Sample size, gender and age</b>	<b>Measure of therapist factors</b>	<b>Measure of exposure use</b>	<b>Findings</b>	<b>Global Quality Rating</b>
(Keleher et al., 2020), UK	$N= 107$ F= Not reported Age= Not reported	TBES, therapeutic orientation, experience, self-reported barriers to ERP use	Therapeutic techniques (Whiteside et al., 2016), self-reported ERP use for different OCD symptoms	75% reported often or always using ERP. Clinical psychologists more likely to use ERP ( $p <.01$ ), no significant association between ERP use and amount of supervision, number of OCD cases treated or years of experience. Higher TBES scores negatively associated with exposure use ( $OR=0.66, p=<.01$ ).	Weak
(Kline et al., 2021), USA	$N= 155$ , F= 50%, Age: $M= 40$ , $SD=11.5$	TBES, gender, degree, training in exposure and current theoretical orientation, setting and training in exposure.	Self-reported exposure utilisation likelihood	50% of sample used exposure. Factors correlated with increased exposure use: CBT orientation ( $d =1, p< .001$ ), doctoral degree( $d =.55, p< .01$ ), lower negative beliefs ( $r = .73$ ), training in exposure ( $d =2, p< .001$ ). No relationship with gender, age or years of experience.	Weak
(Levita, et al., 2016), UK	$N= 32$ , F= 72% Age: $M= 28.9$ , $SD= 5.54$	Facets of anxiety-cognitive, behavioural and physiological characteristics (Intolerance of Uncertainty scale; Carleton et al., 2007; risk taking; skin conductance response and heart rate variability)	Use of CBT techniques- self reported rating of how often certain techniques are used	Higher intolerance of uncertainty linked to lower exposure use ( $\rho=-.4$ ). Greater physiological anxiety linked to reduced exposure usage ( $\rho=.49$ ). No relationship between behavioural facet of anxiety and exposure use. Age had no association with anxiety however clinicians became more physiologically reactive to positive and negative outcomes as they became more experienced.	Weak

Authors, year and country	Sample size, gender and age	Measure of therapist factors	Measure of exposure use	Findings	Global quality rating
(Meyer et al., 2014), USA	<i>N</i> = 182, F= 58%, Age: <i>M</i> = 47.1, <i>SD</i> = 13.3	TBES, anxiety sensitivity (Taylor et al., 2007), age, qualification level	Broken leg exception scale (BLES; novel measure)	Higher TBES ( $r= 0.53, p < .001$ ), anxiety sensitivity ( $r= 0.32, p < .001$ ), and older age ( $r = 0.24, p < .001$ ) correlated with significantly higher BLES scores. BLES scores lowest in clinical psychologists ( $t(163)= -4.06, p < 0.001, d = 0.69$ ), no relationship with gender.	Weak
(Meyer & Kelly, 2020), Australia and New Zealand	<i>N</i> = 98 , F= 80% Age: <i>M</i> = 36.8 , <i>SD</i> = 11.1	Exposure Implementation Beliefs Scale (EIBS; novel measure) and TBES (Deacon, et al., 2013)	Exposure therapy delivery scale (frequency, intensity and therapist safety behaviours), Broken leg exception scale (Meyer et al., 2014)	Significant positive correlation between EIBS and use of therapist safety behaviours during exposure ( $r = .71, p < .001$ ), positive correlation between negative beliefs about exposure and likelihood of excluding client from exposure ( $r= .72, p < .001$ ). Significant negative correlation between EIBS and intensity of exposure delivery ( $r=-.30, p < .01$ ).	Weak
(Moritz, et al., 2019), Germany	<i>N</i> = 216 , F= 67 % Age: <i>M</i> = 46	Age, gender, professional background	Reasons for Not Performing Exposure in OCD Scale (REPEX)	Doctors used exposure less frequently $\chi^2 (4) = 13.704, p = .008$ . and for a shorter period, reported more barriers to exposure and preferred in sensu to in vivo exposure than psychologists. Age was correlated with increased reporting of barriers $F(4, 816) = 2.66, p < .001, \eta_{\text{partial}}^2 = .013$ .	Weak
(Moses, et al., 2021), Australia	<i>N</i> = 100, F= 84% Age: <i>M</i> = 40.6 , <i>SD</i> = 10.78	Gender, age, years of clinical experience	Exposure therapy use questionnaire	Registration, specific exposure training and time spent working with specific disorders significantly predicted exposure use $F(3, 93)=8.14, p .00, R^2=.21$ . There was no significant difference between CBT and other orientations. There was no relationship between years of experience and exposure use.	Weak

Authors, year and country	Sample size, gender and age	Measure of therapist factors	Measure of exposure use	Findings	Global quality rating
(Parker & Waller, 2019), UK	<i>N</i> = 173, <i>F</i> = 68 % Age: <i>M</i> = 45.4	Anxiety, self-esteem, intolerance of uncertainty, attitudes to CBT	Therapy methods questionnaire	Exposure used less than other CBT skills, lower use of exposure associated with increased therapist inhibitory anxiety ( $\beta = -.226, p < .005$ ) Supervision and therapists' self-esteem were both positively associated with the use of non-CBT techniques.	Weak
(Pittig et al., 2019), Germany	<i>N</i> = 684, <i>F</i> = 79%, Age: <i>M</i> = 46.4, <i>SD</i> = 9.05	TBES, years of experience, age, gender, self-reported barriers and competence, and therapist distress when using exposure	Self-reported utilisation of exposure in last three years (% of cases)	Higher competence ( $\beta = .16, t = 3.64, p < .001$ ) and lower distress ( $\beta = -.10, t = -2.10, p = .036$ ) associated with increased exposure use. Increased negative beliefs ( $\beta = -.21, t = -4.68, p < .001$ ) associated with lower exposure use. Higher number of training hours correlated with reduced distress ( $r = -.09, p < .05$ ). Older therapists had increased negative beliefs ( $r = .16, p < .05$ ).	Weak
(Reid, et al., 2017), USA	<i>N</i> = 230, <i>F</i> = 72% Age: <i>M</i> = 49, <i>SD</i> = 13	Anxiety sensitivity index (Taylor et al., 2007), disgust scale revised (Olatunji, et al., 2007), barriers to exposure therapy scale (novel measure)	Self-reported therapist-assisted in vivo exposure therapy utilisation, response to OCD vignette	Reporting of barriers was significantly associated with lower use of exposure ( $r(145) = -.20, p = .01$ ) and allowance of anxiety reduction strategies. Higher anxiety sensitivity ( $r(207) = .30, p < .001$ ) and disgust ( $r(202) = .18, p = .01$ ) was associated with increased reporting of barriers.	Weak
(Reid, et al., 2018), USA	<i>N</i> = 257, <i>F</i> = 75% Age: <i>M</i> = 49.2, <i>SD</i> = 12	TBES, anxiety sensitivity index, disgust scale revised (Olatunji, et al., 2007), gender and education level	Self-reported treatment utilisation in past year	Therapist assisted in vivo exposure used 10% of time. Training in exposure significant predictor of optimal exposure use ( $\beta = .31, p < .01$ ), disgust and anxiety not correlated with exposure use, higher TBES associated with lower exposure use ( $\beta = -.52, p < .001$ ). Education was not correlated with exposure use.	Weak

<b>Authors, year and country</b>	<b>Sample size, gender and age</b>	<b>Measure of therapist factors</b>	<b>Measure of exposure use</b>	<b>Findings</b>	<b>Global quality rating</b>
(Rowe & Kangas, 2020), Australia	<i>N</i> = 115 , <i>F</i> = 82 % Age: <i>M</i> = 43, <i>SD</i> = 11	Attachment style, theoretical orientation, university education, TBES (Deacon, et al., 2013)	Frequency of in vivo exposure use, amount of time spent on exposure task, and intensity of exposure task	Clinical psychologists and others with masters degrees had less negative beliefs $F(2,112) = 8.19, p < .001$ ) but no relationship between education and exposure use. Negative beliefs about exposure correlated with less frequent $F(1,113) = 20.02, p < .001, B = -0.04, \beta = -.39$ and lower intensity $F(1,113) = 59.22, p < .001, B = -0.95, \beta = -.59$ exposure use. No relationship between attachment style and exposure use.	Weak
(Sars & Van Minnen, 2015), Netherlands	<i>N</i> = 490, <i>F</i> = 75% Age: <i>M</i> = 45.6 , <i>SD</i> = 11.1	Treatment experience, educational status and background, workplace characteristics	Use of exposure (yes or no, and frequency)	Regular use of exposure correlated with willingness to use intervention ( $\rho=.34$ ) and positively perceived credibility ( $\rho=.16$ ), as well as reduced reporting of barriers ( $\rho=-.18$ ). The use of disorder-specific interventions was positively associated with increased education.	Weak
(Scherr et al., 2015), USA	<i>N</i> = 172, <i>F</i> = not reported Age: not reported	Acceptance and action questionnaire (Bond, et al., 2011), Multidimensional experiential avoidance questionnaire (MEAQ; Gamez et al., 2011), evidence-based practice attitude scale (Aarons, 2004), rational experiential inventory (Pacini & Epstein, 1999)	Treatment approaches and techniques questionnaire (Sharp et al., 2008), treatment plan assessments in response to vignette	Increased avoidance correlated with less time allotted to EPR ( $r= -.30, p<.01$ ). More intuitive personality styles ( $r= -.37, p<.01$ ) and older participants ( $r= -.21, p<.01$ ) less likely to use exposure. No difference in genders.	Moderate



Authors, year and country	Sample size, gender and age	Measure of therapist factors	Measure of exposure use	Findings	Global quality rating
(Schumacher & Knaevelsrud, 2018), Germany	$N= 333$ , $F= 72\%$ Age: $43.34$ $M=$ , $SD=9.52$	TBES	Case vignettes, self-reported use of exposure therapy with PTSD	Younger age and less negative beliefs about exposure therapy significantly predicted the likelihood of belonging to frequent-users versus non-users of exposure therapy group ( $B=- 0.052$ , $p=.01$ ; $B=- 0.059$ , $p=.002$ ) No difference in gender on TBES scores. Level of education was not found to predict exposure use.	Weak
(Schumacher, et al., 2019), Germany	Same sample as above	Use of exposure during training, Relevance of exposure, TBES.	Self-reported use of exposure (percentage of cases exposure used)	Negative correlation between TBES total score and average number of sessions spent on exposure interventions in the treatment of Post Traumatic Stress Disorder, $\tau b = -.20$ , $p < .001$ , and panic disorder, $\tau b = -.10$ , $p = .012$ . Positive correlation between negative beliefs about exposure therapy and age, $r (328) = .22$ , $p < .001$	Weak
(Stewart et al., 2016), USA	$N= 65$ , $F=$ not reported Age: not reported	Degree, practice type, geographical location, and training background	Novel survey, type and frequency of disorder treated, use of exposure	No relationship was found between clinician variables and use of exposure. 98.4% reported using exposure for OCD and 97% for anxiety.	Weak
(Van Minnen et al., 2010), Netherlands	$N=255$ , $F= 65\%$ Age: $M= 48.83$ , $SD= 9.83$	Age, gender, main profession, treatment use, training, treatment credibility, treatment suitability.	Forced choice between imaginal exposure, EMDR, medication, person-centred counselling in response to vignette depicting PTSD	Credibility of IE beliefs positively correlated with IE use. Medication more likely to be offered than IE when co-morbid depression present ( $\chi^2 (3, 252) = 18.21$ , $p < .001$ ), IE more likely to be offered when patient requested trauma focused therapy( $F(,245) = 26.34$ , $p < .001$ , $\eta_p^2 = .10$ ). Perceived barriers to IE negatively related to use of IE ( $r = .23$ ) when there were multiple childhood traumas.	Weak

<b>Authors, year and country</b>	<b>Sample size, gender and age</b>	<b>Measure of therapist factors</b>	<b>Measure of exposure use</b>	<b>Findings</b>	<b>Global quality rating</b>
(Whiteside, Deacon, Benito, & Stewart, 2016), USA	<i>N</i> = 331, F= not reported Age: Not reported	TBES, Connor-Davidson Resilience Scale: Therapist (CD-RISC:T), qualification level	Self-reported treatment techniques	PhD psychologists most likely to endorse exposure $\chi^2= 24.18, p < 0.001$ , those identifying as pure CBT orientation were most likely to endorse use of exposure $\chi^2= 16.09, p < 0.001$ . Year in practice unrelated to use of exposure, clinicians who endorsed exposure had more positive beliefs than those who did not $t(262) = 11.03, p < 0.001, d = 1.37$ . Psychologists who viewed children as more resilient more likely to use exposure $t(129) = 2.32, p = 0.02, d = 0.42$ .	Weak

## **Synthesis of Findings**

Although there were several clinician characteristics that demonstrated a positive association with the use of exposure therapy, it is important to note that several studies commented that exposure therapy was widely underused (Becker et al., 2004; De Jong et al., 2020; Kline et al., 2021; Reid et al., 2018). For example, Whiteside et al., (2016) found that although 81% of participants endorsed a CBT orientation, only 25.7% of therapists said they often used exposure and 5.8% said they always used it to treat childhood anxiety disorders.

The findings of the review will be synthesised according to clinician characteristics. The following characteristics will be considered: beliefs about exposure therapy, therapeutic orientation, age and experience, therapist anxiety, training and professional background.

### ***Beliefs About Exposure Therapy***

Negative beliefs about exposure therapy were associated with reduced use of exposure therapy in all 14 studies that used the TBES (De Jong et al., 2020; Deacon, et al., 2013; Kannis-Dymand et al., 2022; Keleher et al., 2020; Kline et al., 2021; Meyer et al., 2014; Meyer & Kelly, 2020; Pittig et al., 2019; Reid, et al., 2018; Rowe & Kangas, 2020; Sars & Van Minnen, 2015; Schumacher & Knaevelsrud, 2018; Schumacher et al., 2019; Whiteside et al., 2016). The majority of studies found a medium to large effect size. However, two studies found a small effect size (Pittig et al., 2019, Shumacher, et al., 2019). There is strong and consistent evidence that negative beliefs about exposure therapy are associated with lower intent to use exposure therapy.

### ***Therapeutic Orientation***

Seven studies reported on therapeutic orientation in relation to exposure use. Six of the eight found that those who identified with a CBT orientation were more likely to use exposure therapy. (De Jong et al., 2020; Jelinek et al., 2022; Kannis-Dymand et al., 2022; Keleher et al., 2020; Kline et al., 2021; Whiteside et al., 2016). The effect size ranged between medium and large. One study found no relationship between therapeutic orientation and exposure use (Moses et al., 2021). To summarise, there is strong and consistent evidence that a CBT orientation is associated with higher

intent to use exposure therapy.

### ***Therapist Age***

Six studies examined the relationship between age and use of exposure therapy (De Jong et al., 2020; Jelinek et al., 2022; Kline et al., 2021; Meyer & Kelly, 2020; Scherr et al., 2015; Schumacher, et al., 2019). All these studies found that older therapists were less likely to use exposure therapy, apart from Kline et al. (2021) who found no relationship between age and exposure. The effect sizes ranged between low and medium. These findings suggest that there is consistent evidence of a moderate effect size that older age is associated with a lower intention to use exposure therapy.

### ***Therapist Years of Experience***

Six studies examined the relationship between years of experience and use of exposure, none of which found a significant relationship (Becker-Haimes, et al., 2017; Jelinek et al., 2022; Keleher et al., 2020; Kline et al., 2021; Moses et al., 2021; Whiteside et al., 2016). To summarise, from the findings included in this review there is no evidence to suggest that years of experience as a therapist is associated with intent to use exposure therapy.

### ***Therapist Anxiety***

Seven studies measured the relationship between therapist anxiety and use of exposure. Two studies found no relationship between anxiety and use of exposure (De Jong et al., 2020; Reid, et al., 2018). However, five studies found therapists with increased anxiety were less likely to use exposure therapy (Levita et al., 2016; Meyer et al., 2014; Parker & Waller, 2019; Pittig et al., 2019; Scherr et al., 2015). The effect sizes ranged between small and medium. To summarise, there were some inconsistent findings, but the majority of research supported a moderate, negative association between therapist anxiety and intent to use exposure therapy.

### ***Professional Background and Education***

Eleven studies investigated the relationship between professional background and use of exposure. Seven studies found a positive relationship between years of education and use of

exposure (De Jong et al., 2020; Keleher et al., 2020; Kline et al., 2021; Meyer et al., 2014; Moritz, et al., 2019; Sars & Van Minnen, 2015; Whiteside et al., 2016). The effect sizes were moderate. There was also some indication that exposure therapy was more likely to be used by clinical psychologists than other professions (Keleher et al., 2020; Meyer et al., 2014; Moritz, et al., 2019), though this might simply be an artefact, as the clinical training of clinical psychologists tends to be longer than for other professions. Four studies found no relationship between education and use of exposure therapy (Reid, et al., 2018; Rowe & Kangas, 2020; Schumacher, et al., 2019; Stewart et al., 2016). Although there are some conflicting findings the majority of studies demonstrated a positive correlation of moderate strength between years of education and use of exposure therapy.

### ***Training in Exposure***

All five studies that investigated the relationship between specific training in exposure and the use of exposure therapy found a positive relationship (Becker et al., 2004; Kannis- Dymand et al., 2022; Kline, et al., 2021; Moses et al., 2021; Reid, et al., 2018). The effect sizes ranged from small to large. The findings from these studies provide consistent support for a positive association between training in exposure and use of exposure therapy, however the strength of the relationship was found to vary.

## **Discussion**

The current review aimed to consider a wide range of therapist variables to investigate which therapist factors were associated with a therapist's intent to use exposure therapy. This is important in the light of evidence that exposure therapy is widely underused, despite being one of the most effective treatments for anxiety-based disorders (Whiteside et al., 2016). The findings suggest therapists were more likely to use exposure therapy if they were younger; were less anxious; had a CBT orientation; held positive beliefs about exposure therapy, and had specific training in exposure therapy. In contrast, there was no relationship between years of experience and the use of exposure therapy. Overall, the quality of the studies was weak, mostly because of a reliance on survey methodology and a lack of randomised control trials.

These findings will be discussed considering the quality of the research. The strengths and limitations of the studies included in the review will be discussed, as well as the strengths and limitations of the review as a whole. Any gaps in the literature will be identified, and recommendations will be made for future research as well as implications for clinical practice.

### **Factors Behind Therapists' Use of Exposure Therapy**

The findings showed that therapists with negative beliefs about exposure therapy were less likely to use it. This finding was consistent across a range of professionals working with various clinical populations in several countries. The TBES has demonstrated good reliability and validity (Deacon et al., 2013), is widely used, and has been translated into several languages. Therefore, despite the limitations associated with self-report (e.g., social desirability bias), it seems likely that the association between negative beliefs about exposure therapy and the reduced use of exposure therapy is reliable.

Therapists with a CBT therapeutic orientation appeared more likely to use exposure therapy than those who favoured other modalities. As most studies did not blind participants to the aims of their research and relied on a self-selected sample, it is likely that therapists with a CBT orientation and familiarity with exposure were overrepresented in the sample. This means that there may not be sufficient representation from other orientations to make the findings generalisable. Furthermore, some studies only included participants who identified as trauma or anxiety experts or excluded participants from the sample if they did not use exposure (Vann Minnen et al., 2010). This may have led to a missed opportunity to investigate the reason why some therapists do not use exposure at all.

As therapeutic orientation was self-reported, it is possible that respondents used different criteria to decide which therapeutic orientation they were most aligned with. For example, some may consider it necessary to train as a CBT therapist whereas others may consider a Doctorate in Clinical Psychology to provide adequate knowledge of CBT to consider themselves to have a CBT orientation. It is possible that those who have a CBT orientation have had more exposure specific

training which may account for the increased use of exposure, however even amongst those with a CBT orientation usage was still low (Whiteside et al., 2016).

The studies in this review frequently commented on the relationship between age, years of experience and exposure. It is likely that there is a significant positive correlation between age and experience as a therapist. However, six studies did not provide age demographics for their sample making it hard to separate the effects of age and experience. However, in studies that assessed both age and experience, it seems that older therapists are less likely to use exposure therapy, and their years of experience as a therapist did not add additional predictive value (De Jong et al., 2020).

There was some evidence that younger therapists were more likely to use exposure therapy. It is possible that this is because they have completed their training more recently and therefore have had less time to drift. Alternatively, it is possible that the training they received was more up to date, whereas older therapists may be relying on techniques that have now become outdated. For example, whilst it used to be common practice to use relaxation techniques alongside exposure therapy this has now been found to prolong the therapy and reduce effectiveness (Adams et al., 2015).

There were some conflicting findings as to whether therapist anxiety was related to exposure use. Whilst the majority of studies found that anxious therapists were less likely to use exposure, De Jong et al., (2020) and Reid (2018) found no relationship between anxiety and exposure usage. There are several possible explanations for this discrepancy. Firstly, De Jong et al., (2020) acknowledged that the levels of anxiety found in their sample were significantly lower than seen in other samples of therapists. Secondly, many of the studies used different measures to record anxiety, and different facets of anxiety were considered. It is possible that some facets of anxiety are better predictors of exposure usage than others. Alternatively, perhaps the relationship between anxiety and exposure is mediated by another variable that was not routinely measured. For example, Reid (2017) found that anxiety sensitivity showed a positive correlation with perceived barriers to exposure therapy, however Reid (2018) found no relationship between anxiety sensitivity and actual

use of exposure therapy. Perhaps anxious therapists respond differently to perceived barriers dependent on other factors such as supervision or time pressure. It is possible that with good supervision and a well-resourced organisation (e.g. low caseloads), anxious therapists may still be willing to use exposure therapy.

Higher levels of training and education appear to correlate with increased use of exposure therapy. However, it is difficult to conclude from the current findings how education promotes the use of exposure therapy. Some studies measured years of education (Rowe & Kangas, 2020; Sars & Van Minnen, 2015) whereas others measured specific training in exposure therapy (Kline et al., 2021). This makes it challenging to identify to which variable a relationship may be attributed, as some higher education in mental health may include training in exposure therapy, such as the Doctorate of Clinical Psychology. Reid (2018) found that use of exposure correlated with receiving exposure specific training, but not years of education. This suggests that it may be exposure-specific training that accounts for the relationship between education and exposure use.

It is also possible that the relationship between education and exposure usage is moderated by beliefs about exposure therapy. There were consistent findings that positive beliefs about exposure therapy led to increased usage. Rowe & Kangas (2020) found that clinical psychologists and those with master's degrees had more positive beliefs about exposure, and that positive beliefs about exposure correlated with increased exposure usage. However, there was no relationship between education and use of exposure. These findings raise the possibility that the relationship between education and exposure usage is better accounted for by the positive effect of education on beliefs about exposure.

Stewart et al. (2016) found no relationship between education and exposure usage. However, they had a substantially smaller sample than the other studies making it possible that the analysis was underpowered. Furthermore, they recruited clinicians who specifically work with anxiety from special interest groups, and 98% of participants reported using exposure. There was no relationship found between any clinician variables and exposure usage, so it is possible that a



ceiling effect was observed due to the unusually high rate of exposure use reported.

### **Strengths and Limitations of the Current Review**

The current review had numerous strengths. There was a comprehensive and replicable search strategy. Three databases were searched, and a forward and backwards citation search was conducted to ensure that all relevant papers were encapsulated. All included studies were quality assessed using a widely used measure ensuring that the quality ratings were comparable to other reviews, and the quality rating showed strong interrater reliability.

A further strength of the current review is that papers were included with samples recruited from a range of countries, meaning that the findings can be considered representative of a wider population of therapists. However, Western countries were still over-represented. Including samples recruited from a range of countries can make the findings more difficult to compare, as the levels of training and qualification necessary to practice vary from country to country.

A limitation of this review is that a meta-analysis was not completed, which would have been helpful to obtain an objective and quantifiable measure of effect size relating to the influence of therapist factors on intent to use exposure therapy. A grey literature search was not conducted to ensure that the research that was included met the quality necessary for peer review. However, this means that the review is susceptible to publication bias. Furthermore, despite only including peer-reviewed studies, the overall quality of studies was low. A further limitation is that the current review only included papers published in English. Therefore, the findings are likely to be biased toward Western English-speaking healthcare systems and unrepresentative of research from other languages and cultures.

### **Strengths and Limitations of Studies Included**

A strength of the studies included is that the majority used reliable and validated measures for therapist characteristics, such as the TBES (Deacon et al., 2013). However, the measurement of clinician use of exposure was often unreliable. Some studies used vignettes which arguably increase validity as a higher level of control is afforded over patient or organisational factors that may

influence the therapist's decision, and reduce the effect of poor recall (Van Minnen et al., 2010). However, many studies utilised self-reported use of exposure therapy (Schumacher et al., 2019). Self-report may be inflated by social desirability bias, and is vulnerable to poor recall as well as variation in caseloads between clinicians.

A further limitation of the studies included in the review was a reliance on survey designs. The use of surveys led to a lack of experimental control, meaning that the findings are correlational, and causation cannot be assumed. Although the use of survey designs meant large samples could be recruited, the sampling methods used left the research susceptible to sampling bias. As all the studies' samples were recruited through responses to adverts and emails, it is possible that only those who were confident in using exposure therapy responded. Furthermore, it was hard to report response rate and withdrawal from the research as it cannot be known with how many people the research was shared.

Finally, the majority of research focused either on the use of exposure in children with anxiety, or adults with PTSD. There was no research focusing on the use of exposure with older adults or people with learning disabilities. Therefore, it may be challenging to generalise the findings of this review to therapists working in those populations.

### **Implications of Findings for Future Research**

The current review has several implications for future research. A major limitation of studies in this review was a lack of experimental control. Although it would be challenging to use randomised control trials in research investigating therapist factors, there are other ways in which more control could be exerted over extraneous variables to increase the validity of the findings. For example, use of exposure could be measured through independently screening clinicians' current caseload or watching and coding a filmed session to assess model adherence, rather than relying on self-report. The current studies also relied on self-selecting samples making it unlikely that the samples included in this review are representative of therapists as a whole. Future research where clinicians are randomly selected from a range of settings would be beneficial to reduce sampling

bias.

There was some indication that organisational factors may influence whether clinicians use exposure therapy. Becker-Haimes et al. (2017) found that clinicians with higher caseloads were less likely to use exposure therapy. Sars and Van Minnen (2015) found that neither treatment experience or caseload were related to attitudes towards exposure, but those with a higher caseload were less likely to use exposure. The reason behind this is unclear, it could be due to time constraints or a wider reflection of feeling unsupported by the organisation. It would be beneficial for future research to consider the interplay between therapist, organisational and client characteristics.

The findings suggest that anxious therapists are less likely to use exposure therapy. Future research could consider an exposure intervention for clinicians who feel anxious about exposure therapy (Farrell et al., 2013). In the same way that clients benefit from repeated exposure to anxiety-provoking stimuli through a reduced anxiety and avoidance response, changes in threat-based cognitions and improved self-efficacy (Breuninger et al., 2019), the same could be true of clinicians and their use of exposure therapy.

### **Implications of Findings for Clinical Practice**

There are several implications for clinical practice. It is possible that offering therapists further training in exposure could increase the use of exposure therapy. However, although there appears to be a positive correlation between training in exposure and usage, exposure was still underutilised in samples with training. Therefore, although training in exposure appears necessary, it is not sufficient to guarantee that exposure therapy will be used.

There seems to be a reliable relationship between positive beliefs about exposure therapy and its usage. Therefore, it is possible that targeting therapist beliefs about exposure therapy may be effective. However, a meta-analysis investigating the effects of training clinicians in exposure found that although training had a large positive effect on clinicians' knowledge and attitudes towards exposure therapy, the effect on clinician behaviour and intent to use exposure therapy was moderate, suggesting that a change in attitude and increased knowledge is not sufficient to effect

behavioural change (Trivasse et al., 2020). Trivasse et al. (2020) suggested supporting clinicians to develop implementation intentions, as this has been found to improve goal attainment even if the necessary action is anxiety-provoking. For example, clinicians could make an “if-then” plan to implement exposure strategies that they have learned.

Other alternatives to improve the implementation of exposure therapy could be to provide more specific guidance around what services are commissioned for. For example, in fields where exposure is regularly used (e.g., eating disorders, trauma and anxiety services), the use of exposure could be commissioned as an expected part of the service. Furthermore, evidence suggests that clinicians generally overestimate their effectiveness (Walfish et al., 2012). Therapists who overestimate their effectiveness may feel less compelled to use evidence-based therapy, particularly if they find the intervention challenging. Therefore, if services were commissioned to provide a specific intervention and realistic outcome measures were monitored accordingly and fed back to clinicians, this might encourage the use of evidence-based therapy, including exposure therapy.

Alternatively, there could be more stringent Continued Professional Development criteria to support clinicians to access regular refresher training around exposure therapy, as accessing exposure-specific training appears to increase the likelihood that it will be used. Furthermore, perhaps more needs to be done to educate service users about what they should expect. Previous research has shown a mismatch between when patients thought they had received CBT and what they actually received (Cowdrey & Waller, 2015). Service users should also be encouraged to raise their concerns if they are not being offered appropriate treatment. Providing resources to services to ensure that clinicians felt skilled and confident to use exposure therapy, and patients felt able to ask for exposure therapy could improve the quality of care offered whilst reducing clinician burden, as when utilised appropriately exposure therapy can be a short and effective intervention (Kaczurkin & Foa, 2015).

It may also be important to consider how to support clinicians to unlearn older practices that have since been found to be detrimental to exposure therapy, such as the use of relaxation

techniques. It could be assumed that learning new evidence-based techniques reduces the use of outdated methods, but this might not be the case, particularly if teachers or supervisors are using out of date methods. Effective ways of supporting clinicians to transition to newer evidence-based practice could warrant future research (Niven, et al., 2015).

## **Conclusion**

In summary, the findings of this review indicate that therapist factors that influence their intent to use exposure therapy are age, training in exposure, education, CBT orientation, therapist anxiety, and attitudes towards exposure therapy. Despite these relationships, exposure therapy was generally underused, which has significant implications for patient care given that exposure therapy is an evidence-based intervention for anxiety disorders recommended by NICE guidelines (NICE, 2013). Although there is evidence that training interventions can improve therapist knowledge and attitudes towards exposure therapy, this does not seem sufficient to change therapist behaviour (Trviasse et al., 2020). Therefore, it may be necessary for future research to consider the gap between intention and behaviour when it comes to implementing exposure therapy, and perhaps the interaction between client, therapist, and organisational factors.

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## Appendices

Appendix A- Search strategy

### **Scopus- 13.09.21**

(Therapist\* OR "CBT therapist\*" OR "cognitive behavio\*ral therapist\*" OR psychologist\* OR "clinical psychologist\*" OR clinician\* OR psychotherapist\*) W/3 (anxiet\* OR characteristic\* OR factor\* OR belief\*)

AND

"exposure therap\*"

### **Psycinfo- 13.09.21**

((therapist\* or "CBT therapist\*" or "cognitive behavio\*ral therapist\*" or psychologist\* or "clinical psychologist\*" or clinician\* or psychotherapist\*) adj3 (anxiet\* or characteristic\* or factor\* or belief\*))

AND

Exp Exposure therapy

### **Web of Science 13.09.21**

((therapist\* OR "CBT therapist\*" OR "cognitive behavio\*ral therapist\*" OR psychologist\* OR "clinical psychologist\*" OR clinician\* OR psychotherapist\*) NEAR/3 (anxiet\* OR characteristic\* OR factor\* OR belief\*))

AND

“exposure therap\*”

Appendix B- Quality Assessment Tool

**QUALITY ASSESSMENT TOOL FOR QUANTITATIVE STUDIES**



**COMPONENT RATINGS**

**A) SELECTION BIAS**

- (01) Are the individuals selected to participate in the study likely to be representative of the target population?
- 1 Very likely
  - 2 Somewhat likely
  - 3 Not likely
  - 4 Can't tell
- (02) What percentage of selected individuals agreed to participate?
- 1 80 - 100% agreement
  - 2 60 - 79% agreement
  - 3 less than 60% agreement
  - 4 Not applicable
  - 5 Can't tell

RATE THIS SECTION	STRONG	MODERATE	WEAK
See dictionary	1	2	3

**B) STUDY DESIGN**

- Indicate the study design
- 1 Randomized controlled trial
  - 2 Controlled clinical trial
  - 3 Cohort analytic (case group pre + post)
  - 4 Case control
  - 5 Cohort (case group pre + post (before and after))
  - 6 Interrupted time series
  - 7 Other specialty \_\_\_\_\_
  - 8 Can't tell
- Was the study described as randomized? If NO, go to Component C.
- No Yes
- If Yes, was the method of randomization described? (See dictionary)
- No Yes
- If Yes, was the method appropriate? (See dictionary)
- No Yes

RATE THIS SECTION	STRONG	MODERATE	WEAK
See dictionary	1	2	3

**C) CONFOUNDERS**

- (01) Were there important differences between groups prior to the intervention?
- 1 Yes
  - 2 No
  - 3 Can't tell
- The following are examples of confounders:
- 1 Race
  - 2 Sex
  - 3 Marital status/family
  - 4 Age
  - 5 SES (income or class)
  - 6 Education
  - 7 Health status
  - 8 Pre-intervention score on outcome measure
- (02) If yes, indicate the percentage of relevant confounders that were controlled (either in the design (e.g. stratification, matching) or analysis)?
- 1 80 - 100% (most)
  - 2 60 - 79% (some)
  - 3 Less than 60% (few or none)
  - 4 Can't tell

RATE THIS SECTION	STRONG	MODERATE	WEAK
See dictionary	1	2	3

**D) BLINDING**

- (01) Was (were) the outcome assessor(s) aware of the intervention or exposure status of participants?
- 1 Yes
  - 2 No
  - 3 Can't tell
- (02) Were the study participants aware of the research question?
- 1 Yes
  - 2 No
  - 3 Can't tell

RATE THIS SECTION	STRONG	MODERATE	WEAK
See dictionary	1	2	3

**E) DATA COLLECTION METHODS**

- (01) Were data collection tools shown to be valid?
- 1 Yes
  - 2 No
  - 3 Can't tell
- (02) Were data collection tools shown to be reliable?
- 1 Yes
  - 2 No
  - 3 Can't tell

RATE THIS SECTION	STRONG	MODERATE	WEAK
See dictionary	1	2	3

**F) WITHDRAWALS AND DROP-OUTS**

- (01) Were withdrawals and drop-outs reported in terms of numbers and/or reasons per group?
- 1 Yes
  - 2 No
  - 3 Can't tell
  - 4 Not Applicable (i.e. one time surveys or interviews)
- (02) Indicate the percentage of participants completing the study. (If the percentage differs by groups, record the lowest).
- 1 80 - 100%
  - 2 60 - 79%
  - 3 less than 60%
  - 4 Can't tell
  - 5 Not Applicable (i.e. retrospective case-control)

RATE THIS SECTION	STRONG	MODERATE	WEAK	
See dictionary	1	2	3	Not Applicable

**G) INTERVENTION INTEGRITY**

- (01) What percentage of participants received the allocated intervention or exposure of interest?
- 1 80 - 100%
  - 2 60 - 79%
  - 3 less than 60%
  - 4 Can't tell
- (02) Was the consistency of the intervention measured?
- 1 Yes
  - 2 No
  - 3 Can't tell
- (03) Is it likely that subjects received an unintended intervention (contamination or co-intervention) that may influence the results?
- 4 Yes
  - 5 No
  - 6 Can't tell

**H) ANALYSES**

- (01) Indicate the unit of allocation (circle one)
- |           |                          |                 |            |
|-----------|--------------------------|-----------------|------------|
| community | organization/institution | practice/office | individual |
|-----------|--------------------------|-----------------|------------|
- (02) Indicate the unit of analysis (circle one)
- |           |                          |                 |            |
|-----------|--------------------------|-----------------|------------|
| community | organization/institution | practice/office | individual |
|-----------|--------------------------|-----------------|------------|
- (03) Are the statistical methods appropriate for the study design?
- 1 Yes

**GLOBAL RATING**

**COMPONENT RATINGS**

Please transcribe the information from the gray boxes on pages 1-4 onto this page. See dictionary or how to rate this section.

	STRONG	MODERATE	WEAK	
<b>A SELECTION BIAS</b>	1	2	3	
<b>B STUDY DESIGN</b>	STRONG	MODERATE	WEAK	
<b>C CONFOUNDERS</b>	STRONG	MODERATE	WEAK	
<b>D BLINDING</b>	STRONG	MODERATE	WEAK	
<b>E DATA COLLECTION METHOD</b>	STRONG	MODERATE	WEAK	
<b>F WITHDRAWALS AND DROP-OUTS</b>	STRONG	MODERATE	WEAK	
	1	2	3	Not Applicable

**GLOBAL RATING FOR THIS PAPER (circle one):**

- 1 STRONG (no WEAK ratings)
- 2 MODERATE (one WEAK rating)
- 3 WEAK (two or more WEAK ratings)

With both reviewers discussing the ratings:

Is there a discrepancy between the two reviewers with respect to the component (A-F) ratings?

- No Yes

If yes, indicate the reason for the discrepancy

- 1 Oversight
- 2 Differences in interpretation of criteria
- 3 Differences in interpretation of study

Final decision of both reviewers (circle one): 1 STRONG

## Appendix C- Quality Rating Dictionary

### Quality Assessment Tool for Quantitative Studies Dictionary



The purpose of this dictionary is to describe items in the tool thereby assisting raters to score study quality. Due to under-reporting or lack of clarity in the primary study, raters will need to make judgements about the extent that bias may be present. When making judgements about each component, raters should form their opinion based upon information contained in the study rather than making inferences about what the authors intended. Mixed methods studies can be quality assessed using this tool with the quantitative component of the study.

#### A) SELECTION BIAS

- [Q1]** Participants are more likely to be representative of the target population if they are randomly selected from a comprehensive list of individuals in the target population (score very likely). They may not be representative if they are referred from a source (e.g. clinic) in a systematic manner (score somewhat likely) or self-referred (score not likely).
- [Q2]** Reflex to the % of subjects in the control and intervention groups that agreed to participate in the study before they were assigned to intervention or control groups.

#### B) STUDY DESIGN

In this section, raters assess the likelihood of bias due to the allocation process in an experimental study. For observational studies, raters assess the extent that assessments of exposure and outcome are likely to be independent. Generally, the type of design is a good indicator of the extent of bias. In stronger designs, an equivalent control group is present and the allocation process is such that the investigators are unable to predict the sequence.

##### Randomized Controlled Trial (RCT)

An experimental design where investigators randomly allocate eligible people to an intervention or control group. A rater should describe a study as an RCT if the randomization sequence allows each study participant to have the same chance of receiving each intervention and the investigators could not predict which intervention was next. If the investigators do not describe the allocation process and only use the words 'random' or 'randomly', the study is described as a controlled clinical trial.

See below for more details.

Was the study described as randomized?

Score YES, if the authors used words such as random allocation, randomly assigned, and random assignment.

Score NO, if no mention of randomization is made.

Was the method of randomization described?

Score YES, if the authors describe any method used to generate a random allocation sequence.

Score NO, if the authors do not describe the allocation method or describe methods of allocation such as alternation, case record numbers, dates of birth, day of the week, and any allocation procedure that is entirely transparent before assignment, such as an open list of random numbers or allocations.

If NO is scored, then the study is a controlled clinical trial.

#### E) DATA COLLECTION METHODS

Tools for primary outcome measures must be described as reliable and valid. If 'face' validity or 'content' validity has been demonstrated, this is acceptable. Some sources from which data may be collected are described below.

**Self-reported data** includes data that is collected from participants in the study (e.g. completing a questionnaire, survey, answering questions during an interview, etc.).

**Assessment/Screening** includes objective data that is retrieved by the researchers (e.g. observations by investigators).

**Medical Records/Vital Statistics** refers to the types of formal records used for the extraction of the data.

Reliability and validity can be reported in the study or in a separate study. For example, some standard assessment tools have known reliability and validity.

#### F) WITHDRAWALS AND DROP-OUTS

Score YES if the authors describe BOTH the numbers and reasons for withdrawals and drop-outs.

Score NO if either the numbers or reasons for withdrawals and drop-outs are not reported.

Score NOT APPLICABLE if the study was a one-time interview or survey where there was not follow-up data reported.

The percentage of participants completing the study refers to the % of subjects remaining in the study at the final data collection period in all groups (i.e. control and intervention groups).

#### G) INTERVENTION INTEGRITY

The number of participants receiving the intended intervention should be noted (consider both frequency and intensity). For example, the authors may have reported that at least 50 percent of the participants received the complete intervention. The authors should describe a method of measuring if the intervention was provided to all participants the same way. As well, the authors should indicate if subjects received an unintended intervention that may have influenced the outcomes. For example, co-intervention occurs when the study group receives an additional intervention (other than that intended). In this case, it is possible that the effect of the intervention may be over-estimated. Contamination refers to situations where the control group accidentally receives the study intervention. This could result in an under-estimation of the impact of the intervention.

#### H) ANALYSIS APPROPRIATE TO QUESTION

Was the quantitative analysis appropriate to the research question being asked?

An intention-to-treat analysis is one in which all the participants in a trial are analyzed according to the intervention to which they were allocated, whether they received it or not. Intention-to-treat analyses are favoured in assessments of effectiveness as they mirror the non-compliance and treatment changes that are likely to occur when the intervention is used in practice, and because of the risk of attrition bias when participants are excluded from the analysis.

Was the method appropriate?

Score YES, if the randomization sequence allowed each study participant to have the same chance of receiving each intervention and the investigators could not predict which intervention was next. Examples of appropriate approaches include assignment of subjects by a central office unaware of subject characteristics, or sequentially numbered, sealed, opaque envelopes.

Score NO, if the randomization sequence is open to the individuals responsible for recruiting and allocating participants or providing the intervention, since those individuals can influence the allocation process, either knowingly or unknowingly.

If NO is scored, then the study is a controlled clinical trial.

#### Controlled Clinical Trial (CCT)

An experimental study design where the method of allocating study subjects to intervention or control groups is open to individuals responsible for recruiting subjects or providing the intervention. The method of allocation is transparent before assignment, e.g. an open list of random numbers or allocation by date of birth, etc.

#### Cohort analytic (two group pre and post)

An observational study design where groups are assembled according to whether or not exposure to the intervention has occurred. Exposure to the intervention is not under the control of the investigators. Study groups might be non-equivalent or not comparable on some feature that affects outcomes.

#### Case control study

A retrospective study design where the investigators gather 'cases' of people who already have the outcome of interest and 'controls' who do not. Both groups are then questioned or their records examined about whether they received the intervention exposure of interest.

#### Cohort (one group pre + post (before and after))

The same group is provided, given an intervention, and tested immediately after the intervention. The intervention group, by means of the pretest, act as their own control group.

#### Interrupted time series

A study that uses observations at multiple time points before and after an intervention (the 'intervention'). The design attempts to detect whether the intervention has had an effect significantly greater than any underlying trend over time. Exclusion: Studies that do not have a clearly defined point in time when the intervention occurred and at least three data points before and three after the intervention.

#### Other:

One time surveys or interviews

#### C) CONFOUNDERS

By definition, a confounder is a variable that is associated with the intervention or exposure and causally related to the outcome of interest. Even in a robust study design, groups may not be balanced with respect to important variables prior to the intervention. The authors should indicate if confounders were controlled in the design (by stratification or matching) or in the analysis. If the allocation to intervention and control groups is randomized, the authors must report that the groups were balanced at baseline with respect to confounders (either in the text or a table).

#### D) BLINDING

[Q1] Assessors should be described as blinded to which participants were in the control and intervention groups. The purpose of blinding the outcome assessors (who might also be the care providers) is to protect against detection bias.

[Q2] Study participants should not be aware of (i.e. blinded to) the research question. The purpose of blinding the participants is to protect against reporting bias.

#### Component Ratings of Study:

For each of the six components A – F, use the following descriptions as a roadmap.

#### A) SELECTION BIAS

**Good:** The selected individuals are very likely to be representative of the target population (Q1 is 1) and there is greater than 80% participation (Q2 is 1).

**Fair:** The selected individuals are at least somewhat likely to be representative of the target population (Q1 is 1 or 2); and there is 60 - 79% participation (Q2 is 2). 'Moderate' may also be assigned if Q1 is 1 or 2 and Q2 is 5 (can't fail).

**Poor:** The selected individuals are not likely to be representative of the target population (Q1 is 3); or there is less than 60% participation (Q2 is 3) or selection is not described (Q1 is 4); and the level of participation is not described (Q2 is 5).

#### B) DESIGN

**Good:** will be assigned to those articles that described RCTs and CCTs.

**Fair:** will be assigned to those that described a cohort analytic study, a case control study, a cohort design, or an interrupted time series.

**Weak:** will be assigned to those that used any other method or did not state the method used.

#### C) CONFOUNDERS

**Good:** will be assigned to those articles that controlled for at least 80% of relevant confounders (Q1 is 2); or (Q2 is 1).

**Fair:** will be given to those studies that controlled for 60 - 79% of relevant confounders (Q1 is 1) and (Q2 is 2).

**Poor:** will be assigned when less than 60% of relevant confounders were controlled (Q1 is 3) or control of confounders was not described (Q1 is 3) and (Q2 is 4).

#### D) BLINDING

**Good:** The outcome assessor is not aware of the intervention status of participants (Q1 is 2); and the study participants are not aware of the research question (Q2 is 2).

**Fair:** The outcome assessor is not aware of the intervention status of participants (Q1 is 2); or the study participants are not aware of the research question (Q2 is 2).

**Poor:** The outcome assessor is aware of the intervention status of participants (Q1 is 1); and the study participants are aware of the research question (Q2 is 1) or blinding is not described (Q1 is 3 and Q2 is 3).

#### E) DATA COLLECTION METHODS

**Good:** The data collection tools have been shown to be valid (Q1 is 1); and the data collection tools have been shown to be reliable (Q2 is 1).

**Fair:** The data collection tools have been shown to be valid (Q1 is 1); and the data collection tools have not been shown to be reliable (Q2 is 2) or reliability is not described (Q2 is 3).

**Poor:** The data collection tools have not been shown to be valid (Q1 is 2) or both reliability and validity are not described (Q1 is 3 and Q2 is 3).

#### F) WITHDRAWALS AND DROP-OUTS - a rating of:

**Good:** will be assigned when the follow-up rate is 80% or greater (Q1 is 1 and Q2 is 1).

**Fair:** will be assigned when the follow-up rate is 60 - 79% (Q2 is 2) OR Q1 is 4 or Q2 is 5.

**Poor:** will be assigned when the follow-up rate is less than 60% (Q2 is 3) or if the withdrawals and drop-outs were not described (Q1 is No or Q2 is 4).

**Not Applicable:** if Q1 is 4 or Q2 is 5.



Appendix D- Quality Rating Table

Author	A) Selection Bias	B) Study design	C) Confounds	E) Data collection method	F) Withdrawal and dropouts	Global rating
(Becker-Haimes, et al., 2017)	3	3	3	1	NA	3
(Becker, Zeyfert, & Anderson, 2004)	3	3	3	3	NA	3
(Deacon, Lickel, Farrell, Kemp, & Hipol, 2013)	3	3	3	1	NA	3
(De Jong, Lommen, van Hout, De Jong, & Nauta, 2020)	3	3	3	1	NA	3
(Jelinek, Balzar, Moritz, Reininger, & Miegel, 2022)	3	3	1	3	NA	3
(Kannis-Dymand, Grace, Mcdonald, & Chambers, 2022)	3	3	3	1	NA	3
(Keleher, Jassi, & Krebs, 2020)	3	3	3	1	NA	3
(Kline, Klein, Bowling, & Feeny, 2021)	3	3	2	1	NA	3
(Levita, Duhne, Girling, & Waller, 2016)	3	3	3	1	NA	3

(Meyer & Kelly, 2020)	3	3	3	1	NA	3
(Meyer, Farrell, Kemp, Blakey, & Deacon, 2014),	3	3	2	1	NA	3
(Moritz, et al., 2019),	3	3	3	3	NA	3
(Moses, Gonsalvez, & Meade, 2021),	3	3	3	3	NA	3
(Parker & Waller, 2019),	3	3	3	1	NA	3
(Pittig, Kotter, & Hoyer, 2019)	3	3	2	1	NA	3
(Reid, et al., 2017)	3	3	3	1	NA	3
(Reid, et al., 2018),	3	3	2	1	NA	3
(Rowe & Kangas, 2020)	3	3	2	1	NA	3
(Sars & Van Minnen, 2015)	3	3	3	2	NA	3
(Scherr, Herbert, & Forman, 2015)	3	1	2	1	NA	2
(Schumacher & Knaevelsrud, 2018)	3	3	3	2	NA	3
(Schumacher, et al., 2019)	3	3	3	1	NA	3

Stewart, Frank, 3 Benito & Wellen, 2016)	3	3	3	NA	3
(Van Minnen, 3 Hendriks, & Olf, 2010)	1	2	3	NA	3
(Whiteside, 3 Deacon, Benito, & Stewart, 2016)	3	3	1	NA	3

## **Section Two: Research Report**

### **Supervision for Exposure Therapy in the Treatment of Social Phobia: An Experimental Study of the Role of Supervisee and Supervisor Factors**

## Abstract

**Background:** The evidence base for the role of supervision in mental health practice is limited. Existing supervision research rarely focuses on factors that influence client outcomes such as the use of evidence-based therapy. Therapists often fail to provide evidence-based interventions, in a phenomenon known as “therapist drift”. Therapist factors such as anxiety and beliefs about therapies can contribute to a therapist’s propensity to drift.

**Method:** The current study used an experimental design with correlational elements to investigate the impact of supervisor and supervisee factors on the guidance that a supervisor gives during the treatment of social phobia. Ninety-three Cognitive Behavioural Therapy supervisors responded to an online survey measuring their own anxiety levels and beliefs about exposure therapy. Participants were randomly assigned to one of four conditions where they were asked to give advice to a supervisee depicted in a clinical vignette. The vignettes varied between anxious female, confident female, anxious male and confident male supervisees.

**Results:** The findings suggest that supervisee factors such as gender and anxiety have no effect on supervisory advice. However, supervisor factors predicted the implementation and prioritisation of exposure therapy relative to other therapeutic elements. The clinical implications of these findings are discussed, as well as recommendations for future research.

*Keywords:* Exposure therapy; Supervision; Anxiety; Gender; Beliefs about exposure therapy

### Practitioner Points

- Supervisee gender and anxiety were not found to influence the guidance given by supervisors
- Negative supervisor beliefs about exposure therapy were associated with advising their supervisee to delay the implementation of exposure therapy

## Introduction

Bernard and Goodyear (2004) defined supervision as a senior member of the profession offering guidance to someone more junior. Supervision was described as having an evaluative element, working to ensure the quality of services offered to clients. This definition indicates that supervisors play some role in keeping supervisees on track, ensuring they offer evidence-based interventions, and contribute to meaningful outcomes for clients. However, research into the effectiveness of clinical supervision is limited, and several reviews have identified reoccurring methodological problems in the field.

Spence et al. (2001) commented that although there appears to be a wealth of research regarding supervision, it relies heavily on personal anecdotes and descriptions of models. Fong and Malone (1994) identified that the majority of supervision research is based on descriptive studies, lacking in theoretical links, with unclear hypotheses and small samples. Kilminster and Jolly (2000) conducted a review with the aim of identifying whether supervision was effective and how the effectiveness of supervision could be determined. However, they concluded that their aim could only partially be met as most research focused on whether supervisees were happy with their supervisor, and satisfaction may not translate to good patient outcomes or be a direct result of supervision.

Despite the above finding, research has continued to focus on supervisee satisfaction (Britt & Gleaves, 2011). However, this research does indicate that a supervisor's ability to provide constructive feedback predicts supervisee satisfaction (McCrea & Milsom, 1996). Similarly, Henry et al. (1993) found that supervisees deliver more effective manualized treatment when supervisors watch and interrupt their videotaped sessions, providing direct feedback on therapist behaviours rather than client dynamics. Milne and James (2000) also found that supervision was most effective for patient outcomes when supervisees were closely monitored and provided with specific instructions and goals. Therefore, perhaps supervisees are both happier and more effective when supervisors provide them with specific, constructive feedback to improve their clinical work.

## **Therapist Drift and Exposure Therapy**

A significant threat to the effectiveness of evidence-based therapy, and therefore a useful target for supervision, is therapist drift. Therapists are assumed to have ‘drifted’ when they fail to deliver evidence-based treatment despite having the necessary tools and skills. Therapists can drift for reasons such as placing faith in their clinical judgement or due to their own anxiety about aspects of the treatment (Waller & Turner, 2016). However, failing to deliver evidence-based treatment has been linked to poorer patient outcomes, particularly in less motivated patients (Huppert et al., 2006).

Therapist drift is a particular problem when it comes to the use of exposure therapy. Exposure therapy is the most common evidence-based therapy for anxiety, where therapists encourage clients to make repeated and prolonged approaches to fear-inducing stimuli with the aim of reducing anxiety and improving self-efficacy (Breuninger et al., 2019; Craske et al., 2014).

Therapist beliefs about exposure therapy have been found to contribute significantly to therapeutic drift (De Jong et al., 2020; Meyer et al., 2014). Exposure therapy is the primary evidence-based treatment for a range of anxiety-based disorders. However, many therapists avoid using exposure therapy for fear of causing distress to their clients, despite the temporary nature of the distress and the evidence base supporting long-term gains (Deacon & Farrell, 2013). The relationship between therapist beliefs about exposure therapy and the dissemination of exposure therapy has been replicated in numerous samples of therapists, including samples with a specialist interest in treating anxiety and therapists trained in exposure therapy. These findings indicate that the impact of therapist beliefs on exposure therapy usage is a widespread problem, even in well-trained and experienced samples (Whiteside et al., 2016).

Another important contributing factor to therapeutic drift in the use of exposure therapy is therapist anxiety. Clinicians who are more anxious themselves are less likely to use exposure therapy with their clients (Levita et al., 2016). Even therapists who recognise the benefits of exposure therapy tend to make unjustified exceptions for clients who they have specific concerns

about (Meyer et al., 2014).

Given that the evidence base suggests supervision is most effective in terms of patient outcomes when supervisors provide specific feedback on therapist behaviour and model competence, it could be assumed that supervision would be a good deterrent to therapist drift. However, as noted above, the evidence for the impact of supervision is limited, and many of the assertions made about the effects of supervisee factors on supervision have been theoretical or descriptive (Milne & James, 2000; Szymanski, 2003). Furthermore, just as both therapist and patient factors influence the process and outcome of treatment (Huppert et al., 2001), supervisee and supervisor factors may have a similar impact on supervision.

### **The Role of Anxiety in Supervision**

An important factor to consider in the supervisory relationship is anxiety. Anxiety has been recognised as a common problem among supervisees, often due to a lack of self-efficacy, unclear expectations or holding numerous conflicting roles (Hung-Jen et al., 2016). Some anxiety is to be expected, given the evaluative nature of supervision, and to an extent, supervisee anxiety can have a performance-enhancing effect (Bernard & Goodyear, 2004). However, as might be expected, high levels of stress make clinicians and supervisees less effective.

Given that more anxious clinicians are less likely to use exposure therapy themselves, perhaps they are also less likely to encourage the use of exposure therapy in their supervisees. Furthermore, as therapists often avoid exposure therapy for fear of increasing their client's anxiety, it might be predicted that supervisors will refrain from pushing their anxious supervisees to engage in therapeutic techniques the supervisee finds challenging, to avoid causing the supervisee further distress. This avoidance might take place despite the fact it could be detrimental to the supervisee's learning and patient outcomes. Sherman (2015) hypothesised that supervisors may collude with supervisee anxiety and avoidance because of their own insecurities, which in turn models an unhelpful dynamic to be played out between the supervisee and their patient. Sherman's model provides a theoretical basis for the possibility of a detrimental contribution by supervisors to



supervisee therapist drift.

### **The Role of Gender in Supervision**

Another important supervisee factor to consider is gender. Crespi (1995) argued that given the relational nature of supervision it would be short-sighted not to acknowledge the role of gender. However, he felt that the field of research was small and limited by methodological problems. Hindes and Andrews (2011) conducted a review of research relating to gender and supervision. The findings showed that male supervisors were likely to rate female supervisees more negatively than male supervisees, and less likely to ask a female supervisee their opinion. Male supervisors were found to be more directive and less collaborative in their approach to female supervisees in comparison to male supervisees. However, these studies focused on the supervisory relationship and not client outcomes. Furthermore, the lack of randomised control trials means that it is difficult to ascertain the role of other factors, such as age, ethnicity and training status.

### **Experimental Evidence for the Role of Gender and Anxiety in Supervision**

Simpson-Southward et al. (2016) used an experimental design to test the effects of supervisee factors on the quality of supervision they received in the use of CBT to treat depression. Vignettes were used to manipulate the gender and anxiety levels of supervisees. The findings showed that supervisors were less likely to direct anxious female clinicians to deliver evidence-based therapy for depression than calm female clinicians. In contrast, male clinicians were guided towards evidence-based therapy regardless of their anxiety levels.

### **Theoretical Justification for the Current Project**

The current research will investigate the supervision of exposure therapy for social phobia, as this is an intervention recommended for the treatment of anxiety by NICE guidelines (NICE, 2019). Exposure therapy was chosen as it has clear protocols.

While Simpson-Southward et al. (2016) focused on the supervision of CBT for depression, the current study will extend those findings to the supervision of clinicians delivering exposure therapy for social phobia. The guidance that supervisors give their supervisees in the use of

exposure therapy is important due to the high prevalence of therapeutic drift in the use of exposure therapy and has not previously been investigated. However, research investigating why therapists themselves may not appropriately use exposure therapy has identified several important contributing factors to drift, particularly anxiety and negative beliefs about exposure therapy (Pittig et al., 2019). It is possible that these factors also impact the supervisory advice that clinicians give.

Furthermore, Simpson-Southward et al. (2016) focused on the role of supervisee factors and did not consider the contribution of supervisor characteristics or the interaction between the two. The current study will build on the findings of Simpson-Southward et al. (2016), by considering whether supervisors provide different guidance to supervisees when the gender and anxiety level of the supervisee is varied. This will be achieved by asking participants to view a vignette where the participant is supervising a therapist in the use of exposure therapy for social phobia.

### **Potential Clinical Value**

Previous attempts at using training in exposure therapy have shown that whilst training can have a positive impact on beliefs, knowledge and self-efficacy regarding the use of exposure therapy, training has a limited impact on a clinician's intention to use exposure therapy (Trivasse et al., 2020). The limited effectiveness of training clinicians highlights the importance of other methods to ensure therapist adherence to exposure therapy - particularly supervision. However, as noted above, the evidence for the effectiveness of supervision in ensuring adherence is limited. Therefore, the current study could provide further clarity regarding the role of supervision in adherence to evidence-based therapy.

The current research could also contribute to clinical practice by identifying common biases in supervisory practice, and how they are influenced by supervisee characteristics and/or the supervisor's own anxiety levels or beliefs about exposure therapy. Identifying supervisor bias and its impact on the quality of supervision provided could contribute to training given to supervisors. Such training could ensure that supervisors are aware of their response to therapist drift, thereby potentially improving supervisee adherence to evidence-based practice and subsequent patient

outcomes.

## **Aims**

The current study aims to investigate the impact of supervisor and supervisee factors on the guidance that a supervisor gives their supervisee when using exposure therapy to treat social phobia. The supervisee and supervisor factors investigated are: supervisor beliefs about exposure therapy and anxiety; and supervisee anxiety and gender.

## **Hypotheses**

1. Supervisors are more likely to reduce the pressure for their supervisee to implement evidence-based therapy (exposure) if the supervisee is female and anxious.
2. Supervisors who are anxious and who believe that exposure therapy is less positive will reduce the pressure for the supervisee to deliver exposure therapy appropriately (e.g., delaying implementation).
3. There will be an interaction between supervisor and supervisee characteristics, such that more anxious supervisors will be particularly unlikely to direct anxious supervisees to deliver exposure therapy.

## **Method**

### **Design**

The current project used a quantitative between-subject design, with experimental and correlational elements. There were four groups of participants, and each group saw a different vignette. The gender and anxiety of the supervisee in the vignettes was manipulated, resulting in the following four vignettes

1. female supervisee, anxious
2. female supervisee, confident
3. male supervisee, anxious
4. male supervisee, confident

The participants were randomly allocated to one of the four conditions.

## **Ethical Considerations**

The research project was pre-registered with Aspredicted (reference number 54617). It received approval from the University Ethics Committee (Appendix A) and The NHS Health Research Authority Appendix B). Participants were asked to give written, informed consent and had the right to withdraw at any time (Appendix C; Appendix D). Only data that were necessary for the purposes of the research were collected. Data were anonymised, kept securely, and remained confidential. Participants were given a debrief following participation (Appendix E). Participants were given the opportunity to enter into a draw to win one of two £25 Amazon vouchers as a thank you for their time.

## **Participants**

### ***Inclusion and Exclusion Criteria***

To be eligible to take part in the study, participants had to have British Association for Behavioural and Cognitive Psychotherapies (BABCP) accreditation, or be a qualified clinician, such as a clinical psychologist or an Improving Access to Psychological Therapies (IAPT) practitioner. All participants must have been currently offering supervision to a clinician working with CBT, or have done so in the past. Participants were over 18 years of age. Participants of any ethnicity or gender were eligible to take part. Anyone under the age of 18 or who did not offer supervision to a clinician working with CBT was excluded.

### ***Justification for Sample Size***

For hypotheses 1 and 2 (ANCOVA, testing the interaction of supervisee gender and anxiety), a sample size analysis was conducted using G power, as Cohen's table (1992) does not account for interaction effects. A medium effect size was assumed. While Simpson-Southward et al. (2016) found a large effect size of supervisee characteristics on supervisor responses, it is possible that this effect was related to the specific clinical condition under consideration (depression). Therefore, a more conservative medium estimate of effect size ( $f = 0.25$ ) was used in this study. Using ANCOVAs to test for the interaction effect and controlling for supervisor characteristics

(GAD-7, IUS and TBES scores), assuming a medium effect size, and with  $p = .05$  and power = .80, G power determined that 128 participants were needed (32 supervisors in each of the four conditions).

For hypothesis 3, a regression analysis was planned. Cohen's table (1992) suggested that with a power of .8, an alpha of .05 and three independent variables (supervisee anxiety, supervisor anxiety and the interaction term), 34 participants would be necessary to detect a large effect size of supervisee characteristics on supervisee responses (a similar effect size to that found by Simpson-Southward et al., 2016). However, in case a smaller effect size applied in the treatment of anxiety, a more conservative medium effect size was assumed. Cohen's table suggested that 76 participants should be recruited for that scenario.

Therefore, the sample should be at least 128 participants, to cover all three hypotheses.

## **Measures**

1. The Intolerance of Uncertainty Scale (IUS; Carleton et al., 2007; Appendix F), which is a 12-item measure. Higher scores indicate a greater intolerance of uncertainty. The IUS has a Cronbach's alpha of .91, indicating high levels of internal consistency. The IUS has a stable two-factor structure representing prospective anxiety and avoidant components of intolerance of uncertainty. The IUS shows strong convergent validity, as it has significant positive correlations with other measures of anxiety and worry such as Beck's Anxiety Inventory and the Penn State Worry Questionnaire (Beck et al., 1998; Carleton et al., 2007; Meyer et al., 1990). The IUS also has strong discriminant validity, with significant differences in scores between a clinical sample with a diagnosis of generalised anxiety disorder and a non-clinical sample. The IUS was found to have strong test-retest reliability over a period of two weeks  $r=.77$  (Nigar et al., 2010). The IUS was chosen as a measure of anxiety due to the aforementioned significant positive correlations with direct measures of anxiety. However, because the IUS indirectly measures anxiety, it is less susceptible to demand characteristics.

2. The Therapist Beliefs About Exposure Scale (TBES; Deacon et al., 2013; Appendix G). Higher scores indicate more negative beliefs about exposure therapy. The TBES is a 21-item measure with a Cronbach's alpha of .96, indicating high levels of internal consistency. The TBES has a single factor structure and high test-retest reliability over a 6-month period ( $r=.89$ ). The TBES has good convergent validity, demonstrated by significant positive correlations with the Anxiety Sensitivity Index and negative reactions to vignettes depicting exposure therapy (Beck et al., 1998; Deacon et al., 2013; Taylor et al., 2007).
3. The Generalised Anxiety Disorder Scale (GAD-7; Spitzer et al., 2006; Appendix H). Higher scores indicate increased generalised anxiety. The GAD-7 is a seven-item scale with a Cronbach's alpha of .92, which indicates high levels of internal consistency. The GAD-7 has a single factor structure. It has strong convergent validity, shown by a significant positive correlation with the Beck Anxiety Inventory ( $r = 0.72$ ) and strong test-retest reliability (Spitzer et al., 2006).

## **Procedure**

Potential participants were approached through a BABCP mailing list or through contacts at local mental health services. Participants were invited to take part through a link shared on social media or via email (Appendix I; Appendix J). Participation in the study took place online using the online survey platform Qualtrics. Participants were asked to complete a brief set of questions about their age, gender, length of experience, and whether they had received any supervisor training (Appendix K).

Participants were then presented with a vignette of a clinical scenario and asked to state how they would react in that situation (Appendix L). The core scenario was that they were supervising a clinician who was using exposure therapy to treat a patient with social phobia, and they were asked to decide how quickly they would ask the supervisee to undertake core elements of that therapy (e.g., formulating, building an alliance, planning, educating, delivering the exposure, dealing with

roadblocks in the work). The vignettes varied according to two characteristics of the supervisee – gender and level of state anxiety. The vignette from the “confident female” condition is shown below in Table 1, along with the questions that participants were asked about their response to the vignette.

### **Table 1 - Sample Vignette**

*You are a CBT supervisor in an outpatient mental health service. Jess is your supervisee. She qualified a year ago as a CBT therapist.*

*In supervision, Jess describes a client who she has started to see who is presenting with social phobia. Jess has completed her initial assessment with the client. After consulting the evidence base and the relevant guidelines, Jess is clear that exposure therapy would be the most appropriate intervention to treat this client’s social phobia, though she has not worked with a social phobia before. Jess thinks this will take around 10 sessions. However, Jess tells you that she feels confident about using exposure therapy with this client.*

*Please answer the following questions to indicate what advice you would give Jess in this scenario:*

#### **Post Vignette Questionnaire**

Below is a core list of elements to therapy. Please consider the exposure therapy case that you have just read. Please indicate below at which weekly session you would advise the supervisee in the vignette to start working on each element of therapy (e.g. session 1, session 2, session 3 etc). Secondly, please state how many sessions you would advise the supervisee to spend on this therapeutic element.

#### **a) Building a therapeutic alliance**

- At which weekly session should the supervisee start work on this element?
- How many sessions should the supervisee focus on this element for?

#### **b) Formulating and understanding of the patient’s difficulties**

- At which weekly session should the supervisee start work on this element?
- How many sessions should the supervisee focus on this element for?

#### **c) Psychoeducation relating to exposure therapy**

- At which weekly session should the supervisee start work on this element?
- How many sessions should the supervisee focus on this element for?

#### **d) Planning for exposure therapy (e.g. creation of hierarchy)**

- At which weekly session should the supervisee start work on this element?
- How many sessions should the supervisee focus on this element for?

#### **e) Delivering exposure therapy**

- At which weekly session should the supervisee start work on this element?
- How many sessions should the supervisee focus on this element for?

#### **f) Managing therapeutic roadblocks/ therapy interfering behaviours**

- At which weekly session should the supervisee start work on this element?
- How many sessions should the supervisee focus on this element for?

Participants were then asked to complete the remaining measures – TBES, IUS and GAD-7.

### **Analytical approach**

**Hypothesis 1 and 2-** Hypothesis 1 and hypothesis 2 were tested using a two-way ANCOVA. The independent variables were supervisee gender and anxiety. The covariates were the participants' scores on the GAD and TBES. Hypothesis 1 was addressed by looking at the main and interaction effects, and Hypothesis 2 was addressed by considering the impact of the covariates.

**Hypothesis 3** – Three regression analyses were conducted.

1. A regression analysis investigating whether supervisor anxiety predicts the amount of time that supervisors advise their supervisee to wait before completing different therapy-related behaviours in non-anxious supervisees.
2. A regression analysis investigating whether supervisor anxiety predicts the amount of time that supervisors advise their supervisee to wait before completing different therapy related behaviours in anxious supervisees.
3. A regression analysis with three independent variables - supervisee anxiety, supervisor anxiety, and the interaction between supervisee and supervisor anxiety. The dependent variable was the amount of time that supervisors advise their supervisee to wait before completing different therapy related behaviours.

## **Results**

### **Participant Demographics**

It is not possible to calculate the exact response rate due to advertising on social media. One hundred and eighty-five respondents began the survey, and there were 93 complete responses, meaning that the study was not fully powered. Those 93 participants had a mean age of 44.92 (SD 12.83). There were 24 men and 68 women, and one person who answered “prefer not to say”. The majority of participants were CBT therapists (65 CBT therapists, 14 clinical psychologists, 13



psychological wellbeing practitioners, 1 counselling psychologist), and white British (86 white British, 3 Asian or Asian British, 1 participant identified as Black, African, Caribbean or Black British, 1 mixed ethnic group and 2 other). The participants had been qualified for a mean of 12.44 (SD 9.83) years to work in their current profession. Eighty-four participants stated they had received further CBT training since qualifying. Eighty-one currently supervised therapists using CBT, and 12 participants had supervised therapists using CBT in the past. While 88 participants had received formal training in becoming a supervisor, five had not.

Participants were randomly allocated to one of the four conditions – anxious female supervisee (n=12), confident female supervisee (n=29), anxious male supervisee (n=20), and confident male supervisee (n=32). The attrition rate varied between groups (anxious female 23%, confident female 6%, anxious male 9%, confident male 21%). However, fewer participants were randomised to the anxious female condition to start with, which explains the imbalance between groups.

## **Checking Assumptions for Parametric Tests**

### ***Normal Distribution***

Visual examination of histograms (Appendix M) and the Kolmogorov- Smirnov Test demonstrated that the TBES data were normally distributed  $D(93) = 0.070, p = .200$ . The GAD data were significantly non-normal  $D(93) = .206, p < .001$ . However, research suggests that ANCOVA and regressions are robust when it comes to non-normal distribution and so the data were not transformed (Schmider et al., 2010).

### ***Homogeneity of Variance***

Levene's test demonstrated that error variance was equal across all levels of the dependent variable as shown in Table 2.

**Table 2***Levene's Statistic for Therapeutic Elements*

Therapeutic element	Levene's statistic
Build therapeutic alliance	F(3, 83) = 1.150, $p = .334$
Prioritise therapeutic alliance	F(3, 83) = 2.008, $p = .119$
Formulating	F(3, 83) = 1.517, $p = .216$
Prioritise Formulating	F(3, 83) = 1.701, $p = .173$
Psychoeducation	F(3, 83) = .747, $p = .527$
Prioritise psychoeducation	F(3, 83) = .578, $p = .631$
Plan exposure	F(3, 83) = .777, $p = .510$
Prioritise planning exposure	F(3, 83) = 1.587, $p = .199$
Deliver exposure	F(3, 83) = .337, $p = .799$
Prioritise delivering exposure	F(3, 83) = .691, $p = .560$
Therapy interfering behaviour	F(3, 83) = .247, $p = .864$
Prioritise therapy interfering behaviour	F(3, 83) = 1.413, $p = .245$

***Linear and Additive Relationship and Non-Multicollinearity***

Pearson's correlations were calculated to assess the effect size and significance of relationships between the independent and dependent variables as shown in Table 3. Participant beliefs about exposure scores showed significant, positive correlations with the session at which supervisees were advised to begin building a therapeutic alliance, delivering psychoeducation relating to exposure therapy, planning exposure therapy, delivering exposure therapy and working on therapy interfering behaviour.

Participant GAD scores did not demonstrate a statistically significant correlation with any of the dependent variables. However, GAD scores were included in the ANCOVA and regressions as planned based on a priori reasoning and previous findings suggesting that supervisory anxiety would account for some variance in guidance given about the use of different therapeutic elements.

There was no statistically significant correlation between GAD and TBES scores ( $p = .094$ ,  $r = .175$ ). However, intolerance of uncertainty scores and GAD showed a significant positive

correlation ( $p < .001$ ,  $r = .440$ ). Therefore, intolerance of uncertainty was excluded from further analyses to avoid multicollinearity.

**Table 3**

*Correlations Between Therapeutic Elements and Participant TBES and GAD Score*

Dependent variable	GAD		TBES	
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
Build therapeutic alliance	-.105	.315	<b>.223</b>	<b>.032</b>
Prioritise therapeutic alliance	-.099	.347	.084	.423
Formulating	-.195	.062	.112	.289
Prioritise formulating	-.078	.461	.122	.251
Psychoeducation	.051	.628	<b>.216</b>	<b>.037</b>
Prioritise psychoeducation	-.126	.229	.067	.522
Plan exposure	-.003	.977	<b>.369</b>	<b>.000</b>
Prioritise planning exposure	-.065	.540	.031	.772
Deliver exposure	-.063	.548	<b>.357</b>	<b>.000</b>
Prioritise delivering exposure	-.093	.380	-.156	.137
Therapy interfering behaviour	.010	.924	<b>.299</b>	<b>.004</b>
Prioritise therapy interfering	.020	.850	.075	.447

***Independence of Covariant and Intervention effect (ANCOVA)***

As the participants were randomly assigned to conditions, the assumption of independence between the covariant and intervention effects should be satisfied.

***Homogeneity of Regressions Slopes (ANCOVA)***

The homogeneity of regression slopes was not calculated due to no statistically significant findings.

**Testing Hypotheses**

***Hypothesis 1: Supervisors are More Likely to Reduce the Pressure for their Supervisee to Implement Evidence-Based Therapy (Exposure) if the Supervisee is Female and Anxious.***

Table 4 shows the results from the two-way ANCOVA. The independent variables are

supervisee gender and anxiety. The covariates are the participants' scores on the GAD and TBES. None of the findings demonstrated statistical significance. These findings fail to support hypothesis one, suggesting that there is no impact of supervisee characteristics on the advice given to supervisees.

**Table 4***ANCOVA Results Showing Main Effects and Interaction of Supervisee Gender and Anxiety*

Dependent variable	Female		Male		Gender			Anxiety			Gender x anxiety		
	Anxious M (SD)	Confident M (SD)	Anxious M (SD)	Confident M (SD)	F	<i>p</i>	$\eta_p^2$	F	<i>p</i>	$\eta_p^2$	F	<i>p</i>	$\eta_p^2$
Build therapeutic alliance	1 (0)	1.04 (.192)	1 (0)	1.14 (.756)	0.21	.652	.003	0.52	.473	.006	0.31	.582	.004
Prioritise therapeutic alliance	4.83 (3.38)	4.59 (3.273)	3.50 (2.115)	4.82 (3.389)	0.74	.393	.009	0.47	.494	.006	1.23	.270	.015
Formulating	1.50 (.905)	1.30 (.609)	1.70 (.865)	1.39 (.685)	0.61	.438	.007	2.30	.133	.028	0.11	.741	.001
Prioritise Formulating	4.33 (3.172)	3.93 (2.165)	3.35 (1.981)	4.43 (2.899)	0.21	.647	.003	0.24	.628	.003	1.67	.200	.020
Psychoeducation	1.83 (.937)	2.19 (.921)	2.25 (.910)	2.14 (1.145)	0.74	.392	.009	0.04	.840	.001	0.91	.343	.011
Prioritise psychoeducation	3.08 (1.165)	3.33 (1.922)	2.50 (1)	3 (1.826)	1.90	.172	.023	0.75	.391	.009	0.13	.721	.002

Plan exposure	3.08	3.26	3.2	3.14	0.00	.990	.000	0.06	.800	.001	0.15	.703	.002
	(.9)	(1.259)	(1.105)	(1.177)									
Prioritise planning exposure	2.75	3.22	2.65	2.86	0.51	.479	.006	0.49	.488	.006	0.12	.736	.001
	(.965)	(2.19)	(1.424)	(1.268)									
Deliver exposure	3.92	4.11	3.8	4.04	0.14	.707	.002	0.08	.780	.001	0.02	.879	.000
	(.996)	(1.423)	(1.281)	(1.401)									
Prioritise delivering exposure	6.33	6.78	6.30	5.68	1.27	.263	.015	0.02	.902	.000	1.15	.287	.014
	(2.902)	(2.025)	(2.080)	(2.510)									
Therapy interfering behaviour	3.50	3.15	3.60	3.64	0.52	.472	.006	0.68	.413	.008	0.31	.581	.004
	(2.067)	(1.916)	(1.903)	(2.004)									
Prioritise therapy interfering behaviour	3.42	5.22	4.05	4.71	0.01	.937	.000	2.27	.136	.027	0.55	.461	.007
	(3.147)	(3.566)	(2.645)	(3.430)									

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***Hypothesis Two: Supervisors Who are Anxious and Who Believe that Exposure Therapy is Less Positive will Reduce the Pressure for the Supervisee to Deliver Exposure Therapy Appropriately***

Table 5 shows the contribution of the covariates supervisor GAD and supervisor beliefs about exposure therapy to the ANCOVA model. Supervisor GAD did not explain any significant additional variance regarding the session at which supervisees were advised to start working on different therapeutic elements or the amount of time the supervisee should prioritise the element for.

Supervisor beliefs about exposure therapy explained a significant amount of variance regarding:

- at which session supervisees were advised to start work on building a therapeutic alliance
- for how many sessions they were advised to prioritise delivering psychoeducation over exposure therapy
- at which session the supervisee should start work on planning exposure
- for how long they should prioritise delivering exposure
- at which session the supervisee should start work on therapy interfering behaviour.

In short, more negative supervisor beliefs about exposure accounted for a significant amount of variance regarding later starting of work on several therapeutic elements, notably delivering exposure therapy.

To summarise, the contribution of the covariates supervisor GAD and supervisor TBES provide partial support for hypothesis two. Supervisor anxiety had no effect on the advice given to supervisees. However, more negative supervisor beliefs about exposure accounted for a significant amount of variance, apparently influencing later implementation of several therapeutic elements, particularly exposure therapy.

**Table 5***ANCOVA Results Showing the Effects of GAD and TBES Scores as Covariate*

Dependent variable	GAD			TBES		
	F	<i>p</i>	$\eta_p^2$	F	<i>p</i>	$\eta_p^2$
Build therapeutic alliance	1.974	.164	.024	4.89	<b>.030</b>	.057
Prioritise therapeutic alliance	1.283	.261	.016	1.847	.178	.022
Formulating	2.606	.110	.031	2.167	.145	.026
Prioritise Formulating	.568	.453	.007	1.281	.261	.016
Psychoeducation	.001	.975	.000	3.772	.056	.044
Prioritise psychoeducation	2.795	.098	.003	5.678	<b>.020</b>	.066
Plan exposure	.707	.403	.009	12.732	<b>.001</b>	.136
Prioritise planning exposure	1.436	.234	.017	5.683	<b>.019</b>	.066
Deliver exposure	1.388	.242	.017	13.734	<b>.000</b>	.145
Prioritise delivering exposure	.226	.636	.003	1.581	.212	.019
Therapy interfering behaviour	.028	.867	.000	8.305	<b>.005</b>	.093
Prioritise therapy interfering behaviour	.038	.845	.000	.603	.440	.007



***Hypothesis Three: There Will be an Interaction Between Supervisor and Supervisee Characteristics, Such that More Anxious Supervisors Will be Particularly Reluctant to Direct Anxious Supervisees to Deliver Exposure Therapy.***

Despite the previous analyses finding no main effects of supervisee or supervisor anxiety, the analyses to test the interaction between supervisee and supervisor anxiety were still completed to account for the possibility that an interaction could occur at particularly high or low levels of supervisor anxiety.

Three regressions were conducted as laid out in the plan for the analysis. Regressions one and two (Tables 6 and 7 respectively) investigated the impact of supervisor anxiety on the time that anxious and confident supervisees were advised to spend on different therapeutic elements.

Regression three (Table 8) was a moderator analysis, using supervisor anxiety, supervisee anxiety and supervisor\*supervisee anxiety as predictors for the time advised to spend on different therapeutic elements. None of the three regressions showed any significant results. The findings of these regressions suggest that there is not an interaction between supervisor and supervisee anxiety, failing to support hypothesis three.

**Table 6**

*Regression Investigating Relationship Between Supervisor Anxiety and Advice Given to Anxious Supervisees*

Dependent variable	Supervisor Anxiety				
	F	p	AdjR <sup>2</sup>	t	B
Build Therapeutic Alliance	-	-	-	-	-
Prioritise Therapeutic Alliance	.127	.724	-.029	0.36	0.07
Formulating	1.63	.211	.020	-1.28	-0.23

Prioritise Formulating	0.00	.993	-.033	0.01	0.00
Psychoeducation	0.37	.548	-.021	0.601	0.11
Prioritise psychoeducation	1.00	.325	.000	-1.00	-0.18
Plan exposure	0.04	.844	.032	-0.20	-0.04
Prioritise planning exposure	0.08	.785	-.031	-0.28	-0.05
Deliver exposure	0.00	.999	-.033	-0.00	0.00
Prioritise delivering exposure	3.42	.074	.072	-1.85	-0.32
Therapy interfering behaviour	3.08	.090	.063	1.75	0.31
Prioritise therapy interfering behaviour	0.36	.555	-.021	-0.60	-0.11

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Note- scores for “build therapeutic alliance” remained constant so the regression could not be calculated.

**Table 7**

*Regression Investigating Relationship Between Supervisor Anxiety and Advice Given to Confident Supervisees*

Dependent Variable	Supervisor Anxiety				
	F	<i>p</i>	AdjR <sup>2</sup>	<i>t</i>	B
Build therapeutic alliance	1.13	.292	.002	-1.06	-0.14
Prioritise therapeutic alliance	1.92	.171	.015	-1.39	-1.78
Formulating	1.47	.232	.008	-1.21	-0.57
Prioritise formulating	1.03	.314	.001	-1.02	-0.13
Psychoeducation	0.04	.952	-.016	0.21	0.03
Prioritise psychoeducation	1.22	.274	.004	-1.10	0.27
Plan exposure	0.004	.952	-.017	0.06	0.01
Prioritise planning exposure	0.48	.493	.009	-0.69	-0.09
Deliver exposure	0.64	.426	-.006	-0.80	-0.10
Prioritise delivering exposure	0.001	.969	-.017	0.04	0.01
Therapy interfering behaviour	0.57	.453	.008	-0.76	-0.10
Prioritise therapy interfering behaviour	0.05	.822	-.017	0.23	0.03

**Table 8***Moderator Regression Investigating Interaction Between Supervisee and Supervisor Anxiety*

Dependent variables	Overall effect			Independent variables			
	F	<i>p</i>	AdjR <sup>2</sup>		<i>t</i>	<i>p</i>	B
Build therapeutic alliance	0.83	.483	.03	Supervisee anxiety	0.93	.353	0.09
				Supervisor anxiety	0.34	.733	0.02
				Supervisee anxiety* Supervisor anxiety	-0.62	.534	-0.02
Prioritise therapeutic alliance	1.27	.290	.04	Supervisee anxiety	1.24	.218	0.87
				Supervisor anxiety	0.68	.495	0.31
				Supervisee anxiety* Supervisor anxiety	-0.97	.333	-0.24
Formulating	2.18	.096	.07	Supervisee anxiety	-1.36	.178	-0.22
				Supervisor anxiety	-1.20	.233	-0.12
				Supervisee anxiety* Supervisor anxiety	0.84	.405	0.05
Prioritise formulating	0.60	.617	.02	Supervisee anxiety	0.93	.357	0.52
				Supervisor anxiety	0.28	.782	0.10
				Supervisee anxiety* Supervisor anxiety	-0.50	.622	-0.10
Psychoeducation	0.14	.939	.01	Supervisee anxiety	0.04	.965	0.01
				Supervisor anxiety	0.50	.618	0.07
				Supervisee anxiety* Supervisor anxiety	-0.40	.687	-0.03
Prioritise psychoeducation	1.25	.298	.04	Supervisee anxiety	1.50	.140	0.53
				Supervisor anxiety	-0.32	.747	-0.75
				Supervisee anxiety*	-0.00	.997	-0.00

				Supervisor anxiety			
Plan exposure therapy	0.01	.998	.00	Supervisee anxiety	0.07	.942	0.02
				Supervisor anxiety	-0.19	.851	-0.03
				Supervisee anxiety* Supervisor anxiety	0.19	.854	0.02
Prioritise planning exposure therapy	0.61	.613	.02	Supervisee anxiety	1.15	.255	0.40
				Supervisor anxiety	-0.01	.995	-0.00
				Supervisee anxiety* Supervisor anxiety	-0.18	.857	-0.02
Deliver exposure	0.53	.666	.02	Supervisee anxiety	0.96	.341	0.29
				Supervisor anxiety	0.22	.826	0.04
				Supervisee anxiety* Supervisor anxiety	0.40	.688	-0.04
Prioritise deliver exposure	1.14	.336	.04	Supervisee anxiety	-0.05	.957	-0.03
				Supervisor anxiety	-1.75	.083	-0.59
				Supervisee anxiety* Supervisor anxiety	1.6031	.113	0.30
Therapy interfering behaviour	1.29	.284	.04	Supervisee anxiety	-0.91	.366	-0.40
				Supervisor anxiety	1.84	.069	0.52
				Supervisee anxiety* Supervisor anxiety	-1.85	.068	-0.29
Prioritise therapy interfering behaviour	1.19	.319	.04	Supervisee anxiety	1.86	.067	1.37
				Supervisor anxiety	-0.56	.577	-0.27
				Supervisee anxiety* Supervisor anxiety	0.57	.574	0.15

## Discussion

The current study aimed to investigate the impact of supervisor and supervisee factors on the guidance that a supervisor gives when presented with evidence that their supervisee is at risk of not adhering to evidence-based exposure therapy. The hypotheses were as follows:

1. Supervisors are more likely to reduce the pressure for their supervisee to implement evidence-based therapy (exposure) if the supervisee is female and anxious.
2. Supervisors who are anxious and who believe that exposure therapy is less positive will reduce the pressure for the supervisee to deliver exposure therapy appropriately.
3. There will be an interaction between supervisor and supervisee characteristics, such that more anxious supervisors will be particularly reluctant to direct anxious supervisees to deliver exposure therapy.

The findings suggest that there was no main effect of supervisee characteristics on the advice given by supervisors, which fails to support hypothesis one.

Supervisor anxiety also had little effect on the advice given to supervisees. In contrast, a supervisor's negative beliefs about exposure therapy were related to delays in recommending delivering exposure therapy and working on therapy interfering behaviours, and to prioritising other therapeutic elements (planning exposure and psychoeducation) over delivering the exposure therapy itself. The significant effect of supervisors' negative beliefs provides partial support for hypothesis two.

There was no interaction between supervisee and supervisor characteristics, which fails to support hypothesis three.

The lack of effect of supervisee gender or anxiety on the advice given by supervisors contradicts what was expected based on previous research. Simpson-Southward (2016) found that anxious female supervisees were less likely to be directed towards evidence-based therapy than confident female supervisees, whereas male supervisees were advised to use evidence-based therapy regardless of their anxiety level. There are several possible explanations for this difference

in findings. First, the number of participants in the anxious female condition was much lower than recommended by the power analysis, so it is possible that there were not enough participants to detect an effect of gender if one was present. Second, there was an even gender balance in Simpson-Southward's sample, whereas in the current sample women were overrepresented, making up 73% of the sample. Previous findings suggest that male supervisors treat female supervisees differently (Hindes & Andrews, 2011). It is possible that a gender effect was not observed in the current sample as it is more likely to be led by male supervisors, who were underrepresented in this study. Finally, Simpson-Southward's study focused on the supervision of treatment for depression, whereas the current study focused on the supervision of treatment for social phobia. It is possible that the effect of supervisee characteristics differs between types of disorder.

The lack of effect of supervisor anxiety on the advice given also contradicts the hypotheses. There are numerous reports that therapists find exposure therapy anxiety-provoking and stressful. However, there have been mixed findings in previous literature about the effect of therapist anxiety on the use of exposure therapy. Some studies suggest that anxious therapists are less likely to use exposure (Levita et al., 2016), whereas others report that therapist anxiety is not related to the use of exposure therapy (Harned et al., 2013). It is possible that the effect of anxiety on a therapist's own clinical practice is different from advice that they may give a supervisee. Perhaps therapists know that making an early start on delivering exposure therapy will have a positive effect on patient outcomes, but anxiety leads them to delay, whereas advising their supervisees is less anxiety-provoking than having to take action themselves.

The findings suggest that supervisors with negative beliefs about exposure therapy reduce the pressure for supervisees to deliver exposure therapy appropriately. This finding supports hypothesis two, and mirrors findings that therapists with negative beliefs about exposure therapy are also less likely to use exposure therapy in their own practice (Deacon, et al., 2013).

### **Strengths and Limitations of the Current Project**

A strength of the current project is the use of an experimental design. This design minimised

the effect of other extraneous variables, isolating the effects of the supervisee factors, gender and anxiety. However, the contribution of supervisor factors such as anxiety and beliefs about exposure therapy were correlational, and therefore causation cannot be assumed. A further strength was the use of reliable and validated measures. The use of a vignette rather than relying on self-reported depictions of supervision reduced recall bias or inaccuracies and controlled for differences in working environments. The current project responded to previously identified gaps in the literature by contributing controlled, quantitative findings to the field of supervision research. The design of the current project had strong theoretical underpinnings and clear hypotheses, and moved the field forward through a focus on using supervision to effect clinical change rather than a focus on satisfaction within the supervisor-supervisee dyad.

A limitation of the current project was the use of a self-selecting sample which was unlikely to be representative of all therapists who supervise CBT. Furthermore, the analysis was underpowered, as it proved difficult to recruit the necessary number of participants. Therefore, it is possible that if an effect was present, it was undetected due to the smaller sample size. The use of small sample sizes has been an ongoing critique of supervision research, and something that proved to be a challenge for the current project. Supervision is a requirement of mental health practice, and every practitioner is likely to have an experience of being at least one half of the supervisory dyad. It is worth considering whether there is reluctance as a profession to engage in practices that evaluate the effectiveness of supervision. It is possible that such reluctance mirrors the phenomenon of outcome measure avoidance in clinical practice (Unsworth et al., 2012), despite findings that the use of outcome measures improves intervention effectiveness.

A further limitation of the current study was the large number of statistical tests conducted, which increased the risk of Type 1 error. Finally, there were substantially fewer participants in the anxious conditions, despite random allocation to those conditions. The variance in group sizes may have impacted the analysis, as ANCOVA has been found to be sensitive to differences in cell sizes (Ananda & Weerahandi, 1997).



## **Implications for Clinical Practice**

The current study found that supervisors with negative beliefs about exposure therapy are less likely to direct their supervisees to appropriately utilise exposure therapy. This finding has important implications for clinical practice. Evidence suggests that gains made early in therapy in the treatment of anxiety are associated with positive treatment outcomes (Delgadillo & Beard, 2019). Therefore, supervisors who advise supervisees to delay delivering exposure therapy or to prioritise other aspects of therapy could be promoting poorer patient outcomes. Delaying the delivery of exposure therapy is of particular relevance in services such as Increasing Access to Psychological Therapies (IAPT). In IAPT, exposure therapy is routinely delivered in a time-limited fashion. Therefore, delaying the delivery of exposure therapy and prioritizing other therapeutic elements may mean that service users miss out on the active part of their treatment. It is important to raise awareness of the impact of negative beliefs about exposure therapy given the potential impact on the quality of treatment received. A meta-analysis on the effects of training clinicians in exposure therapy found that although training improves clinicians' knowledge and intent to use exposure therapy it has a limited impact on their behaviour (Trivasse et al., 2020). There is more that needs to be done to bridge the gap between awareness of negative beliefs and behaviour change. Perhaps using supervision to discuss and explore beliefs about exposure therapy would give both the supervisor and supervisee the chance to challenge any negative beliefs about exposure, and reduce the impact on their clinical work.

## **Implications for Future Research**

Future research would benefit from a larger sample size to ensure that the analysis is adequately powered. This may require a longer and more intensive recruitment process than was within the scope of the current study.

Investigating objective and standardised ways of assessing the impact and processes through which supervision affects client outcomes would also be beneficial. The field of supervision research has faced challenges with the measurement of the supervision process. Many standardised

measures of supervision focus on perceptions and alliances between the supervisee, supervisor and client (Vonk & Thyer, 1997). The focus on relationships presents a major limitation in deciding

how or if any changes affect client outcomes. The current study went some way to addressing the possible impact of supervision on client outcomes, as it had a clear focus on specific supervisee and supervisor factors, and the impact of those factors on the use of evidence-based therapy.

A more in-depth investigation of the impact and interaction of supervisor and supervisee characteristics could be an interesting direction for future research. The current research focused on two supervisee factors - gender and anxiety. It also considered the potential for an interaction between supervisee and supervisor anxiety. However, the sample size was not large enough to test for an interaction between supervisee and supervisor gender. Furthermore, there were other important supervisee and supervisor characteristics that were not considered, such as ethnicity. It is possible that due to the institutional racism in mental health services (Nazroo, et al., 2020), and the underrepresentation of marginalised ethnic groups in clinical psychology that supervisors may respond differently to supervisees from under-represented ethnic groups. There is also evidence to suggest that older therapists and therapists who do not identify with a CBT orientation are less likely to use exposure therapy (De Jong et al., 2020; Jelinek et al., 2022). It is, therefore, possible that when older therapists from non-CBT backgrounds offer supervision they are less likely to encourage the use of exposure therapy when appropriate. The contribution of supervisor and supervisee characteristics such as ethnicity, age and therapeutic orientation to the usage of exposure therapy warrants future research.

## **Conclusion**

The current study aimed to investigate the impact of supervisee and supervisor characteristics on supervision of a case of social phobia, and the appropriate use of exposure therapy. Supervisee characteristics of gender and anxiety were not found to have an effect on supervisor behaviour. In contrast, supervisor characteristics (particularly beliefs about exposure therapy) were significant. Supervisors with negative beliefs about exposure therapy were more likely to delay key aspects of therapy and focus on other therapeutic elements. Delaying therapeutic interventions has negative consequences for patient outcomes, and therefore these findings have

important clinical implications. Future research is necessary to consider objective ways to measure the impact of supervision on client outcomes, and to find ways to challenge supervisor characteristics that contribute to less effective supervision.

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## Appendices

### Appendix A University Ethical Approval



Downloaded: 02/12/2020  
Approved: 02/12/2020

Diane Langthorne  
Registration number: 190217976  
Psychology  
Programme: Doctorate of Clinical Psychology

Dear Diane

**PROJECT TITLE:** How do supervisors respond to therapist drift in their supervisees? The impact of supervisee and supervisor characteristics

**APPLICATION:** Reference Number 037345

On behalf of the University ethics reviewers who reviewed your project, I am pleased to inform you that on 02/12/2020 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 037345 (form submission date: 27/11/2020); (expected project end date: 01/07/2021).
- Participant information sheet 1084890 version 1 (27/11/2020).
- Participant consent form 1084891 version 1 (27/11/2020).

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.

Your responsibilities in delivering this research project are set out at the end of this letter.

Yours sincerely

Department Of Psychology Research Ethics Committee  
Ethics Administrator  
Psychology

Please note the following responsibilities of the researcher in delivering the research project:

- The project must abide by the University's Research Ethics Policy: <https://www.sheffield.ac.uk/rs/ethicsandintegrity/ethicspolicy/approval-procedure>
- The project must abide by the University's Good Research & Innovation Practices Policy: [https://www.sheffield.ac.uk/polopoly\\_fs/1.6710661/file/GRIPPpolicy.pdf](https://www.sheffield.ac.uk/polopoly_fs/1.6710661/file/GRIPPpolicy.pdf)
- The researcher must inform their supervisor (in the case of a student) or Ethics Administrator (in the case of a member of staff) of any significant changes to the project or the approved documentation.
- The researcher must comply with the requirements of the law and relevant guidelines relating to security and confidentiality of personal data.
- The researcher is responsible for effectively managing the data collected both during and after the end of the project in line with best practice, and any relevant legislative, regulatory or contractual requirements.

## Appendix B HRA ethical approval



Miss Diane Langthorne  
University of Sheffield  
Cathedral Court  
1 Vicar Lane Sheffield  
S1 2LT

09 February 2022

Dear Miss Langthorne

**HRA and Health and Care  
Research Wales (HCRW)  
Approval Letter**

**Study title:** How do supervisors respond to decision making by their supervisees? The impact of supervisee and supervisor characteristics

**IRAS project ID:** 311429  
**Protocol number:** 037345  
**REC reference:** 22/HRA/0331  
**Sponsor:** University of Sheffield

I am pleased to confirm that [HRA and Health and Care Research Wales \(HCRW\) Approval](#) has been given for the above referenced study, on the basis described in the application form, protocol, supporting documentation and any clarifications received. You should not expect to receive anything further relating to this application.

Please now work with participating NHS organisations to confirm capacity and capability, [in line with the instructions provided in the "Information to support study set up" section towards the end of this letter.](#)

### How should I work with participating NHS/HSC organisations in Northern Ireland and Scotland?

HRA and HCRW Approval does not apply to NHS/HSC organisations within Northern Ireland and Scotland.

If you indicated in your IRAS form that you do have participating organisations in either of these devolved administrations, the final document set and the study wide governance report (including this letter) have been sent to the coordinating centre of each participating nation. The relevant national coordinating function/s will contact you as appropriate.



Email: [approvals@hra.nhs.uk](mailto:approvals@hra.nhs.uk)

Please see [IRAS Help](#) for information on working with NHS/HSC organisations in Northern Ireland and Scotland.

### How should I work with participating non-NHS organisations?

HRA and HCRW Approval does not apply to non-NHS organisations. You should work with your non-NHS organisations to [obtain local agreement](#) in accordance with their procedures.

### What are my notification responsibilities during the study?

The ["After HRA Approval – guidance for sponsors and investigators"](#) document on the HRA website gives detailed guidance on reporting expectations for studies with HRA and HCRW Approval, including:

- Registration of Research
- Notifying amendments
- Notifying the end of the study

The [HRA website](#) also provides guidance on these topics and is updated in the light of changes in reporting expectations or procedures.

### Who should I contact for further information?

Please do not hesitate to contact me for assistance with this application. My contact details are below.

Your IRAS project ID is **311429**. Please quote this on all correspondence.

Yours sincerely,  
Kathryn Davies

Approvals Specialist

Email: [approvals@hra.nhs.uk](mailto:approvals@hra.nhs.uk)

Copy to: Miss Diane Langthorne

## Participant Information Sheet

### 1. Research Project Title:

How do supervisors respond to decision making by their supervisees? The impact of supervisee and supervisor characteristics.

### 2. Invitation paragraph

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

### 3. What is the project's purpose?

Clinical supervision is key to the delivery of high-quality psychological therapies. We want to understand the decisions that clinical supervisors make in guiding their supervisees. In particular, we are interested in how your advice might be influenced by the nature of the clinical setting, and whether supervisors differ in what they advise. You can help us to understand these clinical issues by taking part.

Data collection for this research project is planned to end in June 2022.

### 4. Why have I been chosen?

You have been invited to participate as you currently offer supervision for the use of CBT. Approximately 128 CBT supervisors will be recruited to take part in the current project.

### 5. Do I have to take part?

It is up to you to decide whether to take part. If you do decide to take part, you will be given this information sheet to keep (and be asked to sign a consent form) and you can still withdraw without any negative consequences. You do not have to give a reason. If you wish to withdraw from the research, please contact Diane Langthorne [dlangthorne1@sheffield.ac.uk](mailto:dlangthorne1@sheffield.ac.uk).

It is important to note that once you submit the online questionnaire your data will be immediately anonymised and added to a data set so you will not be able to withdraw your information after this point. However, you are free to withdraw at any point before submitting the questionnaire and your data will not be recorded.

### 6. What will happen to me if I take part? What do I have to do?

Participation in the research will be entirely online and will take around 30 minutes. After reading this information sheet, if you consent to take part you will be asked to complete a series of questionnaires. You will then read a vignette modelled on a scenario that may arise when you are offering clinical supervision, and will be asked some questions about how you would address that situation. You will also be asked to provide some details about your professional background and your experience as a supervisor/clinician. All information will be provided anonymously.

### 7. What are the possible disadvantages and risks of taking part?

There are no foreseen disadvantages to taking part in the research other than asking for a short period of your time.

### 8. What are the possible benefits of taking part?

Participants will be asked if they would like to be entered into a prize draw to win one of two £25 Amazon vouchers as a thank you for your time. At the end of the study participants will be provided with contact details to email the lead researcher (Diane Langthorne) and enter themselves into the prize draw. Email addresses for the participants who enter into the prize draw will be stored securely in a password protected file store until data collection is finished. Once data collection is finished, two participants from the draw will be randomly selected and sent the Amazon vouchers via email. The contact details will then be deleted.

## **9. Will my taking part in this project be kept confidential?**

All the information that we collect about you during the research will be kept strictly confidential and will only be accessible to members of the research team. You will not be able to be identified in any reports or publications unless you have given your explicit consent for this. If you agree to us sharing the information you provide with other researchers (e.g. by making it available in a data archive) then your personal details will not be included unless you explicitly request this.

## **10. How will we use information about you?**

We will need to use information from you for this research project.

This information will include your contact details (if you choose to enter the prize draw). People will use this information to do the research or to check your records to make sure that the research is being done properly.

People who do not need to know who you are will not be able to see your name or contact details. Your data will have a code number instead.

We will keep all information about you safe and secure.

Once we have finished the study, we will keep some of the data so we can check the results. We will write our reports in a way that no-one can work out that you took part in the study.

## **What are your choices about how your information is used?**

- You can stop being part of the study at any time, without giving a reason, but we will keep information about you that we already have.
- We need to manage your records in specific ways for the research to be reliable. This means that we won't be able to let you see or change the data we hold about you.
- If you agree to take part in this study, you will have the option to take part in future research using your data saved from this study in the University of Sheffield research data repository.

## **Where can you find out more about how your information is used?**

You can find out more about how we use your information

- at [www.hra.nhs.uk/information-about-patients/](http://www.hra.nhs.uk/information-about-patients/)
- at <https://www.sheffield.ac.uk/govern/data-protection/privacy/general>
- our leaflet available from [www.hra.nhs.uk/patientdataandresearch](http://www.hra.nhs.uk/patientdataandresearch)
- by asking one of the research team
- by sending an email to [dlangthorne1@sheffield.ac.uk](mailto:dlangthorne1@sheffield.ac.uk), or [dataprotection@sheffield.ac.uk](mailto:dataprotection@sheffield.ac.uk)
- by ringing us on 0114222 6650.

## **11. What will happen to the data collected, and the results of the research project?**

The data collected will only be accessible to the research team. The research team aim to publish the results of the project in 2022, any data included in publications will be completely anonymised. If you would like to receive a copy of any published work that arises from this project, please contact Diane Langthorne. If you would like to request that a copy of the study results are provided to you then please contact Diane Langthorne ([dlangthorne1@sheffield.ac.uk](mailto:dlangthorne1@sheffield.ac.uk)).

The anonymised data will be stored for 10 years in the University of Sheffield research data repository.

**12. Who is organising and funding the research?**

The current research is organised by the University of Sheffield.

**13. Who is the Data Controller?**

The University of Sheffield will act as the Data Controller for this study. This means that the University is responsible for looking after your information and using it properly.

**14. Who has ethically reviewed the project?**

This project has been ethically approved via the NHS Health Research Authority and the University of Sheffield's Ethics Review Procedure, as administered by the department of Clinical Psychology.

**15. What if something goes wrong and I wish to complain about the research?**

If you would like to make a complaint about this project, in the first instance you should contact the lead researcher Diane Langthorne [dlangthorne1@sheffield.ac.uk](mailto:dlangthorne1@sheffield.ac.uk). If you do not feel satisfied that your complaint has been dealt with appropriately you can contact the lead researcher's supervisor Professor Glenn Waller [g.waller@sheffield.ac.uk](mailto:g.waller@sheffield.ac.uk)

If you feel that your complaint has not been handled to your satisfaction following this, you can contact Dr. Thomas Webb, chair of the Department Ethics Subcommittee on [t.webb@sheffield.ac.uk](mailto:t.webb@sheffield.ac.uk)

If the complaint relates to how your personal data has been handled, information about how to raise a complaint can be found in the University's Privacy Notice: <https://www.sheffield.ac.uk/govern/data-protection/privacy/general>.

**16. Contact for further information**

This research is being conducted by Diane Langthorne: Trainee Clinical Psychologist. This research will be used to write a thesis which fulfils part of their doctoral training. If you have any questions about the research you can contact them on [dlangthorne1@sheffield.ac.uk](mailto:dlangthorne1@sheffield.ac.uk)

The research project is supervised by Professor Glenn Waller who can be contacted on [g.waller@sheffield.ac.uk](mailto:g.waller@sheffield.ac.uk)

Alternatively, you can email [a.sinha@sheffield.ac.uk](mailto:a.sinha@sheffield.ac.uk) or leave a telephone message with Amrit Sinha, Research Support Officer on: 0114222 6650 and he will ask the trainee to contact you.

Participants will be given a copy of this information sheet to keep for personal reference, alongside a signed copy of the consent form.

**Thank you for taking the time to participate in this research project.**

Appendix D Consent Form



**How do supervisors respond to decision making by their supervisees? The impact of supervisee and supervisor characteristics**

**Consent Form**

<i>Please tick the appropriate boxes</i>	Yes	No
<b>Taking Part in the Project</b>		
I have read and understood the project information sheet dated 03.02.2022 or the project has been fully explained to me. (If you will answer No to this question please do not proceed with this consent form until you are fully aware of what your participation in the project will mean.)	<input type="checkbox"/>	<input type="checkbox"/>
I have been given the opportunity to ask questions about the project.	<input type="checkbox"/>	<input type="checkbox"/>
I agree to take part in the project. I understand that taking part in the project will include reading a vignette and completing a series of questionnaires.	<input type="checkbox"/>	<input type="checkbox"/>
I understand that my taking part is voluntary and that I can withdraw from the study at any time I do not have to give any reasons for why I no longer want to take part and there will be no adverse consequences if I choose to withdraw.	<input type="checkbox"/>	<input type="checkbox"/>
<b>How my information will be used during and after the project</b>		
I understand my personal details such as my email address (if I choose to enter the prize draw after participating in the project) will not be revealed to people outside the project.	<input type="checkbox"/>	<input type="checkbox"/>
I understand and agree that other authorised researchers will have access to this data only if they agree to preserve the confidentiality of the information as requested in this form.	<input type="checkbox"/>	<input type="checkbox"/>
I understand and agree that other authorised researchers may use my data in publications, reports, web pages, and other research outputs, only if they agree to preserve the confidentiality of the information as requested in this form.	<input type="checkbox"/>	<input type="checkbox"/>
<b>So that the information you provide can be used legally by the researchers</b>		
I agree to assign the copyright I hold in any materials generated as part of this project to The University of Sheffield.	<input type="checkbox"/>	<input type="checkbox"/>

Please tick this box if you have read the consent form and you give your consent to take part in the research

**Project contact details for further information:**  
**Diane Langthorne, Trainee Clinical Psychologist:** [dlangthorne1@sheffield.ac.uk](mailto:dlangthorne1@sheffield.ac.uk)  
**Professor Glenn Waller, Research Supervisor:** [g.waller@sheffield.ac.uk](mailto:g.waller@sheffield.ac.uk)

## Appendix E Debrief Debrief

Thank you for taking part in this research project. This study aims to investigate whether supervisee gender and anxiety (as well as variables such as supervisor anxiety and beliefs about exposure therapy) will affect the guidance a supervisor gives when presented with evidence that the supervisee might be more or less likely to deliver evidence-based treatment (in this case, indicated by their level of confidence in delivering exposure therapy). If you would like to find out more about this please contact Diane Langthorne on [dlangthorne1@sheffield.ac.uk](mailto:dlangthorne1@sheffield.ac.uk).

If you would like to be entered into a prize draw to win one of two £25 Amazon vouchers as a thank you for taking part in this survey, then please contact Diane Langthorne on [dlangthorne1@sheffield.ac.uk](mailto:dlangthorne1@sheffield.ac.uk).



Appendix F Intolerance of Uncertainty Scale  
**The Intolerance of Uncertainty Scale**

Redacted due to copyright.

Appendix G Therapist Beliefs about Exposure Therapy  
**Therapist Beliefs About Exposure Scale**

Redacted due to copyright.

Appendix H The Generalised Anxiety Disorder Scale  
**General Anxiety Disorder Scale**

Redacted due to copyright

## Appendix I Social Media Advert



IRAS ID 311429  
Version 2  
01/02/2022

### **Do you supervise therapists who use Cognitive Behavioural Therapy (CBT)?**

We are looking for participants to take part in a short online study investigating the impact of supervisee characteristics on their supervisor's approach.

To be eligible to take part, participants must be a qualified practitioner (such as a clinical psychologist, psychological wellbeing practitioner or CBT therapist). Participants must have experience supervising therapists who use CBT for mental health issues.

#### **What will this involve?**

Participation in the research takes place entirely online and takes around 20 minutes. You will be asked to read a vignette and complete some questionnaires.

This research has been reviewed and approved by the University of Sheffield's Research Ethics Committee.

For participating you will be given the opportunity to enter into a draw for one of two £25 Amazon vouchers.

#### **How do I take part?**

For more information or to take part, please follow this link or scan the QR code:

[https://sheffieldpsychology.eu.qualtrics.com/ife/form/SV\\_DD15YqAGLkSONFP](https://sheffieldpsychology.eu.qualtrics.com/ife/form/SV_DD15YqAGLkSONFP)



Appendix J Invite Email

Dear colleague,

**Do you supervise therapists who use Cognitive Behavioural Therapy (CBT)?**

We are looking for participants to take part in a short online study investigating the impact of supervisee characteristics on their supervisor's approach.

To be eligible to take part, participants must be qualified practitioners (such as CBT therapists, Psychological Wellbeing Practitioners or Psychologists) who currently or have previously supervised the use of Cognitive Behavioural Therapy for mental health issues.

**What will this involve?**

Participation in the research takes place entirely online and takes around 20 minutes. You will be asked to read a vignette and complete some questionnaires.

This research has been reviewed and approved by the University of Sheffield's Research Ethics Committee and the NHS Health Research Authority.

For participating you will be given the opportunity to enter into a draw for one of two £25 Amazon vouchers.

**How do I take part?**

For more information or to take part, please follow this link:

[https://sheffieldpsychology.eu.qualtrics.com/jfe/form/SV\\_0DI5YqAGLkSONFP](https://sheffieldpsychology.eu.qualtrics.com/jfe/form/SV_0DI5YqAGLkSONFP)

Alternatively, you can also contact the main researcher Diane Langthorne (Trainee Clinical Psychologist, University of Sheffield [dlangthorne1@sheffield.ac.uk](mailto:dlangthorne1@sheffield.ac.uk))

Many thanks,

Diane Langthorne

Trainee Clinical Psychologist

## Appendix K Pre-Vignette Questionnaire

### **Pre-vignette Questionnaire**

Participant demographics collected before participant in presented with vignette:

- 1) How old are you in years?
- 2) Which gender do you identify as?
- 3) What ethnicity do you identify as?
- 4) Do you have BABCP accreditation? YES/NO
- 5) Which clinical group do you work with? CHILDREN, PEOPLE WITH LEARNING DISABILITIES, ADULTS, OLDER ADULTS OR OTHER (PLEASE STATE)
- 6) How many years has it been since you qualified to work in your current profession?
- 7) Since qualifying, have you attended any further CBT training? YES/NO
- 8) If you answered 'yes' to question 4, how many years has it been since you attended further CBT training?
- 9) Have you ever received any formal training to support you in becoming a supervisor? YES/NO
- 10) If you answered 'yes' to question 6, how many years has it been since you completed your supervisor training?
- 11) How much of your work is A) Public or B) Private (in hours per week)

Appendix L Vignettes  
Study Vignettes

Anxious female:

You are a CBT supervisor in an outpatient mental health service. Jess is your supervisee. She qualified a year ago as a CBT therapist.

In supervision, Jess describes a client who she has started to see who is presenting with social phobia. Jess has completed her initial assessment with the client. After consulting the evidence base and the relevant guidelines, Jess is clear that exposure therapy would be the most appropriate intervention to treat this client's social phobia, though she has not worked with a social phobia before. Jess thinks this will take around 10 sessions. However, Jess tells you that she feels anxious about using exposure therapy with this client.

Please answer the following questions to indicate what advice you would give Jess in this scenario.

Anxious male:

You are a CBT supervisor in an outpatient mental health service. Mike is your supervisee. He qualified a year ago as a CBT therapist.

In supervision, Mike describes a client who he has started to see who is presenting with social phobia. Mike has completed his initial assessment with the client. After consulting the evidence base and the relevant guidelines, Mike is clear that exposure therapy would be the most appropriate intervention to treat this client's social phobia, though he has not worked with a social phobia before. Mike thinks this will take around 10 sessions. However, Mike tells you that he feels anxious about using exposure therapy with this client.

Please answer the following questions to indicate what advice you would give Mike in this scenario.

Non-anxious female:

You are a CBT supervisor in an outpatient mental health service. Jess is your supervisee. She qualified a year ago as a CBT therapist.

In supervision, Jess describes a client who she has started to see who is presenting with social phobia. Jess has completed her initial assessment with the client. After consulting the evidence base and the relevant guidelines, Jess is clear that exposure therapy would be the most appropriate intervention to treat this client's social phobia, though she has not worked with a social phobia before. Jess thinks this will take around 10 sessions. However, Jess tells you that she feels confident about using exposure therapy with this client.

Please answer the following questions to indicate what advice you would give Jess in this scenario.

Non-anxious male:

You are a CBT supervisor in an outpatient mental health service. Mike is your supervisee. He qualified a year ago as a CBT therapist.

In supervision, Mike describes a client who he has started to see who is presenting with social phobia. Mike has completed his initial assessment with the client. After consulting the evidence base and the relevant guidelines, Mike is clear that exposure therapy would be the most appropriate intervention to treat this client's social phobia, though he has not worked with a social phobia before. Mike thinks this will take around 10 sessions. However, Mike tells you that he feels confident about using exposure therapy with this client.

Please answer the following questions to indicate what advice you would give Mike in this scenario.

# Appendix M Histograms

