Assessing the Link between Individual Differences in Distress Tolerance and the use of Exposure-Based Therapies in UK based Cognitive Behavioural Therapists

Amy Churm

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School of Health and Social Care

University of Essex

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Abstract

Despite the demonstrated effectiveness of exposure-based therapies, studies show that therapists often avoid using exposure or do so in ways not consistent with evidence-based practice. Delivering exposure in an overly cautious, suboptimal manner, such as in combination with arousal reduction techniques, has been shown to reduce exposures effectiveness and can exacerbate clients' symptoms. Research points to therapist characteristics, such as experiential avoidance of discomfort, as interfering with exposure use and delivery. The present study used an online survey including a therapy case vignette to evaluate the extent to which CBT therapists practicing in the UK would choose to use exposure, and to explore the links between therapists' traits related to their ability to tolerate distress, and their use and delivery of exposure. As part of this exploration, the role of ACT training on experiential avoidance, cognitive fusion, exposure use and exposure delivery was considered. Results show most therapists chose to use exposure therapy; however, they delivered exposure in a suboptimal manner. Therapists' traits related to distress tolerance were significantly correlated with their use and delivery of exposure. Suggesting therapists who struggle to manage their own distress, are less likely to use exposure therapy and, if used, are more likely to deliver exposure in an overly cautious, suboptimal manner. We found participants trained in ACT, in addition to CBT, used exposure more and delivered it closer to recommended guidelines. Experiential avoidance and cognitive fusion fully mediated this relationship, suggesting ACT training improves therapists use and delivery of exposure through decreasing their experiential avoidance and cognitive fusion. The findings highlight the need for further research into therapist factors impacting exposure use, particularly into the role of empathy and when it leads to distress. This research suggests training and supervision aimed at decreasing therapists' experiential avoidance and cognitive fusion, may improve both delivery and frequency of exposure use, alongside making organisational changes to reduce therapists distress linked to burnout.

Chapter 1: Introduction

Exposure-based therapies are a highly effective treatment for anxiety disorders and an essential component in Cognitive Behavioural Therapy (CBT) anxiety treatment protocols (Butler et al., 2006; Deacon & Abramowitz, 2004; Stobie et al., 2007). Exposure has been suggested as the most integral component of CBT, influencing the course of recovery (Peris et al., 2015), predicting treatment outcomes (Voort et al., 2010) and showing similar results when used alone as when included in more complicated CBT interventions (Deacon & Abramowitz, 2004). Along with a large evidence base showing exposure to be effective for anxiety disorders (Huang et al., 2022; Leigh & Clark, 2018), obsessive compulsive disorder (OCD) (Foa et al., 2005; McGuire et al., 2015) and eating disorders (Butler & Heimberg, 2020), exposure has also been found to be more effective for grief than cognitive therapy (Boelen et al., 2007), interpersonal therapy (Shear et al., 2005) and CBT without exposure (Bryant et al., 1999). Exposure has additionally been used to target experiential avoidance in depression (Hayes et al., 2005) and fear of pain in those with long-term health conditions (Hotta et al., 2022).

Despite its effectiveness, exposure is underutilised by therapists in clinical practice, including CBT and behavioural therapists who are trained to deliver exposure (Becker et al., 2004; Cook et al., 2010; Pittig & Hoyer, 2018; Pittig et al., 2019). Furthermore, research has suggested that when exposure is used, it is often delivered in a suboptimal manner such as in conjunction with strategies that substantially reduce its effectiveness (Benito et al., 2020; Schmidt et al., 2000a; Tolin et al., 2007). Resistance to evidence-based practice within psychotherapy is well documented, as is the existence of therapist drift, which recognises that many therapists fail to deliver the behavioural components of CBT (Waller, 2009; Waller & Turner, 2016). However, exposure seems to have been met with more resistance than other evidence-based interventions such as behavioural activation or the cognitive strategies within CBT (Addis & Krasnow, 2000; Becker et al., 2013).

In the UK CBT including exposure is the primary therapeutic modality funded by the National Health Service (NHS) through the Improving Access to Psychological Therapy (IAPT) programme which increased access to psychological therapy. With this substantial focus on CBT, it is important to understand the pattern of exposure use within the UK. The proposed study will build upon previous research by identifying possible explanations for the underutilisation and suboptimal delivery of exposure in clinical practice. Previous research has focused on training, negative beliefs about exposure and client factors which may impact the decision to use exposure. However, less research has focused on therapist factors that may influence this decision. Therefore, this research aims to address some of the limitations and gaps in previous research and further investigate the impact of therapist traits related to distress tolerance, such as experiential avoidance, on exposure utilisation. Identifying therapist factors involved in underutilisation and suboptimal delivery would help inform future training and supervision strategies for clinicians to increase exposure utilisation and optimise its delivery.

Mental Health Difficulties and Anxiety Prevalence

Exposure based therapies have been shown to be an essential component in treating common mental health problems (Butler et al., 2006; Deacon & Abramowitz, 2004; Stobie et al., 2007). Prior to the Covid-19 pandemic one in six adults and one in eight children in the UK reported experiencing common mental health problems within the last week (Baker, 2020). Mental health problems increased over the Covid-19 pandemic (Holmes et al., 2020), with 52% of people now showing symptoms of anxiety and depression (Pieh et al., 2021). Women and young people's mental health was more affected by the pandemic (Li & Wang, 2020), increasing to one in six children experiencing mental health difficulties (NHS Digital, 2021). Additionally one in five women are now thought to have symptoms of an eating disorder (NHS Digital, 2020).

Exposure based therapies are most often used to treat anxiety disorders such as, specific phobias, social anxiety, panic disorder, post-traumatic stress disorder (PTSD) and OCD. Anxiety disorders are some of the most common mental health problems, with generalised anxiety disorder (GAD) the most frequently reported in the UK followed by depression (Baker, 2020). Within a year 10.6% to 29.8% of people will experience an anxiety disorder, with women being twice as likely as men to be affected especially during pregnancy when 17% of women are diagnosed with an anxiety disorder (Baxter et al., 2013; Nath et al., 2018; Remes et al., 2016). Out of 100 people, 16 to 34 will experience an anxiety disorder at some point in their life (Kessler et al., 2012; Remes et al., 2016). The symptoms of anxiety disorders have been shown to impact all aspects of a persons' life, resulting in functional impairments such as decreased work productivity, unemployment and impaired relationships (Beidas & Kendall, 2010; McHugh & Barlow, 2010; Simpson et al., 2010). Additionally, anxiety disorders have been linked to other health difficulties such as higher substance misuse, cardiovascular disease, cancer, diabetes and other chronic mental and physical health problems (Remes et al., 2016). These additional health problems combined with more frequent primary and acute health care visits suggest untreated anxiety disorders have a significant societal cost (Simpson et al., 2010). The increase in mental health difficulties since the pandemic, linked with the societal and personal cost associated with them, shows the importance of further increasing the effectiveness of current psychotherapies as well as developing new treatments and preventative measures.

Mental Health Treatment in the UK

To improve treatment for mental health difficulties in the UK, the National Institute for Health and Clinical Excellence (NICE) reviewed the effectiveness of various treatments for common mental health problems. In 2004 NICE guidelines were developed following this research and

recommended CBT as the leading evidence based treatment for anxiety and depression (Clark, 2011). Alongside these guidelines research into CBT including exposure-based therapies, found that it often outperformed SSRI medications (Eddy et al., 2004; Foa et al., 2005; Johnco et al., 2020; Leigh & Clark, 2018; McGuire et al., 2015). CBT has also been shown to be more cost-effective than medication for disorders such as social anxiety (Mavranezouli et al., 2015) and to have more long-term benefits (Barlow et al., 2000). Within CBT, exposure has been shown to count for a significant portion of treatment effects (Hunsley et al., 2014; Norton & Price, 2007; Voort et al., 2010), with exposure showing similar results when used with and without other aspects of CBT interventions (Deacon & Abramowitz, 2004).

In 2005 the UK government committed to increasing evidence based psychological treatments, with the aim of helping people return to work, which would increase tax income and reduce the welfare and medical costs associated with mental health problems (Clark, 2011; Pickersgill, 2019). Following this commitment, the Improving Access to Psychological Therapies Programme (IAPT) was founded in 2008, it followed NICE guidelines suggesting CBT delivered in a stepped care model where patients are given the least intensive treatment first (Clark, 2011; Wakefield et al., 2021). There are currently 200 IAPT services across England, and it has been described as the largest application of evidence based psychotherapy in the world (Wakefield et al., 2021). Currently IAPT services are reporting a 48.9% recovery rate (NHS Digital, 2023), a reduction from pre-pandemic levels (51.1% from 2019-2020 (IAPT Team, 2020)). Although this programme has increased access to evidence based psychological therapy in the UK, with only 5% of the population having access to evidence based therapy pre-IAPT (McManus et al., 2009), some have suggested that the recovery rates reported are not accurate as many clients re-refer multiple times. This ‘revolving door’ proposes recovery rates closer to 34.5% (Cotton, 2019, 2020; Martin et al., 2022; Roscoe, 2019). Within clinical trials recovery rates for anxiety using CBT are often over 50% (Butler & Heimberg, 2020; Foa et al.,

2005; Springer et al., 2018; Warwick et al., 2017) with some exposure based treatments at times closer to 75% (Foa & Goldstein, 1978). One reason why the recovery rates in clinical trials are higher than in clinical practice could be the underuse and suboptimal delivery of exposure-based therapies (Keleher et al., 2020; Rowe & Kangas, 2020; Schneider et al., 2020; Scott, 2021), which may also explain the 'revolving door' of clients returning due to failed treatment. For the client, failed psychotherapy treatment can lead to increased symptoms, beliefs that therapy is ineffective and reduced motivation to try again (Lazar, 2010). Additionally, clients who do not benefit from therapy can be labelled as 'treatment resistant' which may impact their access to further treatment and the type of treatments offered (Waller, 2009; Waller & Turner, 2016). The impact of diverging from evidence-based practice on the client, as well as the financial burden of failed treatment on the NHS, shows the importance of research into the reasons for the underuse and suboptimal delivery of exposure in clinical practice.

Exposure Therapy Overview

Mechanisms of Change

To explore the underuse and suboptimal delivery of exposure-based therapies we first need to revisit the theoretical foundations of exposure therapy in order to identify how implementation models and therapy protocols have developed. Exposure based therapies originated from the two-factor learning theory (Mowrer, 1950; Mowrer, 1951), which was then applied to the development and treatment of anxiety disorders. This original behavioural theory suggests that classical conditioning creates fear and operant conditioning maintains fears. Exposure therefore reduces fear/ anxiety through breaking the conditioned response and allows extinction learning (Meyer, 1966). Although the two-factor learning theory has a large evidence base,

including being supported by functional brain imaging (Ipser et al., 2013), it was suggested to be a too simplistic explanation for more complex problems such as PTSD and OCD. Emotional processing theory (Foa & Kozak, 1986) was therefore developed to expand on the behavioural or habituation model of exposure. Emotional processing theory suggests that emotions are part of a cognitive structure within our memory, this structure contains information about the fear as well as our response to that fear, and the meanings we give to the fear and our response. Exposure helps us to integrate corrective and realistic information into these cognitive structures and therefore develops a competing structure, this is similar to cognitive models of exposure which describes people developing negative beliefs about the feared situation/ object, and the outcome of being in that situation. Cognitive explanations therefore suggest exposure reduces anxiety through disconfirming those beliefs and providing more realistic evidence (Hezel & McNally, 2016). Support for emotional processing theory has been mixed and on reviewing findings from multiple studies Craske et al (2008) developed inhibitory learning theory. Inhibitory learning theory (Craske et al., 2008) suggests that similarly to emotional processing theory, exposure creates a competing or new association with the fear stimulus, this new association inhibits the original memory, but the original association can still be re-activated. In this respect inhibitory learning theory helps to explain relapse and why it is necessary to continue to expose yourself to situations you previously found anxiety provoking for results to be maintained long-term. More importantly Craske et al (2008) suggests the aim for exposure is not for anxiety to necessarily reduce as was originally thought, but for the individual to develop distress tolerance. The idea of distress tolerance is important for the delivery of exposure-based therapies and will be further discussed in the implementation section. To summarise, although there are multiple theories and ideas aiming to identify the mediator of change, exposure for anxiety disorders arguably has stronger scientific support than any other form of therapy for any mental health problem (Deacon, Farrell, et al., 2013).

Evidence Based Exposure Implementation Models and Treatment Protocols

Following on from the theoretical foundations of exposure therapy this section will examine how the theories have been developed into models and treatment protocols for various mental health diagnoses. These different protocols will then be explored in order to identify their commonalities and the properties which are essential for successful implementation of exposure. This overarching 'protocol' will then be used to develop an understanding of how clinicians may be deviating from best practice.

Exposure is generally thought to consist of three types: in vivo (real life), imaginal and interoceptive exposure, they are often used in combination and to target different symptoms. For example imaginal exposure is frequently used for reliving trauma memories and interoceptive exposure is used to challenge beliefs that the physical symptoms of anxiety are dangerous (Foa & McLean, 2016). Exposure therapy is first thought to be used by James G. Taylor (1897–1973) in South Africa where he described in vivo exposure, such as driving, with a patient who had a driving phobia (Abramowitz et al., 2019). Since this time exposure therapy for specific phobias has largely remained the same with in vivo exposure widely considered the treatment of choice for specific phobias (Wolitzky-Taylor et al., 2008). However, exposure for more complex mental health difficulties has been developed into different models and treatment protocols to improve its effectiveness.

Identifying and Reducing Safety Behaviours

Although a straightforward exposure hierarchy for a phobia may be familiar and easy to follow, many anxiety disorders do not improve with this approach alone. Social anxiety maintenance in particular, was an area of interest as patients would expose themselves to social situations almost daily, but their anxiety levels tended to increase over time. Hope & Heimberg's (2006) and Clark & Wells' (1995) cognitive models of social phobia are primarily used for treating

social anxiety disorder. Both models suggest that safety behaviours inhibit anxiety reduction from exposure to social situations. Safety behaviours (also known as safety-seeking behaviours) are behaviours that are carried out, either overtly or covertly in specific situations in order to prevent feared outcomes (Salkovskis et al., 1999). In this respect any behaviour can be a safety behaviour as it is why a client is doing the behaviour rather than what they are doing which makes it a safety behaviour. However, there are common safety behaviours for example holding onto something when interpreting shaking legs as a sign of collapse (Salkovskis et al., 1999). These behaviours prevent disconfirmation of problematic beliefs during exposure tasks, the positive outcome of the task is also attributed to the safety behaviour (Clark & Wells, 1995; Hope et al., 2006; Wells et al., 2016). Due to these safety behaviours, both treatment protocols stress the importance of in session in vivo exposure or behaviour experiments partially for the therapist to identify and help the patient reduce their safety behaviours. Behaviour experiments can be thought of as a type of in vivo exposure with a cognitive theory rational. Research has shown exposure with reduction of safety behaviours is more effective for social anxiety than other forms of CBT, Interpersonal therapy (IPT), psychodynamic psychotherapy and fluoxetine (Leigh & Clark, 2018; Wells et al., 2016). Additionally, exposure without identification and reduction of safety behaviours has been found to increase social anxiety in some patients (Wells et al., 2016).

OCD is another disorder in which safety behaviours or compulsions are problematic to the implementation of exposure. Wells' (1997) metacognitive model, Salkovski (1998) cognitive model of OCD and Rachman's (1997) cognitive model of obsessions are the most commonly used. All three suggest patients misinterpret the significance of their intrusive thoughts leading to anxiety and safety behaviours/ compulsions. These compulsions work similarly to safety behaviours, in that they prevent exposure and disconfirmation of problematic beliefs (Rachman, 1997; Salkovskis et al., 1998; Wells, 1997). In vivo exposure with response

prevention (ERP), or behaviour experiments without compulsions are suggested treatments. Again, in vivo exposure with the therapist is needed to help the patient identify their compulsions, especially those that are more covert, and to support the patient to not engage with compulsions (Williams et al., 2022). Research suggests exposure works significantly better when compulsions are not used (Foa et al., 1984).

Identification and reduction of safety behaviours is therefore essential for successful exposure treatment. Additionally, it is important that the therapist does not provide and encourage the client to use additional safety behaviours. Although within Clark's (1986) cognitive model of panic breathing retraining was originally included as an intervention, research has since suggested it does not give any benefit (De Ruiter et al., 1989; Schmidt et al., 2000a). Additionally, breathing retraining or breathing techniques have been shown to become a safety behaviour and therefore inhibit exposure (Craske et al., 2000; Salkovskis et al., 1996).

Increasing the Intensity of the Exposure Task

Another important aspect of exposure treatment is encouraging the client to push themselves to complete more difficult tasks than they may feel able to so alone. A recent secondary data analysis found that young people with OCD had better outcomes when exposure was longer, the therapist was encouraging and engaged in intensifying behaviours (Benito et al., 2020). On the other hand young people had worse outcomes when their therapist used fear decreasing behaviours during exposure (Benito et al., 2020). This result was not only found for obviously deescalating strategies such as allowing clients to use their safety behaviours, it was also found for seemingly innocuous behaviours such as the therapist talking about an unrelated topic during exposure (Benito et al., 2020). This result is in line with PTSD research suggesting other non-exposure interventions such as cognitive restructuring also reduces exposures

effectiveness (Foa & Rauch, 2004; Paunovic & Öst, 2001), potentially due to acting as a deescalating strategy.

Within panic disorder a similar need to intensify exposure tasks has been identified, specifically within interoceptive exposure using hypoventilation. Therapist encouragement and observation has been shown to be important to ensure patients are breathing fast and deep enough to achieve the required symptoms (Meuret et al., 2005). Interoceptive exposure has been included within the cognitive model of panic (Clark, 1986), the panic control treatment model (Barlow et al., 1989) and the sensation-focused intensive treatment model (Bitran et al., 2008). Similarly to Benito's et al (2020) OCD study, research has suggested that prolonged and intense interoceptive exposure is essential in the treatment of panic disorder (Bitran et al., 2008; Deacon, Lickel, et al., 2013).

Therapist Modelling Exposure Tasks

Additionally, the role of the therapist modelling the exposure tasks is included as an important part of many treatment protocols (Foa et al., 2012). For example, the therapist preforming the exposure task before/ with the client helps to provide further evidence that the task is safe. Research suggests that in some cases, therapists' tentative application of exposure and reluctance to model interventions such as hyperventilation interoceptive exposure, could provide more evidence for the client that anxiety is dangerous and that the task is unsafe, further cementing their problematic beliefs (Blakey & Abramowitz, 2016; Jacoby & Abramowitz, 2016; Reid, Bolshakova, et al., 2017; Waller & Turner, 2016). Therapist modelling is also an important part of PTSD treatment. PTSD requires two types of exposure to be used alongside each other, in vivo exposure and imaginal exposure. Three main models use exposure, Foa and Rothbaum's (1998) prolonged exposure therapy (PE), Schauer's (2011) narrative exposure therapy (NET) and Ehlers & Clark (2000) cognitive therapy for PTSD. The three models share

similarities, in that imaginal exposure within sessions is used to re-live traumatic memories in order to process and update the meaning of these experiences. Imaginal exposure is an understandably difficult process for the client, as they are being asked to confront memories and situations that they have been trying to avoid. Therefore, the therapist needs to show their confidence in the treatment and model, and the importance of facing our fears in order to encourage the client to engage in the process (Foa & Rothbaum, 1998; Hembree et al., 2003). Additionally, the therapist modelling compassion without judgment whilst witnessing the trauma narrative helps to allow the client to overcome the fear, blame, and shame (Hembree et al., 2003). Although some research suggests that it is unclear whether trauma-focused treatments show significantly better results than non-trauma-focused treatments (Kratzer et al., 2022), avoiding talking about or facing the trauma is again likely to model to the client that it is unsafe or they are not capable of doing so (De Jongh et al., 2016). Overall, prolonged exposure therapy has been more thoroughly researched than other trauma therapies, including with different trauma populations such as sexual assault survivors, veterans, and children (Huang et al., 2022; McLean et al., 2021; Powers et al., 2010). Prolonged exposure is also found to outperform other therapy modalities such as cognitive processing therapy (Powers et al., 2010; Schnurr et al., 2022) and Huang's et al (2022) recent metanalysis suggested prolonged exposure for children and young people was significantly more effective than NET.

Commonalities Between Exposure Treatment Protocols

Although the protocols discussed above vary, many aspects of exposure delivery remain the same and can be thought of as the essential qualities necessary for exposure to be effective. Overall, the research suggests optimal implementation of exposure consists of; frequent clinician directed exposure (Abramowitz, 2013; Abramowitz et al., 2019; Foa & Goldstein, 1978; Foa & Rothbaum, 1998; Jacobson et al., 2016). With continued intensity in the face of

patient distress (Clark & Beck, 2010). Without arousal reduction strategies such as breathing techniques or distraction, and without clients' safety behaviours, which both interfere with habituation, (Benito et al., 2020; Craske et al., 2000; Salkovskis et al., 1996; Schmidt et al., 2000a; Wells et al., 2016; Williams et al., 2022) and can potentially increase symptoms in those with social anxiety (Wells et al., 2016) and panic disorder (Deacon, Lickel, et al., 2013). Many protocols suggest either in vivo, interoceptive or imaginal exposure is utilised in nearly every session, for example, Foa's et al (2012) ERP protocol suggests 17-20, 90-minute sessions in which in vivo exposure with the patient is suggested from the second session onwards. Hope and Heimberg' (2006) social anxiety protocol suggests 16-20 sessions with half devoted to in vivo exposure in session with the therapist. Evidence for all disorders suggest clinician directed in vivo exposure to be superior, primarily as it enables the therapist to identify and therefore remove safety behaviours as well as providing an opportunity for therapist modelling. Evidence showing clinician directed in vivo exposure to be superior also has implications on the increase in remote, telephone, and online, video & typed psychotherapy since the Covid-19 pandemic.

As discussed above theoretical models such as inhibitory learning theory suggest distress tolerance as a main aim of exposure therapy. Therefore, less intense delivery of exposure and allowing safety behaviours prevents the client from learning to tolerate their anxiety and disprove their expectations of harm (Craske et al., 2022; Farrell et al., 2013). This theory is in line with recent research showing youth participants benefitted less from ERP when their therapist engaged in arousal reduction strategies (Benito et al., 2020). Additionally, youth participants had better outcomes when their therapist followed a protocol/ manual that discouraged the use of arousal reduction strategies and encouraged using strategies that intensify exposure (Benito et al., 2021). Therefore, much of the exposure implementation guidelines link back to the idea of distress tolerance described in inhibitory learning theory, in that the client needs to feel distress in order to learn to tolerate it, anything that prematurely

reduces their distress is therefore unhelpful. Additionally, the therapist modelling distress tolerance is part of this learning, therefore therapists' tentative application or reluctance to model would also interfere with the clients learning (Craske et al., 2022).

Non-Adherence to Guidelines and Why it is Problematic

Following on from developing an overarching 'protocol' for how exposure-based therapies ideally should be delivered. We will explore ways in which clinical practice seems to deviate from these evidence-based implementation guidelines.

Underuse of Exposure-Based Therapies

Despite the many theories, models and treatment protocols discussed and exposure's strong evidence base, exposure is underutilised within clinical practice (Becker et al., 2004; Farrell et al., 2013; Freiheit et al., 2004; Higa-Mcmillan et al., 2017; Kannis-Dymand et al., 2022; Kline et al., 2021; Van Minnen et al., 2010). Interestingly, the underuse of exposure-based therapies has been identified across the world including the US (Becker et al., 2004; Reid et al., 2018; Whiteside et al., 2016), Canada (Gagné et al., 2021), the Netherlands (Van Minnen et al., 2010), Germany (Moritz et al., 2019; Pittig et al., 2019), Australia (Kannis-Dymand et al., 2022; Moses et al., 2021; Rowe & Kangas, 2020) and New Zealand (Kannis-Dymand et al., 2022). However, research into the use of exposure therapy in the UK is very limited, two studies suggest underuse by trainee therapists (Levita et al., 2016) and with children diagnosed with OCD (Keleher et al., 2020). However, these UK studies did not use qualified cognitive behavioural therapist or behavioural therapist, who would be the most likely to offer exposure-based therapies (Keleher et al., 2020; Moses et al., 2021; Trivasse et al., 2020). One UK study exploring CBT therapists and patients' opinions about how important CBT techniques are to

treatment, found that although CBT therapists valued all change-oriented techniques, clinicians with higher levels of anxiety had a lower preference to use behaviour experiments and exposure (Hernandez Hernandez & Waller, 2021).

Therapist population has been shown to influence exposure therapy use, for example Becker (2004) found only 9% of their sample used exposure for PTSD, which was consistent with Maguen (2019) who also found only 9% of US veterans with PTSD received exposure therapy (Maguen et al., 2019; Rosen et al., 2004). However, more recent research in the US suggested 55.5% of their sample utilised exposure for PTSD (Kline et al., 2021), this discrepancy seems to be indicative of some therapist populations utilising exposure more than others. Indeed Kline's (2021) sample consisted of 72.3% CBT orientation whereas Becker's (2004) sample only contained 21.3% CBT orientation.

Although it would be understandable for clinicians who are not trained in exposure to not use exposure-based therapy, research also shows exposure is still underused by CBT therapists and others who have been trained to deliver it (Freiheit et al., 2004; Hipol & Deacon, 2013; Pittig & Hoyer, 2017; Whiteside et al., 2016). Pittig et al (2017) found that behaviour therapists reported using exposure with fewer than half of their anxiety clients and Hipol & Deacon (2013) found fewer than a third of trained CBT therapists reported using exposure for OCD, social phobia, panic disorder or PTSD.

In order to further explore the impact of therapy modality training on exposure use it can be helpful to compare results from different countries in which one therapy modality is favoured over others. Similarly to the UK, CBT has been identified as the leading therapy modality within psychotherapy training courses in Australia (Kannis-Dymand et al., 2022; Rowe & Kangas, 2020). It is therefore expected that exposure therapy would be utilised more, in fact a recent Australian survey reported exposure use to be 95% (Moses et al., 2021). Although 95% seems like a high use of exposure therapies, these results vary based on the type

of exposure, for example Kannis-Dymand (2022) found only half of their sample of Australian therapists reported using interoceptive exposure. Although underutilisation of exposure has been found across disorders including PTSD (Becker et al., 2004; Van Minnen et al., 2010), panic disorder (Deacon, Lickel, et al., 2013; Freiheit et al., 2004; Kannis-Dymand et al., 2022), OCD (Hipol & Deacon, 2013; Keleher et al., 2020), eating disorders (Turner et al., 2014) and social anxiety (Hipol & Deacon, 2013). Research suggests therapists seem to be more reluctant to use certain types of exposure such as interoceptive exposure for panic and imaginal exposure for PTSD (Freiheit et al., 2004). Moses et al (2021) found that although 95% of their sample reported using exposure, only 26% reported using interoceptive exposure and 47% reported using imaginal exposure for PTSD. Therapists also seem more unwilling to use exposure with certain types of OCD for example those with repugnant obsessions e.g., intrusions related to harm or sex (Gagné et al., 2021; Moritz et al., 2019; Schneider et al., 2020). Along with type of presentation other client factors have also been linked with lower use of exposure such as co-morbidity, symptom severity, clients' motivation (Meyer et al., 2014; Wolf & Goldfried, 2014) and clients' age (Chen et al., 2022). In fact, Chu et al (2015) found that therapists felt exposure was only appropriate for the smallest percentage of their current anxiety cases.

Therefore, although some variation can be found in the reported levels of exposure use, overall research into this area shows underuse of at least some types of exposure or exposure for some conditions/ presentations. It is also beneficial to compare the uptake of exposure to other evidence-based techniques. Although resistance to evidence-based practice in general is not uncommon, relative to other CBT components exposure has been shown to have the largest research to clinical practice differences in both competence and adherence (Mcleod et al., 2019). With many therapists reporting exposure to be particularly difficult to implement and sustain (Chu et al., 2015).

Additionally, response and sampling bias is important to take into consideration (Althubaiti, 2016). Most of the research into the use of exposure is survey based using self-report tools, where therapists volunteer to complete the survey and are directly asked how often they use exposure-based therapies. It is therefore likely that many therapists overestimate their use of exposure. Indeed, research has shown clients report less use of exposure within treatment than their therapists (Böhm et al., 2008). Higa-McMillian's (2017) study is one of the few that included service data collected from youth participants and found exposure was used in only 15% of cases, indicating exposure use in clinical practice may be lower than clinicians report. In summary, exposure-based therapy use is low, even within therapist populations that are trained to use it. Often when exposure use is reported to be high, clinicians are not following protocol such as not using disorder specific methods e.g., interoceptive exposure for panic (Kannis-Dymand et al., 2022). Other ways in which clinicians who use exposure therapy deviate from protocol have also been found in the literature and will be discussed in the following section.

Suboptimal Delivery of Exposure-Based Therapies

Along with the underutilisation of exposure-based therapies, research has shown that even when exposure is used, it is delivered in a suboptimal manner which reduces its effectiveness and can exacerbate symptoms (Pompoli et al., 2018; Schmidt et al., 2000a; Wells et al., 2016). Interestingly in surveys where exposure utilisation was reported as high, suboptimal delivery was also widespread. This pattern of suboptimal delivery may suggest that when clinicians, who find implementing exposure-based therapies difficult, are put in a position where they cannot avoid using exposure, they may replace full avoidance of the technique with partial avoidance such as by delivering less frequent or less intense exposure. For example, Moses et al (2021) reported 95% overall exposure therapy use, but cognitive restructuring was routinely

used and seen as an essential component. Additionally, therapists did not use disorder specific exposure methods. A similar pattern has been found in other research for example Jacobson et al (2016) reported 90% exposure use with 82.3% using cognitive therapy alongside exposure, this has been suggested as a concerning modification of the exposure protocol used in clinical practice (Hipol & Deacon, 2013). Rowe & Kangas (2020) comparably found a high percentage of exposure use (88%) but also found that arousal reduction strategies and cognitive restructuring were used significantly more than exposure. They also found that client directed exposure was used significantly more than therapist directed, a trend that was similarly found with young people who were twice as likely to be given exposure tasks to complete outside of sessions as they were in session (Fjermestad et al., 2022). Sars & Van Minnen (2015) likewise reported 97.8% of clinicians used exposure therapy, with 89.1% using only client directed exposure. Breathing and relaxation strategies were also used between 16.7% and 44.5% of the time depending on the anxiety disorder. Furthermore, a German study found that although three quarters of psychologists reported using exposure with most of their patients, their adherence to best practice guidelines was often poor (Moritz et al., 2019).

Overall, five key behaviours have been identified that undermine exposures effectiveness, all of which involve departing from the overarching 'protocol' discussed above which combined the commonalities between exposure models. These behaviours are allowing clients' safety behaviours, using arousal reduction strategies, mostly using client-directed exposure (i.e., outside of the sessions), reassuring the client that they are safe and reduced intensity/ premature termination of the tasks (Clark & Beck, 2010; Deacon & Farrell, 2013; Harned et al., 2014; Reid, Guzick, et al., 2017; Schmidt et al., 2000a). These behaviours have been called 'therapist safety behaviours' (Meyer et al., 2020) as they seem to perform the same function as clients' safety behaviours in that they aim to prevent feared outcomes and reduce anxiety/discomfort (Salkovskis et al., 1999). For example, the therapist may believe that

exposure is intolerable, and feel that they will not be able to cope with the client's emotional expression, they therefore prematurely reduce the intensity of the task in order to reduce the client's and their own distress. The therapists' discomfort and worries may also be reduced by avoiding witnessing the client's distress through predominantly using client-directed exposure, or through reducing the client's distress e.g., with arousal reduction strategies.

Survey research has shown widespread use of therapist safety behaviours (Sars & Van Minnen, 2015). For example, Hipol & Deacon (2013) and Whiteside et al (2016) both attempted to measure therapist safety behaviour use via a survey from Frieheit et al (2004) which consisted of a list of therapy techniques including arousal reduction strategies and client-directed exposure. Participants were found to frequently use both these techniques to treat clients with anxiety disorders. Two measures have also been developed to assess therapist safety behaviour use during exposure and the intensity of exposure delivery; the Exposure Implementation Beliefs Scale (EIBS) (Meyer et al., 2020) and Exposure Therapy Delivery Scale (ETDS) (Deacon et al., unpublished manuscript in Meyer et al., 2020).

However, similar issues arise when measuring therapist safety behaviours, as when measuring exposure use. In that self-report measures and surveys may not accurately show the extent of therapist safety behaviour use, as research suggests clinicians often overestimate the quality of their exposure delivery (Nakamura et al., 2014; Walfish et al., 2012). For instance, Harned et al (2014) found that clinicians who reported increased self-efficacy in exposure delivery did not show an increase in observer-rated clinical proficiency, demonstrating that clinicians overestimated their exposure abilities. Additionally, where participants have knowledge of the purpose of the self-report measure this can again lead to responder bias. Clinician safety behaviour use and deviations from exposure protocol therefore may be even more widespread than survey research suggests.

Experimental research has also attempted to measure the use of therapist safety behaviours. Farrell et al (2013), as part of their study investigating the impact of negative beliefs about exposure, measured adherence to exposure guidelines more comprehensively using an OCD vignette role play where participants were not told the aim of the assessment. Participants were asked to choose an exposure item from a hierarchy in the context of their client's distress level and reservations about exposure. Moreover, at various time points participants were asked how likely they would be to engage in 'intensity escalating', 'distress reducing' and 'safety acquiescent' strategies. Interestingly they found that both groups allowed their clients to use safety behaviours, but that the group who had more negative beliefs about exposure also chose significantly less intense exposure tasks from the hierarchy. This result suggests negative beliefs about exposure may lead to more use of therapist safety behaviours, however as both groups used therapist safety behaviours, there are likely also other predictors or explanations for this behaviour. This experimental method should reduce response bias, indeed Farrell et al (2013) reported only four participants were able to accurately decipher the true aim of the study.

Another study which also showed the extensive use of therapist safety behaviours was Benito's et al (2020) secondary data analysis, it included reviewing video recordings of exposure sessions. They found that therapists safety behaviours occurred in 40% of exposure tasks and with 80% of patients during treatment. Along with this they found that fear decreasing behaviours were linked to worse outcomes, whereas encouraging and intensifying behaviours were associated with better outcomes. This result was found in a subsequent study aiming to reduce clinicians use of therapist safety behaviours during exposure (Benito et al., 2021). Similarly, Fjermestad et al (2021) attempted to review therapy tapes to assess the quality of exposure delivery, they reported being unable to conduct analysis due to insufficient inter-item

reliability however did report client directed exposure was used twice as much as in vivo in session exposure.

Although role plays or recording therapy sessions, is out of the scope of this research project, Rowe & Kangas (2020) had success adapting the vignette from Farrell et al (2013) for a survey research model. Vignette survey questions have been shown to be more indirect than self-report measures and they do not require intentional recollection of stored information. Vignettes therefore can be more accurate at assessing characteristics of respondents that they may be unwilling or unable to admit, especially when social desirability is a concern (Bajo et al., 2021; Vargas et al., 2004).

To summarise, therapist safety behaviours seem to be widespread, this result has been shown by both survey and experimental research. Links between using therapist safety behaviours and having negative beliefs about exposure have been found, however even therapists who do not seem to have negative beliefs use therapist safety behaviours, although to a lesser extent. There also seem to be links between the amount of therapist safety behaviours used and high utilisation of exposure, with some studies finding that although 88-97.8% of therapists used exposure, the majority were using therapist safety behaviours (Rowe & Kangas, 2020; Sars & Van Minnen, 2015). This common deviation from exposure protocol and the impact of therapist safety behaviours on the clients' recovery has led to research exploring reasons why clinicians seem to be reluctant to follow exposure treatment protocols, instead choosing to avoid exposure or conduct it in ways which reduce its effectiveness.

Predictors of Exposure-Based Therapies Utilisation

Research has aimed to better understand and address the gap between exposure-based therapies evidence base and front-line clinical practice. Various predators of exposure utilisation and delivery have been proposed. The following sections will discuss research exploring the impact

of client and organisational factors as well as therapists training, beliefs, and traits, with a specific focus on therapist traits which may impact their ability to tolerate distress.

Client Factors

Client factors have been linked to the underuse and suboptimal delivery of exposure therapy. Client factors include clinicians assuming the patient is too fragile or anxious for exposure therapy (Chen et al., 2022; Meyer et al., 2014; Pittig et al., 2019; Wolf & Goldfried, 2014). Therapists may also believe exposure to be contraindicated for certain presentations such as comorbidity, or with harm related OCD (Gagné et al., 2021; Van Minnen et al., 2010). However, these beliefs are not supported by the many studies demonstrating that risk to the client is low, and comorbidities generally do not prevent benefit from exposure (Meyer et al., 2014; Schneider et al., 2020). Meyer et al (2014) developed the broken leg exemption scale (BLES) to measure therapists' beliefs about which clients/ presentations should be excluded from exposure therapy. The BLES was found to be positively correlated with holding negative beliefs about exposure as well as the therapists' own anxiety sensitivity. The BLES has since been linked to increased use of therapist safety behaviours during exposure (Meyer et al., 2020). These links may suggest that clinicians own negative beliefs and anxiety sensitivity may be more influential in their choice to use exposure therapy, and how to deliver it, than the clients presentation. Indeed, research exploring whether patient gender and mood impacts the treatment decisions of CBT therapists, showed that the only intervention effected was exposure therapy, no differences according to patient gender or mood were found for any other talking or behavioural interventions (Hernandez & Waller, 2022). Suggesting use of exposure therapy is uniquely impacted by clinicians' interpretations, bias, or beliefs about the client. In summary many clinicians believe their client to be the exception to empirical findings that exposure can and should be utilised as a first line treatment (Cook et al., 2018; Feeny et al., 2003). However,

it is unclear how much of this decision is based on the need to adapt therapy for various client presentations versus the therapists' own beliefs, bias, and traits.

Organisational Factors

In terms of practical and organisational factors which may impact clinicians' likelihood of using exposure, clinicians have reported concerns that exposure will increase their dropout rates (Deacon, Lickel, et al., 2013; Olatunji et al., 2009), concerns about legal liability (Olatunji et al., 2009) or not having enough time in sessions (Keleher et al., 2020; Pittig et al., 2019). Reid et al (2017) surveyed 230 practicing clinicians working with young people and found the top three barriers to exposure implementation were session length (56%), lack of training (48%), and concern about parent reaction (47%). Reese et al (2016) also found that the most commonly endorsed barrier in their sample was lack of time and inability to leave the office for exposure tasks (15.5%).

Although practical barriers may play a part, Harned's et al (2013) study which involved training participants in exposure therapy, found that organisational and client factors were not significantly associated with use of exposure therapy in clinical practice and were only minimally associated with clinical proficiency. They concluded that their results suggest the primary barriers to exposure therapy utilisation were therapist factors not organisational or client factors. This result seems to be confirmed by research showing that clients either have neutral views (Essayli et al., 2021) or prefer exposure therapy (Becker et al., 2007; Deacon & Abramowitz, 2004) and that there is little evidence that insurance companies consider exposure to be a risk (Pittig et al., 2019). A recent metanalysis also confirmed previous findings that drop-out rates from ERP are lower than other interventions (Johnco et al., 2020). Additionally, Sayer (2022) found that the odds of dropping out from prolonged exposure for PTSD largely depended on the therapist, with an 84% difference in drop out likelihood between therapists

with the highest and lowest retention rates (Sayer et al., 2022). Furthermore, clinicians who report more practical barriers to exposure therapy, also report more negative beliefs about exposure including that it is ineffective (Pittig et al., 2019). In comparison, clinicians who describe regular use of exposure, report fewer practical barriers (Sars & Van Minnen, 2015), this could suggest that clinicians' negative beliefs about exposure influence their perception of the number and type of practical barriers to using exposure-based therapies. Negative beliefs about exposure also seem to be linked to therapists' endorsement of client factors perceived to contraindicate exposure use (Meyer et al., 2014). Considering these links to therapists' negative beliefs about exposure, it seems helpful to focus on therapists, their beliefs and what may contribute to developing those beliefs.

Therapist Factors that Shape Negative Beliefs about Exposure

In addition to the factors mentioned above, lack of training in exposure-based therapies has also been identified as a practical barrier to using exposure (Becker et al., 2004; Jacoby et al., 2019; Reid et al., 2018; Van Minnen et al., 2010; Zoellner et al., 2011). This is consistent with research showing that exposure is utilised more by clinicians trained to use it (Chen et al., 2022; Kannis-Dymand et al., 2022; Moses et al., 2021; Reid et al., 2018; Ross et al., 2022; Rowe & Kangas, 2020; Sars & Van Minnen, 2015; Weiss, 2021). Various experimental studies and evidence-based practice dissemination strategies have aimed to increase training in exposure-based therapies in order to increase its use in clinical practice (Clark, 2011; Karlin & Cross, 2014; Ruzek et al., 2017; Ruzek et al., 2016). The different training approaches attempted to improve the use of exposure-based therapies are discussed in more detail in the systematic literature review in the appendix (appendix A). A recent meta-analysis using data from fifteen studies evaluating the impact of exposure training, suggests although training increased knowledge and improved attitudes to exposure it may not be sufficient to promote changes in

clinical practice, stating large effect sizes for knowledge and medium effect sizes for intention to use exposure therapy (Trivasse et al., 2020). Again, this is congruent with longitudinal research into the use of exposure which suggests only a third of clinicians' report using exposure several years after training and that it was the least used treatment strategy from their training (Chu et al., 2015; Edmunds et al., 2014). Additionally, even after more than a year of consultation clinicians still report exposure as difficult to implement, have concerns about its long-term effectiveness and report it as the least sustainable element to CBT (Chu et al., 2015; Ringle et al., 2015). Moreover, intent to use exposure therapy may not be an accurate measure of actual use in clinical practice, Jacoby et al (2019) found that clinicians reported a significant increase in intent to use ERP after training, but at six month follow up their actual self-reported implementation was lower than they had predicted.

Training programmes in Australia (Australian Master of Clinical Psychology degree) and the UK (IAPT CBT programme) have been suggested to have a substantial focus on exposure-based therapies (Deacon & Farrell, 2013; Rowe & Kangas, 2020). This substantial focus on CBT/ exposure seems to have resulted in a high overall use of exposure in Australia, initially suggesting exposure training may increase exposure use in clinical practice. However, clinicians use of disorder specific strategies such as interoceptive exposure are still reported as low and therapist safety behaviour use is high (Kannis-Dymand et al., 2022; Moses et al., 2021; Rowe & Kangas, 2020). Suggesting training does not necessarily improve use of all types of exposure or improve exposure delivery. In terms of the UK, as previously mentioned, there is a lack of research into the use of exposure-based therapies, particularly use by CBT therapists. However, one study found only 46.7% of mental health professionals (predominantly clinical psychologists) in the UK consistently utilise exposure for children with OCD (Keleher et al., 2020). Combined, these results may show that despite substantial focus on CBT and exposure within training, exposure is still underused and delivered in suboptimal ways. Suggesting

training to be necessary, but inadequate to increase exposure therapy use in clinical practice (Harned et al., 2014).

As training alone does not seem to meaningfully increase exposure use, supervision and consultation has been suggested as an essential element to include in training programmes (Michael et al., 2021), and has been highlighted as an important aspect effecting therapists use of exposure in clinical practice. La Prade (2020) surveyed trainee psychologists and found that supervisors attitudes towards exposure therapy explained 20.3% of the variation in trainee's negative attitudes towards exposure (La Prade, 2020). La Prade (2020) along with other researchers have therefore stressed the importance of access to supervisors with exposure experience as well as supervisors' who have positive attitudes towards exposure therapy (Becker-Haimes et al., 2020; Farrell et al., 2013; Reese et al., 2016). Michael et al (2021) suggests trainees in particular, may be reluctant to deliver exposure therapy as they may feel it contradicts their initial assumptions about what is therapeutic. The paper also suggests supervision strategies that may help trainees to feel confident to deliver exposure therapy, stating that they cannot just be told exposure is safe and effective, but that they need direct experience proving that this is true (Michael et al., 2021). Indeed, Schriger (2021) investigated supervision within clinical practice and found a low focus on evidence-based content such as exposure and other behavioural change methods, as well as low use of active supervision strategies such as direct observation and experiential learning (Schriger et al., 2021). However, enhanced exposure training including experiential training strategies similar to those suggested by Michael et al (2021) have not been shown to greatly increase exposure utilisation in clinical practice. Ruzel et al (2017) arguably conducted the most comprehensive training with participants completing six to nine months of case-conceptualisation and assessments post-training. They nevertheless continued to report underuse of exposure therapy at follow up. However, Ruzel's et al (2017) participants were established therapists prior to exposure

training, and other literature has suggested that early exposure training may be more beneficial rather than trying to change established therapists' negative beliefs about exposure (McCarty et al., 2022; Pittig & Hoyer, 2017). Further information regarding the effectiveness of enhanced and experiential training methods on clinicians' use of exposure therapy can also be found in the systematic literature review in the appendix (appendix A).

Negative beliefs about exposure therapy are the most extensively researched factor shown to effect both utilisation and delivery of exposure. Kannis-Dymand et al (2022) found that negative beliefs about exposure therapy negatively correlated with treatment outcomes. Previous research has found similar results, showing that treatment outcomes are poorer when therapists hold negative beliefs about exposure (Deacon, Lickel, et al., 2013; Farrell et al., 2013). The impact on treatment outcomes may be due to negative beliefs leading to underuse of exposure therapy or due to clinicians using therapist safety behaviours resulting in a less effective therapy.

Deacon & Farrell (2013) describe therapists' negative beliefs about exposure falling within three categories: exposure being unethical, harmful to the client and harmful to the therapist. For instance, Ruzek et al (2016, 2017) reported clinicians as less likely to use exposure if they held beliefs that it might harm the client. An additional category of exposure being ineffective, for example only addressing superficial symptoms or being contraindicated for co-morbidity, has also been identified (Deacon, Farrell, et al., 2013; Olatunji et al., 2009). Pittig et al (2019) found many therapists had negative beliefs about exposure being ineffective, with 23%-52% of their participants either agreeing or strongly agreeing that exposure only addresses superficial symptoms.

Following the identification of these negative beliefs in the therapist population, Deacon et al (2013) developed the Therapist Beliefs about Exposure Scale (TBES), the 21-item measure assesses negative beliefs about exposure from all four categories. Many studies

have shown the TBES to be negatively correlated with both frequency of exposure use as well as adherence to delivery guidelines (Farrell et al., 2013; Keleher et al., 2020; Meyer et al., 2014; Meyer et al., 2020; Pittig et al., 2019; Rowe & Kangas, 2020; Whiteside et al., 2016). Interestingly, Levinson's (2020) research found that therapists were more likely to endorse exposure for eating disorders when it was framed as a behaviour experiment rather than exposure. The vignettes used depicted the same intervention, but were labelled differently, suggesting therapists' negative beliefs about exposure are more linked its name or theoretical background rather than what the actual strategy entails.

Similarly, to the organisational and client factors reported, clinicians' negative beliefs appear to be maintained despite first-hand experience showing that they are not accurate. A recent survey which included detailed client data, found that therapists maintained negative beliefs that exposure was too much of a risk, despite their own client data showing the risk of serious negative consequences of ERP to be 0.01% for the client and 0.004% per year for the therapist. Additionally, of the 11,000 clients included in the survey, none acted on their OCD obsessions (Schneider et al., 2020). Deacon et al (2013) found a similar result in that many therapists reported concerns about the possible risks of interoceptive exposure despite reporting extremely infrequent negative outcomes in their own clinical practice. These results may show that the use of therapist safety behaviours, much like client safety behaviours, are preventing clinicians from disproving their erroneous beliefs (Clark & Wells, 1995).

Training specifically aimed at reducing negative beliefs about exposure therapy has proven to be largely effective at correcting beliefs (Farrell et al., 2016; Harned et al., 2014; Harned et al., 2011; Ruzek et al., 2017; Ruzek et al., 2016; Wade et al., 2020; Wright & Waller, 2020). Similarly survey research has linked exposure training with holding fewer negative beliefs and having more intention to use exposure (Chen et al., 2022; Ross et al., 2022). However, the small number of studies which measured the impact of negative belief reduction

on clinical practice found that although therapist safety behaviours reduced (Farrell et al., 2016) use of exposure in clinical practice did not increase (Harned et al., 2011; Trivasse et al., 2020). Similarly, Farrell et al (2013) reported that both clinicians with and without negative beliefs about exposure used therapist safety behaviours but those with negative beliefs used more. Moreover, Keleher's et al (2020) results submit that therapeutic background, orientation, and the therapist beliefs about exposure scale (TBES) only explain 35% of the variance in exposure response prevention use, suggesting other factors are impacting clinicians' use of exposure.

Training in exposure therapy is fairly standardised and session by session exposure protocols are available, additionally, organisational and client factors would affect all clinicians. So why is it that some clinicians adhere to exposure therapy recommendations and use it without engaging in therapist safety behaviours? Therapists' negative beliefs about exposure do not seem to explain enough of the variance, and reduction of negative beliefs does not seem to significantly improve exposure use. However, it may be helpful to explore the reasons why therapists may develop negative beliefs about exposure and how they could be maintained. Research has suggested links between therapists' negative beliefs about exposure and therapist traits relating to managing their own distress, such as anxiety sensitivity (Farrell et al., 2013; Gokhale, 2020).

Therapists Individual Differences in Managing Distress

Previous research has suggested that knowledge of how to use exposure, coupled with a positive attitude towards the therapy is not sufficient for clinicians to implement exposure and to do it well, therapist traits have therefore been suggested as potentially important factors. Hernandez & Waller (2022) found the five-factor personality scales (extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience) were not significant predictors of CBT therapists' choices in therapy. However, the therapists' empathy

levels were significant predictors of using CBT strategies with various client presentations. There are many different definitions of empathy being used in literature and research, with sympathy and compassion often overlapping (Cuff et al., 2016). The concept of empathy tends to be split into cognitive and affective with some definitions describing only one concept and others including both. Affective empathy is defined as the experience of emotion elicited by an emotional stimulus, whereas cognitive empathy describes the ability to understand another's emotions and is related to theory of mind (Blair, 2005). Research suggests these two components are different as Autistic individuals may show a reduction in cognitive empathy but not affective empathy (Baron-Cohen & Wheelwright, 2004). Research also suggests that empathy can lead to other emotions such as compassion and distress. Compassion is the feeling that arises when witnessing another's suffering and motivates a desire to help (Goetz et al., 2010), distress on the other hand leads to avoidance (Wong, 2020). Within Hernandez & Waller's (2022) study empathy seemed to be a motivating factor in that clinicians with higher empathy were more likely to provide behavioural change techniques, including exposure, however this was only found with highly emotional clients. Interestingly, clinicians with more empathy were more likely to use talking techniques with clients who had low emotional arousal, potentially showing an interaction between therapists' traits and the clients presentation. Conversely, Farrell's et al (2013) study found that empathetic concern was a significant predictor of cautious exposure delivery. This discrepancy could indicate that the clinicians' empathy within Hernandez & Waller's (2022) study was leading to compassion and therefore action, whereas in Farrell's et al (2013) study it was leading to distress and therefore avoidance. Alternatively, the differences could be related to the two studies different methodologies, measures of empathy, and participants. Ferrell's et al (2013) participants were undergraduate students who were trained to deliver exposure, their exposure delivery was then monitored in a session with a client. Whereas Hernandez & Waller's (2022) vignette-based

survey recruited mental health professionals (predominantly psychologists) and explored their treatment choices with different client presentations. Additionally, both Farrell et al (2013) and Hernandez & Waller (2022) used different questionnaires to measure empathy in their participants, the Interpersonal Reactivity Index (Davis, 1983) and the Firmness and Empathy Questionnaire (McAdam Freud & Waller, In preparation) respectively. Lastly, Hernandez & Waller (2022) measured clinicians' intent to use exposure therapy, not use within clinical practice or quality of delivery. Whereas Farrell et al (2013) measured delivery of exposure within a session. This could be demonstrating the gap between intention to use exposure and actual use in clinical practice as found in previous research (Jacoby et al., 2019). It could also suggest that clinician's use of therapist safety behaviours have different predictors to exposure use. Clinicians' empathy may increase use of exposure, but also increase use of therapist safety behaviours during exposure.

In general, research has suggested that secondary distress in the therapist is likely evoked by the client's distress and that this may result in reluctance to deliver exposure (Castro & Marx, 2007; Waller, 2009). Therefore, it is helpful to explore in what situations empathy leads to distress, to further understand the role empathy may have on clinicians' reluctance to use exposure-based therapies. When exploring burnout within the medical doctor population, Wong (2020) described doctors' response to suffering being dependant on various attributes, such as their ability to empathise with others, take on others' perspectives and their moral sensitivity, as well as their own history, values, and experiences. The author reported that when these attributes are aligned, doctors' empathetic arousal results in compassion and action. However, when these attributes are not aligned, empathetic arousal leads to distress and self-focused behaviours, such as avoidance, to relieve their own distress rather than the suffering of others. Burnout can be described as physical, emotional and mental exhaustion due to long-term involvement in emotionally challenging situations (Pines & Aronson, 1998). Previous

research exploring when empathy leads to compassion or distress, has found emotional dysregulation, overarousal and difficulty coping with aversive or distressing emotions results in a higher likelihood of experiencing empathetic distress (Eisenberg & Fabes, 1990; Eisenberg et al., 1994). Indeed, research suggests that many clinicians experience emotional distress such as increased anxiety within exposure sessions (Schumacher et al., 2014; Schumacher et al., 2015) and that those who experience more emotional distress are more likely to avoid using exposure tasks and deliver exposure in a suboptimal way (Gokhale, 2020; Harned et al., 2013; Levita et al., 2016; Meyer et al., 2014; Reid, Bolshakova, et al., 2017; Scherr et al., 2015; Waller, 2016). Clinicians have reported exposure as strenuous, stating that it causes distress for the therapist (Pittig et al., 2019). This is supported by research measuring clinicians' salivary cortisol levels during exposure tasks, which found that clinicians subjective elevations of stress/anxiety and their salivary cortisol levels were similar to that of their clients (Schumacher et al., 2014; Schumacher et al., 2015). Compassion fatigue and emotional dysregulation are common experiences of burnout and have been suspected to impact therapists capacity to work effectively with clients (Collins & Long, 2003). Levels of burnout and compassion fatigue have been shown to be high within the general health care worker population (Adams et al., 2006; Best, 2021; Can & Watson, 2019) as well as with cognitive behavioural therapists working in the NHS (Owen et al., 2021; Steel et al., 2015). This burnout and compassion fatigue therefore may explain why initially compassionate therapists and clinicians, who likely began a caring role due to wanting to help people, come to feel more empathetic distress resulting in more self-focused behaviours such as avoidance to relieve their distress.

Some research suggests clinicians anxiety levels rather than empathy levels, are more likely to effect quality of exposure delivery (Harned et al., 2013). While anxiety describes an emotional state that is coupled with physiological changes, anxiety sensitivity is defined as the fear of anxiety and anxiety-related sensations resulting from beliefs that anxiety and related

sensations have harmful consequences (Zinbarg et al., 2014). Meyer et al (2014) found that therapists with higher anxiety sensitivity were more likely to exclude clients from exposure therapy entirely. Therapists' anxiety sensitivity has also been linked to other predictors of exposure use such as endorsement of patient factors as barriers to exposure therapy, this is potentially another example of the interaction Hernandez & Waller's (2022) research suggested between therapists' traits and the client's presentation. Meyer et al (2014) found that clinicians' anxiety sensitivity explained 12.6% of the variance in clinicians' likelihood to exclude anxious clients from exposure therapy. Further showing the interconnected nature of clinicians' anxiety with other predictors, Gokhale (2020) found that anxiety sensitivity predicted negative beliefs on the therapist beliefs about exposure scale. Additionally, in an experiment where negative beliefs about exposure therapy were induced, participants who were found to have more negative beliefs about exposure experienced higher levels of anxiety during exposure tasks with clients (Farrell et al., 2013). Suggesting clinicians' negative beliefs about exposure, beliefs about clients' suitability and their own anxiety sensitivity are connected.

Intolerance of uncertainty, a dispositional characteristic that usually results in anxiety (Buhr & Dugas, 2009), has also been linked to clinicians' use of exposure. Levita et al (2016) measured the skin conductance and heart rate variability of trainees while they completed a measure of risk-taking behaviour, they also collected data on use and delivery of exposure therapy and intolerance of uncertainty. They found that trainees with higher intolerance of uncertainty reported less use of exposure. However, physiological reactivity was not related to less exposure-based therapies use, this suggests that cognitive aspects of anxiety such as intolerance of uncertainty maybe more impactful to the use of exposure than physiological aspects of anxiety. Intolerance of uncertainty has also been linked to reduced exposure utilisation in other research (Kaye, 2018; Turner et al., 2014), with La Prade (2020) reporting

that intolerance of uncertainty explained 2.9% of the variance in negative attitudes towards exposure.

Disgust has been identified as another type of distress clinicians face during exposure tasks, especially those relating to OCD. Disgust has also been linked to the development of anxiety (Olatunji et al., 2017). It has therefore been theorised that clinicians may avoid exposure due to not wanting to feel disgust (Reid, Bolshakova, et al., 2017; Reid, Guzick, et al., 2017). There is a lack of research into how disgust may be involved in exposure implementation, however McCarty (2022) did find that levels of disgust in their participants reduced following training and experience delivering exposure for young people with OCD. Interestingly, Follett & Batten (2000) suggest that patients can often sense their therapists' emotional reactions and they therefore may hold back if they sense the therapist is uncomfortable with the affect in the room. Consequently, even if a clinician is willing to try exposure therapy, the client may pick up on their discomfort and refuse to complete the task or hold back vital information such as their use of covert safety behaviours, unintentionally making exposure less effective.

The types of exposure most avoided by therapists also suggest therapists' distress levels to be relevant. Interoceptive exposure and imaginal exposure for PTSD are likely to produce very high levels of distress within clients. Interoceptive exposure's aim is essentially to induce a panic attack, and imaginal exposure for PTSD requires reliving of the traumatic and often life threatening event, research suggests these are the most underused exposure interventions (Freiheit et al., 2004; Moses et al., 2021). Although clinicians' distress levels seem to be linked to exposure use and delivery. Schumacher's et al (2014) research suggests most, if not all therapists experience heightened levels of anxiety during exposure tasks. McCarty (2022) also found OCD exposure tasks elicited disgust in most clinicians. Therapists' distress levels in themselves therefore may not explain reluctance to use exposure therapy, alternatively some

clinicians may feel more able to manage their own distress or be more willing to experience their own distress than others (Michael et al., 2021).

Do Traits which Increase Therapists' Distress Decrease Use of Exposure?

Research suggests that clinicians' distress levels in relation to exposure therapy is an important factor influencing the choice to use exposure and how to deliver it. So which therapist traits or factors may increase the clinician's likelihood to feel distress and/or reduce their ability to tolerate or manage this distress? Eisenberg et al (1994) suggests that difficulty coping with aversive or distressing emotions results in a higher likelihood of experiencing empathetic distress. A trait or factor often linked to intensity of distress and our ability to cope with distress is attachment style. Pittig et al (2019) found that therapists attachment style significantly related to intense delivery of in session exposure, specifically, having a more preoccupied or more dismissing attachment style resulted in less intense delivery. Rowe & Kangus (2020) found a similar result in that attachment style was significantly related to intense delivery of in session exposure. However, they found a non-significant association between attachment and frequency and duration of exposure use. It has been suggested that therapists feeling more able to deliver intense exposure, may be due to securely attached therapists having better stress management abilities and therefore being better able to dissipate their own distress caused by the exposure strategy. Securely attached therapists may also be less likely to experience such intense emotional reactions to the clients' distress during the exposure task (Mikulincer et al., 2013; Winterheld, 2016). It therefore seems that although attachment style may impact clinicians' delivery of exposure, specifically the intensity of delivery, it did not predict the frequency or duration of exposure. This could again suggest that clinicians' use of certain therapist safety behaviours i.e., intensity of delivery, has different predictors to exposure use.

Psychological inflexibility is a less researched concept in relation to exposure, that may also help to explain why although all therapists seem to experience distress within exposure sessions (Schumacher et al., 2014; Schumacher et al., 2015), some clinicians' feel more able to tolerate this distress and continue to deliver the intervention, whereas others resort to avoidance and therapist safety behaviours. Experiential avoidance and cognitive fusion are interrelated processes central to the psychological inflexibility model used within Acceptance and Commitment Therapy (ACT) (Hayes et al., 2006; Hayes et al., 2012). Experiential avoidance describes an unwillingness to experience unpleasant internal states, leading to avoidance or altering internal experiences that are labelled as 'negative' such as difficult emotions and distressing thoughts. Experiential avoidance is well researched within clinical populations (Hayes et al., 2012; Levin et al., 2012); it is associated with baseline pathology, shown to moderate treatment outcomes and addressing experiential avoidance is an essential part of ACT therapy (Hayes et al., 2012). Cognitive fusion describes when we are so tightly stuck to our thoughts that we struggle to see them as just thoughts, we start to see them as true and base our action or inaction on them. The psychological inflexibility model suggests that cognitive fusion along with experiential avoidance limit our behaviour through attempts to avoid negative internal experiences (Hayes et al., 2006). Experiential avoidance links in well with the research suggesting therapists empathy levels may account for some of the variation in exposure use, in that the attempt to avoid or reduce empathic distress through self-focused behaviours like avoidance (Eisenberg & Fabes, 1990; Eisenberg et al., 1994; Wong, 2020) can be seen as an example of experiential avoidance. Cognitive fusion also links in well with research showing negative beliefs about exposure reduce exposure use, as these beliefs are not based on experience or research, but clinicians still believe them to be true and base their action or inaction on them. When compared to attachment style, experiential avoidance and cognitive fusion seem to link together more of the previous research as it helps to explain why both

clinician distress (anxiety, empathy) and negative beliefs about exposure lead to less exposure use and more therapist safety behaviour use.

For example, a clinician may worry that something will go wrong during an exposure task, they believe this thought is true (cognitive fusion) and feel highly anxious, they will then try to avoid and reduce this distress (experiential avoidance) through avoiding exposure, and if unavoidable, using therapist safety behaviours to reduce the client's distress or reduce their exposure to the client's distress i.e., by primarily using client directed exposure. Figure 1 shows how this process may occur and how the different predictors discussed may moderate the use of exposure and therapist safety behaviours.

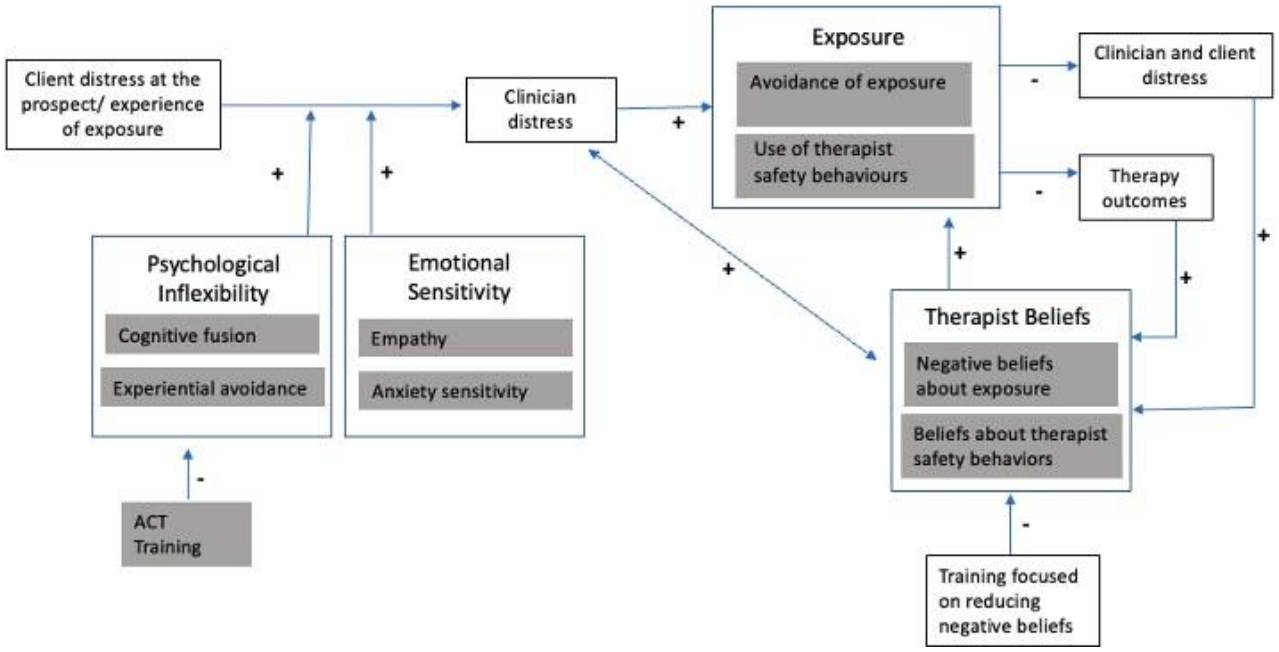

Figure 1. *Demonstrates how the psychological inflexibility theory used within ACT can be combined with previous research on exposure use, to create a model of how the predictors and mediators of exposure may interact.*

Research exploring the link between experiential avoidance and exposure use is very limited. Scherr et al (2015) measured clinicians experiential avoidance using the Multidimensional Experiential Avoidance Questionnaire (MEAQ) and the Acceptance and Action Questionnaire (AAQ-II). Participants with higher experiential avoidance on these measures allotted less time to exposure whereas participants who scored higher in distress endurance tended to allot more time to exposure. The relationship between experiential avoidance and time given to exposure also remained significant when controlling for therapists' experience level, attitudes towards evidence-based-practice, intuitive personality and age (Scherr et al., 2015). Additionally, clinicians who spent more time on clinical work tended to be less experientially avoidant. Previous doctoral thesis research has also identified a link between experiential avoidance and exposure, showing significant positive correlation between experiential avoidance and using more therapist safety behaviours, such as allowing the client to engage in distress reduction (Ferracin, 2022). Clinicians who were more experientially avoidant have also been found to allot less time to exposure therapy (Rabin, 2013).

Summary

Organisational barriers, client factors, therapists' negative beliefs and training have all been identified as potential predictors of exposure therapy use and suboptimal delivery. However, endorsement of organisation barriers have been largely linked to holding negative beliefs about exposure therapy (Pittig et al., 2019). Training, although necessary, is not enough to increase exposure use in clinical practice (Trivasse et al., 2020), even when training includes enhanced training methods, supervision and a focus on reducing negative beliefs (systematic literature review, appendix A). The impact of client factors on the decision to use exposure therapy has also been largely linked to the therapists' traits, biases, and beliefs (Meyer et al., 2014).

Therapist traits such as empathy and anxiety sensitivity have been shown to result in more therapist distress regarding exposure. Empathy has potentially been linked to an increase in exposure use with some client groups (Hernandez & Waller, 2022) and an increase in therapist safety behaviour use (Farrell et al., 2013). However, it seems likely that the therapists experience of empathy i.e., whether it leads to distress, or compassion is likely more influential to therapists' decisions. This can be seen in research on anxiety sensitivity, where therapists' distress from anxiety has been linked to reduced exposure use (Meyer et al., 2014) and increased therapist safety behaviour use (Harned et al., 2013), suggesting therapists distress levels to be influential.

Although therapists distress levels are clearly an important factor influencing the choice to use exposure and how to deliver it. All therapists seem to experience some distress within exposure sessions, therefore why do some clinicians' feel more able to tolerate this distress and continue to deliver the intervention? The psychological flexibility model and experiential avoidance in particular seems to help explain why some therapists may be more willing and able to tolerate distress evoked from exposure. Therapists' levels of experiential avoidance and cognitive fusion seem to link many of the predictors researched in the literature, such as therapists' negative beliefs, anxiety and empathy. Cognitive fusion is likely to increase the impact of therapists' negative beliefs making them more likely to lead to distress and more resistant to change in the face of contradictory experiences. Experiential avoidance would lead to behavioural changes in order to avoid or reduce this distress. Given these links between ability to tolerate distress, experiential avoidance, cognitive fusion, and exposure use. This research will explore the role of experiential avoidance and cognitive fusion as well as therapists' beliefs, anxiety sensitivity and empathy on exposure use and therapist safety behaviour use.

The Present Research

The present research evaluates the extent to which cognitive behavioural therapists practicing in the UK, follow NICE guidelines by using exposure-based therapies consistently and well (i.e., without therapist safety behaviours, e.g., without arousal reduction strategies). This complements the research conducted on exposure that has taken place in the US (Becker et al., 2004; Reid et al., 2018; Whiteside et al., 2016), Canada (Gagné et al., 2021), the Netherlands (Van Minnen et al., 2010), Germany (Moritz et al., 2019; Pittig et al., 2019), Australia (Kannis-Dymand et al., 2022; Moses et al., 2021; Rowe & Kangas, 2020) and New Zealand (Kannis-Dymand et al., 2022) with mental health professionals who were not always formally trained to deliver exposure.

Along with measuring exposure and therapist safety behaviour use, this study also aims to explore the role of therapist traits related to their ability to tolerate distress. Psychological inflexibility, specifically experiential avoidance and cognitive fusion seem to add to previous research suggesting therapists' negative beliefs, anxiety and empathy are influential in the decision to use exposure and how to deliver it.

To aid exploration into the role of experiential avoidance and cognitive fusion we decided to compare therapists trained in CBT and ACT to therapists only trained in CBT. We chose to focus on ACT training as decreasing cognitive fusion and experiential avoidance are essential parts of Acceptance and Commitment Therapy (Hayes et al., 2012), research suggests clinicians trained in Acceptance and Commitment Therapy (ACT) are more able to overcome difficult experiences that arise in therapy, as through training they have become more psychologically flexible (Hayes, Bissett, et al., 2004). Indeed, pre-post ACT training research has suggested that participants psychological flexibility does increase following ACT training (Luoma & Vilardaga, 2013), with experiential avoidance and cognitive fusion considered interrelated processes central to psychological inflexibility (Hayes et al., 2006; Hayes et al.,

2012). Therefore, if therapists trained in ACT, in addition to CBT, are found to be more psychologically flexible and found to use exposure therapy more and therapist safety behaviours less, this would suggest experiential avoidance, cognitive fusion and/or ACT training to be valuable future exposure training and supervision strategies for clinicians to increase the use and delivery of exposure-based therapies. The model below illustrates how we expect the outcomes and predictors measured to be related.

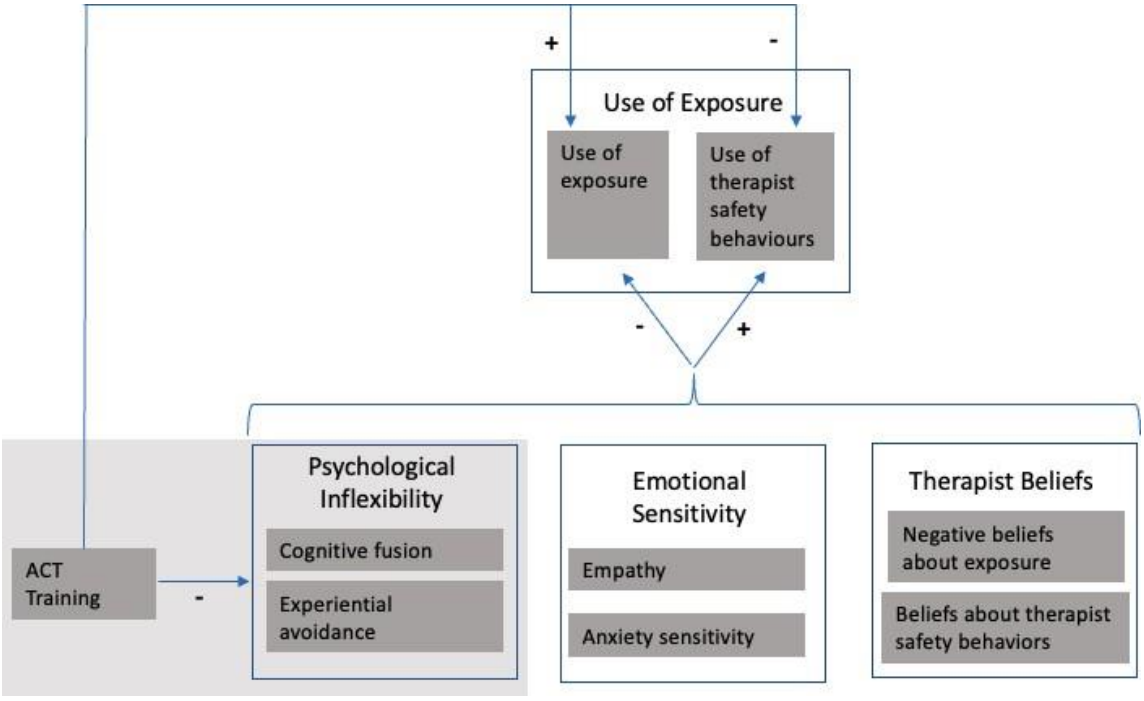

Figure 2. *Expected relationships between the outcomes and predictors measured.*

Research Questions and Hypotheses

1. To what extent do CBT therapists in the UK decide use exposure therapy and therapist safety behaviours to treat a hypothetical client experiencing symptoms of OCD? Is exposure therapy use related to therapist safety behaviour use?

H1- We expect similar findings to research conducted in Australia (Moses et al., 2021; Rowe & Kangas, 2020) where a large percentage of therapists used exposure based-therapies. This is due to training programmes in Australia (Australian Master of Clinical Psychology degree) and the UK (IAPT CBT programme) having a similar focus on CBT and exposure-based therapies. We predict more than 80% of clinicians will choose an exposure-based intervention for the vignette client presenting with OCD.

H2- We expect there will be a tendency to rely on therapist safety behaviours (Kannis-Dymand et al., 2022; Rowe & Kangas, 2020). We also expect 80% of clinicians to use therapist safety behaviours and believe that these behaviours are necessary for treatment.

H3- We predict that therapists who use exposure less will rely more on therapist safety behaviours. Previous research suggests therapists who seldom choose exposure interventions, may be less able to tolerate distress and therefore more likely to use therapist safety behaviours to try to manage their distress.

2. Beyond training and beliefs about exposure, can therapists' traits related to their ability to tolerate distress, such as experiential avoidance, predict whether and how well they use exposure? Additionally, do exposure use and therapist safety behaviours have the same predictors?

H4- We expect experiential avoidance, cognitive fusion, anxiety sensitivity, empathy and therapists' beliefs will be negatively related to the use of exposure and positively related to therapist safety behaviour use.

3. Will therapists trained in ACT, in addition to CBT, be more able to tolerate distress due to less experiential avoidance and cognitive fusion, and will this impact their use of exposure and therapist safety behaviours when using CBT to treat the vignette client presenting with OCD?

H5- We anticipate training in ACT to decrease therapists' experiential avoidance and cognitive fusion (Hayes, Bissett, et al., 2004; Luoma & Vilardaga, 2013). Due to the links between experiential avoidance, cognitive fusion and distress tolerance (Hayes et al., 2006; Scherr et al., 2015), we expect therapists' reporting less experiential avoidance and cognitive fusion to be more able to tolerate distress increasing their use of exposure therapy and reducing the use of therapist safety behaviours when using CBT to treat the vignette client presenting with OCD.

Chapter 2: Methodology

Epistemological Positioning and Justification of Methodology

Epistemology refers to beliefs about knowledge and how knowledge is constructed. It therefore influences which methodologies and methods researchers consider (Kaushik & Walsh, 2019; Tuli, 2011). In social science research, common terms have been developed to describe general categories of epistemologies. Quantitative research methods are traditionally thought to be positivist or postpositivist, in that there is an assumption of an objective reality and truth which the researcher can study without influencing it (Clark, 1998; Creswell & Poth, 2016). The current research is a quantitative study with a cross-sectional study design collecting data using an online survey, although this method was chosen as surveys offer high representativeness, are low cost and can be anonymous (Queirós et al., 2017). It is important to recognise the limitations of the positivist epistemology. Positivism has been criticised for the assumption that quantitative research can be objective and not effected by bias, with critics stating that all aspects of the research process, from assumptions about what is known to the development of theories, research questions, and study designs are informed by our cultural, social or experiential biases (Phillips, 1990). The idea or assumption of there being one truth has also been rejected, with Kuhn (1970) pointing out historical facts that have since been disproven (Kuhn, 1970). Concerns about the replicability of many research findings has also been raised (Open Science Collaboration, 2015). Positivism has often also been criticised for ignoring context, and attempting to make generalisations across settings (Fox, 2008). It is therefore necessary to acknowledge the wider social systems in which clinicians are making decisions and developing beliefs regarding therapy interventions. It is important not to ignore that many participants will be working within the NHS where the wider context of high caseloads, burnout and compassion fatigue is likely a substantial factor in their decision-making (Best, 2021;

Singh et al., 2020; Sodeke-Gregson et al., 2013). How the results can be understood within the wider context will therefore be considered more within the discussion section.

Study Design

This study is a cross-sectional study design where quantitative data was collected via an online survey and used to estimate the prevalence and quality of exposure-based therapy within a sample of cognitive behavioural therapists in the UK. Correlations and multiple linear regression analysis identified predictors of underutilisation and suboptimal delivery of exposure within the CBT therapist population. Furthermore, we compared differences in exposure use and delivery between CBT therapists trained in acceptance and commitment therapy (ACT) with those only trained in CBT. Using a mediation analysis, we were able to investigate the links between ACT training, experiential avoidance, cognitive fusion, exposure use and therapist safety behaviour use. Although online surveys have been shown to have lower response rates than other survey methods (Couper, 2007; Crawford et al., 2001; Kaplowitz et al., 2004), we enhanced them by informing respondents of the importance of the study, ensuring anonymity, re-posting the survey (Robertson et al., 2018; Saleh & Bista, 2017) and using an egotistic text appeal (Pedersen & Nielsen, 2016).

Participants

The online survey was started by 213 people, 120 continued past the participant information sheet and consent form to the survey questions, either due to exiting the questionnaire at this point, or reporting that they were not accredited with the British Association for Behavioural and Cognitive Psychotherapy (BABCP). The volunteer participants were recruited via social media posts on Twitter, Facebook and Linked In, Twitter posts were also shared by the BABCP. As per the inclusion criteria for the survey, all participants were accredited CBT

therapists with the BABCP. The sample size was based on calculations established by a priori power analysis, performed using G*Power (Faul et al., 2009). Analysis suggested that 92 participants were required for a multiple linear regression with five predictors to achieve a power of 0.8, significance level p=.05 with a moderate estimated effect size $f^2 = 0.15$. However, statistical analysis measuring differences in means between the CBT and ACT and CBT only groups (one-tailed independent t-test) suggested 102 participants were needed (power= 0.8, significance level p= .05 moderate estimated effect size d= 0.5).

Research Materials and Procedure

Following ethical approval from the University of Essex. Participants were recruited through the BABCP Twitter social media account which has 11,500 followers. The survey was shared on Twitter with the BABCP tagged in the post, the BABCP then shared the post with their followers, as agreed with them via email. The survey was also shared on various CBT therapist Facebook groups and Linked In.

Participants who followed the online link, were first shown the study information sheet, on this page they were also given the option to download the information sheet for future reference. Following clicking the continue arrow, participants were presented with the informed consent statement, where they were informed that continuing to the questions constituted giving their informed consent to participate in the study.

Participants were then asked if they were accredited as a Cognitive Behavioural Therapist with the BABCP. If they entered no, the survey ended, thanked them for their interest and explained that being accredited was necessary to complete the survey. Participants who confirmed that they are accredited with the BABCP were shown a therapy case vignette and asked for their treatment plan. Although the therapy interventions listed in the vignette were presented randomly, the vignette question was first for all participants, this was to ensure that

participants were asked for their overall treatment plan prior to being asked questions regarding their opinions about exposure therapy. A copy of all measures is included in appendix B.

Therapy Case Vignette- Measure of Exposure and Therapist Safety Behaviour use

The therapy case vignette was developed using Farrell's et al (2013) description of the questions asked during their roleplay assessment of exposure therapy implementation. The vignette described a male client experiencing symptoms of obsessive-compulsive disorder (OCD). OCD was chosen for the vignette as it is the only condition in which NICE guidelines specify exposure response prevention as the initial treatment option (NICE, 2005a). NICE guidelines for panic disorder, for example, include guided self-help and CBT (NICE, 2005b), therefore although CBT for panic disorder includes exposure, exposure is not specified in the NICE guidelines.

After reading the vignette, participants were asked to choose their treatment plan from a list of interventions, they were then asked their responses to the client in various exposure situations for example whether they would reduce the intensity of the exposure task when the client showed distress. Following development, feedback was obtained from CBT therapists on both the vignette and subsequent questions, including whether the vignette contained any contraindications for exposure. The questions were slightly modified following this feedback, for example, offering more therapy intervention options for the participants to choose from. There were no contraindications for exposure identified. Following a pilot survey some of the vignette questions were taken out to reduce the overall survey completion time. Research suggests online surveys should take around ten minutes to complete in order to increase response rates (Sammut et al., 2021). Therefore, the final therapy case vignette only asked participants to describe their treatment plan. Participants were given twenty therapy sessions and asked how many sessions they would allot to each of the following therapy options, they

were asked to choose the option that reflected how they would spend the majority of that session. For example, they could put '10' next to 'in session behaviour experiment' therefore they have allotted ten of their sessions to that intervention. The sessions needed to add up to twenty before participants could move onto the next question. Answers were coded as 0 for non-exposure interventions and 1 for exposure interventions, hence the more sessions a therapist assigned to an exposure intervention the higher score they would receive for this question. Some interventions were also coded as therapist safety behaviours for example spending the session on breathing techniques.

Although, Foa's et al (2012) exposure response prevention protocol for OCD would suggest 19 out of 20 sessions be allocated to exposure tasks, the cut off for using exposure well was set at ten sessions. The cut off was set at ten sessions rather than 19 for two reasons firstly, because it is likely that therapists' alignment with either a behavioural/habituation, cognitive or inhibitory learning model of exposure would impact how they combine treatment components and therefore how many sessions they would allocate to exposure. For example Wells' Metacognitive therapy for OCD includes mindfulness alongside behaviour experiments (Wells, 1997; Wells, 2009), Salkovskis' (1998) Cognitive Behavioural Model of OCD includes cognitive strategies alongside behaviour experiments (Salkovskis et al., 1998) and Bennett-Levy et al 2004, suggest the number and type of behaviour experiments used to treat OCD depends on the experiences or beliefs the client is struggling with (Bennett-Levy et al., 2004). Secondly, because NICE guidelines recommend low intensity OCD treatment to be ten hours of therapy including ERP and more intensive CBT to be more than ten hours of therapy including ERP (NICE, 2005a). However, there does not seem to be much agreement within clinical trials on the number of exposure sessions needed for OCD treatment. In a recent metanalysis including 24 randomised control trials using exposure response prevention to treat OCD, the hours of ERP ranged from 9 to 40.5 hours (Ferrando & Selai, 2021). It therefore

seemed appropriate to base the cut off for using exposure well at the lower end of this range, rather than only following one protocol. However, as previously explored, optimal implementation of exposure needs to include frequent clinician directed exposure, (Abramowitz, 2013; Abramowitz et al., 2019; Foa & Goldstein, 1978; Foa & Rothbaum, 1998; Jacobson et al., 2016).

The therapy case vignette was chosen over direct questions measuring exposure use in clinical practice, as research has consistently shown clinicians to have a self-assessment bias, such as overestimating their skill level (Hansen et al., 2002; Parker & Waller, 2015; Walfish et al., 2012). Harned et al (2014) found that this bias extended to exposure, where clinicians overstated their self-reported use of exposure in clinical practice. By using the therapy case vignette, we aimed to reduce the impact of this bias and gain a more robust measure of exposure therapy use.

Following completion of the therapy case vignette section, participants were presented with five questionnaires (presented in a randomised order): the Exposure Implementation Beliefs Scale (EIBS), Therapists Beliefs about Exposure Scale (TBES), three subscales of the Multidimensional Experiential Avoidance Questionnaire (MEAQ), the Cognitive Fusion Questionnaire (CFQ), the Anxiety Sensitivity Index (ASI3) and two subscales of the Interpersonal Reactivity Index (IRI).

Measures of Therapist Beliefs

The Therapist Beliefs about Exposure Scale (TBES; Deacon et al., 2013) is a 21-item measure that assesses therapists' negative beliefs about exposure, including tolerability, ethicality, and safety. Participants were asked to indicate their level of agreement on a 5-point Likert scale from 'disagree strongly' to 'agree strongly'. Multiple studies have shown high internal consistency (Cronbach's $\alpha = .96$), normal distribution with a large and diverse sample and

criterion validity, with good 6-month test-retest reliability (Deacon, Farrell, et al., 2013; Farrell et al., 2013; Meyer et al., 2014). The TBES is scored by summing the items, with higher scores suggesting more negative beliefs about exposure therapy. Higher scores on the TBES have been linked to avoidance of exposure techniques and clinician use of therapist safety behaviours (Deacon, Lickel, et al., 2013; Rowe & Kangas, 2020).

The Exposure Implementation Beliefs Scale (EBIS; Meyer et al., 2020) was used as a measure of participants' beliefs that therapist safety behaviours were necessary during exposure. This measure was chosen as strong beliefs on the EIBS significantly predicted therapist safety behaviour use (Meyer et al., 2020). Internal consistency was also good (Cronbach's α =.915). Participants were asked to rate how much they believe safety behaviours are necessary for a set of listed reasons such as 'to ensure the client is safe', on a 5-point Likert scale ranging from 'very little' to 'very much'. The measure is scored by averaging the items, a higher score suggests stronger beliefs and indicates more therapist safety behaviour use.

Measures of Therapists Individual Differences relating to Distress Tolerance

Empathy

The empathetic concern and perspective taking subscales of the Interpersonal Reactivity Index (IRI; Davis, 1983) were used to measure empathetic tendencies in order to identify links between empathy and exposure application. The empathetic concern subscale is generally thought to measure affective empathy, whereas the perspective taking subscale is thought to measure cognitive empathy. Both subscales contain 7 items and are answered on a 5-point Likert scale ranging from 'Does not describe me well' to 'Describes me very well' (Davis, 1983). Internal consistency for the English version of the measure is good for empathetic concern (α=.71) and acceptable for perspective taking (α=.76) (Baldner & McGinley, 2014). Test re-test reliability after 60-75 days varied from .61 to .81 (Davis, 1983). The measure is

scored by summing the items, with some items reverse scored, with higher scores suggesting more empathy.

Anxiety Sensitivity

Participants' anxiety sensitivity was also measured to identify links between clinician anxiety and exposure delivery, using the Anxiety Sensitivity Index-3 (ASI-3; Taylor et al., 2007). The measure consists of 18-items, with three subscales measuring physical, cognitive and social concerns. Participants were asked how typical each item is of them in general, answers are on a 5-point Likert scale ranging from 'very little' to 'very much' (Taylor et al., 2007). The ASI-3 has good internal consistency (α=.93) and excellent reliability (Wheaton et al., 2012). The ASI-3 is scored by summing the items, with higher scores suggesting more anxiety sensitivity.

Cognitive Fusion

Cognitive fusion questionnaire (CFQ) (Gillanders et al., 2014) measures the concept of cognitive fusion a central aspect of psychological inflexibility. The measure consists of 7-items and asks the respondent to rate how true each statement is for them, with answers on a 7-point Likert scale ranging from 'never true' to 'always true'. The measure is scored by summing the items, with higher scores indicating more cognitive fusion. The measures showed good test re-test reliability and has good internal validity (α=.93).

Experiential Avoidance

The Multidimensional Experiential Avoidance Questionnaire (MEAQ; Gámez et al., 2011) was used to measure experiential avoidance. Experiential avoidance refers to the unwillingness to experience difficult internal events such as emotions or memories, even if this means deviating

from our values and goals (Hayes et al., 2006). Experiential avoidance is another central component of psychological inflexibility. The MEAQ is an extensive measure assessing a broad range of experiential avoidance aspects that are distinguishable from higher order personality traits. The measure has good internal consistency overall (α=.98). The MEAQ consists of six subscales, three of which were used in the survey: behavioural avoidance (α=.96), distress aversion (α=.94), and distraction/ suppression (α=.93). The three subscales total 31-items and are answered on a 6-point Likert scale ranging from 'strongly disagree' to 'strongly agree'. The measure is scored by summing the items, some items are reverse scored. Higher scores suggest the participant to be more experientially avoidant (Gámez et al., 2011). The MEAQ subscales were chosen over the more commonly used Acceptance and Action questionnaire (Hayes, Strosahl, et al., 2004) as the AAQ only contains 7-items and measures two aspects of experiential avoidance.

Demographics and Training

The final section of the survey consisted of non-compulsory demographic questions, where participants were also asked to provide information about their training. The survey ended with a thank you message. The demographics questionnaire included age, gender, and ethnic group as non-compulsory questions. They were also asked what percentage of their caseload consisted of clients with anxiety/OCD over the last year.

This section also included questions regarding training: the year CBT training was completed and whether participants currently use CBT and ACT to treat clients. We were interested in participants with ACT training and experience, in addition to CBT, as ACT trained therapists have been shown to be more able to overcome difficult experiences that arise in therapy, this is thought to be because they have become more psychologically flexible (Hayes, Bissett, et al., 2004). Pre-post ACT training research has suggested that participants

psychological flexibility does increase following ACT training (Luoma & Vilardaga, 2013). This links in with our expectation that therapists who are more experientially avoidant, a central component to psychological flexibility, will use exposure less (Scherr et al., 2015). We were therefore collecting information regarding therapist's use of ACT, in addition to CBT, so that we could compare their experiential avoidance, cognitive fusion and exposure use to therapists only trained in CBT. If ACT and CBT trained participants did use exposure more and were less experientially avoidant than those only trained in CBT, this would then suggest a potential training option to help increase clinicians use of exposure.

Participants were asked 'Do you currently use Acceptance and Commitment therapy (ACT) to treat clients?', rather than asking whether they were trained in ACT. This decision was made due to many services and accreditation bodies offering training sessions covering ACT techniques and ideas, for example to meet continuing professional development (CPD) requirements. These training sessions however would not provide the clinician with the information or skills to be able to use ACT with their clients. It was therefore thought that asking whether a clinician currently uses ACT would be more reflective of their level of training and experience. Additionally, clinicians may have been trained in ACT but are not utilising this training.

Participants were also asked 'Do you currently use Cognitive Behavioural Therapy techniques to treat clients with anxiety disorders or OCD?'. This question was asked as we were only interested in the impact ACT training and experience had on clinicians' use of CBT, in particular exposure and their levels of experiential avoidance and cognitive fusion. It was therefore possible that therapists trained in ACT, in addition to CBT, would only use ACT to treat clients with anxiety disorders or OCD. Therefore, if a participant had reported that they use ACT and do not use CBT to treat clients with anxiety disorders or OCD, they could have been removed from the sample.

Sensitive demographic items were optional due to research showing that that 35% of participants dropped out of surveys when required to answer personal questions compared to 9% when they could skip questions that felt too personal (Sischka et al., 2020). Age was also measured in a range in order to increase response rates to this question (Peterson, 1984; Robinson & Leonard, 2018).

Analysis

Statistical analysis was conducted using SPSS. Initial steps included creating sum and mean scores for the for the Exposure Implementation Beliefs Scale, Therapists Beliefs about Exposure Scale, Multidimensional Experiential Avoidance Questionnaire, the Cognitive Fusion Questionnaire, the Anxiety Sensitivity Index, and the Interpersonal Reactivity Index. Scores for exposure use and therapist safety behaviour use were also created from the vignette responses. Dummy variables were created for age and ethnicity. The data was checked for outliers and missing data, descriptive statistics were calculated such as means, standard deviations, skewness, and kurtosis statistics, as well as graphing (appendix C, D, E), to determine whether data from continuous measures were normally distributed. Assumptions of each statistical test (linearity, homoscedasticity, normality, multicollinearity) were also analysed. The experiential avoidance and cognitive fusion variables were found to have a very high positive correlation ($r(117) = .80$, $p < .001$). This was unsurprising as experiential avoidance and cognitive fusion as are considered interrelated processes central to the psychological inflexibility model used within ACT (Hayes et al., 2006; Hayes et al., 2012). As strongly correlated variables can cause multicollinearity issues for regression analysis, and there was a theoretical reason to combine these variables (they are considered interrelated processes in the psychological inflexibility model), we decided to combine these variables by averaging them to create a new variable labelled ‘dual psychological process limiting

flexibility'. The dual psychological process limiting flexibility variable was used for the regression analysis and mediation analysis.

Hypothesis Testing

- H1- We predict more than 80% of clinicians will choose an exposure-based intervention for the vignette client presenting with OCD.
- H2- We also expect 80% of clinicians to use therapist safety behaviours and believe that these behaviours are necessary for treatment.

Hypotheses one and two were tested using binomial tests set at 80%. As the vignette was only able to measure full sessions allocated to a therapist safety behaviour, a binomial test was also used to explore the proportion of participants who believed that therapist safety behaviours were at least a little necessary for treatment on the Exposure Implementation Beliefs Scale.

- H3- We predict that therapists who use exposure less will rely more on therapist safety behaviours.

Hypothesis three was tested using Pearson correlation to show the relationship between participants use of exposure and use of therapist safety behaviours with the hypothetical client vignette.

- H4- We expect experiential avoidance, cognitive fusion, anxiety sensitivity, empathy and therapists' beliefs would be negatively related to the use of exposure and positively related to therapist safety behaviours.

Hypothesis four was tested initially using Pearson correlations to identify the relationships between experiential avoidance, cognitive fusion, anxiety sensitivity, empathy, therapists'

beliefs, and exposure use/therapist safety behaviour use. The dual psychological process limiting flexibility variable, years of experience as a CBT therapist and anxiety/OCD caseload were also correlated with exposure use and therapist safety behaviour use to explore the links between experience, caseload and exposure delivery. A series of stepwise multiple linear regression analyses were then used to explore whether participants experiential avoidance, cognitive fusion, anxiety sensitivity and empathy could predict exposure and therapist safety behaviour use when taking into account therapists' beliefs, experience and caseload. As well as to explore whether exposure use, and therapist safety behaviour use have the same predictors. The multiple regressions were first completed with the participants demographics, years' experience, and percentage of anxiety/OCD caseload. However, due to the low completion rate of these sections of the survey, the sample was reduced to 69 participants, therefore, to maximise sample size and statistical power the regressions were then run without the demographics, experience, and caseload variables. Following the multiple regressions analysis, a multicollinearity issue was identified, likely because of the strong correlations between therapists' negative beliefs about exposure and the dual psychological process limiting flexibility variable, also between anxiety sensitivity and the dual psychological process limiting flexibility variable. To avoid this issue, we conducted separate regression analyses to explore the links between exposure and therapist safety behaviour use and anxiety sensitivity, empathy and the dual psychological process limiting flexibility variable in more detail.

- H5- We anticipate training in ACT to decrease therapists' experiential avoidance and cognitive fusion. Due to the links between experiential avoidance, cognitive fusion and distress tolerance, we expect therapists' reporting less experiential avoidance and cognitive fusion to be more able to tolerate distress increasing their use of exposure therapy and reducing the use of therapist safety behaviours when using CBT to treat the vignette client presenting with OCD.

Hypothesis five was tested using an independent t-tests to compare differences in the average levels of experiential avoidance and cognitive fusion between the two groups of participants, those only trained in CBT and those trained in CBT and ACT. T-tests were not used to compare differences between the two groups on the anxiety, empathy and therapist beliefs measures due to the increased risk of false-positive results when completing many comparisons. Independent t-tests were however used to compare differences in the average amount of sessions participants in the two groups allocated to an exposure intervention or a therapist safety behaviour. Following this mediation analysis was used to further explore the relationship between ACT training, the dual psychological process limiting flexibility variable and both use of exposure and therapist safety behaviours.

Ethics

Ethics were approved by the University of Essex Ethics Sub-Committee 2 (application ID: ETH2021-1518). Given the role of selection and response bias when clinicians are asked direct questions about their clinical practice (Hansen et al., 2002; Nakamura et al., 2014; Parker & Waller, 2015; Walfish et al., 2012), we did not fully disclose that the study focused on exposure use and used a vaguer and more generic description of, understanding factors that predict therapist's treatment decisions for anxiety disorders. This is in line with the British Psychological Society (BPS) Code of Human Research Ethics (2021) which states that withholding some of the details of the hypothesis being tested is not the same as deliberately deceiving participants of the purpose of the research. Additionally, the exclusion of specific detail regarding the study aims was not expected to cause any harm to the participants. Participants could also exit the survey at any time; however, they were informed that the answers submitted could not be withdrawn as individual participant's data could not be identified. Participants were informed that their answers were anonymous with the aim to

encourage honest responses with no risk of judgement. Following research data gathering, participants were able to request debriefing information if they wanted more information about the study aims and results (Oates et al., 2021)

Dissemination

The findings of this research will be disseminated in several ways. Firstly, this thesis has been submitted as part of the Doctorate in Clinical Psychology training course at the University of Essex. Secondly, the findings will also be submitted to and disseminated in research journals relevant to the field such as, The Cognitive Behaviour Therapist, Behaviour Research and Therapy and Behavioural and Cognitive Psychotherapy. Lastly, a summary will also be sent to any participants who requested the results of the study.

Chapter 3: Results

The online survey was completed by 120 participants, respondent characteristics are presented in Table 1. All 120 participants were included in the analysis however one participant only completed the vignette question and no other questionnaires. All other participants completed at least 41% of the survey, with 111 participants completing 100%. The following sections explore the results in relation to each research question.

Table 1. *Characteristics of Respondents*

	Characteristic	Analytic sample (N=120)
Age (%) n)	21-29	13% (14)
	30-39	41.7% (45)
	40-49	29.6% (32)
	50-59	13.9% (15)
	60-79	.9% (1)
	Missing	13
Gender (%) n)	Male	25 % (26)
	Female	72.1% (75)
	Missing	19
Ethnicity (%) n)	White	80% (76)
	Asian	12.6% (12)
	Mixed	3.2% (3)
	Black	4.2% (4)
	Missing	25
Training (%) n)	CBT only	61.3% (68)
	CBT & ACT	38.7% (43)
	Missing	9
Years of experience as a CBT therapist (n) (range 0-22)	Mean (SD)	5.6 (4.55)
	Missing	29
Currently practicing CBT (n)	Yes	110
	No	0
	Missing	10
Percentage of clinicians' caseload involving anxiety disorders	Mean	27.8%
	Missing	25

% are computed without missing responses

To what Extent do CBT Therapists in the UK Decide to use Exposure Therapy and Therapist Safety Behaviours to Treat a Hypothetical Client Experiencing Symptoms of OCD? Is Exposure Therapy use Related to Therapist Safety Behaviour use?

Overall, a large proportion of the CBT therapists decided to use exposure therapy for the client experiencing symptoms of OCD described in the vignette. However, the low number of sessions allocated to an exposure technique and the frequent use of therapist safety behaviours, suggest poor quality of exposure delivery.

The mean number of sessions participants allocated to an exposure intervention was 8.07 out of 20 sessions (*SD*= 4.27) this is lower than Foa's et al (2012) exposure response prevention protocol would suggest, the protocol recommends exposure from session 2-20 (19 out of 20 sessions). Although none of the participants allocated more than 15 sessions to an exposure technique, 41.7% of participants could be considered to be using exposure well, as the cut off for using exposure well was set at 10 out of 20 sessions, as discussed in the methodology. In terms of therapist safety behaviours, the mean number of sessions participants allocated to a therapist safety behaviour was 3.78 (*SD*= 2.76). Table 2 shows the breakdown of exposure interventions and therapist safety behaviours participants were able to choose from.

Table 2. *Mean Number of Sessions Allocated to Exposure or a Therapist Safety Behaviour*

Exposure	Mean (range)	Therapist safety behaviours	Mean (range)
Behaviour experiments	3.66 (15)	Allocating a session to relaxation/ breathing/ grounding exercises	0.89 (4)
Exposure response prevention (ERP)	3.65 (15)	Allocating a session to planning client-directed exposure:	
Imaginal exposure	0.54 (6)	Behaviour experiments	1.13 (10)
Interoceptive exposure	0.18 (2)	Exposure response prevention (ERP)	1.42 (7)
Virtual reality exposure	0.03 (1)	Imaginal exposure	0.24 (3)
		Interoceptive exposure	0.12 (2)

Table 3 shows the percentage of participants who chose to use an exposure intervention and therapist safety behaviours with the vignette client. As mentioned, the majority of participants (97.5%) chose to use exposure therapy at least once with the client, however only 41.7% of participants could be classified as using exposure well by allotting at least half their sessions to an exposure technique. Table 3 also shows a high percentage of therapists (79.2%) chose to allocate at least one session to a therapist safety behaviour. According to protocols, theory (Craske et al., 2022) and research exploring the impact of therapist safety behaviours on exposure's effectiveness and client recovery rates (Benito et al., 2021; Benito et al., 2020), therapist should not be allocating any sessions to therapist safety behaviours.

We hypothesised that more than 80% of clinicians would choose an exposure-based intervention for the vignette client presenting with OCD. We also predicted 80% of clinicians would use therapist safety behaviours. A binomial test indicated that the proportion of clinicians using at least one session of exposure-based therapies (.97) was high .80, p <.001 (1-sided). This is in line with our hypothesis that more than 80% of clinicians would choose an exposure-based intervention. The proportion of clinicians using therapist safety behaviours (.79) on the other hand was very slightly lower than expected (.80, p = .446 (1-sided).

Table 3. *Exposure Based Therapy Utilisation Percentages from the Hypothetical Patient Vignette*

Number of sessions allocated to an exposure technique (%) n)	
No sessions	2.5% (3)
At least one session	97.5% (117)
Fewer than half the sessions	55.8 (67)
More than half the sessions	41.7 % (50)
19-20 sessions	0
	Therapist Safety Behaviour use (%) n)
No sessions	20.8% (25)
At least one session	79.2% (95)

Considering the vignette was only able to measure full sessions allocated to a therapist safety behaviour, it seemed relevant to explore the proportion of clinicians who believed that therapist safety behaviours are at least a little necessary for treatment on the Exposure Implementation Beliefs scale (.90) this result was higher than 80% (.80, p = .008 (1-sided).

Additionally, therapist safety behaviour use was significantly related to exposure use. We expected therapists who used exposure less would rely more on therapist safety behaviours, due to research suggesting therapists who seldom choose exposure interventions, may be less able to tolerate distress and therefore more likely to use therapist safety behaviours to try to manage their distress. Table 4 supports our expectation, Pearson correlation shows a significant negative correlation (r(118) = -.72, p<.001) between exposure use and therapist safety behaviour use. Indicating that clinicians who use exposure more, use therapist safety behaviours less, which is an interesting finding and may be evidence that therapists with more practise and experience using exposure are able to deliver it closer to the evidence-based protocol. It is however important to acknowledge that a high percentage (79%) of clinicians did still allocate a session to a therapist safety behaviour and 90% believed that therapist safety behaviours are at least a little necessary for treatment on the Exposure Implementation Beliefs scale. Additionally, teaching relaxation/ breathing techniques was a frequently used therapist safety behaviour, with 52% of clinicians choosing to allocate at least one session to this strategy. This arousal reduction strategy has been closely linked to reducing the effectiveness of exposure both in theory (Craske et al., 2022) and clinical practice (Craske et al., 2000; Salkovskis et al., 1996).

To summarise, as hypothesised exposure use was high (97.5%), however fewer than half the participants were using exposure well (41.7%). This shows clinicians are not using exposure-based therapies as frequently as the evidence base suggests they should. Therapist safety behaviour use was high (79%) although very slightly less than hypothesised, clinicians'

beliefs that therapist safety behaviours were necessary, from the exposure implementation beliefs scale, were also high (90%). This suggests that although the percentage of clinicians who would allocate an entire session to a therapist safety behaviour is 79%, 90% of clinicians are likely to use therapist safety behaviours at some point during exposure therapy. Lastly as hypothesised, therapists who used exposure more were less likely to rely on therapist safety behaviours, suggesting increased experience with exposure may reduce therapist safety behaviour use.

Beyond Training and Beliefs about Exposure, can Therapists' Traits Related to their Ability to Tolerate Distress, Predict whether and how well they use Exposure? Additionally, does Exposure use and Therapist Safety Behaviour use have the same Predictors?

We predicted that cognitive fusion, experiential avoidance, anxiety sensitivity, empathy and therapists' beliefs would be negatively related to the use of exposure and positively related to therapist safety behaviours.

In this section, we will first explore the impact of therapist beliefs and training/experience on exposure and therapist safety behaviour use. Table 4 shows the means and scale scores for beliefs about using therapist safety behaviours during exposure and negative beliefs about exposure. On average participants reported believing therapist safety behaviours were at least a little necessary during exposure therapy (1.21 on a scale from 0 to 4). This is in line with the vignette results showing 79% of participants allotted at least one session to a therapist safety behaviour. On average participants disagreed with the statements on the negative beliefs about exposure scale (1.17 on a scale from 0 to 4) suggesting most clinicians did not endorse negative beliefs about the intervention. However, there was variability in both the belief scales with some participants on average agreeing 'much' and others agreeing 'very little' that therapist safety behaviours are necessary (range 0-3). There

was slightly less variability on the negative beliefs about exposure scale with some participants averaging between the 'unsure' and 'agree' responses (range 0-2.86). The belief scales were expected to negatively correlate with exposure use and positively correlate with therapist safety behaviour use and we found that indeed there was a medium to large significant negative correlation between therapist beliefs and exposure therapy use, and a medium to large significant positive correlation between therapist beliefs and therapist safety behaviour use. Showing clinicians who endorsed more negative beliefs about exposure and felt therapist safety behaviours were necessary, used exposure less and therapist safety behaviours more than clinicians who held more positive beliefs about exposure and did not believe therapist safety behaviours were necessary (Table 5 and Figure 3 & 4).

In terms of experience and caseload, there was not a significant correlation between years of experience as a CBT therapist and use of exposure or therapist safety behaviours. There was however a significant negative correlation between anxiety/OCD caseload and exposure use, suggesting clinicians with a higher percentage of anxiety/OCD clients on their caseload were less likely to use exposure interventions. Additionally, Table 5 also shows a non-significant positive correlation between percentage of anxiety/OCD clients and therapist safety behaviour use, suggesting the more clinicians work with anxiety disorders the more likely they are to use therapist safety behaviours. Although this correlation was not significant, there was a significant positive correlation between the therapist safety behaviour of predominantly using client directed exposure and anxiety/OCD caseload ($r(95) = .25$, $p = .008$), this suggests clinicians who have higher anxiety/OCD caseloads were more likely to mainly use client directed exposure. All participants reported currently working with anxiety disorders using CBT therefore it was not possible to compare differences between those who are currently treating anxiety disorders and those who are not.

Table 4. *Mean and sum scores of beliefs about exposure and therapists' individual differences in distress tolerance*

Measure (potential range)	Mean score		Sum score		
	Observed Min- Max	Mean score (*SD*)	Theoretical Min - Max	Observed Min- Max	Scale sum score (*SD*)
Beliefs about using therapist safety behaviours during exposure (0-4)	0-3	1.21 (0.89)	0-40	0-30	12.18 (8.86)
Negative beliefs about exposure (0-4)	0-2.86	1.17 (0.75)	0-84	0-60	23.97 (16.57)
Cognitive fusion (1-7)	1-6.83	3.19 (1.15)	7-49	7-38	22.09 (7.71)
Experiential avoidance (1-6)	1-5.03	2.61 (0.99)	31-186	31-156	81.30 (30.74)
Distress aversion subscale	1-5	2.53 (0.98)	13-78	13-65	32.96 (12.81)
Behavioural avoidance subscale	1-5.64	2.48 (1.06)	11-66	11-62	27.37 (11.57)
Distract & supress subscale	1-5.86	2.96 (1.17)	12-72	7-41	20.71 (8.18)
Dual psychological process limiting flexibility (Cognitive fusion (1-7 & Experiential avoidance 1-6)	1-5.51	2.90 (1.01)	19-117.5	23.5-97	51.82 (20.30)
Overall empathy (0-4)	1.43-4	3.00 (0.59)	0-56	20-56	42.06 (8.25)
Empathetic concern subscale	1.71-4	3.23 (0.61)	0-28	12-28	22.64 (4.26)
Perspective taking subscale	1.14-4	2.77 (0.73)	0-28	8-28	19.42 (5.11)
Anxiety sensitivity (0-4)	0-2.72	0.62 (0.57)	0-72	0-49	11.32 (10.32)
Physical concerns subscale	0-3	0.53 (0.65)	0-24	0-18	3.22 (3.91)
Cognitive concerns subscale	0-3.50	0.30 (0.57)	0-24	0-17	1.55 (2.85)
Social concerns subscale	0-3.33	1.02 (0.83)	0-24	0-20	6.24 (5.00)

Note: Beliefs about using therapist safety behaviours during exposure (EIBS) 10 items, Negative beliefs about exposure (TBES) 21 items, Cognitive fusion 7 items, Experiential avoidance (MEAQ) 31 items, Empathy (IRI) 14 items, Anxiety sensitivity (ASI3) 18 items.

Table 4 also shows means and scale scores for the measures of therapists' individual differences in distress tolerance. On average participants did not feel the empathy statements described them either 'well' or 'not well' with the average score being 3 on a 5-item scale ranging from 'does not describe me well' to 'describes me very well'. There was some variance in the scores with some participants averaging 4 'describes me well' and some averaging closer to 1 'describes me slightly well' (range 1.43-4). In terms of experiential avoidance, most participants moderately disagreed with the statements in the measure (2.61 on a scale from 1 to 6), suggesting that on average clinicians do not feel they avoid negative internal experiences. Cognitive fusion showed a similar trend with participants reporting the statements on average to be 'seldom true' (3.19 on a scale from 1 to 7). However, there was quite a lot of variation on

these measures with some participants reporting an average of 5.03 ‘moderately agree’ for experiential avoidance and 6.83 ‘almost always true’ for cognitive fusion. On average participants felt that they agreed ‘very little’ with the statements in the anxiety sensitivity measure (0.62 on a scale from 0 to 4), this variable showed less range with the highest average score being 2.72 ‘some’ agreement with the statements (average range 0-2.72). This suggests participants on average did not show much anxiety sensitivity.

Overall, therapists’ individual differences in distress tolerance were shown to significantly correlate with their use of exposure and therapist safety behaviours. Table 5 and Figure 3 & 4, show the correlations between the outcome variables of exposure use and therapist safety behaviour use and therapists’ individual differences in distress tolerance which included clinicians’ empathy and anxiety sensitivity as well as cognitive fusion and experiential avoidance, that were also combined to create the dual psychological process limiting flexibility variable. As hypothesised, there was a significant negative correlation between the therapists’ individual differences in distress tolerance and exposure use, with empathy having the strongest negative association. In particular, the perspective taking empathy subscale had the strongest correlation with exposure use. These correlations show that participants with higher cognitive fusion, experiential avoidance, empathy and anxiety sensitivity scores, used less exposure-based therapies.

Additionally, as hypothesised, therapist safety behaviour use was positively correlated with the therapists’ individual differences in distress tolerance variables. Experiential avoidance, cognitive fusion, empathy, and anxiety sensitivity all had a positive correlation with therapist safety behaviour use, with empathy and the perspective taking subscale having the strongest correlation with safety behaviour use. Therefore, as clinicians’ experiential avoidance, cognitive fusion, empathy, and anxiety sensitivity increased, their use of therapist safety behaviours also increased.

Therapists' beliefs and individual differences in distress tolerance predict exposure use, but how do they relate to each other? Overall, the strongest correlation was between negative beliefs about exposure therapy and experiential avoidance suggesting that therapist who are more unwilling to experience unpleasant internal states and take steps to try to avoid this also have more beliefs that exposure is ineffective, unethical, and harmful to the client and therapist. Anxiety sensitivity also had a strong correlation with experiential avoidance, this makes sense as anxiety sensitivity is measuring participants internal discomfort specifically in relation to anxiety and higher internal discomfort is likely to increase the likelihood of experiential avoidance. As experiential avoidance and cognitive fusion are both facets of psychological inflexibility it is unsurprising that these measures were also highly correlated.

A series of multiple linear regression analyses were used to explore whether therapists' traits related to their ability to tolerate distress could predict exposure and therapist safety behaviour use when considering therapists' beliefs and experience. Additionally, to explore whether exposure use, and therapist safety behaviour use have the same predictors. Before running a regression analysis to assess the role of training and traits related to therapist's ability to tolerate distress, we assessed the role of gender. There were no significant differences between men (n=26) and women (n=75) in exposure use ($t(99) = -.96$, $p = .339$, Cohen's $d = -.22$) or therapist safety behaviour use ($t(99) = 1.33$, $p = .188$, Cohen's $d = .30$). The initial regressions also controlled for age, gender, and ethnicity. Multiple regression using dummy variables showed ethnicity (white ($n = 76$), Asian ($n = 12$), other ethnicities ($n = 7$)) and gender were not significant predictors of exposure use or therapist safety behaviours. Age however was a significant predictor with the 30-39 age group allocating significantly more sessions to an exposure task than the other age groups (age 30-39; $\beta = .297$, $p = .037$). Although age was not a significant predictor of therapist safety behaviour use. Age was therefore the only demographic shown to be related to exposure use.

Table 5. *Pearson's correlations between Exposure use, Therapist Safety Behaviour use and Therapists' Training, Beliefs, and Individual Differences in Distress Tolerance*

Outcome variables	**Scale Reliability** (Cronbach's α)	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**
1. Exposure use	--	--																	
2. Therapist safety behaviour use	--	-.72**	--																
Training and Beliefs																			
3. Years' experience as a CBT therapist	--	.03	-.02	--															
4. Percentage anxiety/OCD caseload over the yr.	--	-.37**	.16	-.20*	--														
5. Beliefs re. using therapist safety behaviours	.92	-.48**	.45**	.09	-.09	--													
6. Negative beliefs about exposure	.96	-.44**	.48**	.22*	.22*	.78**	--												
Therapists' individual differences in distress tolerance																			
7. Cognitive fusion	.93	-.25**	.34**	.22*	-.07	.63**	.75**	--											
8. Experiential avoidance	.98	-.31**	.33**	.14	-.13	.69**	.85**	.80**	--										
Subscales																			
9. Distress aversion	.94	-.24**	.28**	.16	-.18*	.70**	.83**	.76**	.96**	--									
10. Behavioural avoidance	.96	-.35**	.36**	.15	-.07	.60**	.82**	.76**	.95**	.86**	--								
11. Distraction suppression	.93	-.25**	.29**	.06	-.14	.64**	.80**	.75**	.93**	.86**	.80**	--							
12. Dual psychological process limiting flexibility	.98	-.23*	.28**	.11	-.17	.68**	.85**	.86**	96**	.91**	.92**	.87**	--						
13. Empathy	.82	-.51**	.47**	.16	.09	.50**	.60**	.45**	.38**	.35**	.34**	.36**	.29**	--					
Subscales																			
14. Empathetic concern	.71	-.33**	.32**	.24*	-.11	.44**	.57**	.50**	.43**	.41**	.40**	.40**	.37**	.85**	--				
15. Perspective taking	.76	-.55**	.49**	.05	.23*	.44**	.49**	.31**	.24**	.22**	.22**	.24**	.15	.90**	.55**	--			
16. Anxiety sensitivity	.93	-.30**	.35**	.09	-.13	.57**	.75**	.72**	.79**	.76**	.78**	.70**	.83**	.26**	.30**	.16*	--		
Subscales																			
17. Physical concerns	.91	-.27**	.29**	.10	-.12	.52**	.65**	.59**	.71**	.69**	.72**	.56**	.72**	.29**	.32**	.19*	.86**	--	
18. Cognitive concerns	.94	-.28**	.29**	-.05	-.11	.40**	.46**	.51**	.49**	.44**	.51**	.41**	.58**	.13	.15	.08	.75**	.53**	--
19. Social concerns	.89	-.20*	.29**	.17	-.11	.50**	.71**	.66**	.75**	.73**	.69**	.71**	.73**	.23**	.28**	.14	.87**	.63**	.44**

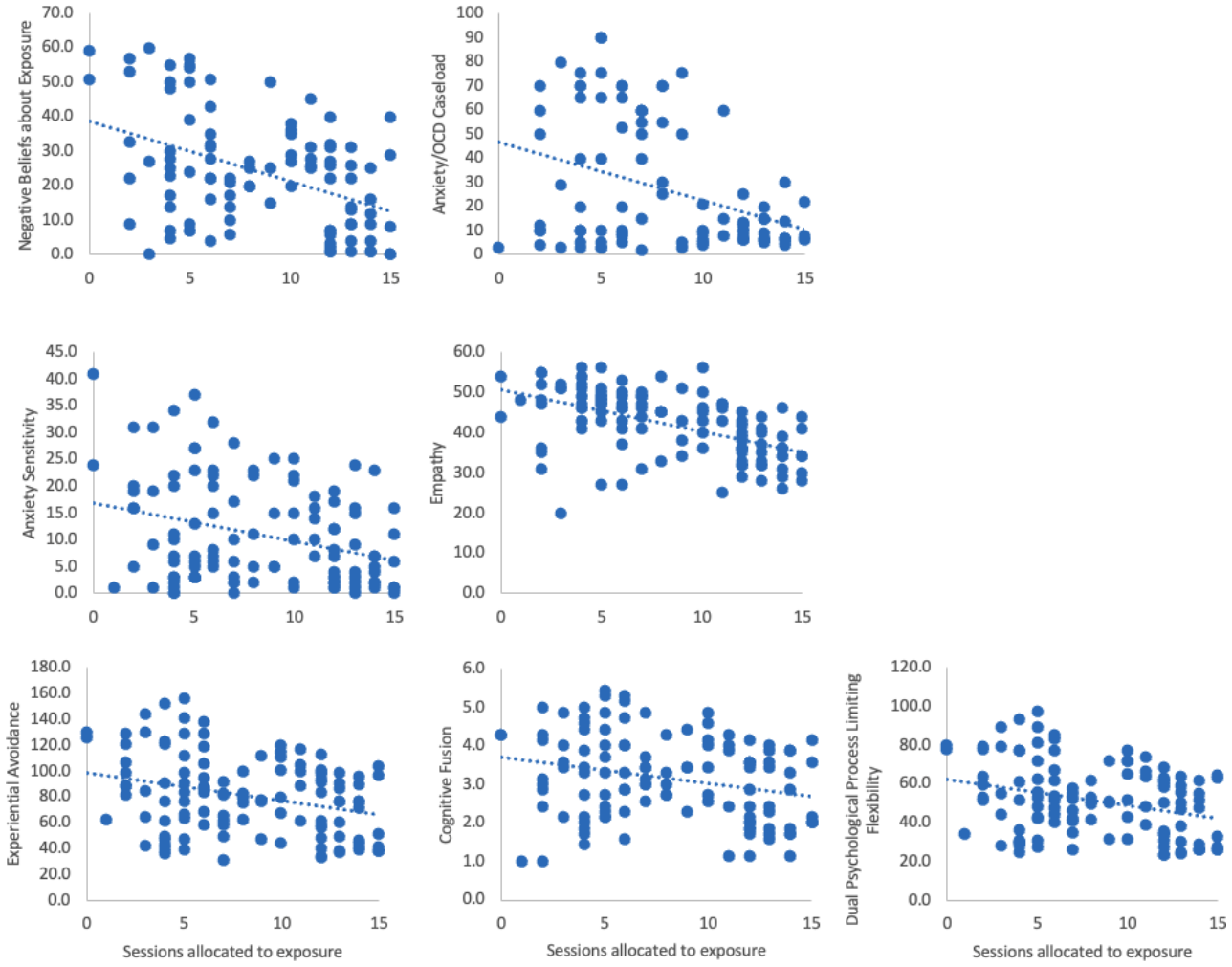

Figure 3. *Scatter plots showing the relationship between the number of sessions allocated to exposure and the predictor variables (negative beliefs about exposure, anxiety/OCD caseload, anxiety sensitivity, empathy, experiential avoidance, cognitive fusion, dual psychological process limiting flexibility)*

The regression also controlled for years' experience and percentage of anxiety/OCD caseload. Years' experience was not a significant predictor of exposure use or therapist safety behaviour use; however, percentage of anxiety/OCD caseload was a significant predictor of exposure use ($\beta = -.35$, $p = .001$), with participants who reported lower anxiety/OCD caseload allotting more sessions to exposure-based therapies ($F(13, 69) = 6.54$, $p < .001$, $R^2 = .60$).

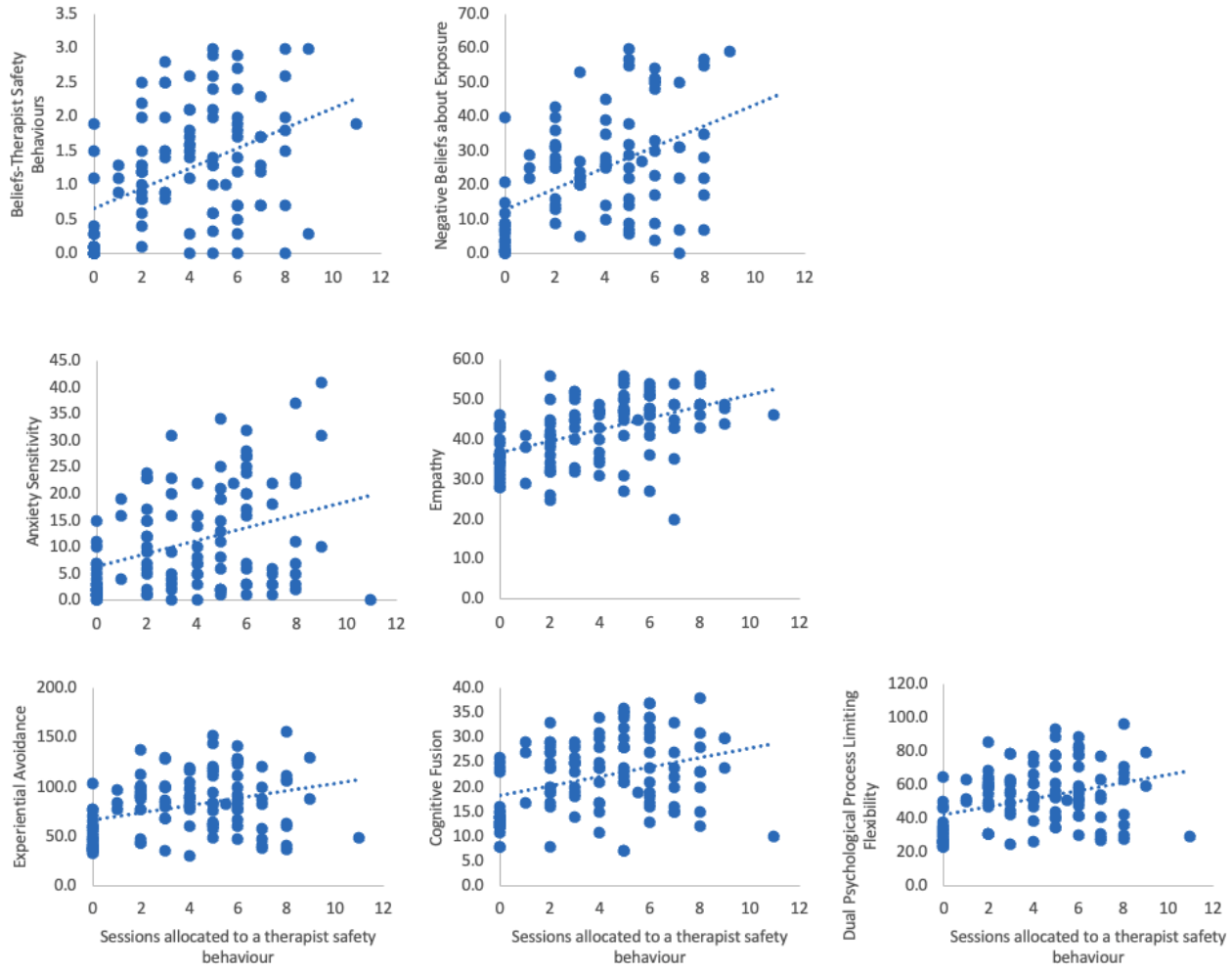

Figure 4. *Scatter plots showing the relationship between the number of sessions allocated to a therapist safety behaviour and the predictor variables (beliefs that therapist safety behaviours are necessary, negative beliefs about exposure, anxiety sensitivity, empathy, experiential avoidance, cognitive fusion, dual psychological process limiting flexibility)*

The regression was then run without demographics, experience, and caseload variables to maximise sample size and statistical power. Table 6 shows the results of a regression analysis that used number of sessions allocated to an exposure technique as the outcome variable and therapist beliefs, anxiety sensitivity, empathy and the dual psychological process limiting flexibility variable as predictor variables. Although the dual psychological process limiting flexibility variable was included, due to multicollinearity (VIF = 5.46) the coefficient and p-value cannot be interpreted for this predictor. However, multicollinearity does not influence the predictions, precision of the predictions, and the goodness-of-fit statistics (Frost, 2019).

The results of this analysis suggest a large amount of the variance can be explained by the model R = .68 (Cohen, 1988). However, empathy and beliefs about using therapist safety behaviours were the only significant predictors of exposure use, with participants who reported lower empathy and fewer beliefs about using therapist safety behaviours allotting more sessions to exposure-based therapies. Therapist beliefs about exposure and anxiety sensitivity were not significant predictors once all variables were considered.

Table 6. *Regression Coefficients for Predicting the Number of Sessions Allocated to Exposure in the Hypothetical Patient Vignette*

Variable	Model step 1	Model step 2	Model step 2a	Model step 2b	Model step 2c
Negative beliefs about exposure	-.05 (.03) [-.11, .02]	-.03 (.04) [-.12, .05]			
Beliefs that therapist safety behaviours are necessary	-1.83** (1.63) [-3.08, -.57]	-1.35* (.62) [-2.58, -.12]			
Anxiety sensitivity	--	.00 (.06) [-.11, .12]	-.12** (.04) [-19, -05]		
Empathy	--	-.25** (.05) [-.35, -.14]		-.26** (.04) [-.34, -.18)	
Dual psychological process limiting flexibility	--	.04 (.04) [-.04, .17] #			-.07** (.02) [-.11, -.03
F change model summary	$F(2, 94) = 20.06$, $p < .001$	$F(5, 94) = 15.15$, $p < .001$	$F(1, 113) = 11.09$, $p = .001$	$F(1, 117) = 41.06$, $p < .001$	$F(1, 114) = 11.94$, $p = .001$
R^2, R^2 change	.30, .30	.46, .16	.09	.26	.10

not interpretable due to multicollinearity. *<0.05, **<0.01

As mentioned, we identified a multicollinearity issue in Model 2, where therapists' beliefs were entered along with all of the individual differences in distress tolerance variables, likely because of the strong correlations between therapists' negative beliefs about exposure and the dual psychological process limiting flexibility variable and between anxiety sensitivity and the dual psychological process limiting flexibility variable. To avoid this issue, we conducted separate regression analyses for anxiety sensitivity, empathy and the dual psychological process limiting flexibility variable individually (Model 2a, 2b, 2c). Anxiety

sensitivity was found to be a significant predictor of exposure use, explaining a small amount (9%) of the variance in exposure use. Empathy was also a significant predictor of exposure use, explaining a substantial amount (26%) of the variance in exposure use. Lastly the dual psychological process limiting flexibility variable was a significant predictor of exposure use, explaining a small (10%) amount of the variance.

We then assessed whether therapists' beliefs, anxiety sensitivity, empathy and the dual psychological process limiting flexibility variable predicted clinicians' reliance on counterproductive therapist safety behaviours. The dual psychological process limiting flexibility variable was again uninterpretable due to multicollinearity (VIF = 5.46). Table 7 shows the results of this analysis, again a large amount of the variance can be explained by the model R = .65 with empathy being the only significant predictor of therapist safety behaviour use when all variables were included. This shows that participants who reported higher empathy levels, allocated more sessions to therapist safety behaviours, potentially suggesting clinicians are delivering exposure in a less effective way in order to manage their own distress.

Again, due to multicollinearity separate regression analyses were also completed for anxiety sensitivity, empathy, and the dual psychological process limiting flexibility variable. Anxiety sensitivity was found to be a significant predictor of therapist safety behaviour use, explaining a small to moderate amount (12%) of the variance in therapist safety behaviour use. Empathy was also a significant predictor of therapist safety behaviour use, explaining a moderate to substantial amount (22%) of the variance in therapist safety behaviour use. Lastly the dual psychological process limiting flexibility variable was a significant predictor of therapist safety behaviour use, explaining a small to moderate (12%) amount of the variance in therapist safety behaviour use.

Table 7. *Regression Coefficients for Predicting the Number of Sessions Allocated to a Therapist Safety Behaviour in the Hypothetical Patient Vignette*

Variable	Model step 1	Model step 2	Model step 2a	Model step 2b	Model step 2c
Negative beliefs about exposure	.05* (.02) [.00, .09]	.01 (.03) [-.05, .07]			
Beliefs that therapist safety behaviours are necessary	.90* (.40) [.09, 1.70]	.46 (.41) [-.35, 1.28]			
Anxiety sensitivity	--	.06 (.04) [-.02, .13]	.09** (.02) [.05, .14]		
Empathy	--	.14** (.03) [.07, .21]		.16** (.03) [.10, .21]	
Dual psychological process limiting flexibility	--	-.01 (.03) [-.06, .04]			.05** (.01) [.02, .08]
F change model summary	$F(2, 94) = 20.42$, $p < .001$	$F(5, 94) = 13.00$, $p < .001$	$F(1, 113) = 15.67$, $p < .001$	$F(1, 117) = 33.14$, $p < .001$	$F(1, 114) = 14.94$, $p < .001$
R^2, R^2 change	.31, .31	.42, .11	.12	.22	.12

not interpretable due to multicollinearity. *<0.05, **<0.01

To summarise we questioned whether therapists' traits, related to their ability to tolerate distress, could predict whether and how well they used exposure. We expected experiential avoidance, cognitive fusion, anxiety sensitivity, empathy, and therapists' beliefs to be negatively related to the use of exposure and positively related to therapist safety behaviours, which was shown to be accurate. However, likely due to multicollinearity, empathy was the only therapist individual difference in distress tolerance to significantly predict exposure therapy use and therapist safety behaviour use when all variables were considered. The subsequent individual regressions suggest that anxiety sensitivity, empathy, and the dual psychological process limiting flexibility variable all significantly predict exposure use and therapist safety behaviour use. However, empathy still explained the highest percentage of the variance in both exposure and therapist safety behaviour use. Overall, exposure use and therapist safety behaviour use have many of the same predictors, however age, anxiety/OCD caseload and therapists' beliefs about using therapist safety behaviours were only significant predictors of exposure use, suggesting the choice to use exposure therapy may have more influential factors than the choice to use therapist safety behaviours.

Will therapists trained in ACT, in addition to CBT, be more able to tolerate distress due to less experiential avoidance and cognitive fusion, and will this impact their use of exposure and therapist safety behaviours when using CBT to treat the vignette client presenting with OCD?

We anticipated training in Acceptance and Commitment Therapy (ACT) to decrease experiential avoidance and cognitive fusion, due to the links between experiential avoidance, cognitive fusion and distress tolerance we expected this to increase the use of exposure therapy and reduce the use of therapist safety behaviours. Indeed, participants trained in ACT did show significantly lower scores on the experiential avoidance ($t(107) = -7.77$, $p<.001$, Cohen's $d = 1.53$) and cognitive fusion ($t(108) = -6.61$, $p<.001$, Cohen's $d = 1.30$) measures than the CBT only group. Table 8 shows the mean scores and standard deviations of the experiential avoidance and cognitive fusion measures as well as the other measures used in the survey.

Table 8. *Comparing the CBT Only and CBT & ACT Group's Mean Scores and Standard Deviations*

Measure (potential range)	**CBT only N = 68 (mean (*SD*))**	**CBT & ACT N = 43 (mean (*SD*))**
Beliefs- exposure (0-4)	1.49 (0.69)	0.67 (0.53)
Beliefs - therapist safety behaviours (0-4)	1.53 (0.74)	0.71 (0.87)
Cognitive fusion (1-7)	3.63 (1.00)	2.52 (1.06)
Experiential avoidance (1-6)	3.12 (0.86)	1.86 (0.72)
Distress aversion subscale	3.00 (0.88)	1.86 (0.74)
Behavioural avoidance subscale	2.97 (0.92)	1.76 (0.89)
Distract & supress subscale	3.58 (1.02)	2.02 (0.73)
Dual psychological process limiting flexibility (1-6.5) (Cognitive fusion & Experiential avoidance)	3.38 (0.86)	2.19 (0.84)
Overall empathy (0-4)	3.15 (0.56)	2.78 (0.55)
Empathetic concern subscale	3.40 (0.60)	3.00 (0.53)
Perspective taking subscale	2.90 (0.66)	2.57 (0.76)
Anxiety sensitivity (0-4)	0.83 (0.54)	0.31 (0.45)
Physical concerns subscale	0.72 (0.62)	0.28 (0.64)
Cognitive concerns subscale	0.37 (0.55)	0.16 (0.54)
Social concerns subscale	1.40 (0.83)	0.48 (0.44)

Although we only predicted ACT training to reduce participants experiential avoidance and cognitive fusion, there were clear differences between the mean scores of therapists who were only trained in CBT and those who were in addition trained in ACT on all measures, with the CBT & ACT group scoring lower than the CBT only group on negative beliefs, empathy, and anxiety sensitivity. These differences were however not tested due to the increased risk of false-positive results when completing many comparisons. The means in Table 8 suggest the biggest difference between the groups was on the distract and supress subscale of the experiential avoidance measure, where those only trained in CBT reported agreeing more with statements such as '*when something upsetting comes up, I try very hard to stop thinking about it*' and '*I work hard to keep out upsetting feelings'*. This suggests that therapists trained in ACT are more likely to be able to tolerate their own distress both due to decreased experiential avoidance and cognitive fusion but also less anxiety sensitivity and fewer negative beliefs about using exposure. Interestingly participants in the CBT & ACT group also reported less empathy than the CBT only group with the empathetic concern subscale showing the biggest difference.

Table 9 compares the percentage of participants in the CBT only and CBT & ACT groups, who chose to use an exposure intervention and therapist safety behaviours with the vignette client. The CBT only group allocated fewer sessions to an exposure technique than the CBT & ACT group, with 100% of those trained in ACT choosing to use exposure. The CBT only group also used more therapist safety behaviours with nearly all participants (97.1%) using them, compared to only half (51.2%) of the CBT & ACT group. Indeed, a t-test showed there was a significant difference between the mean number of sessions allocated to an exposure technique ($t(109) = 2.03$, $p = .045$, Cohen's $d = -.40$), with the CBT only group allocating significantly fewer sessions than those also trained in ACT. Following this trend, the CBT only group also allocated significantly more sessions to a therapist safety behaviour than the CBT & ACT group ($t(76) = 3.87$, $p < .001$, Cohen's $d = .79$). As predicted therapists trained

in ACT as well as CBT were more likely to use exposure therapy and more likely to deliver it in line with evidence-based protocols, i.e., not using therapist safety behaviours, than those only trained in CBT.

Table 9. *Exposure Based Therapy Utilisation Percentages from Vignette*

	Analytic sample (N=120)	CBT only (N=68)	CBT & ACT (N=43)
Sessions allocated to an exposure technique (%) n)			
More than half the sessions	41.7 % (50)	38.2% (26)	51.2% (22)
At least one session	97.5% (117)	97.1% (66)	100% (43)
Not one session	2.5% (3)	2.9% (2)	0
Therapist Safety Behaviour use (%) n)			
At least one session allocated	79.2% (95)	97.1% (66)	51.2% (22)
No sessions allocated	20.8% (25)	2.9% (2)	48.8% (21)

Mediation analysis was used to further explore the relationship between ACT training, the dual psychological process limiting flexibility variable (experiential avoidance and cognitive fusion) and both exposure use and therapist safety behaviour use (Figure 5). We anticipated training in ACT to decrease experiential avoidance and cognitive fusion increasing the use of exposure therapy and reducing the use of therapist safety behaviours. The first analysis assessed the mediating role of the dual psychological process limiting flexibility variable on the relationship between ACT training and exposure use. The results showed a significant indirect effect of ACT training on exposure use (b = 0.50 [0.22, 0.86]). The direct effect of ACT training on exposure use however was not significant when including the mediator (b = -0.06 [-2.20, 1.71], p = .805). Therefore, the dual psychological process limiting flexibility variable fully mediated the relationship between ACT training and exposure use.

Figure 5 also shows the mediation analysis assessing the mediating role of the dual psychological process limiting flexibility variable on the relationship between ACT training and therapist safety behaviour use. The results showed a significant indirect effect of ACT training on therapist safety behaviour use (b = -.31 [-.66, -.02]). The direct effect of ACT

training on therapist safety behaviour use was again not significant when including the mediator (*b* = -.46 [-2.49, .003], *p* = .051). Therefore, the dual psychological process limiting flexibility variable also fully mediated the relationship between ACT training and therapist safety behaviour use.

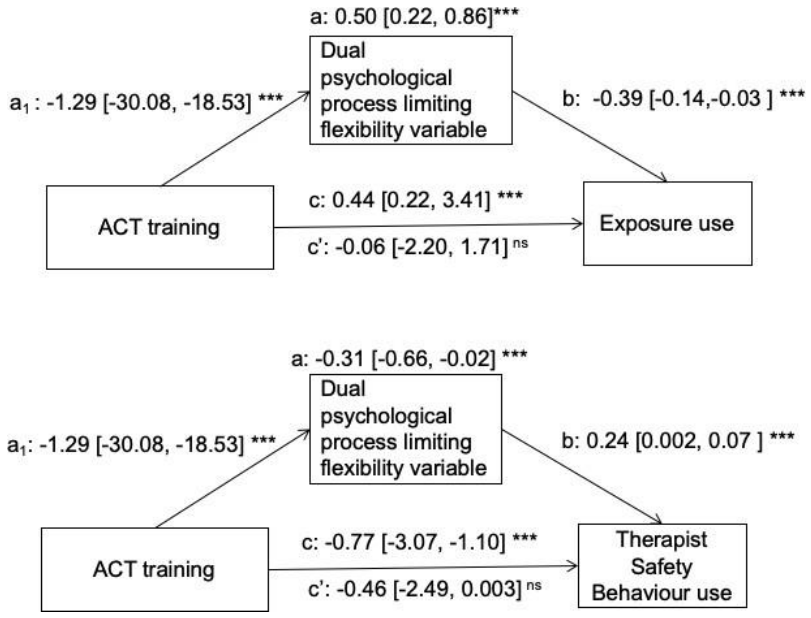

Figure 5. *Mediation analysis diagram showing the mediating role of the dual psychological process limiting flexibility variable on the relationship between ACT training and exposure use/therapist safety behaviour use.*

We predicted that training in ACT would decrease experiential avoidance and cognitive fusion increasing the use of exposure therapy and reducing the use of therapist safety behaviours. In both mediation analyses ACT training did significantly decrease the dual psychological process limiting flexibility variable (experiential avoidance and cognitive fusion), *b* = -1.29, [30.08, 18.53], p <.001, this decrease also significantly increased the use of exposure and decreased the use of therapist safety behaviours (Figure 5). As predicted, experiential avoidance and cognitive fusion had a significant mediating effect of ACT training on exposure use and therapist safety behaviour use. This suggests that training in ACT can reduce clinicians' experiential avoidance and cognitive fusion and therefore reduce their avoidance of exposure and reliance on using therapist safety behaviours.

Chapter 4: Discussion

Despite the demonstrated effectiveness of exposure-based therapy for many mental health difficulties, therapists report that they do not use exposure as often as they should (Becker et al., 2004; Farrell et al., 2013; Freiheit et al., 2004; Higa-Mcmillan et al., 2017; Kannis-Dymand et al., 2022; Kline et al., 2021; Van Minnen et al., 2010). There is limited research exploring exposure use within the UK, and to our knowledge this is the first survey specifically focused on accredited CBT therapists' use of exposure therapy in the UK. Among the therapists who report using exposure-based therapies, many describe delivering exposure in a suboptimal manner (i.e., using unhelpful therapist safety behaviours; e.g., reducing the intensity of exposure tasks) which decreases exposures effectiveness and can exacerbate clients' symptoms (Pompoli et al., 2018; Schmidt et al., 2000a; Wells et al., 2016). It is therefore important to understand the patterns of exposure use within the UK and which factors may be impacting effective exposure delivery. Our goals therefore were to evaluate the extent to which CBT therapists practicing in the UK would choose to use exposure therapy to treat a hypothetical client experiencing symptoms of OCD, for whom NICE guidelines would recommend exposure response prevention (NICE, 2005a). We aimed to explore the links between therapists' traits related to their ability to tolerate distress, such as experiential avoidance, and their decision to use exposure therapy and therapist safety behaviours. As part of this exploration, we considered the role of ACT training on therapists' experiential avoidance, cognitive fusion and delivery of exposure.

Our study revealed that most CBT therapists chose to use exposure-based therapies with the vignette client presenting with OCD, however the number of sessions therapists allocated to an exposure technique could be considered low. Additionally, the majority of therapists also endorsed the use of unhelpful therapist safety behaviours during exposure

therapy and most therapists chose to use these behaviours with the vignette client. Suggesting that although the use of exposure-based therapies may be high within the CBT therapist population in the UK, exposure is likely often delivered in a suboptimal manner. Therapists' traits related to their ability to tolerate distress, such as experiential avoidance, cognitive fusion, empathy, and anxiety sensitivity, were all shown to be significantly correlated with both frequency of exposure use and therapist safety behaviour use. Suggesting therapists who may struggle to manage their own distress, are less likely to use exposure therapy and, if used, are more likely to rely on therapist safety behaviours. Empathy seemed to explain the highest percentage of the variance in both exposure use and therapist safety behaviour use. Higher empathy was found to be negatively related to therapists' use of exposure and positively related to their use of therapist safety behaviours. The following sections will explore the results from the study in relation to previous research.

To what Extent do CBT Therapists in the UK Decide to use Exposure Therapy and Therapist Safety Behaviours to Treat a Hypothetical Client Experiencing Symptoms of OCD?

Frequency of Exposure Therapy Use

Overall, we found that the majority of CBT therapists chose to use exposure therapy at least once with the vignette client (98%), with behaviour experiments being the most frequently used, followed by exposure response prevention. We expected this result to be similar to studies recently conducted in Australia due to CBT being identified as the leading therapy modality taught within both countries. Our results were comparable to previous survey research in Australia showing the majority of psychologists would choose to use exposure therapy with their clients (Kannis-Dymand et al., 2022; Moses et al., 2021; Rowe & Kangas, 2020). There is limited research specifically focusing on CBT therapists use of exposure therapy, however compared with Sars & Van Minnen (2015) who found 87% of their sample of Dutch CBT

therapists reported using exposure therapy frequently for clients with OCD, our results seem to show slightly more use of exposure therapy. When compared to recent research in the US, exposure therapy use in the UK seems to be higher, with only 56% of therapists in the US reporting exposure use for PTSD (Kline et al., 2021), and 50% of school psychologists reporting exposure use (Weiss, 2021). However, previous research suggests therapists are less likely to use exposure for children. The only previous survey focusing on exposure use in the UK, showed in session exposure for children with OCD was only endorsed by 69% of their sample of psychologists, psychiatrist and nurses (Keleher et al., 2020). Additionally, a study in the Netherlands found only 50% of their participants used exposure for children with anxiety (De Jong et al., 2020).

Although nearly all our participants chose to use exposure therapy, fewer than 50% allocated at least half of their twenty therapy sessions to an exposure intervention, which may suggest that although many CBT therapists in the UK would choose to use exposure therapy, they may not be following evidence-based guidelines, protocols and research that place importance on frequent clinician directed exposure (Abramowitz, 2013; Abramowitz et al., 2019; Foa & Goldstein, 1978; Foa & Rothbaum, 1998; Foa et al., 2012; Jacobson et al., 2016). Although the frequency, duration and intensity of exposure delivery has been explored in previous research outside of the UK. Frequency often measured how regularly exposure was used by the therapist with different clients (Moses et al., 2021; Rowe & Kangas, 2020) and duration or intensity included how many minutes an exposure task lasted (Fjermestad et al., 2022; Kannis-Dymand et al., 2022) or whether the participant changed the task to make it more intense in the face of client distress (Farrell et al., 2013). However, Rowe & Kangas (2020) did report a similar result, in that therapists on average reported spending fewer than half of their therapy time on exposure (42%). In terms of our results, the average amount of sessions allocated to exposure was eight out of twenty, therefore clinicians were using around 40% of

their therapy time on exposure. Suggesting many therapists may not be providing a large enough 'dose' of exposure therapy to their clients. Allocating half the sessions, or 50% of therapy time to exposure could also be considered low compared with Foa et al's (2012) exposure response prevention protocol for OCD which would suggest 19 out of 20 sessions. However, as discussed in the method, it is likely that therapists' alignment with either a behavioural/habituation, cognitive or inhibitory learning model of exposure would impact how they combined treatment components and therefore how many sessions they allocated to exposure. Yet, even when considering therapists' theoretical orientation, the amount of exposure sessions participants allocated can still be considered low with the majority of participants only allocating either 4 or 5 sessions, and no participants allocating more than 15 of their 20 sessions to exposure. This result could suggest that in addition to the impact of using therapist safety behaviours, therapists may also be reducing the effectiveness of exposure-based therapies by not using exposure regularly enough with their clients.

Although we found that fewer than 50% of therapists would use exposure sufficiently (i.e., in at least half of the sessions) to treat a client experiencing symptoms of OCD, that frequency might be even lower depending on the client's presentation. We could expect that clients with OCD focusing on repugnant obsessions would receive even less exposure, with previous research showing therapists to be unwilling to use any exposure with clients who have repugnant obsessions e.g., intrusions related to harm or sex (Gagné et al., 2021; Moritz et al., 2019; Schneider et al., 2020). Additionally, the therapy case vignette did not contain any symptoms or information that could be considered to contraindicate exposure use. Therefore, as the clients' co-morbidity, symptom severity, age, gender and motivation have all been shown to reduce therapists use of exposure (Chen et al., 2022; Hernandez & Waller, 2022; Meyer et al., 2014; Wolf & Goldfried, 2014), it is again likely that a therapy case vignette depicting a client with these characteristics would result in fewer

therapists choosing to use exposure therapy. As clients within clinical practice often present with co-morbidity and severe symptoms therapists may also use exposure less in clinical practice than our results would suggest.

However, it is also important to consider the potential limitations or criticisms of the benchmark being used to qualify as good practice. Although it can be argued that exposure therapy translates better from research to clinical practice than other therapies, due to its more varied evidence base showing its effectiveness with different symptoms and client groups including those with comorbidity (Meyer et al., 2014; Schneider et al., 2020). Randomised control trial results showing the benefits of exposure-based therapies have generally been accused of not translating to clinical practice due to the removal of clients with more severe or comorbid conditions from the studies. This lack of transferability is an ongoing criticism of evidence-based practice within mental health (Jacobson & Christensen, 1996). However, research aiming to explore whether the effectiveness of CBT clinical trials does translate to clinical practice has often shown that they have similar results (Stewart & Chambless, 2009). Others have criticised the way NICE guidelines themselves are developed, for example focusing on randomised control trial evidence over service user views, and argue that most psychotherapies have no significant differences in outcomes i.e., the dodo bird verdict (Bentall, 2009; Guy et al., 2012; Pilgrim et al., 2009).

Quality of Exposure Therapy Delivery

In addition to infrequent exposure sessions, we found therapist safety behaviour use to be high (79%), with the majority of therapists reporting beliefs that therapist safety behaviours are at least a little necessary for treatment (90%). The study focused on two therapist safety behaviours with the therapy case vignette, use of arousal reduction strategies and client-directed exposure. Just over half our participants choose to allocate a session to

relaxation/breathing/grounding exercises, and 68% of therapists chose to allocate a session to planning client directed exposure. Previous research has found arousal reduction strategies to be used frequently, Sars & Van Minnen (2015) found 16.7% to 44.5% depending on the anxiety disorder, and Kannis-Dymand et al (2022) found 53% to 62% depending on the strategy. Our results would seem to be comparable with the higher end of these ranges. Rowe & Kangas' (2020) study found arousal reduction strategies and client directed exposure were used more often than in session exposure. Although our participants used arousal reduction strategies and client directed exposure, use of in session exposure was more frequent, this difference from Rowe & Kangas' (2020) could suggest that CBT therapists are slightly less reliant on therapist safety behaviours than other clinicians such as psychologists may be.

Although not specifically classed as a therapist safety behaviour, we found 32% of participants chose to use cognitive restructuring alongside exposure therapy. This percentage was also lower than previous research such as Jacobson et al (2016) who reported 82% using cognitive restricting alongside exposure. The slightly lower levels of cognitive restructuring we found compared to previous research could also be due to differences in methodology such as the vignette being a zero-sum task. This means the more sessions a participant allocated to exposure, the fewer they could allocate to a therapist safety behaviour or cognitive restructuring. Previous survey research not using vignettes measured these areas by directly asking participants how often they would use these strategies in their clinical practice often using a Likert scale. Although this could be a helpful way to measure therapist delivery of exposure. Previous research has suggested that therapists often overestimate their use of exposure compared to what they would have done in clinical practice (Böhm et al., 2008; Jacoby et al., 2019). A vignette therefore was thought to be a more accurate way of measuring exposure and therapist safety behaviours, especially as social desirability was a concern (Bajo et al., 2021; Vargas et al., 2004).

Is Exposure Therapy use Related to Therapist Safety Behaviour use?

We found that exposure use, and therapist safety behaviour use were related and that clinicians who used exposure more, used therapist safety behaviours less. Potentially indicating that therapists who are more confident with exposure techniques, rely less on therapist safety behaviours. Although previous research has found high use of exposure alongside frequent use of therapist safety behaviours, the link between them has not often been explored (Jacobson et al., 2016; Moritz et al., 2019; Moses et al., 2021; Sars & Van Minnen, 2015). Rowe & Kangas (2020) however found no relationship between the frequency of clinicians' use of therapist safety behaviours such as arousal reduction strategies and exposure use, they did however find that clinicians who spent more time on cognitive restructuring spent less time on exposure. Although cognitive restructuring has not been included as a therapist safety behaviour, it has been labelled as a concerning modification of the exposure protocol used in clinical practice (Hipol & Deacon, 2013). Using cognitive restructuring more and exposure less may also indicate clinicians' reluctance or avoidance of in session exposure therapy tasks, similarly to the therapist safety behaviour of using predominantly client-directed exposure. The negative relationship we found between the use of therapist safety behaviours and exposure may be different from Rowe & Kangas' (2020) results again due to the vignette being a zero-sum task, which may have re-enforced a negative relationship between the variables. However, we also found that the Exposure Implementation Beliefs Scale, showed that therapist beliefs that therapist safety behaviours are necessary for treatment, was also significantly negatively correlated with exposure use, which provides further evidence that clinicians who use exposure more, are less likely to use therapist safety behaviours. This relationship may reflect participants confidence and experience delivering exposure-based interventions. It may also suggest that therapists who feel more able to tolerate distress, are more likely to use exposure and less likely to use therapist safety behaviours to try to manage their distress.

Beyond Training and Beliefs about Exposure, can Therapists' Traits Related to their Ability to Tolerate Distress, Predict whether and how well they use Exposure?

Before assessing how therapist traits related to their ability to tolerate distress predicted exposure and therapist safety behaviour use. We first explored the links between therapists' knowledge, experience, beliefs and their use and delivery of exposure-based therapies.

Do Experience and Training Predict Exposure Use?

All participants held post-graduate qualifications in CBT, so we were unable to compare exposure use to participants who held fewer qualifications. However, the large number of therapists that chose to use exposure therapy when compared to previous research with different populations, suggests that post-graduate qualifications in CBT likely increases exposure use. Indeed, recent research has showed post-graduate qualifications increase the likelihood a clinician will use exposure (Chen et al., 2022; Ross et al., 2022; Weiss, 2021).

Despite there being a range of experience in the sample (0-22 years), we found no significant correlation between years of experience as a CBT therapist and use of exposure or therapist safety behaviours. We did however find a small significant positive correlation between years' experience and negative beliefs about exposure. Suggesting therapists with more experience, and more years since they completed their CBT training, hold more negative beliefs about exposure than those with less experience and more recent training. This result has been found in previous research (Kannis-Dymand et al., 2022) and may be reflective of the older CBT training courses' lack of focus on exposure-based therapies and addressing the misconceptions trainees may have about exposure. Alternatively, Kannis-Dymand et al (2022) suggest professional isolation, lack of feedback from peers, reduced supervision and increases in risk sensitivity, as possible explanations for why therapists' negative beliefs about exposure may increase over time. However, as our results and previous research has found years'

experience as a therapist had no correlation with exposure use (Hernandez & Waller, 2022; Kannis-Dymand et al., 2022; Sayer et al., 2022). It may therefore be more likely that therapists develop their beliefs about using exposure during their initial training/education and that these remain stable throughout their carer, rather than increasing over time. This idea is supported by previous research suggesting trainee psychologists attitudes towards exposure therapy were largely influenced by their supervisors attitudes (La Prade, 2020). It has consequently been argued that enhanced exposure training research, did not generally increase exposure use as the participants were often already established therapists. Exposure training and supervision early in a therapists career therefore may be more beneficial than trying to change established therapists' negative beliefs about exposure (McCarty et al., 2022; Pittig & Hoyer, 2017). However, enhanced training research has often found therapists negative beliefs about exposure do reduce after training, but that this reduction does not significantly increase their use of exposure in clinical practice (systematic literature review, appendix A). Suggesting negative beliefs and attitudes towards exposure are not the only barriers to using exposure-based therapies.

Out of date, inadequate training or training that does not address unhelpful beliefs, may also have impacted therapists' safety behaviour use. Our results showed that the majority of therapists (79%) chose to use therapist safety behaviours with the vignette client, most therapist (90%) also reported beliefs that therapist safety behaviours were necessary for treatment. It is therefore likely that most therapists would choose to use therapist safety behaviours regularly in their clinical practice. As a high percentage of therapist feel that these behaviours are necessary for treatment, it may suggest problems with their training and therefore not being aware that arousal reduction and breathing techniques reduce the effectiveness of exposure (Benito et al., 2020; Craske et al., 2000; Deacon, Lickel, et al., 2013; Schmidt et al., 2000b). This could be supported by the therapists' beliefs, where 84% of participants believed teaching

strategies such as breathing techniques were necessary to ensure the client completes the exposure task and 76% believed that they were necessary to ensure the client is able to tolerate their anxiety. To summarise, clinicians' beliefs about using exposure and therapist safety behaviours seem to develop during their initial training and appear to be maintained despite further research, training and first-hand experience showing that they may not be accurate (Deacon, Lickel, et al., 2013; Schneider et al., 2020).

Negative Beliefs about Exposure

On average we found that CBT therapists largely held positive views about exposure therapy, with most participants disagreeing with the negative statements on the questionnaire (e.g., exposure therapy often causes client's anxiety symptoms to worsen). However, the majority of CBT therapists also reported believing that therapist safety behaviours were necessary for exposure treatment. These results are consistent with our findings that most participants chose to use exposure therapy and therapist safety behaviours with the vignette case study client. Unsurprisingly, we found that therapists who held more negative beliefs about exposure used exposure less, and that therapists who held stronger beliefs that therapist safety were necessary used therapist safety behaviours more. Interestingly, negative beliefs about exposure also resulted in more use of therapist safety behaviours and beliefs that therapist safety behaviours were necessary resulted in less use of exposure. In fact, holding beliefs that therapist safety behaviours are necessary for treatment negatively predicted exposure use, which suggests that beliefs in these two areas are linked. For example, a therapist who believes exposure can be harmful to the client (negative belief about exposure) is therefore likely to also believe that breathing techniques are necessary for the client to be able to tolerate exposure (belief that therapist safety behaviours are necessary).

These results are reflective of previous research showing that holding negative beliefs about exposure, such as exposure is unethical, reduces a clinician's use of exposure therapy (Deacon & Farrell, 2013; Keleher et al., 2020; Meyer et al., 2014; Meyer et al., 2020; Ruzek et al., 2017; Ruzek et al., 2016; Whiteside et al., 2016). However, unlike previous research, on average participants had a greater degree of positive beliefs about exposure therapy. For example, Pittig et al (2019) found 23%-52% of their participants either agreed or strongly agreed that exposure only addresses superficial symptoms, whereas only 17% of our participants agreed and 6% strongly agreed with this belief. Keleher's et al (2020) study in the UK also found that clinicians, predominantly psychologists, held more negative beliefs about exposure than in our sample. Reporting clinicians who used exposure more, averaged 41.48 on the Therapist Beliefs about Exposure Scale and those who used exposure less, averaged 54.89. Whereas our sample averaged 23.97 on the same measure, where lower scores indicate fewer negative beliefs about exposure (theoretical min-max score 0-84). Rowe & Kangas (2020) also reported higher average scores 45.79 to 57.11 depending on participants training level. Differences in participants education type and level could therefore account for the higher prevalence of negative beliefs reported in previous research. Participants in previous studies often included clinicians with diverse therapy modality training at various levels, whereas our participants were all trained as CBT therapists, this could suggest CBT training in the UK is more successful at helping therapists to challenge any negative preconceptions they may have had about exposure-based therapies prior to attending the course. It may also help therapists to develop more positive beliefs about exposure.

Similarly, our results showing therapists who hold more negative beliefs about exposure, tend to use more therapist safety behaviours is also consistent with previous research (Farrell et al., 2013; Keleher et al., 2020; Meyer et al., 2014; Meyer et al., 2020; Pittig et al., 2019; Rowe & Kangas, 2020; Whiteside et al., 2016). For example, beliefs that exposure is

intolerable may lead clinicians to reduce the intensity of the exposure task or end it prematurely. This result may also link in with previous research suggesting holding negative beliefs about exposure leads to poorer treatment outcomes (Deacon, Lickel, et al., 2013; Farrell et al., 2013; Kannis-Dymand et al., 2022) as using therapist safety behaviours during exposure has been found to result in a less effective therapy e.g., Benito et al (2020).

The majority of participants (90%) reported believing that therapist safety behaviours are at least a little necessary for treatment on the Exposure Implementation Beliefs Scale, and these beliefs significantly correlated with therapist safety behaviour use. This is reflective of previous research showing these beliefs predict therapist safety behaviour use (Meyer et al., 2020). Similarly to previous research, we also found that certain beliefs were more frequently endorsed than others (Meyer et al., 2020). Specifically, that therapist safety behaviours are necessary; to ensure the client can tolerate their anxiety, and to ensure the client will conduct the exposure task, were the most frequently endorsed. These results could again be reflective of out-of-date training for example, believing that breathing retraining is part of treatment for some anxiety disorders e.g., panic disorder. However, it may be more reflective of clinicians' anxiety and worries around the impact of exposure therapy on the client. Indeed, we found that, both the belief measures significantly correlated with clinicians' anxiety sensitivity, suggesting there is a link between clinicians' individual differences in distress tolerance and their beliefs about the usefulness, tolerability, and effectiveness of exposure interventions. This may suggest clinicians who are less able to tolerate their own distress are more likely to believe that exposure is ineffective, unethical, intolerable, and harmful to the client and therapist.

How Therapists Individual Differences in Managing Distress relate to Exposure and Therapist Safety Behaviour Use

We explored the link between therapists' anxiety sensitivity, empathy, experiential avoidance and cognitive fusion and their decision to use exposure therapy, with the expectation that increases in these areas would lead therapists to find it harder to manage their own distress, leading to avoidance of exposure and use of therapist safety behaviours to reduce this distress. We found that anxiety sensitivity, empathy, experiential avoidance and cognitive fusion all had a significant negative correlation with therapists' use of exposure therapy and a significant positive correlation with their use of therapist safety behaviours. Signifying that therapists' decisions to use exposure-based therapies and the related therapist safety behaviours, are linked to their individual differences in managing distress. This links in with previous research that suggested secondary distress in the therapist is evoked by the client's distress during exposure, and that this may result in reluctance to deliver exposure (Castro & Marx, 2007; Waller, 2009). Empathy seemed to explain the highest percentage of the variance in both exposure use and therapist safety behaviour use. Higher empathy was found to be negatively related to therapists' use of exposure and positively related to their use of therapist safety behaviours, suggesting it to be an influential factor in this decision.

Empathy

Empathy is generally considered to be a positive trait for a therapist. It has been suggested as instrumental in developing a therapeutic alliance with the client, helping the therapist to understand the client's difficulties and communicate in an appropriate way (Gerace, 2018). The client's perception of their therapists as empathic has also been shown as an important mechanism of change in psychotherapy for depression (Watson et al., 2014). However, others

have suggested that, in general, action being guided by empathy is unhelpful as the emotion motivates us to make things better in the short-term ignoring the long-term consequences (Bloom, 2017). Despite empathy often being seen as an important trait for a therapist to have, we found that higher empathy levels resulted in less use of exposure therapy, and when used, more use of therapist safety behaviours. This is reflective of some previous research showing clinicians with higher empathy levels delivered exposure in a more cautious manner (Farrell et al., 2013). However, other research suggests that clinicians' higher empathy levels predicted more exposure use (Hernandez & Waller, 2022), although this was only found with highly emotional clients, whereas clinicians with more empathy were more likely to use talking techniques with clients who had low emotional arousal. This difference between our results therefore may suggest that most clinicians interpreted our therapy case vignette client as having low emotional arousal and therefore similarly to Hernandez & Waller's (2022) study, they were less likely to use exposure. Another possible reason for empathy being shown to be related to both increased and decreased exposure use in different studies, is whether empathy causes compassion or distress in the therapist. Research has suggested empathetic arousal that leads to compassion results in action (e.g., using exposure more), whereas when empathy leads to distress it results in avoidance (e.g., using exposure less) (Batson, 2014; Eisenberg & Fabes, 1990; Wong, 2020). Additionally, meta-analyses describe strong relationships between self-compassion and reduced distress (MacBeth & Gumley, 2012), further indicating compassion as an important emotion related to distress. The differences in exposure use between the studies therefore may be due to our participants expecting to experience empathic distress, whereas Hernandez & Waller's (2022) participants may have been expecting to experience empathic compassion.

Our results show therapists' empathy was also a significant positive predictor of therapist safety behaviour use, with beliefs that therapist safety behaviours are necessary for

treatment also positively correlating with therapists' empathy levels. Similarly, Farrell et al (2013) also found that empathy was a significant predictor of cautious exposure delivery. These results could suggest clinicians may be using therapist safety behaviours to manage their own distress when delivering exposure. Further evidence can be seen in the EIBS results where 47% of clinicians reported believing some or all of the therapist safety behaviours listed were at least "a little necessary" in order to decrease their own distress.

Our results showing therapists with higher empathy use exposure less and therapist safety behaviours more, combined with research proposing empathetic distress leads to avoidance (Eisenberg et al., 1994; Wong, 2020), could suggest our participants were expecting to experience empathetic distress when considering their treatment plan for the vignette client. Burnout and situationally induced overarousal have been suggested as increasing the likelihood of empathy leading to distress and therefore avoidance (Eisenberg et al., 1994; Wong, 2020). Wong (2020) criticised previous research on burnout that blames the individual and recommends they tackle burnout through stress management, resilience workshops and mindfulness. Stating that structural and organisational factors are often the areas that require attention. Many CBT therapists within the UK work in the NHS, therefore it is likely that many of our participants were employed in NHS roles when completing the survey. Research shows CBT therapists in NHS IAPT services experience higher levels of burnout than other health professionals due to their high work demands and lack of autonomy (Steel et al., 2015). Owen et al (2021) described trainee CBT therapists in particular having even higher levels of burnout than qualified therapists due to the unmanageably high work demands of a dual role. Steel et al (2015) also found that in session feelings of anxiety were a predictor of burnout, further linking the idea that therapists' individual differences in managing distress are likely linked to their environment and impacted by burnout. Additionally, participants completed the survey in early 2022, two years into the Covid-19 pandemic which was shown to hugely increase levels

of stress and burnout in NHS staff (Gemine et al., 2021; Liberati et al., 2021). With, many CBT therapists working in NHS IAPT services also offering therapy to frontline NHS staff during the initial stages of the pandemic (Cole et al., 2020). In summary, the high workload of CBT therapists in the NHS may lead to overarousal, burnout and a change from compassionate empathy to feeling empathetic distress, which negatively impacts their use and delivery of exposure-based therapies. Indeed, our results showed that participants who reported higher anxiety/OCD caseloads allotted fewer sessions to exposure-based therapies and predominantly used client directed exposure. Suggesting a link between high caseloads, burnout and empathetic distress, resulting in self-focused behaviours such as avoidance of using exposure techniques and reliance on therapist safety behaviours to relieve their own distress.

Anxiety Sensitivity

Our results showed anxiety sensitivity had a significant negative correlation with exposure use. We also found that anxiety sensitivity, when entered into the regression alone, predicted both exposure use and therapist safety behaviour use. However, when including other variables, it was not a significant predictor of exposure use, likely due to the anxiety sensitivity, beliefs and the dual psychological process limiting flexibility variables sharing a large amount of variance.

Previous research has found clinicians' anxiety sensitivity to predict exposure use, with Meyer et al (2014) reporting clinicians anxiety sensitivity explained 13% of the variance in clinicians' likelihood to exclude anxious clients from exposure therapy. We found anxiety sensitivity explained 9% of the variance in exposure use, when entered into the regression alone. One reason for our results being slightly lower than Meyer's et al (2014) could be that their study explored therapists' decisions specifically with anxious clients. Although our OCD therapy case vignette described the client being worried, it did not describe them as anxious. Therefore, if the vignette had depicted a very anxious client our results may have been closer

to Meyer's et al (2014). Indeed, Hernandez & Waller's (2022) study also suggests clinicians' treatment decisions are impacted by the clients level of emotional arousal. On the other hand, Reid et al (2018) found that clinician's anxiety sensitivity was not a significant predictor of exposure use with anxious children. De Jong et al (2020) also found a similar result when measuring clinicians' anxiety using the Depression Anxiety and Stress Scale. These differing results could therefore suggest that clinicians' anxiety sensitivity mainly impacts their decisions to use exposure therapy for certain clients or client presentations, such as with anxious adult clients. As previously mentioned, there is a clear interaction between clinicians' decisions to use exposure therapy and their clients' co-morbidity, symptom severity, age, gender and motivation level (Chen et al., 2022; Hernandez & Waller, 2022; Meyer et al., 2014; Wolf & Goldfried, 2014). Additionally, clinicians appear less likely to offer exposure therapy to children (De Jong et al., 2020; Keleher et al., 2020; Weiss, 2021).

We also found that anxiety sensitivity had a significant positive correlation with therapist safety behaviour use, and that when entered alone, the regression analysis showed anxiety sensitivity positively predicted use of therapist safety behaviours and explained 12% of the variance. However, again when including the other variables in the regression, anxiety sensitivity was not a predictor of therapist safety behaviour use, likely due to sharing a large amount of variance with the dual psychological process limiting flexibility variable (experiential avoidance and cognitive fusion). Turner et al (2014) found that clinicians' prospective anxiety (the inability to tolerate unpredictable events) was the most significantly linked to reluctance to use exposure. As experiential avoidance is described as a difficulty tolerating internal distress (Hayes et al., 2006), it makes sense that the anxiety, intolerance of uncertainty and experiential avoidance constructs would overlap. Some recent research has suggested experiential avoidance may in-fact mediate the relationship between intolerance of uncertainty and anxiety (Eisenhart-Rothe, 2022).

Other previous research has also noted the link between anxiety and use of therapist safety behaviours. Levita et al (2016) found that clinicians who feel more anxiety during exposure sessions, measured through skin conductance and heart rate variability, are less likely to deliver exposure well. Harned et al (2013) also found that anxiety sensitivity did not predict exposure use but did predict clinical proficiency in exposure delivery. Potentially, suggesting that clinicians' anxiety levels are more likely to impact their delivery of exposure rather than how often they use it. Kaye (2018) also found that intolerance of uncertainty, a dispositional characteristic that usually results in anxiety (Buhr & Dugas, 2009), was consistently associated with more cautious exposure delivery.

In summary, our results suggest there is a link between clinicians' anxiety sensitivity and their use and delivery of exposure. However, due to the complicated relationship between clinicians' anxiety sensitivity, experiential avoidance, cognitive fusion, and beliefs about exposure, as well as the impact of the clients' presentation on these therapist factors, more research is needed to fully identify the impact of clinicians' anxiety sensitivity on their use and delivery of exposure.

Psychological Inflexibility Model

Our results seem to support the psychological inflexibility model which proposes that cognitive fusion along with experiential avoidance causes people to change their behaviour in order to avoid negative internal experiences (Hayes et al., 2006). Experiential avoidance describes an unwillingness to experience unpleasant internal states, leading to avoidance or altering internal experiences that are labelled as 'negative' such as difficult emotions and distressing thoughts. Cognitive fusion describes when we are so tightly stuck to our thoughts that we struggle to see them as just thoughts, we start to see them as true and base our action or inaction on them. The psychological inflexibility model suggests that cognitive fusion along with experiential

avoidance limit our behaviour through attempts to avoid negative internal experiences (Hayes et al., 2006). We combined results from an experiential avoidance and a cognitive fusion measure to create the dual psychological process limiting flexibility variable. Our results showed a significant negative correlation between the dual psychological process limiting flexibility variable and exposure use, therefore participants who showed higher levels of experiential avoidance and cognitive fusion allotted fewer sessions to an exposure task than those with lower experiential avoidance and cognitive fusion. Similarly, we found a significant positive correlation between the dual psychological process limiting flexibility variable and therapist safety behaviour use. Suggesting therapists who were less willing to experience unpleasant internal states were more likely to rely on therapist safety behaviours to manage their distress. In terms of the multiple regression, multicollinearity made the results uninterpretable, however when entered individually the regressions showed the dual psychological process limiting flexibility variable to predict both exposure use and therapist safety behaviour use, explaining 10% and 12% of the variance respectively.

Previous research exploring the link between experiential avoidance, cognitive fusion and exposure use is very limited. Scherr et al (2015) measured clinicians' experiential avoidance, and similarly to our results, found participants with higher experiential avoidance allotted less time to exposure whereas participants who scored higher in distress endurance tended to allot more time to exposure. Our results are also reflective of research suggesting clinicians with higher experiential avoidance use more therapist safety behaviours (Ferracin, 2022). Although not measuring cognitive fusion specifically, our results would also seem to be similar to a study measuring clinicians thought action fusion and use of ERP. Thought action fusion is a concept that describes dysfunctional beliefs that thoughts can initiate actions or events, and/or that having a thought about something has the same moral standing as doing the action. Jelinek et al (2022) found clinicians scoring higher in thought action fusion were less

likely to use exposure, felt increased distress and used more strategies such as neutralising (Jelinek et al., 2022). Although cognitive fusion and thought action fusion are different concepts, they do overlap in that individuals are struggling to see their thoughts as just thoughts, therefore leading to stronger emotions and unhelpful behaviour changes.

Increasing therapists' psychological flexibility, specifically experiential avoidance and cognitive fusion, therefore may help clinicians better tolerate and manage the difficult internal experiences that come up during exposure sessions, such as anxiety and empathetic distress but also disgust, worries and other internal experiences that could be labelled as negative. However, it is important to recognise that increasing psychological flexibility may only be one part of the solution, as structural and organisational factors relating to burnout are likely also contributing to clinicians feeling less able to tolerate their own and their clients' distress.

Does Exposure use and Therapist Safety Behaviour use have the same Predictors?

As previously discussed, we found that clinicians' negative beliefs about exposure and their beliefs that therapist safety behaviours are necessary were significantly positively correlated. This makes logical sense as for example, a therapist who believes exposure is intolerable (negative belief about exposure) is more likely to also believe that arousal reduction strategies are necessary for the client to be able to tolerate exposure (belief that therapist safety behaviours are necessary). Our results suggest that exposure use, and therapist safety behaviour use largely have the same predictors. Therapists' individual differences in managing distress, i.e., empathy, anxiety sensitivity and intolerance of uncertainty were all significantly correlated with both use of exposure and therapist safety behaviours, albeit in a different direction. These links between exposure and therapist safety behaviour use may suggest that avoiding using exposure and, if unavoidable, using therapist safety behaviours may serve the same function for therapists i.e., avoiding or reducing their distress.

Age was the only demographic shown to be a significant predictor of exposure use but not therapist safety behaviour use, with the 30-39 age group allocating significantly more sessions to an exposure task than the older age groups. This may be linked to the result that therapists with more experience, and more years since they completed their CBT training, held more negative beliefs about exposure than those with less experience/more recent training. As those with more negative beliefs, were shown to use exposure less. However, we did not find a significant correlation between years' experience as a CBT therapist and exposure use. Percentage of anxiety/OCD caseload also significantly negatively correlated with exposure use but not therapist safety behaviour use. As previously discussed, this link may suggest that therapists avoid using exposure therapy due to emotional burnout from high caseloads, but also potentially due to practical limitations such as not having enough time to plan exposure tasks. Previous surveys have found therapists' endorsing practical limitations, such as not having time, as a reason why they do not use exposure (Keleher et al., 2020; Pittig et al., 2019). Therefore, the decision to use exposure may have more contributing factors than the decision to use therapist safety behaviours.

Would Therapists Trained in ACT be more able to Tolerate Distress due to being more Psychologically Flexible and how did this link to their use of Exposure and Therapist Safety Behaviours?

As mentioned, our results seem to support the psychological inflexibility model used within Acceptance and Commitment Therapy. The model seems to explain how therapists' beliefs, anxiety and empathy may impact their use of exposure. For example, cognitive fusion is likely to increase the impact of therapists' negative beliefs making them more likely to lead to distress and more resistant to change in the face of contradictory experiences. Experiential avoidance would then lead to behavioural changes to avoid or reduce this distress. As previous research has suggested, clinicians trained in ACT are more able to overcome difficult experiences that

arise in therapy, as through training they have become more psychologically flexible (Hayes, Bissett, et al., 2004). We aimed to compare clinicians trained in ACT (in addition to CBT) to those only trained in CBT. We expected participants trained in ACT to be more psychologically flexible, and due to this feel more able to tolerate their own and the clients' distress, leading to more use of exposure therapy and less reliance on therapist safety behaviours. The results confirmed this prediction with participants trained in ACT showing significantly lower levels of experiential avoidance and cognitive fusion than those only trained in CBT. Participants trained in ACT also allotted more sessions to an exposure intervention and fewer to a therapist safety behaviour than those only trained in CBT. Although not predicted, the ACT trained participants also reported fewer negative beliefs about exposure therapy, fewer beliefs that therapist safety behaviours were necessary, lower empathy and lower anxiety sensitivity. However, we do not know if these differences were significant as, due to the increased risk of false-positive results when completing many comparisons, it was not tested. These results suggest that therapists trained in ACT are more psychologically flexible and therefore may be more able to tolerate their own distress. Increased psychological flexibility may also have allowed clinicians to move away from, and challenge unhelpful myths or beliefs about exposure, that other therapists are still endorsing. Moving away from these unhelpful beliefs likely allows clinicians to feel less distressed during exposure therapy and allows them to deliver exposure closer to the recommended guidelines. Indeed, Farrell et al (2013) found that participants with more negative beliefs about exposure did experience more anxiety when delivering an exposure intervention than those with more positive beliefs about the therapy.

Interestingly, the dual psychological process limiting flexibility variable fully mediated the relationship between both ACT training and exposure use and ACT training and therapist safety behaviour use. Suggesting ACT training helped to improve therapists use and delivery of exposure-based therapies through decreasing their experiential avoidance and cognitive

fusion, which may be an important finding for developing further training and supervision strategies to increase exposure use in clinical practice. Previous research has focused on enhanced training strategies such as experiential methods and on-going case consultation, although these training methods are important and have been shown to result in improved quality of exposure delivery i.e., less reliance on therapist safety behaviours. This enhanced training did not routinely result in more exposure use in clinical practice (systematic literature review appendix A). Training specifically in ACT or training aimed at increasing clinicians' psychological flexibility therefore may be more likely to increase exposure use in clinical practice as well as reduce reliance on therapist safety behaviours than other forms of training.

There are of course other reasons why ACT training may improve clinicians use of exposure therapy. For example, ACT focuses on identifying and living in line with your values, therefore ACT clinicians may be more attuned to their values and how this links to their role as a therapist and their use of exposure tasks, which may be perceived as increasing the client's emotional distress. In contrast, a trainee therapists who enters the profession to provide comfort and reassurance, may be more hesitant to deliver exposure as it could seem to contradict their values and assumptions of what is therapeutic (Michael et al., 2021). Additionally, within ACT, moving towards our values often entails learning to tolerate distress. Therefore, therapists trained in ACT may have more of a focus on exposure being a method of learning distress tolerance, so that the client can do activities or take steps towards their values, this may mean that they do not expect a client's distress to reduce during exposure tasks and would therefore not feel concerned if this did not happen. In contrast, a CBT therapist who has been taught or endorses the idea of habituation, may expect a client's anxiety to reduce during an exposure task, if this does not happen this may lead the clinician to be concerned and stop the task or lose faith in the technique. Confidence in the techniques a clinician is using has been suggested to improve therapy outcomes, as previous research has found that clinicians who lack

confidence can inadvertently communicate to clients that the strategy or task is unsafe, leading the client to avoid tasks which will help them to recover (Blakey & Abramowitz, 2016; Jacoby & Abramowitz, 2016). Additionally, research has found that how the exposure task is theoretically explained or understood by the therapist (e.g., habituation, cognitive) effects how likely therapists are to use exposure (Levinson et al., 2020). Rowe and Kangas (2020) found that therapists who strongly align with either the cognitive or inhibitory learning conceptualisation of exposure, used exposure more than those strongly aligned with the habituation conceptualisation, or those who were less clearly aligned to any model. It could therefore be that clinicians trained in ACT are more strongly aligned with their conceptualisation of exposure, therefore using the therapy more and delivering it in a confident manner.

Strengths and Limitations

Some of the limitations of the study have been discussed above, such as the impact of the vignette being a zero-sum task and the potential challenges the strong relationship between all the variables posed to the multiple regression analysis.

In terms of the strengths and limitations of the survey study design, we chose to use a ten minute anonymous survey to maximise the number of respondents, increase representativeness, and to reduce the impact of social desirability bias (Queirós et al., 2017; Sammut et al., 2021), but this choice also yielded some limitations, for example it is unclear whether the behaviour reported about a hypothetical patient would actually transpose into real life clinical practice. It is therefore possible that participants overestimated their use of exposure compared to what they would have done in clinical practice, this gap between intent to use exposure and actual use has been found in previous research (Böhm et al., 2008; Jacoby et al., 2019). The process of validating the questionnaire would entail comparing the outcome

to participants real-life behaviour and decisions in clinical practice. Although this was out of the scope of this project, we were able to compare therapists' decisions regarding using therapist safety behaviours with the client vignette to a validated questionnaire measuring therapists' beliefs towards using therapist safety behaviours. Clinician's beliefs on the Exposure Implementation Beliefs Scale (EIBS) have been shown to significantly predict therapist safety behaviour use (Meyer et al., 2020) and our results also showed that clinicians who scored highly on the EIBS also allocated more sessions to a therapist safety behaviour with the client vignette, suggesting that this decision is likely to be reflective of their real-life clinical practice. Additionally, in terms of therapists use of exposure with the client vignette our results were comparable to previous survey research in Australia (Kannis-Dymand et al., 2022; Moses et al., 2021; Rowe & Kangas, 2020) and The Netherlands (Sars & Van Minnen, 2015) suggesting that although the vignette was not validated, it was likely reflective of clinicians use of exposure in clinical practice.

Only using one vignette also meant that we were not able to assess the interaction between the client's presentation and the therapist's treatment decisions, which has been found in previous research (Farrell et al., 2013; Hernandez & Waller, 2022; Meyer et al., 2014). Additionally, the vignette method, combined with using a shorter survey meant that we did not measure participants' use of some therapist safety behaviours, such as reducing the intensity of the exposure task when the client becomes distressed, reassuring the client that they are safe or allowing the client to use their own safety behaviours. However, experimental research and/or using recorded therapy sessions, is likely a better methodology to measure these safety behaviours than a survey. Future experimental research could consist of recruiting therapists to treat real clients who are experiencing anxiety difficulties, measuring the therapists' decisions through video recording, and coding the behaviours seen, similarly to Benito et al (2020) study. Another methodology could be to recruit therapists to 'treat' actors who are asked to respond

in certain ways to the therapists behaviours, this may also help us to see more of the interaction between the client's presentation and the therapist's treatment decisions found in previous research (Farrell et al., 2013; Hernandez & Waller, 2022; Meyer et al., 2014). Additionally, it may be possible to research exposure use through obtaining clinical notes from a mental health service, however this would likely prove to be difficult as quality and detail of therapy notes varies greatly.

In terms of other biases associated with online surveys such as neutral responding and acquiescence bias (Dykema et al., 2022; Kuru & Pasek, 2016), they do not seem to have impacted the data, as there were differences in how clinicians answered questionnaires that could have been perceived as a negative trait for a therapist (e.g., anxiety) and those that could be perceived as a positive trait (e.g., empathy), this would suggest that clinicians were going through all four cognitive steps needed to answer a survey question to the best of their ability (Krosnick et al., 1996; Vannette & Krosnick, 2014). The observed differences between questionnaires that could be perceived as positive or negative traits for a therapist, could indicate social desirability bias, it would therefore have been helpful to include measures of social desirability bias and measures of attention. However, due to the length of the survey, that it was already anonymous and that participants were volunteering their time, it did not seem appropriate to further lengthen the survey to include these measures. Particularly as anonymous online surveys have shown the lowest levels of social desirability bias (Joinson, 1999).

Another limitation of the study design was the inability to measure cause and effect. For example, it was assumed that ACT training decreased participants experiential avoidance and cognitive fusion (and exposure use), however it could equally be true that participants who were already more psychologically flexible were drawn to attend ACT training. However, previous pre-post ACT training research has suggested that participants psychological

flexibility does increase following ACT training (Luoma & Vilardaga, 2013). Another approach to further explore the processes identified in this research, could be to provide a short training session aimed at reducing therapists' experiential avoidance and cognitive fusion, we could then measure their post-training exposure use, and compare this to pre-training. Additionally, it is also important to recognise that there is a possibility of third variables impacting clinicians chose to attend ACT training and their decision to use exposure therapy such as the therapist's attachment style (Rowe & Kangas, 2020), their personal experiences, or how strongly aligned they are with various conceptualisations of exposure (Whiteside et al., 2016), and their service policies or structure, could be impacting their distress tolerance and their use of exposure-based therapies.

It is also important to mentioned that there is a lack of agreement on the number of sessions clinicians should be allocating to exposure when treating OCD. NICE guidelines recommend low intensity OCD treatment to be ten hours of therapy including ERP and more intensive CBT to be more than ten hours of therapy including ERP (NICE, 2005a). Foa's et al (2012) exposure response prevention protocol for OCD would suggest 19 out of 20 sessions be allocated to exposure tasks and within randomised control trials hours of ERP range from 9 to 40.5 hours (Ferrando & Selai, 2021). The lack of clear guidance or agreement around the number of exposure sessions therefore may also account for some of the variability in the number of sessions participants allocated to exposure with the therapy case vignette.

A further limitation of the survey and analysis was being unable to include demographic information in the regression analysis due to the low completion rate of these sections of the survey, the sample was reduced to 69 participants. Demographic items in the survey were optional due to research showing that that 35% of participants dropped out of surveys when required to answer personal questions compared to 9% when they could skip questions that felt too personal (Sischka et al., 2020). Additionally, it is important to consider

the ethical dilemma of collecting demographic items when these demographics are not central to the research question, as the harms that may arise disproportionately impact minoritised communities and can contribute to structural inequities (Call et al., 2022). Future research into the use of exposure-based therapies, in which collecting demographics is important to the research question, could benefit from a larger sample size. A larger overall sample would mean that demographic items in the survey could remain optional whilst also providing a big enough sample of participants who did complete these sections to include in analysis.

This research project was preregistered (Appendix G), with the mediation analysis being the only addition to the analysis after the preregistration in order to further explore whether increased psychological flexibility was the underlying process by which ACT training influences exposure and therapist safety behaviour use. Many researchers have introduced a range of open and transparent research practices such as preregistration to improve replicability (Chan et al., 2022). As it has been suggested that lack of replicability may be due to researchers changing their methodological and analytical decisions in order to find statistically significant effects and increase their chances of publishing (Ioannidis, 2005).

Future Research

As previous research has suggested there is a gap between intent to use exposure and actual use in clinical practice (Böhm et al., 2008; Jacoby et al., 2019), future research could benefit from using data from clinical practice to get a more accurate measure of clinicians' use of exposure therapy and therapist safety behaviours. For example, using recorded therapy sessions and/or clinicians case notes. Additionally, this would enable the interaction between various client presentations and therapists' treatment decisions to be further explored and may give further insight into how therapist characteristics, interact with client characteristics. Future training and supervision strategies could therefore be targeted towards the specific situations

in which avoidance of exposure-based therapy arises more. Research focusing on exposure use in clinical practice, would also be helpful to further explore therapists' emotions such as anxiety and other forms of distress during exposure therapy sessions, this could then be compared to non-exposure sessions and may provide further evidence for the theory that clinicians avoid exposure and use therapist safety behaviours to avoid feeling their own distress. The links between empathy and exposure use/therapist safety behaviour use could also be further researched, specifically focusing on what emotions and behaviours clinicians' empathy elicits for them.

Further research could also focus on the role of burnout and compassion fatigue as a factor impacting the use and delivery of exposure therapy. Other organisational factors such as therapists feeling that they do not have enough time for in session exposure, have previously been researched and may link in with the idea of high caseloads but would not necessarily be associated with burnout.

Further research into the role of Acceptance and Commitment Therapy training on the delivery of exposure could be beneficial to further identify which aspects of the training and therapy help clinicians to use exposure-based therapies more and use therapist safety behaviours less. Furthermore, whether clinicians' psychological flexibility does increase during ACT training.

Conclusions and Implications for Clinical Practice

To summarise, it feels important to recognise that our results suggest some positives in terms of exposure therapy use. CBT therapists trained in the UK seem to be more likely to use exposure-based therapies compared to other mental health professionals in the UK, such as psychologists (Keleher et al., 2020), and show similar levels of exposure use to countries with comparable training programmes such as Australia and the Netherlands (e.g. Rowe & Kangas,

2020; Sars & Van Minnen, 2015). Negative beliefs about exposure also seemed to be lower in the CBT therapist population than in other groups of mental health professionals in the UK (Keleher et al., 2020) and lower than therapists in other countries such as Germany, the US and Australia (Pittig et al., 2019; Ross et al., 2022; Rowe & Kangas, 2020).

However, despite holding fewer negative beliefs about exposure and many opting to use exposure with the vignette case study, clinicians allocated a low number of sessions to exposure, suggesting they may not be following evidence-based guidelines, protocols and research which place importance on frequent clinician directed exposure (Abramowitz, 2013; Abramowitz et al., 2019; Foa & Goldstein, 1978; Foa & Rothbaum, 1998; Foa et al., 2012; Jacobson et al., 2016). Another way clinicians may not be following evidence-based guidelines is by using unhelpful therapist safety behaviours which reduce the effectiveness of exposure-based therapies and can exacerbate clients' symptoms (Benito et al., 2020; Pompoli et al., 2018; Schmidt et al., 2000a; Wells et al., 2016). We found many therapists used therapist safety behaviours, and that these results were comparable to Australia (Kannis-Dymand et al., 2022; Rowe & Kangas, 2020) and slightly higher than the Netherlands (Sars & Van Minnen, 2015).

Overall, our results suggest that therapists' individual differences in managing distress, such as empathy, anxiety sensitivity, experiential avoidance and cognitive fusion, do seem to be connected to their use of both exposure therapy and therapist safety behaviours. Therefore, therapists may be avoiding using exposure-based therapies and, if used, relying on therapist safety behaviours in order to manage or reduce their own distress. This link seems to be strengthened by our results showing therapists trained in ACT in addition to CBT, used exposure more, therapist safety behaviours less and that this link was fully mediated by therapists' psychological flexibility.

These results combined suggest that CBT therapists' delivery of exposure therapy could be improved. Various training strategies may be beneficial, for example previous research

identified the importance of helping trainee CBT therapists to strongly align with a cognitive or inhibitory learning conceptualisation of exposure in order to increase exposure use (Rowe & Kangas, 2020). Along these lines our results suggest ACT may provide a further conceptualisation of exposure as a strategy to increase distress tolerance and live more in line with your values. Our results also suggest introducing ACT principles specifically aimed at increasing therapists' psychological flexibility, to training and supervision, would be beneficial to help clinicians to feel less distressed when delivering exposure therapy, but also to better tolerate negative internal experiences when they do arise. This increased ability to tolerate their own distress may therefore result in more use of exposure-based therapies and less use of unhelpful therapist safety behaviours to reduce their distress.

However, our results suggesting that clinicians with higher caseloads, higher anxiety and more empathy, use exposure less and therapist safety behaviours more, combined with research suggesting burnout results in empathetic distress (Eisenberg et al., 1994; Wong, 2020), especially when therapists are also experiencing anxiety in therapy sessions (Steel et al., 2015), indicates the need to address structural and organisational factors that are contributing to burnout, particularly as ACT training and other individual stress management strategies have been shown to improve feelings of distress, but have little impact on levels of burnout (Kriakous et al., 2021; Reeve et al., 2018; Towey-Swift et al., 2022). Suggestions of reducing clinicians' caseloads, and/or increasing frequency and duration of supervision to address the problems of burnout or compassion fatigue are often called unrealistic, especially in a pressured NHS system. However, research showing reducing work increases productivity, e.g., the four day work week (Harper et al., 2020), would seem particularly relevant for services such as IAPT which have been criticised for having a 'revolving door' of clients returning due to failed treatment (Cotton, 2019, 2020; Martin et al., 2022; Roscoe, 2019). Our results showed that CBT therapists who reported higher anxiety/OCD caseloads allotted fewer sessions to

exposure-based therapies and predominantly used client directed exposure. Research has shown frequent clinician directed exposure is needed for exposure-based therapies to be effective (Abramowitz, 2013; Abramowitz et al., 2019; Foa & Goldstein, 1978; Foa & Rothbaum, 1998; Jacobson et al., 2016). It would therefore seem reasonable to suggest that reducing therapist caseloads, along with increasing supervision and training to work on psychological flexibility, would be a beneficial combination to address both the organisational and therapist factors that may be impacting the use and effectiveness of exposure-based therapies.

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Appendices

Appendix A. Literature Review

Does Enhanced Training Modify Therapists' Negative Beliefs about Exposure-Based Therapies and lead to Increased use in Clinical Practice?

Abstract

Exposure-based therapies are underused despite being an extremely effective treatment. Various barriers have been suggested including therapists' holding negative beliefs about the treatment. This review examines whether enhanced training such as experiential methods, effectively modify negative beliefs as suggested by Dual Processing Theory and whether this belief change increases exposure-based therapies in clinical practice. A systematic search of four databases identified eight studies, the results of which were synthesised, and limitations discussed. Findings showed that although enhanced training, particularly case-conceptualisation, reduced therapists' negative beliefs, exposure therapy in clinical practice rarely increased. However, reduction in negative beliefs mediated improvements in clinicians' delivery of exposure-based therapies. These conclusions are limited due to methodological weaknesses, future research should consider these limitations together with other therapist factors and practical barriers to utilising exposure-based therapies.

1. Introduction

It is proposed that one in nine people have sufficient symptoms to be diagnosed with an anxiety disorder in any given year (Baxter, Scott, Vos, & Whiteford, 2013). Lifetime prevalence of anxiety disorders is estimated between 28.8 and 33.7% (Kessler, Petukhova, Sampson, Zaslavsky, & Wittchen, 2012). Anxiety disorders are more common in women, with 17% of women diagnosed during pregnancy (Nath et al., 2018). Anxiety disorders are also the most common mental health problem in adolescents (Merikangas et al., 2010) and a key maintaining factor for many eating disorders (Waller et al., 2007). Additionally, anxiety disorders are associated with functional impairment and long-term mental health problems (Kendall et al., 2010; McHugh & Barlow, 2010) .

Exposure-based therapies (ET) are an effective treatment for common anxiety disorders such as panic disorder (Gloster et al., 2011), obsessive-compulsive disorder (OCD) (Foa et al., 2005), social anxiety disorder, specific phobias, and post-traumatic stress disorder (Farrell, Deacon, Kemp, Dixon, & Sy, 2013). Additionally, ET is effective with complex cases such as comorbid anxiety and schizophrenia (Frueh et al., 2009; van den Berg & van der Gaag, 2012). The National Institute for Health and Care Excellence (NICE) (*Anxiety | Topic | NICE*, n.d.) and the American Psychiatric Association advocate ET as the first line treatment for anxiety disorders (Farrell, Deacon, Dixon, & Lickel, 2013).

Exposure-based therapies refer to treatments that support clients to confront feared situations. ET consist of various interventions tailored for use with specific anxiety disorders i.e., in-vivo exposure, imagined exposure, behaviour experiments, interoceptive exposure, exposure response prevention and prolonged exposure for PTSD. Different models suggest various mediators for change regarding ET. The behavioural model proposes that arousal is reduced through habituation to the feared situation resulting in less anxiety in future situations (Craske, Liao, Brown, & Vervliet, 2012). The cognitive model suggests ET disproves the irrational belief causing anxiety (Clark & Beck, 2010) and Inhibitory Learning theory states that ET challenges negative predictions and helps clients learn that fear is tolerable (Craske et al., 2008).

Despite the theoretical models and evidence base, ET is underused by therapists. In the US 87% of mental health professionals reported using little or no ET with their clients (Cook, Biyanova, Elhai, Schnurr, & Coyne, 2010), behaviour therapists reported using ET with less than half of their anxiety clients (Pittig & Hoyer, 2017) and less than a third of trained CBT therapists reported using exposure for OCD, social phobia, panic disorder or PTSD (Hipol & Deacon, 2013). In fact, research suggests that the majority of therapists trained in ET do not use it (Becker, Zayfert, & Anderson, 2004), making it the least transferred intervention from theory to practice (Hoyer et al., 2017). Additionally, clients reported less use of exposure within treatment than therapists; 80% of OCD clients reported no experiences of exposure in their treatment (Böhm, Förstner, Külz & Voderholzer, 2008). ET has also been recommended for eating disorders, but is very rarely used (Turner, Tatham, Lant, Mountford, & Waller, 2014).

Unfortunately, research has also shown that even when ET is used it is often delivered in a suboptimal manner (Freiheit, Vye, Swan, & Cady, 2004). Research suggests optimal implementation consists of; frequent clinician directed exposure (Abramowitz, 2013; Jacobson, Newman, & Goldfried, 2016), with continued intensity in the face of client distress, and without arousal reduction strategies (Clark & Beck, 2010) or safety behaviours, which both

interfere with improvement (Schmidt et al., 2000). Of the therapists that reported using exposure, less than 30% used therapist assisted exposure and many described using breathing retraining, progressive muscle relaxation and other arousal reduction techniques during ET delivery (Hipol & Deacon, 2013; Rowe & Kangas, 2020). Deacon & Farrell (2013) described the impact suboptimal delivery had on a Paediatric OCD study where despite efforts to standardise ET treatment, the effect size for ET was four times larger at one site than the other due to more cautious delivery. Theoretical models also contraindicate the use of arousal reduction strategies. Inhibitory learning theory suggests that less intense delivery of ET and failure to take out all safety behaviours prevents clients learning to tolerate anxiety and disprove their expectations of harm (Farrell, Deacon, Kemp, et al., 2013).

1.1 Barriers to Therapists use of Exposure Therapies

Many therapists hold negative beliefs about evidence-based practice (Addis & Krasnow, 2000) resulting in resistance to the increased prioritisation of evidence-based therapies. However, ET seems to have experienced even more challenges (Becker, Smith, & Jensen-Doss, 2013). The lack of dissemination of ET and the impact of suboptimal delivery on client's recovery, has led to research into the reasons for this underuse and suboptimal delivery.

1.2 Lack of Training

Lack of training is reported as a main barrier to using ET (Becker et al., 2004), resulting in a focus on finding cost effective ways to disseminate ET, such as using online training (Harned et al., 2014). However, reviews of ET training have suggested that it does not increased use of ET in clinical practice (Trivasse, Webb, & Waller, 2020). Long-term research into the use of ET for youth anxiety found that only a third of clinician's reported using exposure several years after training and that it was the least used treatment strategy (Chu et al., 2015; Edmunds et al., 2014). Additionally, surveys of therapists trained in ET suggested that qualifications and training did not necessarily increase usage (Farrell, Deacon, Dixon, et al., 2013). This is consistent with research showing that ET is underused by behavioural and CBT therapists (Pittig, Kotter, & Hoyer, 2019).

In Australia and the UK, ET has more of substantial focus in training such as on the Australian Master of Clinical Psychology degree (Rowe & Kangas, 2020), and the IAPT program in the UK (Deacon & Farrell, 2013). Clinicians report more use of ET in these

countries however also report suboptimal delivery (Rowe & Kangas, 2020). Additionally, self-reported ET can be inaccurate due to therapists' overestimations (Schubert, Siegl, & Reinecker, 2003). Overall, these outcomes show rudimentary ET training to be crucial but insufficient to increase ET use in clinical practice (Harned et al., 2014).

1.3 Practical Difficulties

Practical difficulties for example time and resource limitations, have been highlighted as a barrier to ET use (Chu et al., 2015; Deacon, Lickel, Farrell, Kemp, & Hipol, 2013; Pittig et al., 2019). Research suggests that concerns about time limitations may be due to disparities between the ET protocol taught and the service restrictions e.g. protocol suggests 90-minute sessions but the service limits sessions to 60 minutes (Ruzek et al., 2017). This seems to be a training failure as evidence suggests shorter sessions can still be beneficial (Nacasch et al., 2015).

Risk of patient dropouts, and insurance cover concerns are also identified as barriers (Olatunji, Deacon, & Abramowitz, 2009). However, there is little evidence that insurance companies consider ET a risk (Pittig et al., 2019) and literature suggests dropout is no higher than other interventions (Hembree et al., 2003), moreover ET is reported as the preferred treatment by clients (Becker, Darius, & Schaumberg, 2007; Brown, Deacon, Abramowitz, Dammann, & Whiteside, 2007; Deacon & Abramowitz, 2004). It is interesting that clinicians who report more practical barriers also report more negative beliefs about ET in general (Pittig et al., 2019) and clinicians who use ET regularly report fewer practical barriers (Sars & van Minnen, 2015).

1.4 Exposure is Harmful to the Client

The literature reports several negative beliefs about ET, such as clients being harmed physically or emotionally by their own anxiety i.e., having a heart attack, losing consciousness, losing control of their behaviour (Deacon & Farrell, 2013), permanently increasing their symptoms (Olatunji et al., 2009) or re-traumatisation (Cook, Schnurr, & Foa, 2004). These beliefs can be seen in therapists' avoidance of using ET for harm related OCD or clients with health problems (Hipol & Deacon, 2013; Meyer, Farrell, Kemp, Blakey, & Deacon, 2014). The irony of these beliefs has been pointed out, as ET aims to disprove these erroneous beliefs for the client (Farrell, Deacon, Dixon, et al., 2013).

The belief that ET is intolerable for the client tends to be most pronounced when using prolonged hyperventilation strategies for panic disorder (Farrell, Deacon, Dixon, et al., 2013) and can lead to introducing arousal reduction strategies, reduced intensity ET and safety behaviours (Abramowitz, 2013; Rowe & Kangas, 2020). Unfortunately, these strategies unintentionally reinforce the client's beliefs, consequently reducing the effectiveness of the treatment (Clark & Beck, 2010; Schmidt et al., 2000; Waller & Turner, 2016). Lastly, therapists have been shown to believe that ET is unethical; clinicians should only reduce distress, not increase it. This view does not seem to take into account the longer-term symptom improvement after ET (Deacon & Farrell, 2013) or clients indicated preference for ET (Becker et al., 2007; Brown et al., 2007; Deacon & Abramowitz, 2004).

Overall, negative beliefs about ET being harmful, intolerable, only addressing superficial symptoms and being contraindicated for many clients have been disproven. The empirical and theoretical evidence shows that ET does not result in a permanent increase in symptoms, does address the main problem/ maintaining factors and can be used with most clients including those with health problems, high levels of anxiety and comorbidity (Deacon & Farrell, 2013; Harned et al., 2014; Smith et al., 2017; van den Berg & van der Gaag, 2012; Waller, Walsh, & Wright, 2016).

1.5 Exposure is Difficult for the Therapist

Therapists' experiential avoidance and difficulty tolerating client's distress have been suggested as reasons for low ET use (Deacon & Farrell, 2013; Rowe & Kangas, 2020). Although there is a lack of research into this area (Pittig et al., 2019) some evidence shows therapists have high psychological stress responses during ET (Schumacher et al., 2015). Therapists who are overly sympathetic, feel increased empathy or anxiety tend to avoid ET (Meyer et al., 2014; Turner et al., 2014; Waller & Turner, 2016), 37% of therapists agreed that they find ET strenuous and therefore use it less often (Pittig et al., 2019). Rowe & Kangas (2020) suggested certain attachment styles may reduce therapists' tolerance of client's distress during ET. Therapists' experiential avoidance and lack of distress tolerance emphasises the importance of the self-reflection, self-practice model of training (Laireiter & Willutzki, 2003).

Effective supervision has been shown to reduce therapists' emotional distress, risk of vicarious trauma/secondary trauma and compassion fatigue (Hayes, 2013; Pittig et al., 2019; Schumacher et al., 2015). However, vicarious traumatisation and high emotional burden are still reported as concerns when using ET for PTSD (Ruzek et al., 2016; Zoellner et al., 2011).

Suggesting, lack of effective supervision could be a barrier to ET delivery. However, negative beliefs about ET are less common in clinicians that regularly use it, (Pittig et al., 2019; Sars & van Minnen, 2015) therefore therapists with little experience of ET may be overly concerned with the possible negative impacts to the therapist.

1.6 Training and Negative Beliefs about Exposure Therapy

Although therapists' negative beliefs about ET are largely erroneous, they continue to influence therapists' decisions on frequency and implementation of ET (Deacon, Lickel, et al., 2013; Rowe & Kangas, 2020). Therapists' negative beliefs about ET also seem to be consistent across countries such as the US, UK, Australia and Germany (Deacon & Abramowitz, 2004; Pittig et al., 2019; Rowe & Kangas, 2020; Trivasse et al., 2020). It is therefore important to find ways to effectively change these beliefs so that more clients have access to effective ET.

Didactic training studies have been largely ineffective at increasing the use of ET in clinical practice, despite many of these studies reporting a reduction in negative beliefs by their participants (Deacon, Farrell, et al., 2013; Waller et al., 2007). The Dual Processing model (Evans, 2003) suggests that dual systems govern our reasoning and information processing therefore both the rule change and associative systems need to be targeted for behaviour change to occur. Didactic training likely only impacts the explicit/rule change system leading to participants reporting belief change. However, as didactic training is unlikely to effect the associative system, therapists will not increase their use of ET in clinical practice. This idea is not new to psychology and is often described as the head-heart divide. Behaviour experiments within CBT are based on the dual processing system (Bennett-Levy et al., 2004) and recent research has suggested they may be the most effective way to elicit change (Hebert & Dugas, 2019; Jurchiș & Opre, 2018; Palmier-Claus et al., 2020). Additionally, the self-reflection, self-practice training element often used in CBT training may be effective through targeting both dual processing systems (Laireiter & Willutzki, 2003).

Specific training strategies that have been suggested are, experiencing exposure exercises first-hand and reviewing evidence and client testimonials on safety, effectiveness and tolerability (Farrell, Deacon, Dixon, et al., 2013). Essentially to address both systems therapists need personal experience showing their beliefs not to be true (Craske et al., 2008). Delivering ET to clients and witnessing the positive outcome maybe one of the best ways to do this. Previous research has also suggested that training which adapts to the service/practical

limitations and provides effective supervision may be more effective due to targeting practical barriers and negative beliefs about the impact of ET on the therapist.

1.7 This Review

The aim of this review is to evaluate ET training studies that combine both didactic and experiential methods. These studies are more likely to result in belief change due to targeting both the rule change and associative systems as suggested by Dual Processing Theory (Evans, 2003; Farrell, Deacon, Dixon, et al., 2013; Frankish, 2010). The review will also evaluate whether belief change results in increased use of ET within clinical practice.

2. Method

A systematic literature search aimed to uncover all relevant articles. Key words were identified and used to search four databases: Medline, APA psychinfo, APA psycharticals and open dissertations (appendix 1- search strategy). References of included articles were searched to identify further research. Abstracts were then assessed for relevance and chosen articles were evaluated in full to determine whether they met the inclusion criteria (appendix 2; The PRISMA study flow diagram).

The inclusion criteria initially focused on studies that delivered ET training including experiential methods however this narrowed the studies down to six therefore this criterion was widened to include studies using more than just didactic training strategies. Studies also needed to report on therapist beliefs about ET and their intention to use ET or their actual use of ET post-training.

The following data was extracted from the studies: participant information, study design, sample size, comparison groups, participant recruitment, training methods, length of training, follow up period, the outcome variables and how they were measured e.g., the therapist belief about exposure scale. (Appendix 3, Table 1).

The methodological quality of the studies was assessed using Nathan and Gorman's (2015) classification system. This criteria for assessing methodological rigor assigns studies to 6 different groups ranging from randomised controlled trials to case studies and opinion papers. Type 1 to 3 are included in this literature review as they use primary data. As only 8 studies met the inclusion criteria, the assessment of methodological rigor was used to identify

weaknesses rather than as an exclusion criterion. Type 1 studies are the most rigorous, typically randomised controlled trials including, random assignments, blinded assessments, clear inclusion and exclusion criteria, adequate sample size for statistical power and appropriate statistical methods. Type 2 studies are similar to type 1 however they have methodological flaws such as non-random assignment to groups. Type 3 studies are clearly methodologically limited e.g., no comparison group, case control studies etc. (Nathan & Gorman, 2015).

3. Results

3.1 Study Description

Eight studies met the inclusion criteria; Table 1 (appendix 3) shows further information for each of the primary studies. All studies were from the US, the UK all international studies assessed did not meet the inclusion criteria for outcomes measured (Gega, Norman, & Marks, 2007; Waller et al., 2016). The sample sizes varied from 46 to 943, the participants were mainly mental health practitioners with some social workers, psychiatrists and psychology students. Education ranged from undergraduate students to clinicians with a PHD. Five studies reported that 74.4%-100% of participants had minimal prior experience in ET (Chin et al., 2019; Harned, Dimeff, Woodcock, & Skutch, 2011; Harned et al., 2014; Ruzek et al., 2017; Ruzek et al., 2016). Participants in five studies chose to attend the training with prior knowledge of the ET topic. For three studies the participants were nominated to attend the training by their managers (Chin et al., 2019; Ruzek et al., 2017; Ruzek et al., 2016).

All intervention conditions included didactic teaching on ET implementation. Additional training methods to address negative beliefs about ET included reviewing the evidence base, client testimonials, case presentations, interoceptive exposure, role-plays, normalising clinician anxiety/experiential avoidance, supervision and case consultation with therapy tape assignments. Four studies used an active comparison condition using additional training methods. One study used a control condition where participants learnt to validate a client using DBT. Intervention length varied widely from 2 hours to 4 days as did the follow up time from 1 week to over a year.

3.2 Methods and Outcome Measures

Various methods were used by the studies; four used independent groups - randomised controlled trials, quasi-experimental and non-randomised design. Three studies were repeated measures and one post-test only. In terms of Nathan and Gorman's (2015) classification system measuring methodological rigor only one study was type 1, three were type 2 and four type 3 suggesting most of the studies had clear methodological limitations.

All studies measured outcomes using self-report questionnaires, some also used hypothetical cases/vignettes or role-plays. Three studies utilised the Therapist Beliefs about Exposure Scale (Deacon, Farrell, et al., 2013) and two used the Attitudes Towards Exposure Therapy Scale (Harned et al., 2011). The other studies created their own questionnaires to measure belief change. Other outcomes reported were intention to use ET, use of ET in clinical practice, ET delivery, self-efficacy and knowledge. One study reported feedback on a toolkit designed to minimise ET barriers (Becker-Haimes, Franklin, Bodie, & Beidas, 2017). Six studies had a follow up period but only four measured use of ET in clinical practice. The other four studies measured intention to use ET either through self-report questionnaire or by asking clinicians their treatment plan for hypothetical cases.

3.3 Outcome Variables

3.3.1 Negative Beliefs about Exposure therapy

All studies reported negative beliefs about ET reduced after training and two showed this change remained stable at follow-up (Harned et al., 2011; Kaye, 2018). Becker-Haimes et al, (2017) only measured negative beliefs post-training however reported them to be generally positive. In terms of the differences between active conditions, the results were split with two studies reporting more belief change in their enhanced training group (Farrell, Kemp, Blakey, Meyer, & Deacon, 2016; Harned et al., 2014) whereas two reported no difference in belief change between their active conditions (Harned et al., 2011; Kaye, 2018). Additionally, all three studies that offered some kind of case-conceptualisation reported further negative belief change, however two of these studies used the same training procedure (Harned et al., 2014; Ruzek et al., 2017; Ruzek et al., 2016). (Appendix 4, table 2)

3.3.2 Intent to use Exposure Therapy

Intent to use ET post-training was high across the studies with Ruzek et al (2017) reporting 84%. However, only Chin et al (2019) reported a significant increase in intent to use ET after training, unfortunately most studies only measuring intent to use ET post-training. Ruzek et al (2016) found that positive patient outcomes and less concern about time burden were key predictions of clinicians' intention to use ET.

3.3.3 Use of Exposure Therapy in Clinical Practice

There was a lack of data for use of ET in clinical practice, only half the studies measured this outcome. Kaye (2018) assessed changes in ET use post-training via assessing participants proposed treatment plans for a vignette, therefore not measuring ET in clinical practice. Overall, the results were difficult to interpret due to a lack of data. Becker-Haimes et al (2017) measured use of their ET toolkit in clinical practice, it is therefore unclear whether participants also used ET with additional clients not using the toolkit. Of the three studies reporting their participants to be using ET with clients at follow up, it was unclear whether this was an increase on previous use. Ruzek et al (2017) did not measure ET use prior to training therefore the result of 1-2 clients on their caseload may not be an increase. Becker-Haimes et al (2017) reported prior use of ET to be 1-2 clients for the whole group, the four follow up participants reported using the ET toolkit with 2-6 clients after training, suggesting some participants did not increase their use. Harned et al (2014) was the only study to report a clear increase in ET use in clinical practice, participants increased from less than 1 procedure per client to 4.1 per client, 87% reported some use of ET. There was however no difference between the groups, which is surprising considering the enhanced training group reported significantly greater reductions in their negative beliefs about ET than the didactic training group. Suggesting that a reduction in negative beliefs may not lead to increased use of ET in clinical practice. Lastly, two studies reported no increased use of ET despite reporting high intention to use ET (Harned et al., 2011; Kaye, 2018).

3.3.4 Delivery of Exposure Therapy

Quality of ET delivery was reported by three studies, two observer-rated and one self-reported. Farrell et al (2016) found self-reported ET delivery was superior in the enhanced training group

and superior delivery was mediated by reduction in negative beliefs. Harned et al (2014) reported the enhanced training group to be significantly more proficient in ET delivery than the didactic group and found that greater knowledge and positive beliefs predicted greater clinical proficiency. Harned et al (2014) also found that increased self-efficacy led to increased use of ET but not increased observer-rated clinical proficiency. Kaye (2018) found that ET delivery was significantly better in the non-enhanced group however on further examination acknowledged that the training strategies barely differed between the two groups and that the non-enhanced group had more role-playing time due to less taught content. Overall suggesting that experiential methods better reduced negative beliefs and led to increased quality of ET delivery.

3.3.5 Additional Outcomes

As expected all studies reported increased knowledge and self-efficacy. Kaye (2018) also found a significant relationship between intolerance of uncertainty and quality of delivery/use of ET. Becker-Haimes et al (2017) reported practical/service limitations as the main barrier to ET use. Similarly, Ruzek et al (2017) reported that perceived control over their schedule and beliefs about time pressure were predictors of ET use.

3.4 Limitations

Overall, there was a lack of rigor in study designs; only one study had a control group, many had no comparison group and only two were randomised. Participant recruitment was problematic as participants knew the training topic prior to joining or were nominated by a superior due to their interest in ET, participants also had little prior knowledge of ET. This may have been the reason why two studies reported baseline neutral or positive beliefs about ET (Harned et al., 2011, 2014) when negative beliefs are more common in this population (Cook et al., 2004; Deacon & Farrell, 2013; Olatunji et al., 2009). Additionally, Ruzek et al (2017) reported favourable attitudes towards ET predicted completion of case-conceptualisation, this would have skewed their ET usage data, as it was collected after case-conceptualisation. Additionally, Becker-Haimes et al (2017) reported more positive beliefs about ET in the qualitative subset who reported on ET toolkit use.

Another limitation of the studies overall is that they measured too few constructs. Considering a main aim of these studies was to increase clinician use of ET in clinical practice

only four studies measured this outcome. Research suggests that negative beliefs about exposure therapy impact the quality of ET delivery, yet only three studies measured this. Moreover, although most studies reported on intention to use ET following the training, there was no baseline to compare this to. Similarly, there was a lack of information regarding ET use pre-training. Three studies also used non-validated measures of negative beliefs about ET (Chin et al., 2019; Ruzek et al., 2017; Ruzek et al., 2016).

There was an over-reliance on therapist self-report measures, which may have resulted in unreliable outcomes as research suggests clinicians overestimate their ET use and clinical abilities (Nakamura et al., 2014; Schubert et al., 2003; Walfish, McAlister, O'donnell, & Lambert, 2012). This can be seen in Harned et al (2014) results where increased self-efficacy did not lead to an increase in observer-rated clinical proficiency. Self-report measures in addition to participants knowledge of the purpose of the evaluation could have also led to responder bias.

Lastly, there was a lack of theory driving many of the training programs. Ferrell et al (2016) and Kaye (2018) based their training on socio-cognitive theories of attitude change. Harned et al (2011) and Harned et al (2014) loosely based their training on motivational interviewing (MI). The other four studies were not based on a specific learning theory.

4. Discussion

This review aimed to assess the effectiveness of enhanced training strategies on negative beliefs about ET and subsequently increasing use in clinical practice. It was theorised that training involving experiential strategies would better modify negative beliefs as suggested by Dual Processing Theory and therefore result in behaviour change. Overall, the results show that ET training in general increases knowledge, self-efficacy, intention to use ET and reduced negative beliefs. However, these changes did not generally increase ET use in clinical practice. Experiential methods such as case-conceptualisation seemed more effective at reducing negative beliefs about ET, nevertheless even studies using these methods reported only minimal ET use in clinical practice.

Ruzek et al (2017) arguably conducted the most comprehensive training with participants completing 6-9 months of case-conceptualisation and assessments post-training. They suggested that the continued underuse of ET for PTSD maybe due to clinicians' preference for Cognitive Processing Therapy which they were also trained in. Practical

difficulties could be a factor in choosing an alternative approach, Ruzek et al (2017) & Becker-Haimes et al (2017) both reported practical difficulties continue to be a barrier to ET use.

However, in agreement with previous research, experiential methods and subsequent reduction in negative beliefs improved ET delivery (Farrell et al., 2016; Harned et al., 2014; Kaye, 2018; Rowe & Kangas, 2020). One interpretation of these results may be that reducing negative beliefs about ET optimises delivery, but practical barriers need to be addressed to increase ET use in clinical practice. Additionally, the training methods used may not be targeting the associative system as suggested by Dual Processing Theory as a necessary step to elicit behaviour change, however this seems unlikely as behaviour change was seen in quality of ET delivery just not in amount of ET use. Clinician factors such as intolerance of uncertainty could reduce the amount of ET clinicians feel able to tolerate, this may be especially true with ET for PTSD.

Unfortunately, it is difficult to draw conclusions from the research due to the lack of studies and methodological issues. Further research where comprehensive training programmes are already in place may provide more insight into barriers to ET use in clinical practice. Measuring more constructs, with clinicians who have undertaken longer-term training and offer ET for a range of anxiety disorders would give some indication as to whether brief training is insufficient to change behaviour and more information into practical barriers, therapist factors, therapist decision making and quality of ET delivery.

The main strength of this review is the comprehensive and systematic search of multiple databases. Limitations include a small number of studies, all completed in the US with methodological weaknesses such as an over reliance on self-report measures and participant recruitment problems potentially resulting in baseline neutral or positive beliefs about ET which are not reflective of the psychotherapeutic community at large. Additionally, as many studies did not use standardised measures direct comparison was lacking.

5. Conclusion

Training in ET generally improved clinicians' knowledge, self-efficacy, negative beliefs and intention to use ET. Experiential training methods produced slightly more belief change than didactic training alone with follow-up case-consultation reducing negative beliefs even further. Although experiential methods increased belief change this did not routinely result in more ET use in clinical practice. However, less negative beliefs resulted in improved quality of ET delivered, suggesting experiential methods are able to target both systems proposed by Dual

Processing Theory. However, more research is needed to identify the reason why belief change and a high intention to use ET does not result in increased ET use in clinical practice. The role of other barriers should be investigated for example practical/service limitations and therapist factors such as experiential avoidance and intolerance of uncertainty.

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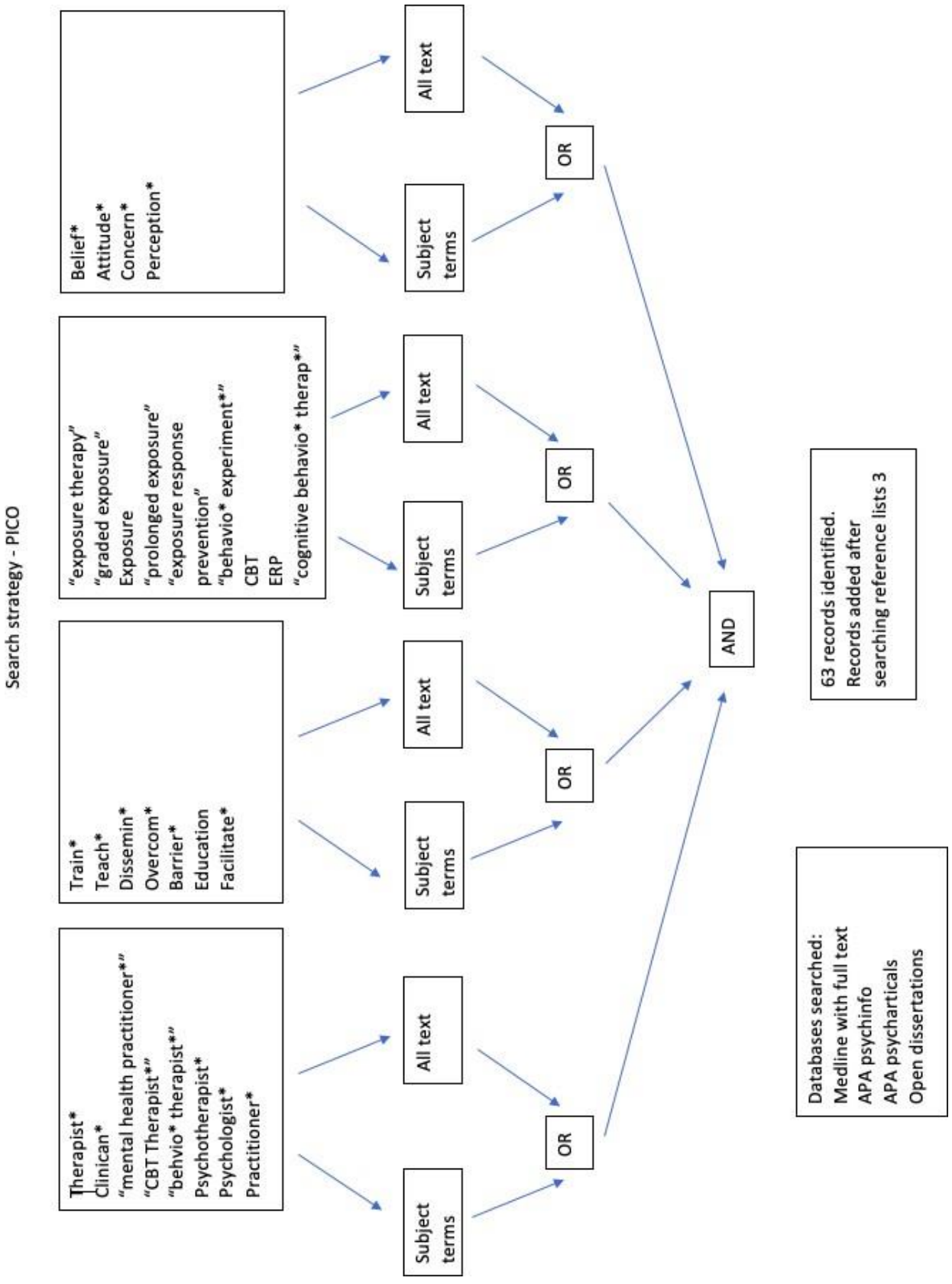
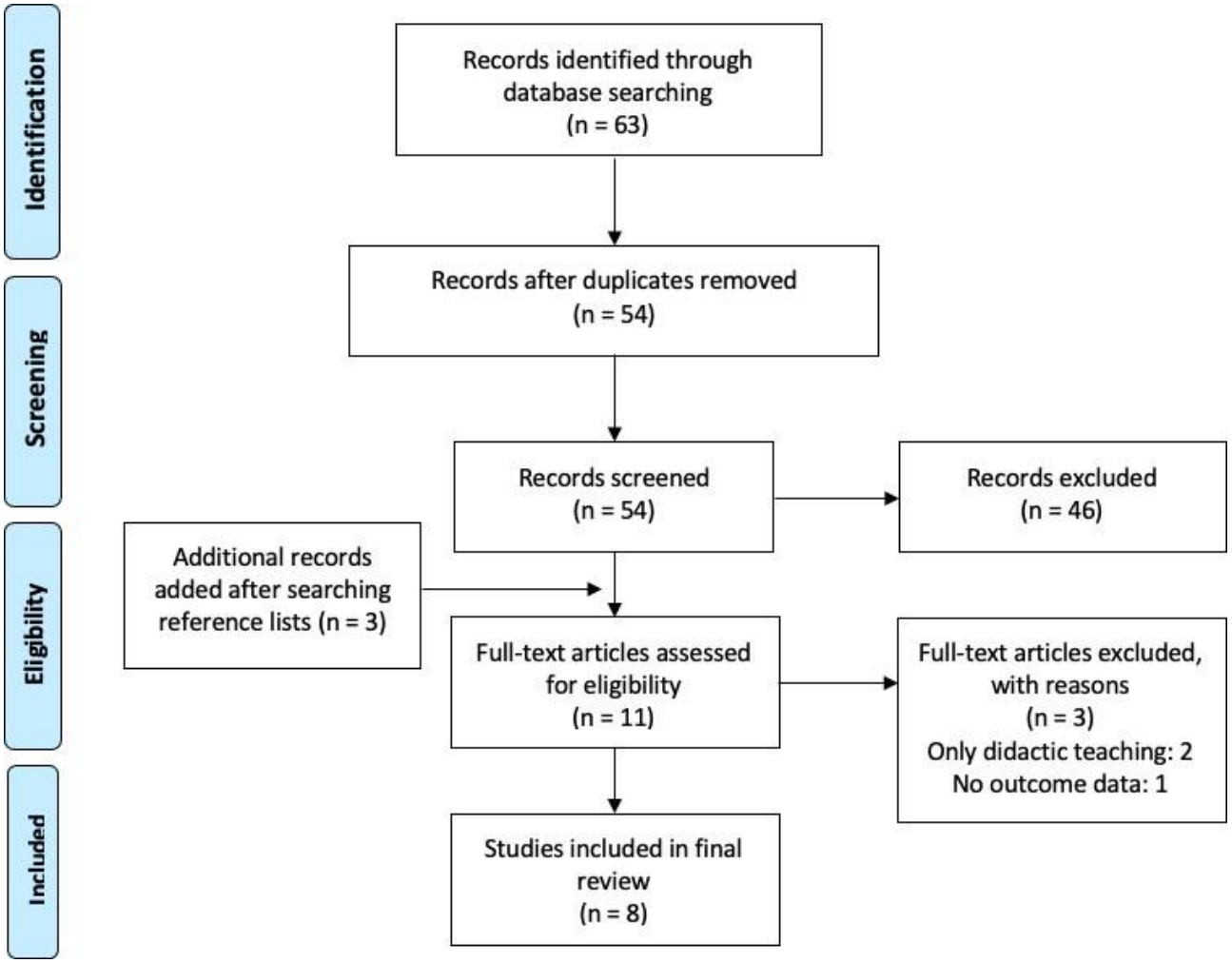
Appendix 1- Search Strategy



Appendix 2- PRISMA Study Flow Diagram



Appendix 3- Table 1

Author	Nathan & Gorman's criteria	Sample Size	Design	Participant recruitment	Participant role & education	Type of training	Duration	Follow up	Outcomes measured	Outcome measures
Harned et al 2011	2	N=46	Independent groups 3 conditions	Emails sent to people on a DBT listserv	Mental health practitioners or students with minimal prior exposure experience. Education: 8.7% undergraduate degree 56.5% masters 28.3% PHD 67.4% CBT theoretical orientation	Online training	2 hours	1 week	Belief/ attitude change	Self-report questionnaire 7 items
									Intention to use ET	4 items
						Online training & motivational interviewing			Use of ET in clinical practice	4 items
									Self-efficacy	30 items
						Control group			knowledge	27 items including hypothetical cases
Harned et al 2014	1	N= 181	Independent groups 3 conditions	Flyers sent to mental health agencies, emails to several listservs for mental health providers, advertising in newsletters, contacting people who previously expressed interest	Mental health practitioners and students with minimal prior exposure experience. Education: 11.8% undergraduate degree, 67.1% masters 21.1% PHD	Online training	10 hours	3 months	Belief/ attitude change	Self-report questionnaire 7 items
						Online training & motivational enhancement			Use of ET in clinical practice	Self-report survey and role plays
						Online training, motivational enhancement & Learning community			Self-efficacy	27 items
									Knowledge	49 items including hypothetical cases
									Clinical proficiency	Observer rated
Farrell et al 2016	2	N=46	Independent groups 2 conditions	Unclear. Mental health clinicians attending a workshop on exposure therapy	Mental health clinicians: 65.3% CBT, 14.3% family systems, 10.2% humanistic/client-centered, 6.1% psychodynamic, 2.0% interpersonal, and 2.0% "other". 75.5% Master's degree, 18.4% Ph.D.	Didactic training	8 hours	none	Belief/ attitude change	Therapists beliefs about exposure scale
						Didactic training, addressing concerns with evidence based, case presentations, video testimonials & interoceptive exposure			Using ET in clinical practice & quality of delivery.	Self-reported likelihood of treating a case vignette with exposure therapy
									Knowledge	Self-report questionnaires 1 item
Ruzek et al 2016	3	N= 943	Repeated measures 1 condition	Nominated for training by mental health leadership of their medical centre or region	Licenced mental health clinicians 57.5% doctoral-level psychologists, 35.8% master's-level clinicians 61.4% theoretical orientation as CBT 74.4% never received formal training in prolonged exposure	Didactic training, role-plays, videos, ET delivered to min 2 clients including case consultation sessions & assessment of audio recordings	4 days	On completing case consultation approx. 6-9 months after training	Belief/ attitude change	Self-report questionnaire
									Intent to use ET	4 items
									Self-efficacy	Self-report questionnaire 14 items

Author	Nathan & Gorman's criteria	Sample Size	Design	Participant recruitment	Participant role & education	Type of training	Duration	Follow up	Outcomes measured	Outcome measures
Ruzek et al 2017	3	N=743	Repeated measures 1 condition	Nominated for training by mental health leadership of their medical centre or region	Licenced mental health clinicians 59.1 % Psychologists 35.1% social workers 5.8% other CBT theoretical orientation 65.9% Other integrative with CBT 22.3% No CBT 11.8%	Didactic training, role-plays, videos, ET delivered to min 2 clients including case consultation sessions & assessment of audio recordings	4 days	6 months after completing case consultation. Over a year since training	Belief/ attitude change – effectiveness of ET and clinician emotional Burdon Use of ET in clinical practice Intent to use ET Self-efficacy	Self-report survey Self-report survey 2 items Self-report survey 1 item Self-report survey
Becker-Haimes et al 2017	3	Full sample N=70 practicing clinicians, Qualitative subset N=4	Post-test- 1 condition	Unclear. Clinicians attending a state-funded workshop on exposure therapy	Practicing clinicians Community agency 80% School or university 10% Private practice 8.6% Other 7.1% CBT theoretical orientation 64.3% Psychodynamic 4.3% Client centred 10% Family systems 10% Other 28.6%	Didactic workshop plus training in a toolkit used to deliver ET effectively, dispel myths and normalise clinician anxiety	1 day	1 month for qualitative subset	Belief/ attitude change Toolkit feedback including intention to use ET toolkit Qualitative subset; use of ET toolkit in clinical practice	Self-reported questionnaire; Therapists belief about exposure scale Self-report feedback form Qualitative interview and survey
Chin et al 2019	3	N= 53	Repeated measures 1 condition	Participants were selected by leadership at their substance abuse treatment facilitates	20.4% undergraduate degree 57.1% masters 22.4% PHD 42.9% counsellors 20% graduate student 6.1% psychologist 79.5% no previous training in exposure	Didactic training, videos and experiential activities such as role-plays	8 hours	none	Belief/ attitude change Intention to use ET Self-efficacy	Self-report questionnaire 5 items 2 items 1 item
Kaye 2018	2	N=99	Independent groups 2 conditions	Participants were recruited through e-mail advertisements sent through listservs. Advertised as free exposure therapy training.	mental health clinicians (psychologists, psychiatrists, professional counsellors, clinical social workers, marriage and family therapists, or psychiatric nurses) and psychology graduate students	Didactic training, a review of common concerns, client testimonials, information on clinician experiential avoidance (ACT based) and interoceptive exposure exercise. Didactic training, a review of common concerns, client testimonials and role-plays	4 hours	1 month	Belief/ attitude change Use of ET in clinical practice Intention to use ET Knowledge ET delivery	Therapists beliefs about exposure scale Self-reported likelihood of treating a case vignette with exposure therapy Self-report 1 item Self- report 1 item Observer rated role play

Author	Changes to therapists' negative beliefs of ET	Intent to use exposure therapy	Actual use of ET in clinical practice	Other outcomes
Harned et al 2011	The motivational interviewing condition which aimed to address therapist concerns resulted in significantly more positive attitudes towards ET than the control, both post training and at follow up	Both active conditions increased effort to use ET post training and at follow up. No differences between conditions.	No increased use of ET	• Both active conditions showed improvement in knowledge and self-efficacy after training and at follow up. • Participants showed positive attitudes to ET at baseline.
Harned et al 2014	• All three conditions improved their attitudes to ET. • The learning community condition reported significantly greater improvements than the didactic training alone (0.43 effect size)	x	Self-reported use of ET increased from less than 1 procedure per client to 4.1. Most participants reported some use of ET (87.5%). No difference between groups.	• All conditions increased knowledge and self-efficacy • The learning community condition reported significantly more clinical proficiency that the didactic training alone (0.39 effect size). • Increased self-efficacy led to increased use of ET but not increased observer rated clinical proficiency. • Greater knowledge and more positive attitudes predicated greater observer rated clinical proficiency. • Neutral attitudes to ET were reported at baseline
Farrell et al 2016	Negative beliefs reduced in both didactic and enhanced conditions. The enhanced group reduced more at 70%	Enhanced group reports less safety behaviours and fewer distress reduction strategies but not more intense delivery than the standard didactic training group.	x	Evidence that superior self-reported exposure delivery was mediated by reduction in negative beliefs about exposure therapy.
Ruzek et al 2016	• Pre to post workshop; beliefs that treatment should not distress clients reduced, predictions of positive client outcomes increased and there was no change to beliefs about time or emotional burden. • Post workshop to post consultation beliefs about time or emotional burden also improved.	Post consultation, positive patient outcomes and less concern about time burden were key predictors of intention to use ET for PTSD. Overall high intent to use reported.	x	• Self-efficacy increased pre to post workshop and further increased post workshop to post consultation. • More favourable attitudes to ET for PTSD specifically holding beliefs that treatment should not distress clients, predicted consultation completion as well as having a CBT orientation. • Majority received very good patient outcomes in their training cases • VHA system changes were made to increase use of ET in routine care
Ruzek et al 2017	Negative beliefs reduced after the workshop, and further reduced after case-consultation	84% said they would defiantly use ET for PTSD	Most clinicians at follow up reported using ET for PTSD however only with 1-2 clients on their caseload.	Case consultation had a substantial impact on later use of ET. Particularly for those who had developed more positive beliefs about ET, increased self-efficacy, control over their schedule and believed ET to be emotionally draining.
Becker-Haimes et al 2017	Negative beliefs were only measured post-training. Clinicians reported generally positive beliefs about ET.	75.7% said they would use the ET toolkit with clients	Four follow up clinicians used the ET toolkit with 2-6 clients.	• Limited variability in negative beliefs about exposure. • Clinicians that opted to use the ET toolkit for follow up had more positive beliefs about exposure therapy. • All clinicians reported using ET with 1-2 clients at a time, prior to training.
Chin et al 2019	4 out of 5 negative beliefs significantly improved	Significant increase in intent to use ET	x	Significant increase in self-efficacy
Kaye 2018	Therapist negative beliefs reduced by 48%, stable at follow up. Despite this improvement negative beliefs continued to be barrier to effective ET delivery. No difference between groups.	Fairly high intent to use, only measured after workshop.	No increased use of ET measured via self-reported use of ET to treat a case vignette	• Knowledge increased by 60% but reduced at follow up • ET delivery significantly better in non-enhanced condition • No improvements in experiential avoidance • Significant relationship between intolerance of uncertainty and exposure variance in use and delivery of ET.

Appendix B. Online Survey

University of Essex

PARTICIPANT INFORMATION SHEET

My name is Amy Churm and I am a Trainee Clinical Psychologist in the School of Health & Social Care at the University of Essex. You are invited to take part in a 20-minute online survey, which aims to improve the effectiveness of Cognitive Behavioural Therapy treatment and help to inform future training and supervision strategies for CBT therapists. Before you decide whether you would like to participate, please read the information below outlining the research area and what your participation will involve.

What is the purpose of the study?

There is limited research into what anxiety treatment within clinical practice looks like. In order to improve the effectiveness of CBT treatment for anxiety disorders it is important to understand factors that predict therapist's treatment decisions for anxiety disorders. This research aims to help inform future training and supervision strategies for CBT therapists. The survey will ask for information around your treatment plan for clients with anxiety disorders, followed by questionnaires about factors that could predict these decisions. The study is being undertaken as part of the clinical psychology doctorate programme.

Why have I been invited to take part?

You are invited to participate if you meet the inclusion criteria for the study. That is, you are a Cognitive Behavioural Therapist with either full or provisional accreditation as a Cognitive Behavioural Therapist with the British Association for Behavioural & Cognitive Psychotherapies (BABCP).

Do I have to take part?

Participation is voluntary and you do not have to take part. If you decide to start the survey and change your mind you can exit the survey, however the answers you have submitted cannot be withdrawn because individual participant's data cannot be identified.

What will happen to me if I decide to take part?

The following page will take you to a survey with a case vignette where you will be asked about your proposed treatment plan. This will be followed by questionnaires measuring various factors that may influence therapist's treatment decisions for anxiety disorders. All data is anonymous, you will not be asked to enter any identifiable information.

Are there any potential risks involved?

No specific risks to the participant have been identified, however there is always a chance that questionnaires or the vignette description could bring up upsetting memories or feelings for someone. If you feel you need further support, please contact us on the contact information below.

What are the possible benefits of taking part?

The study aims to improve the effectiveness of CBT treatment for clients who have an anxiety disorder. The research will help to inform future training, support and supervision strategies for CBT therapists. You can also request a summary of the results by emailing the research team using the contact details below.

What information will be collected?
We will ask you your age and gender, whether you are accredited as a CBT therapist with the BABCP and some information about your training. We will also collect information about your treatment plan for a client with anxiety, and information about various factors that may influence therapist's treatment decisions for anxiety disorders. The data collected will be anonymous, for example, you will not be asked your name, British Association for Behavioural & Cognitive Psychotherapies (BABCP) number or where you work.

Will my participation be kept confidential?
All data is anonymous, you will not be asked to enter any identifiable information. All research data will be kept securely in a Box folder which is the official cloud storage platform used by the University of Essex.

Will my data be shared or used in future research studies?
Anonymised data for this research may be published in scientific journals and shared in permanent, publicly accessible archives accessible from any country, including via the Open Science Framework. This **anonymous data** could, therefore, be used in other research and for novel purposes. The legal basis for processing the data is participant consent. The data controller is the University of Essex and the Essex University's Data Protection Officer can be contacted on dpo@essex.ac.uk.

What will happen to the results of the study?
Data collection will end by July 2022, the data will then be analysed, and a report written. The report is for the clinical psychology doctorate qualification and will be submitted in April 2023. The findings will also be written up as a scientific paper for a journal or conference presentation. No individual participant will be identifiable. You can contact the study team to find out the results of the research and request a copy of the final report.

Who has reviewed this study?
This project has been reviewed on behalf of the University of Essex Ethics Sub-Committee 2 and had been given approval with the following Application ID: ETH2021-1518.

Concerns and Complaints
If you have a concern or complaint, in the first instance please contact Amy Churm email- ac20021@essex.ac.uk. If you are still concerned, you think your complaint has not been addressed to your satisfaction or you feel that you cannot approach the principal investigator, please contact the departmental Director of Research in the department responsible for this project, Dr Camille Cronin (camille.cronin@essex.ac.uk). If you are still not satisfied, please contact the University's Research Governance and Planning Manager, Sarah Manning-Press (e-mail sarahm@essex.ac.uk). Please include the ERAMS reference ETH2021-1518.

Contact details
If you have any questions, require more information about this study or feel distressed by the survey questions and would like to discuss them further, please contact the research team using the following contact details: Amy Churm, email- ac20021@essex.ac.uk

Thank you for reading this information sheet and for considering taking part in this research.

CONSENT FORM

Research Team: Amy Churm (Trainee Clinical Psychologist, University of Essex) supervised by Dr Marie Juanchich (Department of Psychology, University of Essex) and Dr Pieter du Toit (School of Health and Human Sciences, University of Essex)

Please make sure you have read the Information Sheet prior to continuing. Thank you for considering taking part in this research.

By continuing to the survey questions, you are confirming the following:

- I have read and understood the study information sheet on the previous page.
- I understand that my participation is voluntary and that I am free to withdraw from the project at any time during the survey. However, the answers I have submitted cannot be withdrawn because they cannot be identified.
- I understand that my completion of the survey is anonymous, and no identifiable data will be collected.
- I understood that the information I provide will be used in anonymised outputs, including a report, publication or a presentation.
- I agree to take part in this study.

Do you hold full or provisional accreditation as a Cognitive Behavioural Therapist with the British Association for Behavioural & Cognitive Psychotherapies (BABCP)?	Yes or no

<u>No accreditation end message</u>

Thank you for your interest in this survey. However, either full or provisional accreditation as a Cognitive Behavioural Therapist with the British Association for Behavioural & Cognitive Psychotherapies (BABCP) is necessary to complete the survey.

Vignette Question

Please read the vignette below and answer the following question regarding your therapy treatment plan.

John is a 35-year-old man who lost his beloved uncle suddenly in a car accident four years ago, John reports feeling that he has grieved and moved on from this loss. However, over the last two years, he describes developing an obsession that harm would come to his loved ones if he did not move or walk in a special way. John reports images or videos playing in his mind of his children and wife being in a car accident and dying. He knew the idea that he could stop bad things from happening was strange, but he could not stop thinking about it. John developed elaborate compulsions that involved stepping in a just right way and doing things in sevens, such as walking through the door or washing his hands. The process became time consuming and cumbersome. Over the last six months going out in public by himself or with family became an ordeal and he would worry that people would see him walking and think there was something wrong with him. John is not currently taking any medication for his mental health, and he has not had previous therapy.

What would your initial treatment plan include?

You have 20 sessions, how many sessions would you allot to each of the following treatment options? The option you choose should be how you would spend the majority of that session. Please put a number in each box, if you would not use an option put 0.

	No. of sessions
Thought defusion	
In session behaviour experiments	
Formulation development	
Psychoeducation	
Relaxation/ breathing/ grounding exercises	
Thought challenging/ Cognitive restructuring	
In session exposure response prevention tasks (ERP)	
Theory A, Theory B	
In session imaginal exposure	
Relapse prevention/ management	
Information gathering	
Exposure response prevention (ERP) tasks as homework	

Behaviour experiments as homework	
Motivational interviewing	
Imaginal exposure as homework	
In session interoceptive exposure	
Interoceptive exposure as homework	
Non-directive supportive therapy	
Virtual reality exposure	
Other cognitive strategies e.g. working on core beliefs	
Other behavioural strategies e.g. behaviour activation	
Other techniques not included in this list	

The following questions will ask about your thoughts and views regarding a variety of emotional and psychological concepts, please answer as honestly as you can.

Exposure implementation beliefs scale (EIBS)

Please read the following behaviours/ techniques.

- Arousal reduction strategies such as breathing techniques, grounding and relaxation.
- Allowing the client to use their safety behaviours.
- Reducing the intensity or duration of exposure tasks when clients become distressed.
- Reassuring the client that they are safe.
- Only using client-directed exposure, outside of sessions.

Now rate the extent to which you believe some or all of these behaviours/ techniques may be necessary for the reasons listed below. Please answer as honestly as you can.

Please rate to what extent you believe the behaviours (above) are necessary to…	Very little	A little	Some	Much	Very Much
1. …ensure the client is safe?	0	1	2	3	4
2. …ensure the client is able to tolerate their anxiety?	0	1	2	3	4
3. …ensure the client is able to function?	0	1	2	3	4
4. …prevent being sued by the client?	0	1	2	3	4
5. …prevent the client dropping out?	0	1	2	3	4
6. …maintain the therapeutic alliance?	0	1	2	3	4
7. …ensure the client will conduct the exposure task?	0	1	2	3	4
8. …decrease your own distress?	0	1	2	3	4
9. …prevent a breach of ethical guidelines?	0	1	2	3	4
10. …prevent a breach of legal guidelines?	0	1	2	3	4

Therapists' beliefs about exposure scale

Below are statements about exposure therapy for the treatment of anxiety disorders. Please indicate how strongly you agree or disagree with each statement.

	Disagree strongly	Disagree	Unsure	Agree	Agree strongly
1.Most clients have difficulty tolerating the distress exposure therapy evokes.	0	1	2	3	4
2. Exposure therapy addresses the superficial symptoms of an anxiety disorder but does not target their root cause.	0	1	2	3	4
3. Exposure therapy works poorly for complex cases such as when the client has multiple diagnoses.	0	1	2	3	4
4. Compared to other psychotherapies, exposure therapy leads to higher dropout rates.	0	1	2	3	4
5. Conducting exposure therapy sessions outside of the office increases the risk of unethical dual relationship with the client.	0	1	2	3	4
6. Exposure therapy is difficult to tailor to the needs of individual clients.	0	1	2	3	4
7. Compared to other psychotherapies, exposure therapy is associated with a less strong therapeutic relationship.	0	1	2	3	4
8. Asking the client to discuss traumatic memories in exposure therapy may retraumatize the client.	0	1	2	3	4
9. It is unethical for therapists to purposely evoke distress in their clients.	0	1	2	3	4
10. Clients are at risk of decompensating (i.e. losing mental and/or behavioural control) during highly anxiety-provoking exposure therapy sessions.	0	1	2	3	4
Conducting exposure therapy sessions outside the office endangers the client's confidentiality.	0	1	2	3	4
Arousal reduction strategies, such as relaxation or controlled breathing, are often necessary for	0	1	2	3	4

clients to tolerate the distress exposure therapy evokes.					
Compared to other psychotherapies, exposure therapy places clients at a greater risk of harm.	0	1	2	3	4
Most clients perceive exposure therapy to be unacceptably aversive.	0	1	2	3	4
Exposure therapy often causes clients anxiety symptoms to worsen.	0	1	2	3	4
Asking the client to discuss traumatic memories in exposure therapy may vicariously traumatize the therapist.	0	1	2	3	4
Clients may experience physical harm caused by their own anxiety (e.g. loss of consciousness) during highly anxiety-provoking exposure therapy sessions.	0	1	2	3	4
Having clients conduct exposure in their imagination is sufficient; facing feared stimuli in the real world is rarely necessary.	0	1	2	3	4
Exposure therapy is inhumane.	0	1	2	3	4
Most clients refuse to participate in exposure therapy.	0	1	2	3	4
Compared to other psychotherapies, exposure therapy increases the risk that the therapist will be sued for malpractice.	0	1	2	3	4

Multidimensional experiential avoidance questionnaire (MEAQ)

You can see below a series of sentences that describe daily life experiences. Please indicate the extent to which you agree or disagree with each of the following sentences. Please answer as honestly as you can.

	Strongly disagree	moderately disagree	slightly disagree	slightly agree	moderately agree	strongly agree
I won't do something if I think it will make me uncomfortable	1	2	3	4	5	6
If I could magically remove all of my painful memories, I would	1	2	3	4	5	6
When something upsetting comes up, I try very hard to stop thinking about it	1	2	3	4	5	6
Happiness means never feeling any pain or disappointment	1	2	3	4	5	6
I avoid activities if there is even a small possibility of getting hurt	1	2	3	4	5	6
When negative thoughts come up, I try to fill my head with something else	1	2	3	4	5	6
When I am hurting, I would do anything to feel better	1	2	3	4	5	6
I rarely do something if there is a chance that it will upset me	1	2	3	4	5	6
I usually try to distract myself when I feel something painful	1	2	3	4	5	6
Happiness involves getting rid of negative thoughts	1	2	3	4	5	6
I work hard to avoid situations that might bring up unpleasant thoughts and feelings in me	1	2	3	4	5	6
When upsetting memories come up, I try to focus on other things	1	2	3	4	5	6
One of my big goals is to be free from painful emotions	1	2	3	4	5	6
I prefer to stick to what I am comfortable with, rather than try new activities	1	2	3	4	5	6
I work hard to keep out upsetting feelings	1	2	3	4	5	6
I'd do anything to feel less stressed	1	2	3	4	5	6
If I have any doubts about doing something, I just won't do it	1	2	3	4	5	6
When unpleasant memories come to me, I try to put them out of my mind	1	2	3	4	5	6
In this day and age people should not have to suffer	1	2	3	4	5	6
My life would be great if I never felt anxious	1	2	3	4	5	6

If I am starting to feel trapped, I leave the situation immediately	1	2	3	4	5	6
When a negative thought comes up, I immediately try to think of something else	1	2	3	4	5	6
I would give up a lot not to feel bad	1	2	3	4	5	6
I go out of my way to avoid uncomfortable situations	1	2	3	4	5	6
Pain always leads to suffering	1	2	3	4	5	6
If I am in a slightly uncomfortable situation, I try to leave right away	1	2	3	4	5	6
I wish I could get rid of all of my negative emotions	1	2	3	4	5	6
I avoid situations if there is a chance that I'll feel nervous	1	2	3	4	5	6
The key to a good life is never feeling any pain	1	2	3	4	5	6
I'm quick to leave any situation that makes me feel uneasy	1	2	3	4	5	6
I hope to live without any sadness and disappointment	1	2	3	4	5	6

Cognitive Fusion Questionnaire

Below you will find a list of statements. Please rate how true each statement is for you by circling a number next to it.

	Never true	Very seldom true	Seldom true	Sometimes true	Frequently true	Almost always true	Always true
My thoughts cause me emotional distress or emotional pain	1	2	3	4	5	6	7
I get so caught up in my thoughts that I am unable to do the things I most want to do	1	2	3	4	5	6	7
I over-analyse situations to the point where it is unhelpful to me	1	2	3	4	5	6	7
I struggle with my thoughts	1	2	3	4	5	6	7
I get upset with myself for having certain thoughts	1	2	3	4	5	6	7
I tend to get very entangled in my thoughts	1	2	3	4	5	6	7
It's such a struggle to let go of upsetting thoughts even when I know that letting go would be helpful	1	2	3	4	5	6	7

Interpersonal reactivity index

The following statements inquire about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by choosing the appropriate point on the scale from ‘does not describe me well’ to ‘describes me very well’ . Answer as honestly as you can. Thank you.

	Does not describe me well				Describes me very well
I often have tender, concerned feelings for people less fortunate than me.	0	1	2	3	4
I sometimes find it difficult to see things from the "other guy's" point of view.	0	1	2	3	4
Sometimes I don't feel very sorry for other people when they are having problems.	0	1	2	3	4
In emergency situations, I feel apprehensive and ill-at-ease.	0	1	2	3	4
When I see someone being taken advantage of, I feel kind of protective towards them.	0	1	2	3	4
I sometimes try to understand my friends better by imagining how things look from their perspective.	0	1	2	3	4
Other people's misfortunes do not usually disturb me a great deal.	0	1	2	3	4
If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.	0	1	2	3	4
When I see someone being treated unfairly, I sometimes don't feel very much pity for them.	0	1	2	3	4
I am often quite touched by things that I see happen.	0	1	2	3	4
I believe that there are two sides to every question and try to look at them both.	0	1	2	3	4
I would describe myself as a pretty soft-hearted person.	0	1	2	3	4
When I'm upset at someone, I usually try to "put myself in his shoes" for a while.	0	1	2	3	4
Before criticizing somebody, I try to imagine how I would feel if I were in their place.	0	1	2	3	4

Anxiety Sensitivity Index

The following statements ask about various symptoms of anxiety. From the scale below please choose how typical or characteristic each of the 16 items is of you. You should make your ratings in terms of how much you agree or disagree with the statement as a general description of yourself.

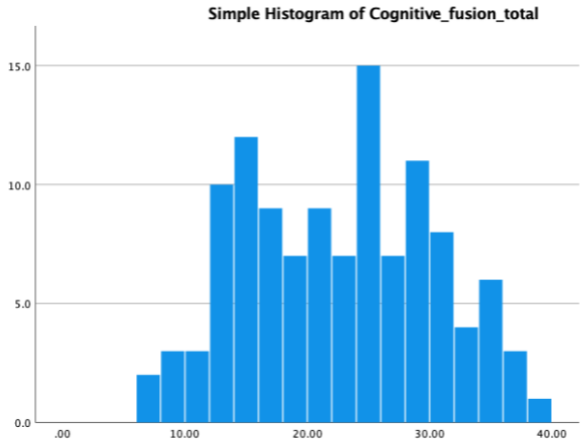
	Very little	A little	Some	Much	Very much
It is important for me not to appear nervous.	0	1	2	3	4
When I cannot keep my mind on a task, I worry that I might be going crazy.	0	1	2	3	4
It scares me when my heart beats rapidly.	0	1	2	3	4
When my stomach is upset, I worry that I might be seriously ill.	0	1	2	3	4
It scares me when I am unable to keep my mind on a task.	0	1	2	3	4
When I tremble in the presence of others, I fear what people might think of me.	0	1	2	3	4
When my chest feels tight, I get scared that I won't be able to breathe properly.	0	1	2	3	4
When I feel pain in my chest, I worry that I'm going to have a heart attack.	0	1	2	3	4
I worry that other people will notice my anxiety.	0	1	2	3	4
When I feel "spacey" or spaced out I worry that I may be mentally ill.	0	1	2	3	4
It scares me when I blush in front of people.	0	1	2	3	4
When I notice my heart skipping a beat, I worry that there is something seriously wrong with me.	0	1	2	3	4
When I begin to sweat in a social situation, I fear people will think negatively of me.	0	1	2	3	4
When my thoughts seem to speed up, I worry that I might be going crazy.	0	1	2	3	4
When my throat feels tight, I worry that I could choke to death.	0	1	2	3	4
When I have trouble thinking clearly, I worry that there is something wrong with me.	0	1	2	3	4
I think it would be horrible for me to faint in public.	0	1	2	3	4
When my mind goes blank, I worry there is something terribly wrong with me.	0	1	2	3	4

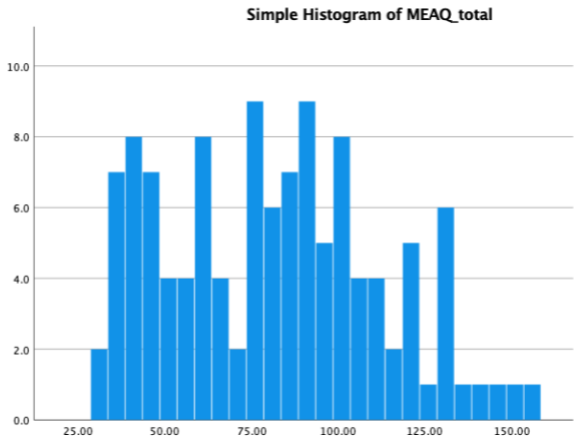
Demographics

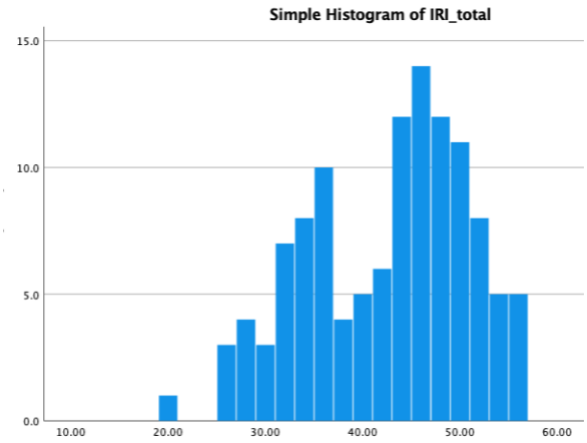
1. What is your age?	21-29 30-39 40-49 50-59 60-79 80 or older Prefer not to say
2. What is your gender?	Man Women None of the above Non-binary Prefer not to say
3. What is your ethnic group?	White (English, Welsh, Scottish, Northern Irish, British) White (Irish) Any other white background Mixed/ Multiple Ethnic Group- white and black Caribbean Mixed/ Multiple Ethnic Group- white and black African Mixed/ Multiple Ethnic Group- white and Asian Any other Mixed/ Multiple Ethnic Group background Asian/ Asian British- Indian Asian/ Asian British- Pakistani Asian/ Asian British- Bangladeshi Asian/ Asian British- Chinese Any other Asian/ Asian British background Black/ Black British- African Black/ Black British- Caribbean Any other Black/ Black British background Any other ethnic group Prefer not to say
4. What year did you complete your Cognitive Behavioural Therapy training?	Drop down list
5. Do you currently use Cognitive Behavioural Therapy techniques to treat clients with anxiety disorders or OCD?	Yes or no

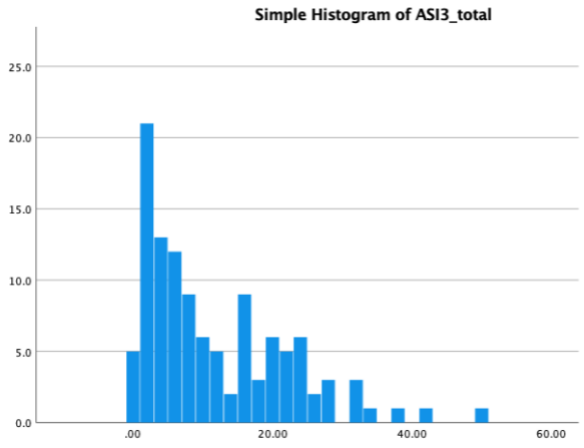
What percentage of your caseload over the last year has been clients with anxiety disorders or OCD?	Drop down percentages
Do you currently use Acceptance and Commitment therapy (ACT) to treat clients?	Yes or no

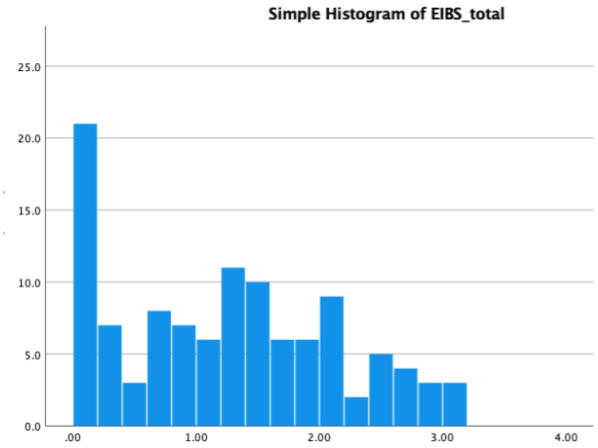
Appendix C. Histograms showing the distribution of each measure used in the survey.

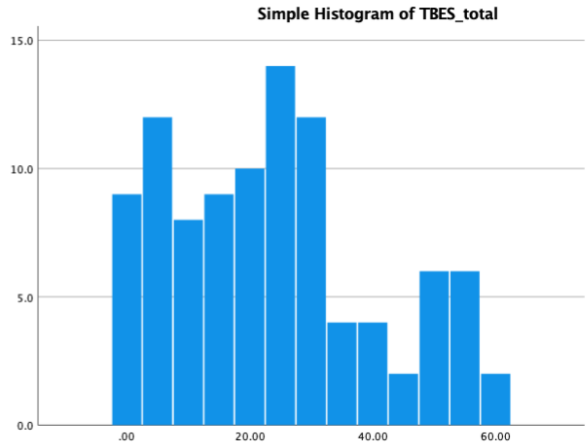




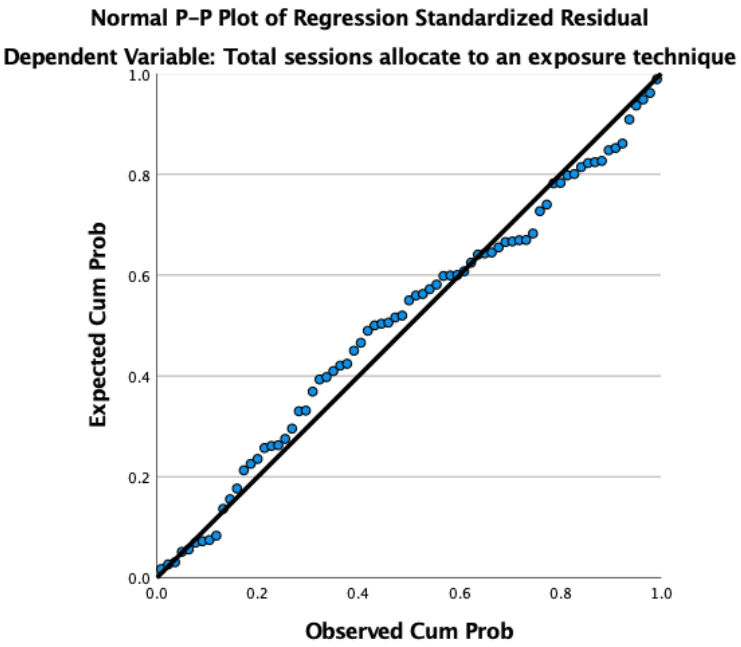


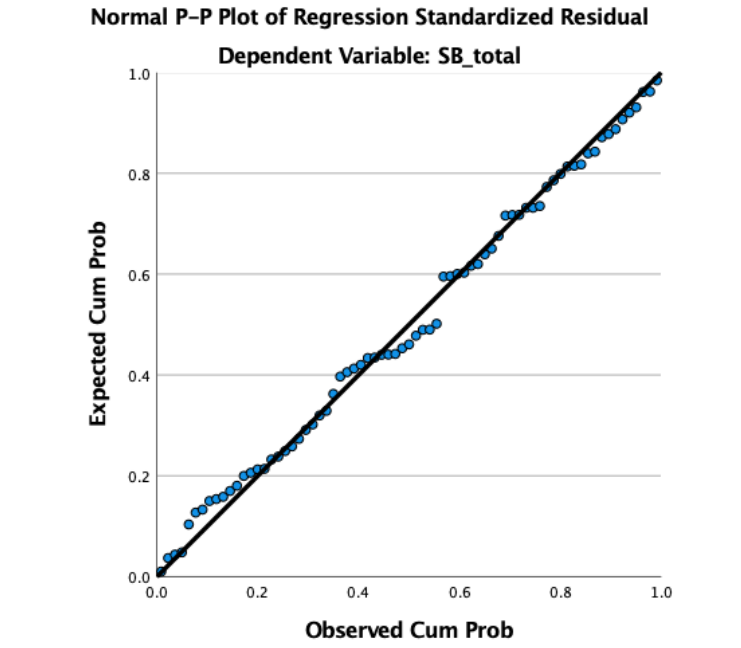




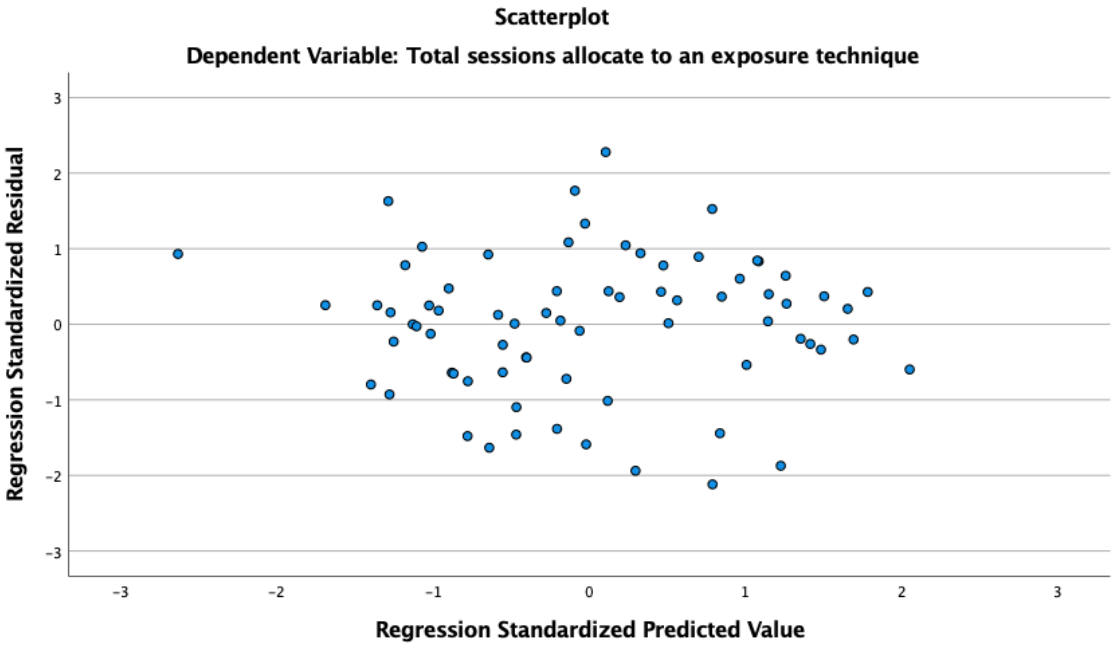


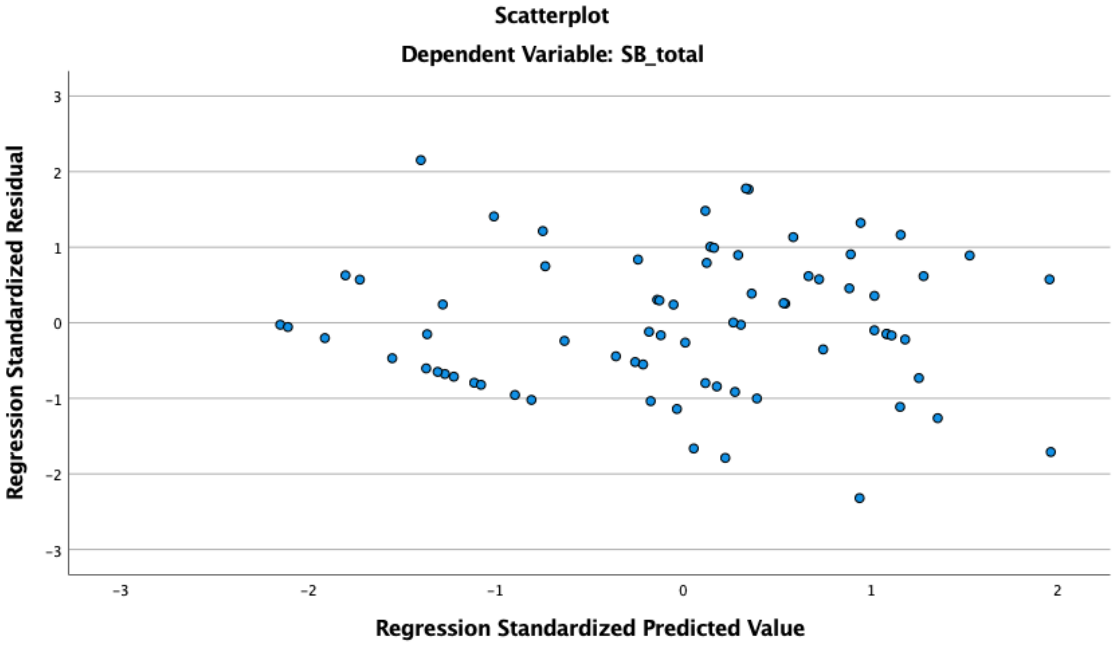
Appendix D. P-P plot showing normal distribution





Appendix E. Scatterplot showing homoscedasticity





Appendix F. Measures scale scores and standard deviations

Measure (potential range)	Cronbach's alpha	Range	Analytic sample N=120 (mean (SD)	CBT only N=68 (mean (SD)	ACT & CBT N=43 (mean (SD)
Cognitive fusion (7-49)	.929	31	22.09 (7.71)	25.44 (6.97)	16.93 (5.83)
Experiential avoidance (31-186)	.976	125	81.30 (30.74)	96.85 (26.95)	58.29 (22.19)
Distress aversion	.937	52	32.96 (12.81)	39.12 (11.54)	24.16 (9.62)
Behavioural avoidance	.957	51	27.37 (11.57)	32.65 (10.10)	19.52 (9.83)
Distract & supress	.930	34	20.71 (8.18)	25.03 (7.16)	14.14 (5.14)
Overall empathy (0-56)	.822	36	42.06 (8.25)	44.09 (7.79)	38.98 (7.76)
Empathetic concern	.710	16	22.64 (4.26)	23.82 (4.21)	20.98 (3.72)
Perspective taking	.764	20	19.42 (5.11)	20.26 (4.62)	18.00 (5.34)
Anxiety sensitivity (0-72)	.930	49	11.32 (10.32)	15.27 (9.74)	5.62 (8.16)
Physical concerns	.905	18	3.22 (3.91)	4.32 (3.70)	1.74 (3.90)
Cognitive concerns	.943	17	1.55 (2.85)	1.93 (2.78)	0.84 (2.66)
Social concerns	.886	20	6.24 (5.00)	8.52 (4.94)	2.95 (2.60)
Negative beliefs about exposure (0-84)	.961	60	23.97 (16.57)	31.62 (15.24)	12.24 (10.21)

Appendix G. Preregistration

CONFIDENTIAL - FOR PEER-REVIEW ONLY

Exploration of the use of Exposure-Based Therapies by Cognitive Behavioural Therapists in the UK - 2022 (#85892)

Created: 01/22/2022 03:57 AM (PT)

This is an anonymized copy (without author names) of the pre-registration. It was created by the author(s) to use during peer-review.
A non-anonymized version (containing author names) should be made available by the authors when the work it supports is made public.

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1) Have any data been collected for this study already?

No, no data have been collected for this study yet.

2) What's the main question being asked or hypothesis being tested in this study?

1. High levels of exposure-based therapy use: We hypothesise that more than 80% of clinicians will choose an exposure-based intervention.
2. We predict more than 50% of clinicians will use safety behaviours when delivering exposure based therapies.
3. We hypothesise clinicians trained in acceptance and commitment therapy (ACT) will show less experiential avoidance and cognitive fusion (psychological inflexibility) and less safety behaviour use than clinicians only trained in cognitive behaviour therapy.

4 & 5. We predict that negative beliefs about exposure based therapies will be related to and predict lower exposure based therapy use and higher clinician safety behaviour use.

6&7. We hypothesise that experiential avoidance and cognitive fusion (psychological inflexibility) will be related to and predict lower exposure based therapy use and higher clinician safety behaviour use.

8&9. We predict that higher levels of anxiety will be related to and predict lower exposure based therapy use and higher clinician safety behaviour use. 10&11. We predict that higher levels of empathy will be related to and predict lower exposure based therapy use and higher clinician safety behaviour use.

3) Describe the key dependent variable(s) specifying how they will be measured.

Use of exposure therapy will be collected by asking participants their treatment plan for a case vignette. Participants are given a list of possible techniques/ strategies, and asked which strategies they would use in their 20 sessions. Clinicians will be classed as choosing an exposure-based therapy treatment plan if at least half of the session are allotted to an exposure strategy.

Use of safety behaviours will be collected using the Exposure Implementation Beliefs Scale (EBIS; Meyer et al., 2020). Participants will be asked to rate how much they believe safety behaviours are necessary. The measure is scored by summing up the items, a higher score suggests stronger beliefs and therefore more safety behaviour use.

Experiential avoidance will be measured using the Multidimensional Experiential Avoidance Questionnaire (MEAQ; Gámez et al., 2011). The measure is scored by summing the items, some items are reverse scored, higher scores suggest more experiential avoidance.

Cognitive fusion will be measured using the Cognitive fusion questionnaire (CFQ) (Gillanders et al., 2014). The measure is scored by summing the items, with higher scores indicating higher cognitive fusion. The MEAQ and CFQ may also be combined to create a psychological inflexibility score, with higher scores suggesting more psychological inflexibility.

Anxiety sensitivity measured using the Anxiety Sensitivity Index-3 (ASI-3; Taylor et al., 2007). Participants are asked how typical each item is of them in general, answers are on a 5-point Likert scale ranging from 'very little' to 'very much'. The measure is scored by summing the items, with higher scores indicating higher anxiety sensitivity.

Empathy sensitivity measured using the empathetic concern and perspective taking sub-scales of the Interpersonal

Reactivity Index (IRI; Davis, 1983). The measure is scored by summing the items, with higher scores indicating higher empathy.
Beliefs about exposure therapy measured using the Therapist Beliefs about Exposure Scale (TBES; Deacon et al., 2013). The TBES is scored by summing the items, with higher scores suggesting more negative beliefs about exposure therapy.

4) How many and which conditions will participants be assigned to?

N/A

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.

H1 and H2 will be tested using descriptive statistics and binomial test (hypothesis 1 & 2)
H3 will be tested using a T-test to compare psychological inflexibility and safety behaviour use in acceptance and commitment trained therapists with therapists who are not trained in ACT.
H4 to H11 will be tested using correlation and multiple linear regression analysis to test.
The predictors for the multiple regression will be negative beliefs about exposure (TBES), empathy (IRI), anxiety (ASI3) & psychological inflexibility (CFQ & MEAQ)

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.

We will not include data if less than 10% of the survey is completed or if they have only completed the demographic questions. If only the demographic questions are missing the data will still be used, these questions have been placed at the end.

7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.

We will collect as much data as possible over 3 months, aiming for at least 100 participants.

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)

N/A