The impact of clinician and client characteristics on clinicians' decision-making

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Declaration

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Word Count

Literature review	
Without references and tables	7987
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Lay summary

Psychological therapists are required to make clinical decisions routinely during their practice. However, it is not clear that clinicians are always perfect decision-makers. This research will investigate clinicians' judgement biases. This thesis is divided into two sections.

Literature review

First, a literature review examines how clinicians' decisions on referring, assessing, and treating their clients are influenced by their clients' gender and sexual characteristics. A systematic search of four scientific databases found forty-seven papers that addressed this topic. The findings were mixed. Client gender influenced whether clinicians referred clients to other professionals, with females being more likely to be referred than males. Similarly, client gender and biological sex influenced the diagnoses clinicians gave to clients, and the judgements they made about the client's psychological functioning. For example, female and male clients with the same mental health difficulties were given different diagnoses. Client sexual orientation did not influence the diagnoses clinicians made. However, client sexual orientation did influence the judgements that clinicians made about clients' psychological functioning. Few studies examined the influence of client gender and sexual characteristics on clinicians' treatment decisions. Most of the studies included in the review examined binary client genders (e.g., male/female) and sexual identities (heterosexual/ homosexual). Future research is needed to explore the impact of diverse client gender and sexual identities on clinical decision-making related to psychological treatment.

Research report

Second, an empirical research project explores the impact of clinician and client characteristics on clinicians' preference for, and reported use of, imaginal exposure

therapy to treat Post-Traumatic Stress Disorder (PTSD). Imaginal exposure is effective for PTSD. However, many psychological therapists do not use this evidence-based treatment with their clients. The results of this study suggest that clinicians are more likely to delay using imaginal exposure if they find it difficult to tolerate their own uncertainty or if they have negative attitudes towards exposure. In contrast, while clinicians with more positive attitudes towards exposure therapy are more likely to use imaginal exposure with their clients. Furthermore, clinicians are less likely to plan for imaginal exposure with female than male clients. Psychological therapists need to be aware of how their own anxiety and beliefs about gender might steer them away from providing effective treatment to their clients.

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Section one: Literature review

Are psychological therapists' clinical decisions influenced by client gender and sexual characteristics?

Abstract

Objectives. This systematic review examined how client characteristics impact upon clinicians' clinical decision-making, focusing on the characteristics of biological sex, gender identity, and sexual orientation

Method. A systematic literature search of four electronic bibliographic databases (PsycINFO, Scopus, PubMed, Medline, and Web of Science) was conducted. The 47 papers included examined the impact of client biological sex, gender identity, and/or sexual orientation on psychological therapists' decision-making. The review was pre-registered [CRD42021215865] and followed PRISMA guidelines.

Results. There was mixed evidence for the impact of client gender and sexual characteristics on clinical decision-making. Clinicians' diagnostic decisions were indicative of gender bias. Likewise, clinicians were more willing to refer and treat females, and gave them a more favourable prognosis. Client sexual orientation did not influence clinicians' diagnostic decisions. However, clinicians showed a preference for working with lesbian clients compared to heterosexual clients. Moreover, lesbian, and gay clients were rated as having greater relational functioning, motivation for therapy, and need for medication than heterosexual clients

Conclusions. The findings of this review suggest that clinicians hold social biases that influence important aspects of their clinical decision-making. Further research should examine how diverse client gender and sexual identities influence decision-making, particularly related to treatment.

Practitioner points

- Clinicians need to be aware that clients' gender and sexual characteristics might bias their decision-making about referrals and assessment.

- Clinicians, supervisors, and services should examine the influence of social biases on clinicians' decision-making through self-appraisal, supervision, and outcome monitoring.

Key words: Cognitive bias, Sexual Orientation, Gender Bias, Psychological Therapist, Decision-making

Introduction

Psychological therapists are required to make clinical decisions during their practice. As with all human function in a complex world, clinicians rely upon cognitive heuristics and cognitive biases. However, it is not clear whether those biases include responding to specific client characteristics. This systematic literature review will examine how clinical decisions are influenced by client sexual and gender characteristics.

1.1 Clinical decision-making: “romanticism” and “empiricism”

Psychological therapists make clinical decisions that impact upon clients’ access to treatment, how clients’ difficulties are understood, and the treatment they receive. How do clinicians make decisions with such significant consequences? McHugh (1994) argues that psychological therapists’ practices can be understood as belonging to one of two opposing epistemic philosophies - either “romanticism” or “empiricism”. “Empiricists” prioritise scientific evidence in reaching clinical decisions. In contrast, clinicians who embody “romanticism” prioritise their own intuition.

The available meta-analytic evidence appears to support the validity of the empiricist position, demonstrating that scientific evidence is often superior to, and at its worst equal to, subjective clinical judgement (Garb, 1998; Grove et al., 2000; Meehl, 1954). Despite these findings, some clinicians have been shown to continue to prioritise their own clinical judgement. They rely on their own theories when reasoning about mental disorders (e.g., Kim & Ahn, 2002; De Kwaadsteniet et al., 2013), and they fail to deliver the optimum evidence-based treatment despite having the necessary tools (e.g., treatment protocols; Waller, 2009). What cognitive processes in the clinician might explain this prioritising of opinion over evidence?

1.2 Psychological therapists' cognitive processes

Clinicians[1] who rely on their intuition are more likely to use cognitive heuristics - a series of mental shortcuts - to make clinical decisions (Kahneman et al., 1982). These heuristics are adaptive overall for humans, as they allow an individual to quickly synthesise complex information. However, they can decrease the accuracy of decision-making in specific situations (Tversky & Kahneman, 1981) and result in errors in clinical judgment (Garb, 1998). An example might be the clinician who assumes that all anorexia nervosa patients are Caucasian, and hence fails to identify patients of other ethnicities.

Lilienfeld et al. (2013) highlight how research has illustrated that clinicians make clinical decisions in ways that are consistent with cognitive heuristics and biases. Clinicians have shown: confirmation bias (the tendency to seek out evidence consistent with our hypotheses and dismiss evidence that is not) when estimating treatment effectiveness (Brosan, 2008; Quinsey et al., 2006); affect heuristic (relying on feelings to guide behaviour) in drifting from evidence-based treatments (Brown et al., 2013; Meyer et al., 2014; Waller, 2009); and representativeness heuristic (assessing similarity of objects and organising them based around the category prototype) when making diagnoses (Dawes, 1986; Garb, 1996).

1.3 Clinical decision-making: stereotypes and prototypes

Clinicians, like their clients, have been shown to use stereotypes and prototypes (Blashfield et al., 1985; Evans et al., 2002) when making judgements. A prototype is a clinician's conception of a hypothetical client who best exemplifies a particular disorder (Garb, 1998). Stereotypes are beliefs about an individual's

[1] Trainee and qualified health care professionals delivering psychological services to clients with mental health problems.

capabilities or attributes that are based upon their social category membership (e.g., being female). They are often engrained beliefs that operate in a largely automatic fashion. Stereotypes allow people to simplify what they observe and make predictions about others (e.g., Devine & Sharp, 2009; Fiske & Taylor, 2013). However, stereotypes can also result in inaccurate assessments of others. For example, when making a clinical judgement about a client, the clinician might compare the client to their own concept of a "typical" person who belongs to the group the clinician has characterised the client as belonging to. Clinicians have been shown to hold stereotypes based on specific client variables, including race (Abreu, 1999), social class (Garb, 1997), gender (Riggs et al., 2017) and sexuality (Mohr et al., 2013).

1.4 Sex and gender diversity: Developing constructs

Societal understanding of the diversity of people's sexes, genders and sexualities has evolved in recent years, and is constantly changing. The author of this review has sought to use current and inclusive terminology related to gender and sexual diversity. A full list of current definitions taken from the American Psychiatric Association (APA; 2012; APA, 2015) and Stonewall (2021) (an organisation that campaigns for the equality of lesbian, gay, bi and trans people) is provided in Appendix A.

Historically, the terms "sex" and "gender" have been used interchangeably However, they are not synonymous. ***Sex*** refers to a person's biological status and is typically categorized as male, female, or intersex. There are several indicators of biological sex, including sex chromosomes and external genitalia (APA, 2012). In contrast, ***Gender*** is socially constructed, and can be defined as the psychological, social, and cultural characteristics frequently associated with the biological categories of male and female (APA, 2012). An individual can be identified as ***Cisgender*** when

they are content to remain the gender they were assigned at birth (Schilt & Westbrook, 2009). However, it is being acknowledged increasingly in some countries (e.g., United Kingdom) that a person's gender identity (their inherent sense of being male, female, or an alternative gender) may not correspond to a person's sex assigned at birth. Moreover, ***Gender identity*** may not correspond with the gender other people categorise them as belonging to, as a person's gender identity is internal, and therefore not necessarily visible to others (APA, 2015).

1.5 Diversity in sexual orientation

Similarly, society's understanding and acceptance of the diversity of individual's sexual orientations have broadened. ***Sexual orientation*** is a component of identity that includes a person's sexual and emotional attraction (APA, 2015). Historically, categories of sexual orientation have included attraction to members of one's own sex, attraction to members of the other sex, and attraction to members of both sexes. However, it is increasingly acknowledged that sexual orientation does not always appear in such definable categories, and instead occurs on a continuum (APA, 2015; Klein, 1993).

1.6 Gender diversity, sexuality diversity and psychological therapy

Previously, non-cisgender and non-heterosexual orientations have been pathologized within the field of mental health. For example, homosexuality was characterised as a form of psychopathology until 1973 (Diagnostic and Statistical Manual of Mental Disorders, American Psychiatric Association, 1968). However, the position of mental health professionals, including psychologists, towards gender and sexual diversity therapists has evolved. For example, The British Psychological Society's (BPS; 2019) guidelines for psychologists working with gender, sexuality, and relationship diversity (GSRD) emphasise that diverse gender and sexual identities are

not pathological. The guidelines promote equality, encourage psychologists to engage in reflective practise, and acknowledge that psychologists are "unlikely to be bias free" (BPS, 2019, pp. 15)

Most of the existing research exploring the impact of client gender and sexuality on psychotherapeutic practice has focused on binary understandings of gender (female or male) and sexuality (heterosexual or homosexual). Such research does not reflect the new broader understandings of these aspects of identity. Moreover, 'sex' and 'gender' have been used in the literature interchangeably, despite the fact these aspects of identity are not synonymous (Diamond & Butterworth, 2008). A brief overview will be provided of what is known about the impact on clinical decision-making of client gender, client sexual orientation, and the intersection of these characteristics.

1.7 Gender and gender bias

Psychological therapists have been shown to hold stereotypes related to the binary gender groups (female/male) that are reflective of the gender-based stereotypes that exist in wider society (e.g., Broverman et al., 1970). Previous narrative reviews of the literature related to clinician bias have suggested that there is equal evidence regarding the presence and absence of gender bias. The most consistent evidence suggests females are judged to be more as more psychologically disturbed than males, while the least consistent evidence is for gender bias in diagnostic and severity judgments (Garb, 1997; Lopez, 1989)

Whilst there has been significantly less research exploring clinicians' attitudes and behaviour towards non-cisgender clients, a recent review of 13 studies found that mental health professionals generally hold positive attitudes towards transgender clients (Brown et al., 2018). The mental health experiences of individuals who are not

cis-gendered has often been examined in research that intersects gender identity and sexuality. This type of research has frequently been termed 'lesbian, gay, bisexual, transgender, and queer' (LGBTQ) research.

1.8 Sexual orientation, mental health and psychological therapy

LGBTQ individuals experience higher rates of anxiety, depression and substance misuse disorders (Chakrabortyet al., 2011; Dhejne et al., 2016; King et al., 2008; Meyer, 2003; Sandfort et al., 2001) and utilise mental health services at higher rates (Bieschke et al., 2007), compared to heterosexual/cisgender people. However, research suggests that LGBTQ individuals have poorer therapy outcomes compared to their heterosexual/cisgender counterparts (Rimes et al., 2018). Moreover, differences exist between the therapy outcomes of LGBTQ individuals. For example, lesbian and bisexual women have been shown to have poorer treatment outcomes than gay or bisexual men (Rimes et al., 2018). This difference might be explained by 'intersectionality', a paradigm that addresses the multiple dimensions of identity and social systems as they intersect with one another and relate to inequality, such as racism, genderism, and heterosexism, among other variables (APA, 2017b). In this case it might be that sexual orientation and gender are two aspects of the lesbian and bisexual females' identities that intersect and impact more strongly on their experience of treatment. However, there has been limited research examining the causes of this difference (Matsuno & Budge, 2017).

LGBTQ individuals' increased rates of mental health difficulties can be understood using minority stress theory (Meyer, 2003). This theory proposes that experiences of discrimination create a stressful social environment, which can lead to mental health problems in people who belong to stigmatized minority groups (Friedman, 1999). For instance, a direct connection has been found between

experiences of discrimination and greater adverse mental health difficulties for transgender people (Rotondi, 2012), lesbians, and gay men (Bostwick et al., 2014).

However, as well as understanding the role of such discrimination in everyday life for these populations, it is important to understand whether there is an impact of the attitudes and behaviours of the therapists who are meant to be supporting the individual with their mental health. As with stereotypes related to gender, mental health clinicians appear to hold biases towards clients based on the client's sexual orientation. For example, trainee and qualified psychological therapists have been shown to hold stereotypes about gay men (Boysen et al., 2011), and show a positive bias towards heterosexuals (Bartlett et al., 2009). Glasman and Albarracín's (2006) meta-analysis suggested that a person's attitudes are highly predictive of their future behaviour. Given that clinicians have been shown to hold beliefs and attitudes reflective of stereotypes and bias, it is important to establish whether these stereotypes and biases impact on clinical decision-making.

1.9 Summary

Society's understanding and recognition of the diversity of possible gender identities and sexual orientations has evolved, with these aspects of identity being seen as more than binary categories. Previous non-systematic reviews of the available literature have found mixed evidence regarding the impact of client gender on clinical decision-making. However, non-systematic narrative reviews are, by their nature, prone to bias resulting from the attitudes of those carrying out the review. Therefore, a more objective approach is needed, to bypass the risk that the reviewer's opinion will bias the conclusions reached. Until now, no systematic reviews have been reported that critically appraise the available literature related to the impact on clinical decision-making of client gender (including non-binary and non-gendered identities)

or client sexuality. Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines (Moher et al., 2009) will be followed, to maximise objectivity and replicability.

1.10 Aims

This overall aim of this systematic review is to examine how client characteristics impact upon clinicians' clinical decision-making, focusing on the characteristics of biological sex, gender identity, and sexual orientation. Specifically, the review will examine how these client characteristics impact upon clinicians' referral, assessment, and treatment decisions. Thus, the specific issues to be addressed will be:

1. whether the client's biological sex impacts on clinicians' decision-making regarding referral, assessment, and treatment.
2. whether the client's gender impacts on clinicians' decision-making regarding referral, assessment, and treatment.
3. whether the client's sexual orientation impacts upon clinicians' decision-making regarding referral, assessment, and treatment.
4. whether client's gender/gender identity and sexual orientation interact, and impact upon clinicians' decision-making regarding referral, assessment, and treatment.

Method

2.1 Design

Prior to commencing the review, the Cochrane Database of Systematic Reviews was examined; no systematic review had been performed on this topic. The review protocol was submitted to the International prospective register of systematic reviews (PROSPERO) on the 21st March 2021 and accepted on the 30th of March 2021 (Appendix B). Following consideration of the available evidence, a meta-analysis was deemed unsuitable due to wide heterogeneity between the included studies, and the absence of required statistical information (e.g., means, standard deviations and sub-group sample size). Therefore, a narrative synthesis of the included studies was conducted to address the aims of the review.

2.2 Search strategy

To identify eligible articles, a systematic literature search was conducted using the PsycINFO, Scopus, PubMed, Medline, and Web of Science databases. The 'grey' literature was not searched, to ensure that the research included had passed the quality check of peer review. The search period was from the beginning of the databases to 16th March 2021. Boolean operators "AND" and "OR" were used to combine the "population", "intervention", "comparator" and "outcome" (see Table 1 for specific search terms used), where appropriate key search terms were "exploded" to include other related subject headings. Reference lists from the papers included were also searched by hand for further eligible studies.

Table 1

Search terms used in the systematic literature search

	Specific search terms
Population	"psychological therapist*" OR "cognitive behavio* therapist*" OR "psychologist*" OR "psychotherapist*" OR "mental health profession*" OR "mental health clinician*" OR "mental health personnel*" OR "nurse therapist*" OR "behavio* therapist*" OR "family therapist" OR "counsellor*" OR "counselor*"
Intervention	"waiting list*" OR "wait list" OR "watchful wait" OR "referral" OR "diagnos*" OR "assessment*" OR "treatment decision*" OR “clinical decision-making” OR “clinical judgement” OR “formulat*” OR "treatment" OR "intervention" OR “psychological therap*” OR "behavio* therapy" OR "psychotherapy" OR "psychological care" OR "psychological support" OR "discharge"
Comparator	**“gender*”** OR “gender identit*” OR “transgender” OR “agender” OR “gender-diverse” OR “gender nonconforming” OR “gender expression” OR “cisgender” OR “gender differen*” OR “gender bias*” OR “gender discrimination” OR “gender inequality*” OR “gender stereotype*” OR “LGBT*” OR “queer” OR “gender non-binary” OR “gender fluid” OR “OR “transphobi*” OR “male” OR “female” OR **“sex”** OR “sexism” OR **“sexuality”** OR “sexual attraction” OR “sexual orientation” OR “heterosexual*” OR “homosexual*” OR “gay” OR “bisexual” OR “lesbian” OR “pansexual”
Outcome	"waiting list*" OR "wait list" OR "watchful wait" OR "referral" OR "diagnos*" OR "assessment*" OR "treatment decision*" OR “clinical decision-making” OR “clinical judgement” OR “formulat*” OR "treatment" OR "intervention" OR “psychological therap*” OR "behavio* therapy" OR "psychotherapy" OR "psychological care" OR "psychological support" OR "discharge"

2.3 Screening

Table 2 shows the inclusion and exclusion criteria used for screening. There were no limits on location of the studies. Figure 1 outlines the process of the literature search in a PRISMA diagram (Moher et al., 2009). A total of 39,449 articles were identified through database searching. Duplicate articles were then removed (26,040); the remaining 13,409 articles were then screened by title. The remaining 137 articles were then screened by abstract, resulting in 83 articles that were potentially eligible. A further six were identified from hand-searching. Of this total of 89 articles, 42 papers were excluded because: participants were not providing psychological services (n = 12); they did not include a comparator (n = 9); the outcome was not clinicians' decision (n = 11); or they solely assessed attitudes and not clinical decision-making (n=10). Thus, the final sample consisted of 47 studies.

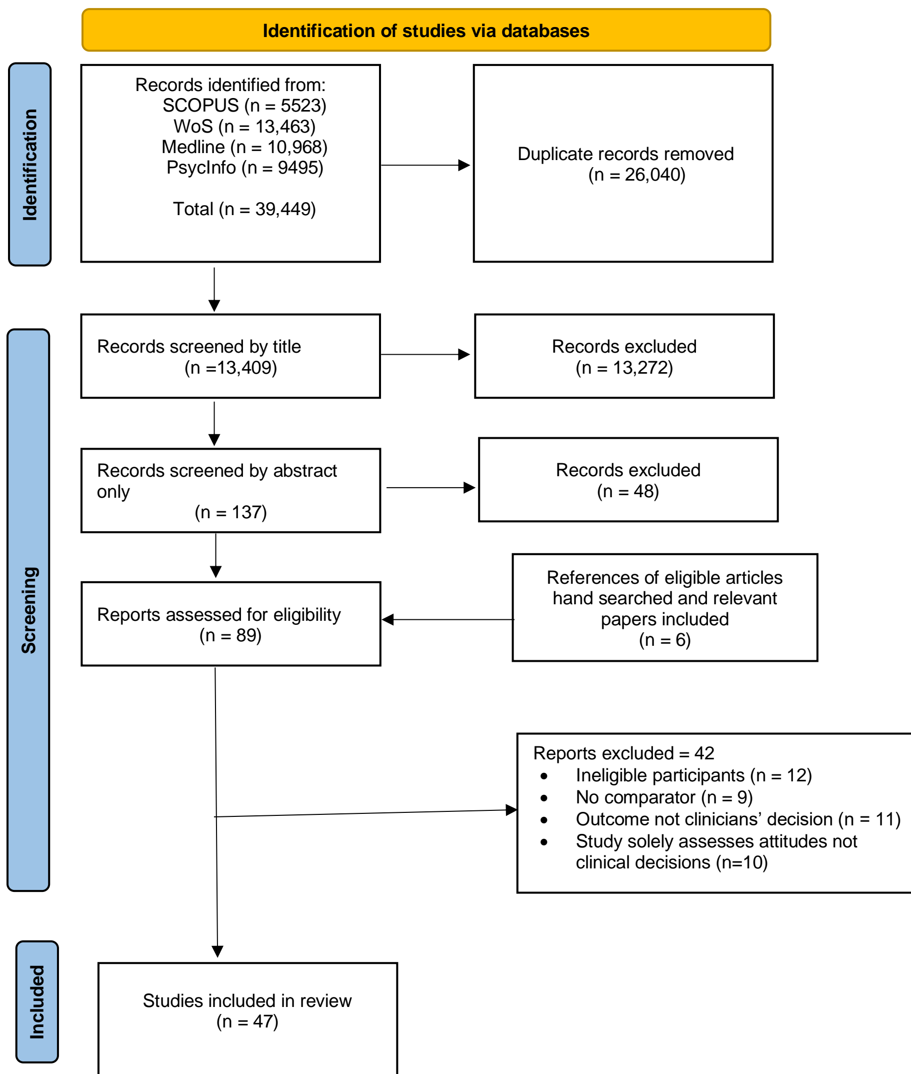
Table 2

Summary of study inclusion and exclusion criteria

Inclusion criteria	Exclusion criteria
Papers examining how client biological sex, gender, and sexual orientation impact upon clinical decision-making.	Papers in which clinicians are not delivering psychological services to individuals with mental health problems.
Papers in which clinicians are delivering psychological services to individuals with mental health problems (including qualified and trainee clinicians)	Papers not published in English
	Papers not published in a peer-reviewed journal.
	Papers that do not include a comparator (e.g., they do not compare clinical decisions between clients differing biological sexes, genders, or sexual orientation)

Figure 1

PRISMA diagram



2.5 Data extraction

The following study characteristics were extracted from the eligible articles: authors, publication year, country of recruitment, participant characteristics, study details, measures, and main findings in relation to the impact of client gender and sexual characteristics on clinical decision-making. Effect sizes were extracted for articles where possible. For studies that reported means, standard deviations and group sample size, Cohen’s d effect sizes were calculated. An online, between-subjects effect size calculator was used. The size of the effect was interpreted using Cohen’s (1988) guidance, where $d = 0.2$ is interpreted as a small effect, $d = 0.5$ is a moderate effect, and $d = 0.8$ constitutes a large effect.

Given that gender and sex should not be viewed as synonymous (Diamond, 2017), studies were categorised and presented according to the aspect of the client’s identity they stated they examined including: gender/gender identity, intersection of gender identity and sexual orientation, sexual orientation, and biological sex. These terms have been operationalised and summarised in Table 3.

Table 3

Summary of definitions used in the review

Term	Definition
Gender	A socially constructed aspect of identity that includes the psychological, social, and cultural features and characteristics frequently associated with the biological categories of male and female (Good et al.,1990)
Gender identity	A person's innate sense of their own gender, whether male, female or something else (see non-binary below), which may or may not correspond to the sex assigned at birth (Stonewall, 2021)
Sexual orientation	A person's sexual attraction to other people, or lack thereof. Along with romantic orientation, this forms a person's orientation identity (Stonewall, 2020)
Intersection of gender and sexual orientation	The interaction between the social identities of gender, gender identity and sexual orientation.
Biological Sex	refers to a person's biological status and is typically categorized as male, female, or intersex (APA, 2012)

2.6 Quality assessment

To assess the methodological quality of the articles, The QualSyst checklist (Kmet, Lee, & Cook, 2004) (Appendix C) for critical appraisal of quantitative methodology was used. The checklist's 14 items were scored depending on the degree to which each item was met ("yes" = 2, "partial" = 1, "no" = 0). A total quality

rating score was produced for each paper by summing the total score obtained across relevant items and dividing by the total possible score. Items not applicable to a particular study's design were excluded from this calculation. Appendix D shows the quality appraisal for each study. The QualSyst tool recommends removing any papers that obtain a quality rating score lower than 75% of the total possible score from the review. However, due to the small number of studies that explore each specific client characteristic and element of clinician decision-making included in this review, papers of poorer quality were not removed. The Qualsyst checklist has no published categorisation system. Therefore, the author created a categorisation summarised in Table 4. The quality of the papers was considered in the analysis, with higher quality papers having a greater influence over conclusions drawn.

Table 4

Summary of methodological quality categorisation system

Category	Percentage rating (%)
Excellent	>80
Good	70-79
Fair	60-69
Poor	<59

To assess interrater reliability for the quality ratings, a peer researcher conducted an independent quality assessment of 20% of the papers, using the QualSyst checklist (Kmet et al., 2004). The second rater was blind to the first rater's scoring. Only two discrepancies in ratings for specific items were found. These were discussed and resolved.

Results

First, an overall summary of the characteristics of all included studies is presented. Thereafter, a summary of the findings and methodological quality of the included studies is provided.

3.1 Characteristics of included studies

Table 5 presents an overview of the specific characteristics of each of the included studies.

Table 5
Characteristics of included studies

Authors (Year)	Title of Study	Location (Sample size)	Gender (%)	Mean age (years)	% of psychologists	Primary Aim	Design	Measures
CLIENT GENDER AND GENDER IDENTITY								
Referral								
Almaliah-Rauscher et al. (2020)	Will you treat me? I'm suicidal!" the effect of client gender, suicidal severity, and therapist characteristics on the therapist's likelihood to treat a hypothetical suicidal client.	Israel (331)	M (18) F (81)	39	58	To examine the effect of the patient's gender and suicidal severity on clinician willingness to treat and referrals	Analogue using written vignettes	• Novel scale rating clinician willingness to treat the potential client and likelihood to refer the client to other professionals.
Assessment								
Anzani et al. (2019)	Facing transgender and cisgender patients: The influence of the client's experienced gender and gender identity on clinical evaluation	Italy 218	M (0) F (100)	46	-	To investigate the role of anti-transgender bias in the psychological assessment of transgender (vs. cisgender) patients	Analogue using written vignettes	• Global Assessment of Functioning Scale • Novel rating scale of psychopathology severity
Bruchmuller et al. (2012)	Is ADHD diagnosed in accord with diagnostic criteria? Overdiagnosis and influence of client gender on diagnosis	DEU (437)	M (32) F (68)	53	55	To assess whether clinicians are influenced by the representativeness heuristic rather than using the DSM–IV/ICD–10 criteria required for diagnosis of ADHD	Analogue using written vignettes	• Free indication of diagnosis using ICD–10 code
Schwartz et al. (2011)	Gender and diagnosis of mental disorders: Implications for mental health counselling.	USA (10)	M (30) F (70)	-	0	To examine whether gender prevalence differences be found between diagnosis of specific mental health disorders?	Observational	• Diagnosis using Structured Clinical Interview for DSM-IV

Authors (Year)	Title of Study	Location (Sample size)	Gender (%)	Mean age (years)	% of psychologists	Primary Aim	Design	Measures
Woodward et al. (2009)	Clinician bias in the diagnosis of Posttraumatic Stress Disorder and Borderline Personality Disorder	USA (119)	M (40) F (60)	52	100	To examine the potential biasing effect of client gender on the diagnosis of BPD versus PTSD	Analogue using written vignettes	• Free indication of diagnosis, and two rule out diagnoses using DSM-IV
Perrin et al. (2008)	Removing the tinted spectacles: Accurate client emotionality assessment despite therapists' gender stereotypes	USA (248)	M (45) F (55)	48	0	To examine whether psychotherapists' gender stereotypes bias their assessments of client emotionality	Analogue using audio recorded contrived therapy session	• Observer Alexithymia Scale • Beliefs About Men's Emotions
Follingstad et al. (2004)	Psychologists' judgments of psychologically aggressive actions when perpetrated by a husband versus a wife	USA (712)	M (56) F (44)	52	100	To determine whether clinicians' assessments male and females psychologically aggressive actions differs	Survey	• Psychological abuse survey
Danzinger & Welfel (2000)	Age, gender & health: An Empirical Analysis	USA (93)	M (29) F (71)	47	32	Does the age, health and gender of clients affect clinicians' perception of client competence?	Analogue using written vignettes	• The Age Bias Questionnaire
Adam & Betz (1993)	Gender differences in counselors' attitudes towards attributions about Incest	USA (111)	M (40) F (60)	-	0	To examine the extent to which offender's and victim's gender as well as counsellor gender were related to counsellors' attributions about and attitudes toward cases of incest	Analogue using written vignettes	• Jackson Incest Blame Scale • Relative Responsibility Scale • Incest Attitudes Scale

Authors (Year)	Title of Study	Location (Sample size)	Gender (%)	Mean age (years)	% of psychologists	Primary Aim	Design	Measures
DeJong et al. (1993)	Sex role stereotypes and clinical judgement: How therapists view their alcoholic patients	NL (98)	M (44) F (56)	36.3	-	To examine stereotypes of interpersonal behaviour of male and female alcoholics in general among therapists, and the potential influence of gender and interpersonal style of the therapist on these stereotypical beliefs.	Survey	• Extended interpersonal checklist
Lopez et al. (1993)	Gender bias in clinical judgment: An assessment of the analogue method's transparency and social desirability	USA (147)	M (67) F (33)	46	100	To determine whether clinicians discern the intent of an analogue study of gender bias in clinical judgment and, if so, whether they respond in a socially desirable manner.	Analogue using written vignettes	• Novel rating scale of clients' symptom severity, prognosis, help-giving. • Settin's 20 item symptom rating scale
Agell & Rothblum (1991)	Effects of clients' obesity and gender on the therapy judgments of psychologists	USA (282)	M (66) F (35)	-	100	To investigate whether psychologists who practice therapy stereotype obese clients negatively and according to their gender	Analogue using written vignettes	• Person Perception Inventory.
Austad & Aronson (1987)	The salience of sex role instructions to mental health professionals	USA (80)	-	-	-	To examine how gender might affect clinical judgment.	Analogue using written vignettes	• Novel rating scale of positive mental health, negative mental health, feminine and masculine treatment goal recommendations

Authors (Year)	Title of Study	Location (Sample size)	Gender (%)	Mean age (years)	% of psychologists	Primary Aim	Design	Measures
Settin (1981)	Clinical judgement in geropsychology practice	USA (418)	M (81) F (19)	46	100	To investigate whether clinicians' perceptions of clients might be negatively influenced by client characteristics such as client class and gender, or therapist characteristics	Analogue using written vignettes	• Diagnosis using DSM-II criteria • Novel rating of therapist expectations • Novel rating of six social characteristics and on characteristics of dementia
Settin & Bramel (1982)	Interaction of Client Class and Gender in Biasing Clinical Judgement	USA (418)	M (51) F (49)	44	33	To examine client gender and class determinants of therapists' perceptions of clients	Analogue using written vignettes	• Novel rating scale of recommended intervention, prognosis, interest in providing intervention, and six social characteristics
Treatment								
Kugelmass (2016)	"Sorry, I'm Not Accepting New Patients": An Audit Study of Access to Mental Health Care	USA (320)	-	-	-	To examine how client gender, race and class impacts upon access to psychotherapy	Experimental	• Whether pseudo patient was offered an appointment • Whether pseudo patient was offered preferred appointment
Stenzel & Rupert (2004)	Psychologists' use of touch in individual psychotherapy	USA (470)	M (46) F (54)	51	85	To investigate the role of client and psychologist characteristics on the use of touch in psychotherapy	Survey	• Novel questionnaire regarding frequency of clinicians' use of touch with male and female clients.
Stake & Oliver (1991)	Sexual contact and touching between therapist and client: A survey of psychologists' attitudes and behaviour	USA (270)	M (76) F (24)	-	100	To examine differences by gender of clinicians (a) touching & sexually suggestive behaviours, (b) responses to feelings of attraction, and (c) reactions to client reports of previous therapist sexual contact	Survey	• Novel rating scale of clinician behaviours including touch, overt sexual behaviour, and suggestive behaviour.

Authors (Year)	Title of Study	Location (Sample size)	Gender (%)	Mean age (years)	% of psychologists	Primary Aim	Design	Measures
Schover (1981)	Male and Female Therapists' Responses to Male and Female Client Sexual Material: An Analogue Study	USA (72)	M (50) F (50)	44	33	To investigate psychotherapists" verbal replies, affective reactions, and clinical judgments in response to audiotapes of client sexual material	Analogue using audiotaped vignette	• Verbal responses coded using the approach-avoidance scale and response mode scale. • Novel rating of own anxiety, sexual arousal, the client's degree of disturbance and physical attractiveness, ease of establishing a therapeutic relationship, need for a consult on the case, and enjoyment in treating the client
<u>Assessment and treatment</u>								
Wrobel (1993)	Effect of Patient Age and Gender on Clinical Decisions	USA (209)	M (69) F (31)	48	100	To examine the effect of client gender and age on clinicians' decisions regarding diagnosis, therapy and prognosis of a client.	Analogue using a written vignette	• Novel rating scale of primary diagnosis, rule out diagnosis, treatment options and treatment setting.
CLIENT GENDER x CLIENT SEXUAL ORIENTATION								
<u>Assessment</u>								
Fuss et al. (2020)	Gender bias in clinicians' pathologization of atypical sexuality: A randomized controlled trial with mental health professionals	DEU, AUST & CHE (546)	M (35) F (65)	40	59	To examine how gender and sexual orientation affect the diagnosis and stigmatization of atypical sexual behaviours	Analogue using written vignettes	• Indicate whether a mental disorder was present • Indicate whether the disorder had biological or psychological underpinnings • Novel measure of stigma

Authors (Year)	Title of Study	Location (Sample size)	Gender (%)	Mean age (years)	% of psychologists	Primary Aim	Design	Measures
Biaggio et al. (2000)	Clinical evaluations: Impact of sexual orientation, gender, and gender role	USA (422)	M (52) F (47)	52	-	To examine clinicians' judgments of disturbance as a function of client sexual orientation. gender, and gender role	Analogue using written clinical vignette	• Novel rating of diagnosis based on DSM-IV classification, psychological functioning, prognosis, and motivation for therapy
<u>Assessment and treatment</u>								
Eubanks-Carter & Goldfried. (2006)	The Impact of Client Sexual Orientation and Gender on Clinical Judgments and Diagnosis of Borderline Personality Disorder.	USA (141)	M (49) F (50)	54	100	To examine how client gender and sexual orientation affects clinician's diagnosis, prognosis, and treatment recommendations	Analogue using written vignettes	• Ratings of likelihood of 13 Axis I & 11 Axis II DSM-IV diagnoses. • Novel ratings of appropriateness of therapy, willingness to treat and competence to work with.
Bowers & Bieschke. (2005)	Psychologists' clinical evaluations and attitudes: An examination of the influence of gender and sexual orientation	USA (303)	M (48) F (52)	53	100	to examine clinicians' attitudes toward and clinical evaluations of lesbian female, gay male, bisexual female, bisexual male, heterosexual female, and heterosexual male clients	Analogue using written clinical vignettes	• Semantic Differential Scale • Global Assessment of Functioning • Novel rating of treatment process and outcome expectations
CLIENT SEXUAL ORIENTATION <u>Assessment</u>								
Thompson et al. (2019)	Examining mental health practitioners' perceptions of clients based on social class and sexual orientation.	USA (257)	M (22) F (76) T (2)	47	21	to examine how clinicians' perceptions of clients were influenced by a hypothetical client's social class and sexual orientation	Analogue using videotaped vignettes	• PHQ-9 • GAD-7 • Flourishing Scale • Job Satisfaction Scale • Work and Meaning Inventory

Authors (Year)	Title of Study	Location (Sample size)	Gender (%)	Mean age (years)	% of psychologists	Primary Aim	Design	Measures
Kerr et al. (2003)	Counsellor Trainees' Assessment and Diagnosis of Lesbian Clients with Dysthymic Disorder.	USA (157)	M (25) F (75)	-	100	To investigate the extent to which the sexual orientation of clients influences the clinical judgment of counsellor trainees	Analogue using written vignettes	• Adapted Assessment and Diagnostic Inventory
Barrett & McWhirter (2002)	Counsellor Trainees' Perceptions of Clients Based on Client Sexual Orientation	USA (162)	M (25) F (75)	32	15	To examine how client sexual orientation. counsellor trainee homophobia. And counsellor trainee gender affected counsellor trainees' assignment of positive and negative adjectives to clients.	Analogue using written vignettes	• The Adjective Check List • The Index of Homophobia
Gelso et al. (1995)	Countertransference reactions to lesbian clients: The Role of homophobia, counsellor gender, and countertransference management	USA (68)	M (71) F (29)	-	63	To examine (a) male and female counsellors' countertransference (CT) reactions to lesbian and heterosexual client actresses and (b) the role of counsellor homophobia and CT management ability in CT reactions.	Analogue using videotaped vignettes	• Attitude Scale—LG • Adapted Countertransference Factors Inventory • Adapted Approach-avoidance measure • State-Trait Anxiety Inventory
Garfinkle & Morin (1978)	Psychologists' Attitudes toward Homosexual Psychotherapy Clients	USA (80)	M (50) F (50)	51	-	To investigate the attributions made by psychotherapists toward homosexual psychotherapy clients and focused specifically on the ways in which the value systems of psychotherapists influenced their ratings of the psychological health of clients.	Analogue using written vignettes	• Adapted Semantic Differential Scale • Open-ended diagnostic question

Authors (Year)	Title of Study	Location (Sample size)	Gender (%)	Mean age (years)	% of psycho-logists	Primary Aim	Design	Measures
<u>Treatment</u>								
Ebersole et al. (2018)	Mental Health Clinicians' Perceived Competence for Affirmative Practice with Bisexual Clients in Comparison to Lesbian and Gay Clients	USA (312)	M (22) F (76)	-	18	To examines differences in clinicians' perceived competency to affirmatively counsel LG in comparison to bisexual clients.	Survey	• The Sexual Orientation Counsellor Competency Scale
<u>Assessment and treatment</u>								
Prunas et al. (2018)	The Insidious Effects of Sexual Stereotypes in Clinical Practice	Italy (152)	M (100) F (0)	46	-	To investigate the influence of sexual stereotyping on the diagnostic impressions and treatment expectations of gay and heterosexual male patients	Analogue using written vignettes	• Novel rating scale of psychopathology and treatment expectations • Novel rating of extent to which six diagnosis described client • Global assessment of functioning scale
CLIENT SEX								
<u>Referral</u>								
Shullman & Betz (1979)	An Investigation of the Effects of Client Sex and Presenting Problem in Referral from Intake	USA (25)	M (56) F (44)	30	-	To examine the extent to which client sex and presenting problem were related to the sex of the counsellor to whom the client was referred for individual counselling.	Observational	• Review of the sex of the clinician the client was referred to following an intake interview
Clopton & Haydel (1982)	Psychotherapy referral patterns as influenced by sex of the referring therapist and sex and age of the client.	USA (239)	-	-	100	To determine whether sex role expectations influence the way in which psychotherapists refer clients to their colleagues	Analogue using written vignette	• Novel rating of desirability of various levels of therapist characteristics for referral. • Hypothetical referral to a clinician on the basis of eight characteristics.

Authors (Year)	Title of Study	Location (Sample size)	Gender (%)	Mean age (years)	% of psycho -logists	Primary Aim	Design	Measures
Assessment								
Braamhorst et al. (2015)	Sex bias in classifying Borderline and Narcissistic Personality Disorder	NL (180)	M (15) F (85)	33	100	To investigate sex bias in the classification of borderline and narcissistic personality disorders	Analogue using written vignettes	• DSM-IV classification
Crosby & Sprock (2004)	Effect of patient sex, clinician sex, and sex role on the diagnosis of antisocial personality disorder: Models of underpathologizing and overpathologizing biases	USA (167)	M (55) F (44)	-	100	To examine the influence of patient sex and clinician sex and sex role for a case, meeting minimum diagnostic criteria for Antisocial Personality Disorder, in which client sex was varied	Analogue using written vignettes	• Novel rating of symptoms, diagnosis, severity of difficulties, prognosis and clinician confidence in diagnosis.
Seem & Johnson (1998)	Effect of patient sex, clinician sex, and sex role on the diagnosis of antisocial personality disorder: Models of under-pathologizing and over-pathologizing biases	USA (210)	M (46) F (54)	-	100	To investigate possible gender bias among counselling trainees toward a client who exhibited either traditional or non-traditional gender role choices in a case vignette	Analogue using written vignettes	• Novel rating scale of how appropriate the individual's behaviour of a "mature, healthy, socially competent" individual was,
Becker & Lamb (1994)	Sex bias in the diagnosis of Borderline Personality Disorder and Post-traumatic stress disorder	USA (311)	M (46) F (54)	49	36	To examine how or whether knowledge of a client's history of sexual abuse might determine the diagnostic considerations of clinicians and how this might differentially affect diagnosis of males and females.	Analogue using written vignettes	• Diagnostic rating based on DSM-III criteria

Authors (Year)	Title of Study	Location (Sample size)	Gender (%)	Mean age (years)	% of psychologists	Primary Aim	Design	Measures
Ford & Widiger (1989)	Sex bias in the diagnosis of histrionic and antisocial personality disorder	USA (354)	M (76) F (24)	47	100	To assess whether sex differences in the diagnosis of APD and HPD could be explained by base rate differences.	Analogue using written vignettes	• Novel rating of extent to which client met the diagnostic criteria for DMS-III Axis I and Axis II disorders.
Poole & Tapley (1988)	Sex roles, social roles and clinical judgements of mental health	USA (104)	M (80) F (20)	-	100	To examine whether clinical psychologist expect similar behaviour from males and females	Survey	• Novel rating of appropriateness of behaviour
Treatment								
Buczek (1981)	Sex biases in counselling: Counsellor retention of the concerns of a female and male client.	USA (82)	M (65) F (35)	29	100	To assess counsellor's incidental memory and behaviour toward a female and a male client.	Analogue using videotaped vignette	• Free recall and recognition of fact from vignette
Abramowitz et al. (1980)	Sex role-related countertransference revisited; A partial extension	USA (233)	M (66) F(34)	-	31	To examine caseload and treatment duration for female and male clients.	Observational	• Caseload gender • Treatment duration
Assessment and treatment								
Stearn et al. (1980)	Sexism amongst Psychotherapists: a case not yet proven	USA (86)	-	-	0	To determine whether clinicians' display standards of mental health and treatment recommendations that differ between male and female clients.	Analogue using videotaped vignettes	• Novel rating of client prognosis, treatment recommendations and presenting problem. • Novel rating of functioning • Novel rating of adjectives to describe client.

Authors (Year)	Title of Study	Location (Sample size)	Gender (%)	Mean age (years)	% of psychologists	Primary Aim	Design	Measures
Assessment and treatment								
Adler et al (1990)	Clinicians' practices in personality assessment: Does gender influence the use of DSM-III Axis II	USA (46)	M (57) F (43)	-	11	To examine clinicians' practices in personality assessment using a criterion-based system, axis II of DSM-III.	Analogue using written vignettes	• Clinicians indicated whether the client had "trait", "no trait" or "disorder" for each of the 11 DSM-III Personality Disorder Diagnosis
Fernbach et al. (1989)	Sex differences in diagnosis and treatment recommendations for antisocial personality and somatization disorders	USA (119)	M (66) F (34)	-	100	To investigate the influence of patient sex of clinicians' diagnostic and treatment decisions for antisocial personality disorder and somatization disorder.	Analogue using written vignettes	• Indication of diagnosis using DSM III criteria. • Rating of recommended treatment modality and therapeutic style.
Heatherington et al. (1986)	Whither the bias: The female client's edge" in psychotherapy?	USA (16)	M (50) F (50)	36	0	To examine ratings of the process-relevant interpersonal characteristics and gross outcome expectancies for 164 new males and female clients.	Observational	• Novel rating of clients' social skills and clinician expectations for treatment
Oyster-Nelson & Cohen (1981)	The Extent of Sex Bias in Clinical Treatment Recommendations	USA (119)	M (53) F (47)	-	100	To examine the extent of sex bias in clinical treatment recommendations.	Analogue using written vignettes	• Novel rating of severity, necessity of psychological treatment, appropriateness of treatment and number of treatment sessions required.
Lowery & Higgins (1979)	Analogue investigation of the relationship between clients' sex and treatment recommendations	USA (120)	-	-	33	To investigate the effect of clients' sex on psychotherapists' treatment recommendations.	Analogue using written vignettes	• Novel rating of severity of disturbance • Novel rating of six treatment options suitability

Authors (Year)	Title of Study	Location (Sample size)	Gender (%)	Mean age (years)	% of psycho-logists	Primary Aim	Design	Measures
Billingsley (1977)	Clients' sex and treatment recommendations	USA (60)	M (67) F (33)	-	30	To assess the extent to which a pseudo-client's sex and presenting pathology influenced the treatment goal choices of practicing male and female psychotherapists.	Analogue using written clinical vignettes	• The Stereotype Questionnaire • Novel rating of diagnosis and treatment severity • Diagnosis using DSM-II criteria

M = Male, F = Female, DEU = Germany, USA = United States of America, ADHD = Attention Deficit Hyperactivity Disorder, ICD-10 = International Statistical Classification of Diseases and Related Health Problems, DSM-IV = Diagnostic and Statistical Manual of Mental Disorders, NL = Netherlands, AUST = Austria, CHE = Switzerland, PHQ-9 = Patient Health Questionnaire, GAD-7 = Generalised Anxiety Disorder Assessment, T = Transgender, CT = Countertransference.

3.2 Overall summary of included studies

Table 6 provides an overall summary of the included studies. Most studies used analogue methodology (n=36) and were conducted in the USA (n=39). Overall, the studies detail the clinical decisions of 9,763 clinicians, who had a mean age of 39 years. Of the 42 studies that reported the gender of clinicians, 49% were male, 50% were female and 1% identified as transgender. Studies were published over a period of 43 years, ranging from 1977 to 2020. The methodological quality of the studies varied (as shown in Appendix D). Most studies received good quality ratings, with studies published more recently tending to receive higher ratings. Studies that received higher quality ratings provided details of sample size power analyses, their randomisation process, psychometric properties of measures being reported and controlled for salient cofounding variables that might impact on clinical decision-making (e.g., clinician demographics). Studies with poorer quality ratings did not report sample size analyses, did not provide adequate details about their participants, their randomisation processes or the psychometric properties of measures used, and did not control for salient confounding variables.

Table 6

Overall summary of included studies

Study characteristics	Total
Design	
Analogue	36
Survey	6
Observational	4
Experimental Audit	1
Client characteristic evaluated	
Client gender	18
Client gender identity	1
Intersection of client gender and sexual orientation	4
Client sexual orientation	8
Client sex	16
Decade published	
1970 – 1979	4
1980 – 1989	12
1990 – 1999	11
2000 – 2009	11
2010 – 2020	9
Location	
USA	41
Italy	2
Germany	2
Netherlands	2
Austria	1
Israel	1
Switzerland	1
Participants	
Mean age	39
Female	4661
Male	4486
Transgender	5

3.3 The impact of client characteristics on clinician referrals and access to treatment

Table 7 summarises the findings of four studies that examined how client characteristics influenced clinicians' decision-making regarding client referrals and access to treatment. Studies are grouped by client characteristic and are presented in chronological order.

The available evidence suggests that clinicians are more likely to refer female clients to other professionals than male clients (Almaliah-Rauscher et al., 2020). Moreover, whilst no gender difference was found between whether clients were offered an initial appointment, females were more likely to be offered an appointment as a time they requested than males were (Kugelmass et al., 2016). Poor quality evidence suggests clinicians show a preference for same sex dyads (Shullman & Betz, 1979; Clopton & Haydel, 1982). No literature was found that examined the impact of sexual orientation or non-binary gender identities on clinician decision-making regarding referrals.

Table 7
Findings and quality ratings for studies examining clinician decisions' regarding referrals

Authors (Year)	Study type	Main findings in relation to client variable	Impact of client variable?	Effect size	Quality rating (%)
Client gender					
Almaliah-Rauscher et al. (2020)	A	• Client gender significantly influenced referrals ($F(1, 327) = 3.21, p = .07$) Clinicians were more likely to refer a female client to other professionals than a male client.	Yes	$\eta^2 = .012$	86
Kugelmass et al. (2016)	E	• No relationship between client gender and whether client was offered an appointment. • Significant relationship of client gender on appointment preference, females being given their preferred appointment date more than males of two to one ($p < .05$)	Mixed	-	75
Intersection of gender and sexual orientation					
-	-	-	-	-	-
Client sexual orientation					
-	-	-	-	-	-
Client sex					
Shullman & Betz (1979)	O	• Statistically significant relationship found between client sex and sex of the clinician they were referred to ($\chi^2(1) = 28.5, p < .001$). Male clients were significantly more likely to be referred to male clinicians than to female clinicians. Female clients were significantly more likely to be referred to female clinicians than to male clinicians.	Yes	-	50
Clopton & Haydel (1982)	A	• Client sex significantly influenced the desirability ratings of a male or female as the optimal therapist for a client ($F(1, 228) = 42.12, p < .001$). Clinicians indicated a preference for the treating clinician to be the same sex as the client. • This same sex preference for treating therapist and client was strongest when the referring clinician was the same sex as the client ($F(1,228) = 7.04, p < .01$).	Yes	-	58

A = Analogue, E = Experimental, O = Observational

3.4 The impact of client characteristics on clinician decision-making regarding assessment.

Table 8 summarises the findings of 44 studies that examined how client characteristics influenced clinicians' decision-making regarding assessment. Studies are grouped by the aspect of the assessment process and by the client characteristic they examine. The studies are presented in chronological order. The findings are then summarised thematically.

Table 8

Study findings related to clinicians' assessment of clients

Authors (Year)	Study Type	Main findings in relation to client variable	Impact of client variable?	Effect size	Quality rating (%)
DIAGNOSIS Client gender & gender identity					
Fuss et al. (2018)	A	• Female clients were less likely to be diagnosed as mentally disordered in the exhibitionistic (χ^2 (3) = 62.20, p < 0.001), frotteuristic (χ^2 (3) = 34.14, p < 0.001), sexual sadistic (χ^2 (3) = 21.03, p < 0.001) and paedophilic (χ^2(3) = 47.12, p < 0.001) vignettes than males. • Female sexual behaviours that fulfilled diagnostic criteria for masochistic disorder was more pathologized	Yes	-	92
Bruchmuller et al. (2012)	A	• In vignettes where clients did not fulfil the full diagnostic criteria for ADHD, male clients were diagnosed around 2 times as often as female clients (OR= 2.66, p =.034).	Yes	-	96
Schwartz et al. (2011)	O	• Females were significantly more likely to be diagnosed with major depressive disorder (χ2 (3, N = 250) = 37.68, p =.01) and adjustment disorder (χ2 (3, N = 352) = 9.39, p =.01) than male clients. • Male clients were more likely to be diagnosed with psychotic disorders (χ2 (3, N = 326) = 12.24, p =.001) and childhood disorders (e.g., ADHD) (χ2 (3, N = 182) = 13.99, p =.01). • Diagnosis of Bipolar I did not significantly differ between male and female clients χ2 (3, N = 236) = 1.05, p =.306)	Mixed	MDD (Φ = .15), PsD (Φ=.09) AD (Φ=.07) CD (Φ = .09)	85

Authors (Year)	Study Type	Main findings in relation to client variable	Impact of client variable?	Effect size	Quality rating (%)
Woodward et al. (2009)	A	• No significant differences in primary diagnosis (including BPD, PTSD and 24 other DSM-IV diagnoses) between the client genders (χ^2 (2, n = 110) = .59). • No significant differences in rule-out 1 (χ^2 (2, n =111) = 1.16) or rule-out 2 diagnosis by client gender (χ^2 (2, n = 99) = 2.97).	No	Diagnosis (Φ= .07) Rule-out 1 (Φ=.10) Rule-out 2 (Φ=.17)	88
Eubanks-Carter & Goldfried. (2006)	A	• No main effect of client gender on diagnosis of BPD.	No		83
Biaggio et al. (2000)	A	• There were few differences in Axis I or Axis II diagnoses based on client gender. • Female clients were diagnosed with histrionic personality disorder than male clients (F (7,408) = 2.44, < .05) •	Mixed	-	75
Wrobel (1993)	A	• There was a significant effect of client gender on diagnosis ($\chi 2$ (2, N = 205) = 6.26, p =<.05) with a greater proportion of female clients being considered depressed (N=77) than male clients (N=66). • Male clients' difficulties were more likely to be diagnosed as organic than female clients (partial $\chi 2$=6.20, p <.02)	Yes	-	79
<u>Intersection of client gender & sexual orientation</u>					
Eubanks-Carter & Goldfried. (2006)	A	• There was a significant relation between diagnosis and sexual orientation for male clients ($\chi 2$ (3, N = 67) = 11.85, p =.008). Male clients with unspecified gender partners received a higher percentage of BPD diagnoses than bisexual (p =.004) or heterosexual males (p = .004)	Mixed	-	83
Biaggio et al. (2000)	A	• There was no significant interaction of client gender x client sexual orientation on Axis I or Axis I1 diagnosis.	Yes	-	75

Authors (Year)	Study Type	Main findings in relation to client variable	Impact of client variable?	Effect size	Quality rating (%)
Client sexual orientation					
Prunas et al. (2018)	A	• No main effect of clients' sexual orientation on diagnosis of six disorders including personality disorders, anxiety, depression, psychotic disorder, dissociative disorder and impulse-control disorder (F (1, 148) = 1.78, p = .19; $\eta p2$ = .01)	No	-	96
Eubanks-Carter & Goldfried. (2006)	A	• Clinicians' diagnosis of BPD female clients did not differ based on client sexual orientation disorders ($\chi2$ (3, N =74) = 1.68, p = .64).	Mixed	-	83
Kerr er al. (2004)	A	• No main effect of client sexual orientation on a linear combination of personality disorders diagnosis (Wilks' Lambda F (12,292) = 1.366, p = 0.181)	No	-	88
Client sex					
Braamhorst et al. (2015)	A	• No main effect of client sex on diagnosis of BPD ($\chi2$ (1; N = 90) = 0.000, p = 1.000), AVDP ($\chi2$ (1; N = 90) = 1.947, p = 0.163) or NPD ($\chi2$ (1; N = 90) = 0.046, p = 0.83) for the vignette in which the client met the full criteria for BPD. • For ambiguous vignettes, there was a significant different between sex on diagnosis [$\chi2$ (1; N = 90) = 13.308, p = 0.004). Females were diagnosed more frequently with BPD; males were diagnosed more frequently with AVDP.	Mixed	BPD ($\Phi = -0.082$) NVP ($\Phi = -0.149$) AVDP ($\Phi = -0.045$) AMB ($\Phi = 0.385$)	96

Authors (Year)	Study Type	Main findings in relation to client variable	Impact of client variable?	Effect size	Quality rating (%)
Crosby & Sprock (2004)	A	• No significant main effect of client sex on APD (χ2 (1, n = 136) = 13.09, p =.02) • There was a significant main effect of client gender on diagnosis of BPD, with female clients being diagnosed with more frequently than males (χ2 (1, n = 16) = 9.0, p = .003) • Females received significantly higher HPD (F(1,95) = 7.438, p= .008), and BPD F(1,97) = 4.44, p = .038) representativeness ratings.	Yes	HPD rep (*d* = 0.888) BPD rep (*d*= 0.550)	88
Becker & Lamb (1994)	A	• Significant main effect of client sex on diagnosis of BDP (F (1, 283) = 5.22, p <0.5) and HPD (F (1, 283) = 1.10, p < .0005) with females diagnosed more frequently than males. • Significant main effect of client sex on APD (F (1,283) = 2.03, p <.0005) with males being more frequently diagnosed than females. • No main effect of sex on PTSD diagnosis (F (1, 279) = 9.30, p <.005).	Yes	BDP (*d* = 0.25) HPD (*d* = 0.556) APD (*d* = 0.463) PTSD *d* = -0.102	79
Adler et al (1990)	A	• Client sex was strongly related to diagnosis of NPD (x2(1, n = 24) = 8.63, p < .005). Male clients were diagnosed more frequently than females. • Client sex was strongly related to diagnosis of HPD (x2(1, n = 24) = 9.83, p < .0105). Females were diagnosed more frequently than males. • Client sex was not related to diagnosis of BPD	Yes	-	71
Fernbach et al. (1989)	A	• There was a main effect of client sex on diagnosis of APD, males were diagnosed significantly more frequently than females. • No main effect of client sex on diagnosis of somatization disorder	Yes	-	67
Ford & Widger (1989)	A	• Diagnosis in a balanced vignette (that did not meet diagnostic criteria for APD or HPD) was not significantly impacted by client sex. • Client sex significantly impacted diagnosis of HPD with clinicians failing to diagnosis males (44%) more frequently than females (76%) • Client sex significantly impacted diagnosis of APD, with clinicians failing to diagnose females (15%) than males (44%)	Yes	-	88

Authors (Year)	Study Type	Main findings in relation to client variable	Impact of client variable?	Effect size	Quality rating (%)
Billingsley (1987)	A	No main effect of client sex on diagnosis of 10 unspecified DSM-II disorders.	No	-	67
PSYCHOLOGICAL FUNCTIONING					
Client gender & gender identity					
Anzani et al. (2019)	A	• No main effect of client gender identity on ratings of psychopathological severity ($F(1, 217) < 3.33$, $p > .07$) • Clinicians with high level of authoritarianism rated a cisgender woman as having more severe psychopathology than a cisgender man ($B = -.75$, $SE = .36$, $t = -2.03$, $p = .04$) • Clinicians with high level authoritarianism rated cisgender women as more severe psychopathology than a transwoman ($B = -1.21$, $SE = .37$, $t = -3.22$, $p = .002$) • For clinicians with high levels of authoritarianism, no difference was found between psychopathological severity ratings for transmen and cisgender men ($B = .23$, $SE = .38$, $t = .62$, $p = .53$) or transmen and transwomen ($B = -.69$, $SE = .38$, $t = 1.80$, $p = .07$)	Mixed	-	96
Perrin et al. (2008)	A	• No main effect of client gender on client emotionality ($F(1, 248) = .16$, $p = .686$)	No	$d = .052$	92
Bowers & Bieschke. (2005)	A	• Female clients were rated as significantly stronger and more powerful than male clients $F(1, 290) = 10.72$, $p < .01$)	Yes	$\eta 2 = .04$	83
Danzinger & Welfel (2000)	A	• There was a significant main effect of client gender on judgement of client competence ($F(1,338) = 10.76$, $p=<.05$), with females being judged as less competent than males.	Yes	$d = 0.314$	79

Authors (Year)	Study Type	Main findings in relation to client variable	Impact of client variable?	Effect size	Quality rating (%)
DeJong et al. (1993)	S	• Female alcoholics as compared to male alcoholics were rated as less dominant, less hostile, more submissive, and more friendly.	Yes	-	50
Lopez et al. (1993)	A	• There was no significant main effect of client gender on clinicians' rating of psychological disturbance	No	-	71
Agell & Rothblum (1991)	A	• There was a significant interaction between client gender and clinician gender on rating of anger ($F(1, 230) = 9.44$, $p <.005$). Female clinicians rated male clients more negatively than male clinicians rated male clients.	Yes	-	75
Austad & Aronson (1987)	A	• There was no significant main effect of client gender on clinicians' rating of positive mental health or negative mental health.	No	-	42
Settin (1982)	A	• Main effect of client sex on ratings of social psychology variables ($F = 2.651$, $p < .001$). Females were given more favourable ratings on items assessing dementia symptomology.	Yes	-	58
Settin & Bramel (1981)	A	• There was a main effect of gender ($F = 2.764$, $p <.003$) on ratings of competency and warmth. Male clients were viewed as more "competent". Female clients were rated as "warmer". •	Yes	-	73
Intersection of client gender & sexual orientation					
Bowers & Bieschke. (2005)	A	• No significant effect of client gender x client sexual orientation interaction on sematic differential ratings or global assessment of functioning.	No	-	83
Biaggio et al. (2000)	A	• Client gender x client sexual orientation had no significant effect on psychological functioning	No	-	75

Authors (Year)	Study Type	Main findings in relation to client variable	Impact of client variable?	Effect size	Quality rating (%)
Client sexual orientation					
Thompson et al. (2019)	A	• No main effect of client sexual orientation on ratings of symptoms of depression, anxiety, meaningful work, or job satisfaction • Lesbian clients were rated as having significantly higher levels of flourishing (FL) than heterosexual clients (F (1, 240) <2.04, p=.05).	Mixed	FL (*d* =0.296)	96
Prunas et al. (2018)	A	• No main effect of client sexual orientation on GAF score or novel rating of severity of psychopathology (all Fs (1, 148) < 2.45, p > .12, ηp 2 < .01)	No	-	96
Bowers & Bieschke. (2005)	A	• No significant effect of client sexual orientation on sematic differential ratings or global assessment of functioning.	No	-	83
Barrett & McWhirter (2002)	A	• There was a main effect of client sexual orientation on adjectives, with gay/lesbian clients receiving significantly fewer negative adjectives than heterosexual clients (F = 3.82. P < .05)	Yes	-	83
Biaggio et al. (2000)	A	• A significant main effect of sexual orientation on psychological functioning was found (F (9, 358) = 5.04, p <.001). Gay/lesbian clients were evaluated as functioning better in their significant relationships, more motivated for therapy and having a higher need for medication than heterosexual clients.	Yes		75
Garfinkle & Morin (1978)	A	• No significant main effect of sexual orientation on 7/8 semantic differential factors. • Heterosexual clients were perceived to be more psychologically healthy than homosexual clients on a measure of female sex-role characteristics (F (1,39) = 9.49, p <. 01).	Mixed	-	79

Authors (Year)	Study Type	Main findings in relation to client variable	Impact of client variable?	Effect size	Quality rating (%)
Client sex					
Heatherington et al. (1986)	O	• Significant main effect of client sex on clinicians' ratings of client pleasantness ($F (1, 157) = 13.30, p < .001$), and of how controlling they predicted the client to be ($F (1,149) = 4.29, p < .05$). Females were rated as more pleasant and less controlling than males.	Yes	Pleasant (*d*=0.508) Control (*d*= 0.487)	88
Oyster-Nelson & Cohen (1981)	A	• Significant main effect of client sex on rating of severity of clients' problems. Male clients were seen as more disturbed than female clients (M=4.17 vs. 3.76)	Yes	-	58
Stearns et al. (1980)	A	• Significant main effect of client sex on adjectives used to describe clients ($F (3, 68) = 16.92, p < .001$). Males were rated as more masculine, and less competent than females.	Yes	-	67
Lowery & Higgins (1976)	A	• Clinicians with 7 or more years of experience rated male clients (M = 5.34) as significantly more disturbed than female clients (M = 4.83, $p <.05$). • Clinicians with less than 7 years of experience made no distinction (Ms = 5.04 and 5.27 for male and female clients, respectively).	Mixed	-	67
PROGNOSIS					
Client gender & gender identity					
Agell & Rothblum (1991)	A	• Main effect of client gender on prognosis ($F (1,258) = 4.02, p < .05$). Females were given a more favourable prognosis than males.	Yes	-	75
Lopez et al. (1993)	A	• There was no significant main effect of client gender on rating of prognosis	No	-	71
Danzinger & Welfel (2000)	A	• There was no significant main effect of client gender on rating of client prognosis	No	*d* =0.097	79

Authors (Year)	Study Type	Main findings in relation to client variable	Impact of client variable?	Effect size	Quality rating (%)
Settin & Bramel (1981)	A	• No main effect of client gender on client prognosis.	No	-	77
Eubanks-Carter & Goldfried. (2006)	A	• Clinicians predicted a better a prognosis for female clients than male clients (F (1,121) = 4.18, p= .04)	Yes	Partial η2 = .03	83
Intersection of client gender & sexual orientation					
-	-	-	-	-	-
Client sexual orientation					
-	-	-	-	-	-
Client sex					
Crosby & Sprock (2004)	A	• No significant main effect of client sex on prognosis (F (1, 136) =1.90, p =.170)	No	*d*=0.298	92
Fernbach et al. (1989)	A	• Main effect of client sex on prognosis. Females received a better prognosis than males (F (1,107) = 4.19, p <.05)	Yes	-	67
Stearns et al. (1980)	A	No main effect of client sex on prognosis.	No	-	67
PROBLEM CONCEPTUALISATION					
Client Gender					
-		-	-	-	-
Interaction of gender identity and sexual orientation					
-		-	-	-	-

Authors (Year)	Study Type	Main findings in relation to client variable	Impact of client variable?	Effect size	Quality rating (%)
Client sexual orientation					
Kerr et al. (2004)	A	• Main effect of client sexual orientation on attribution of problems to sexuality (F = 13.006 (2, 153), p <.000). Lesbian clients' problems more frequently attributed to sexuality than heterosexual clients.	Yes	*d*=0.736	88
Client sex					
Stearn et al. (1980)	A	• Main effect of client sex on problem conceptualisation. Males' problems were rated as more serious (M = 3.36) than females (2.99)	Yes	-	67
Buczek (1981)	A	• No main effect of client sex on proposed aetiology of clients' difficulties.	No	-	96
JUDGEMENT OF BEHAVIOUR					
Client gender & gender identity					
Adam & Betz (1993)	A	• No significant effects of clinician, victim, or offender gender on attribution of blame in cases of incest.	No	-	79
Intersection of client gender & sexual orientation					
-		-	-	-	-
Client sexual orientation					
-		-	-	-	-
Client sex					
Follingstad et al. (2004)	A	• Main effect of client gender on judgement of behaviour (F (1,206) = 6.00, p < .02). Male client's behaviour was more likely to be rating psychologically abusive than female client's behaviour.	Yes	-	92
Poole & Tapley (1988)	A	• No main effect of client sex on ratings of the social appropriateness of behaviour.	No	-	71

AD = Adjustment disorder, A = Analogue, AMB= Ambiguous vignette, APD = Antisocial personality disorder, AVDP= Avoidant personality disorder, BPD = Borderline personality disorder, CD = Childhood disorder, HPD = Histrionic personality disorder, MDD = Major depressive disorder, NPD = Narcissistic personality disorder, O = Observational, PsD = Psychotic Disorder, PTSD = Post-traumatic stress disorder, S = Survey.

3.4.1 The impact of client characteristics on clinicians' diagnoses. There was mixed evidence, of good to excellent quality, for the impact of client gender/gender identity on diagnosis. Overall, the findings suggest that client gender does impact upon the diagnoses clinicians make, but only for specific disorders. Female clients are more likely to be diagnosed with Major depressive disorder (Schwartz et al., 2012; Wrobel, 1993), Histrionic personality disorder (Biaggo et al., 2000), Masochistic disorder (Fuss et al., 2018), and Adjustment disorder (Schwartz et al., 2012). Male clients are more likely to be diagnosed with Attention deficit hyperactive disorder (Bruchmuller et al., 2012; Schwartz et al., 2011), most disorders of sexual behaviour (Fuss et al., 2018) and psychotic disorders (Schwartz et al., 2011). Clinicians' diagnosis of Borderline personality disorder (BPD), Bipolar I disorder, and Post-traumatic stress disorder (PTSD) was not impacted by client gender (Biaggio et al., 2000, Eubanks-Carter & Goldfried et al., 2006; Schwartz et al., 2011; Woodward et al., 2009). No research explored the impact of client gender identities other than female and male.

The findings of three studies suggest that client sexual orientation does not impact upon clinicians' diagnosis (Eubanks-Carter & Goldfriend, 2006; Kerr et al, 2004; Prunas et al., 2018). Studies exploring the interaction between client sexual orientation and gender yielded mixed findings, with the highest quality study showing that clinicians are more likely to diagnose male clients with a partner of unspecified gender with BPD than male heterosexual or bisexual clients (Eubanks-Carter & Goldfried, 2006).

The evidence for the impact of client sex on diagnosis was mixed. Four studies examined diagnoses of BPD. The highest quality evidence suggested that clinicians are more likely to diagnosis female clients with BPD than male clients (Becker & Lamb,

1994; Crosby & Sprock, 2004). Similarly, when presented with a client who would meet the diagnostic criteria for Histrionic personality disorder, clinicians are more likely to correctly diagnose Histrionic personality disorder if the client is female than if the client is male (Crosby and Sprock, 2004; Ford & Widger, 1989). In the case of Antisocial personality disorder, male clients are more likely than female clients to be given this diagnosis by clinicians (Becker & Lamb, 1994; Crosby & Sprock, 2004; Fernbach et al., 1989), even when female clients present with symptoms and behaviours that meet the full diagnostic criteria (Ford & Widger, 1989).

3.4.2 The impact of client characteristics on clinician assessment of psychological functioning. The measures used to examine clinicians' judgement of clients' psychological functioning varied across studies. The available literature suggests that client gender does not impact upon clinicians' ratings of the severity of psychological disturbance (Lopez et al., 1993) or emotionality (Perrin et al., 2008). Likewise, clients' gender identity (e.g., cisgender or transgender) does not appear to influence ratings of psychopathological severity. However, there is a significant interaction between clinician level of authoritarianism and client gender identity on clinician judgement of psychological functioning. Findings of one excellent quality study suggest clinicians with high levels of authoritarianism view cisgender women as having more severe psychopathological disturbance than transwomen and cisgender men (Anzani et al., 2019).

There is mixed evidence for the impact of client gender on clinicians' assessment of a client's competence and power. The evidence of highest quality suggests that female clients are viewed as more "powerful" and "competent" than male clients (Bowers & Bieschke, 2005). In contrast, three studies of poor to good quality suggest that females are viewed as less "competent" and more "friendly" than male

clients (Dazinger & Welfel, 2000; Dejong et al., 1993; Settin & Bramel, 1981). Therefore, no clear conclusion can be reached regarding gender and perceived competence.

Findings were also mixed regarding the impact of client sexual orientation on clinician judgement of psychological functioning. The best quality evidence suggests that client sexual orientation does not impact on clinicians' global assessment of client functioning (Prunas et al., 2018). However, compared to heterosexual clients, clinicians appear to have a more positive view of gay and lesbian clients' functioning in relationships, motivation for therapy and perceived success (Barrett & McWhirtner, 2002; Biaggio et al., 2000; Thompson et al., 2019). Interestingly, clinicians also perceive lesbian and gay clients to be more likely to require medication (Biaggio et al., 2000). The interaction between client gender and sexual orientation appears to have no significant effect on clinicians' judgement of clients psychological functioning (Biaggio et al., 2000; Bowers & Bieschke, 2005).

Finally, the available evidence suggests that client biological sex significantly impacts upon clinicians' assessments of client psychological functioning. Clinicians appear to make more favourable assessments of their female clients' psychological functioning than their male clients'. For example, male clients were judged to be less pleasant, less competent, more controlling, and more disturbed (Heatherington et al., 1986; Lowery & Higgins, 1976; Oyster-Nelson & Cohen, 1981; Stearns et al., 1980)

3.4.3 The impact of client characteristics on clinician assessment of prognosis. There was mixed evidence for the impact of client gender on prognosis (n=4). The highest quality evidence suggests that female clients are given more favourable prognosis than males (Agell & Rothblum, 1991; Eubanks-Carter & Goldfried, 2006). The evidence for the impact of client biological sex on prognosis was

also mixed. The strongest available findings suggest that client biological sex does not significantly impact upon clinicians' expected prognosis for clients (Crosby & Sprock, 2004). No research explored the impact of client gender identities other than male and female, client sexual orientation or the interaction between client gender and sexual orientation on prognosis.

3.4.4 The impact of client characteristics on clinician problem conceptualisation. There was limited evidence examining how client characteristics impacted upon clinicians understanding, and conceptualisation of a client's difficulties. No papers explored the impact of client gender, gender identity or the interaction between client gender and sexual orientation on clinician problem conceptualisation. The limited available evidence suggests that clinicians are more likely to attribute lesbian clients' difficulties to their sexual orientation than heterosexual clients (Kerr et al., 2004). There was mixed evidence for the impact of client biological sex on clinician problem conceptualisation, with the study of highest quality concluding that it has no impact on clinician problem conceptualisation (Buczek et al., 1981).

3.4.5 The impact of client characteristics on clinician judgements of client behaviour. There was a paucity of evidence evaluating the impact of client characteristics on clinician judgement of behaviour, with no studies examining the impact of client gender identity, sexual orientation or the intersection of client gender and sexual orientation. One analogue study of excellent quality found that client gender did not impact upon judgement of incest behaviour (Adam & Betz, 1993). Client biological sex was found to impact upon some, but not all, judgements of clients' behaviour. The findings suggest that when a male and female client's behaviour are the same, the male client's behaviour is more likely to be viewed as psychologically abusive (Follingstad et al., 2004). However, a client's biological sex did not impact

upon how “socially appropriate” clinicians viewed client behaviour to be (Poole & Tapley, 1988).

3.5 The impact of characteristics on clinician’s decisions regarding treatment

Table 8 summarises the findings of studies that examined how client characteristics influenced clinicians’ decision-making regarding treatment. Studies are grouped by the aspect of treatment and client characteristics they examine. The studies are presented in chronological order.

Table 8
The impact of characteristics on clinician's decisions regarding treatment

Authors (Year)	Study type	Main findings in relation to client variable	Impact of client variable?	Effect size	Quality rating (%)
CLINICIAN PREFERENCE & COMPETENCE					
Client gender/gender identity					
Almaliah-Rauscher et al. (2019)	A	• Participants showed a greater willingness to treat female clients ($F(1, 327) = 5.74$, $p < .05$) compared to a male client.	Yes	$\eta 2 = .017$	79
Lopez et al. (1993)	A	• There was no main effect of client gender on clinician willingness to treat.	No	-	71
Schover (1981)	A	• Females were rated as significantly more enjoyable to treat ($F(1,72) = 4.30$) $p < 0.05$). Clinicians rated a client of the same gender as easier to establish a therapeutic alliance with.	Yes	-	88
Eubanks-Carter & Goldfried. (2006)	A	• There was a significant effect of client gender on clinicians' confidence in working with ($F(1,121) = 10.13$, $p = .002$), and preference for working with the client ($F(1,123) = 9.37$, $p = .003$). Clinicians preferred to work with and had greater confidence about working with female clients.	Yes	Confidence (partial $\eta 2 = .08$), Preference (partial $\eta 2 = .07$)	83
Intersection of client gender and sexual orientation					
Eubanks-Carter & Goldfried. (2006)	A	• No significant interaction between client gender x sexual orientation on therapist confidence or willingness to treat client.	No	-	83
Client sexual orientation					
Ebersole et al. (2018)	S	• Participants responding to a bisexual client reported less perceived competency ($\beta = -.13$, $p < .01$)., and perceived understanding and awareness of mental health issues ($\beta = -.12$, $p < .03$) than those responding to Gay/Lesbian clients.	Yes	-	71

Authors (Year)	Study type	Main findings in relation to client variable	Impact of client variable ?	Effect size	Quality rating (%)
Thompson et al. (2018)	A	• Lesbian were rated as significantly more “attractive” to work with than heterosexual clients (F (1,246) = 2.22, p <. 05).	Yes	*d*= 0.269	92
Eubanks-Carter & Goldfried. (2006)	A	• No main effect of client sexual orientation on clinicians’ confidence in working with or willingness to treat clients.	No	-	83
<u>Client sex</u>					
-	-	-	-	-	-
TREATMENT PROCESS					
<u>Client gender</u>					
Schover (1981)	A	• Female clients elicited more verbal process requests (directive comments about what to do next) than male clients (F (1,72) = 8.90, p <0.01).	Yes	-	83
Stake & Oliver (1981)	S	• No significant effect of client or clinician gender on overt sexual behaviour. • Main effect of client gender (F (6,281) =26.51, p<.0001) and an interaction effect for client gender x clinician gender (F(6,281)=15.52, p<.0001) on use of touch. Females touched female clients more than males. Male clinicians varied their type of touch depending on client gender. • Significant interaction between client gender x clinician gender (F (2, 288) = 8.09, p < .00) with both male and female clinicians reporting using more sexual humour with clients of the same gender.	Yes	-	67
Stenzel & Rupert (2004)	S	• Female and male clinicians used relational touch significantly more often with female clients than male clients (F (1, 467) =142.15, p < .001), • Female clinicians were significantly more likely to touch female clients during therapy than male clients (F (1, 461) = 32.96, p < .001). Male clinicians did not differ in the frequency of touching female and male clients.	Yes	-	73

Authors (Year)	Study type	Main findings in relation to client variable	Impact of client variable?	Effect size	Quality rating (%)
Intersection of gender and sexual orientation					
-	-	-	-	-	-
Client sexual orientation					
Gelso et al. (1995)	A	• No main effect of client sexual orientation on cognitive, affective, and behavioural indices of countertransference (F (3, 57) = 0.63, p = .60) • Significant interaction between clinician gender x client sexual orientation on cognitive recall (F (1, 59) = 5.11, p < .05) with female clinicians recalling significantly less sexual words used by the lesbian client than the heterosexual client.	No	-	71
Client sex					
Buczek (1981)	A	• Significant main effect of client sex on number of vocational facts (F (1,88) = 7.71, p <.01) and social factors (F (6, 73) =7.69, p<.01) recalled. Clinicians recalled more vocational and social facts about females than males. • Significant main effect of client sex on social questions asked (F (1, 78) = 4.15, p < .05). Clinicians asked a greater number of questions about social functioning to female clients than male clients.	Yes	-	79
TREATMENT EXPECTATIONS					
Client gender					
Settin & Bramel (1981)	A	• No main effect of gender on clinician rating of usefulness of intervention, interest in intervention or predicted comfort of initial contact.	No	-	73
Intersection of client gender and sexual orientation					
-	-	-	-	-	-
Client sexual orientation					
Bowers & Bieschke (2005)	A	• Male clinicians rated indicated a greater likelihood that Lesbian, Gay and Bisexual clients would threaten to harm someone than would heterosexual clients (F (2, 290) = 4.12, p < .05, $\eta2$ = .03). • Female clinicians expected greater improvement in depressive symptoms for bisexual clients than for heterosexual clients (F (2, 290) = 3.25, p < .05, $\eta2$ = 02.)	Mixed	Harm ($\eta2$ = .03) Improvem ent ($\eta2$ = .02.)	83

Authors (Year)	Study type	Main findings in relation to client variable	Impact of client variable?	Effect size	Quality rating (%)
Prunas et al. (2018)	A	• There was no main effect of sexual orientation (F (1, 148) = 1.01; p = .32; ηp2 = .007) on ratings of amenability to psychotherapy.	No	-	96
TREATMENT EXPECTATIONS					
Client sex					
Heatherington et al (1986)	O	• No main effect of client sex on predicted treatment success (F (l, 158) = 2.29).	No	*d* = .265	83
TREATMENT RECOMMENDATIONS					
Client gender					
Wrobel (1993)	A	• No main effect of client gender on treatment choice or setting.	No	-	79
Austad & Aronson (1987)	A	• No main effect of client gender on clinicians' recommendation of feminine and masculine treatment goals.	No	-	42
Intersection of client gender and sexual orientation					
-		-	-	-	
Client sexual orientation					
-		-	-	-	-

Authors (Year)	Study type	Main findings in relation to client variable	Impact of client variable?	Effect size	Quality rating (%)
Client sex					
Fernbach et al. (1989)	A	• There was a main effect of client gender on treatment recommendations • Females were rated significantly higher than males for a nondirective style (F (1, 101) = 8.16, P <.005), individual therapy (F (1, 109) = 3.57, p <.10) and medication (F (1, 108), p.<10) • Males were more likely to be recommended for group therapy than females (F (1,108) =5.73, p <.05)	Yes	-	63
Oyster-Nelson & Cohen (1981)	A	• No main effect of client sex on treatment recommendations. Clients were rated as equally amenable to various psychotherapies.	No	-	58
Billingsley (1977)	A	• No main effect of client sex on treatment goals	No	-	67
Lowery & Higgins (1979)	A	• Significant main effect of client sex on recommendation for vocational counselling. Female psychologists more likely to recommend female clients for vocational counselling than male clients (p. <.01).	Yes	-	67
TREATMENT DURATION					
Client gender					
-	-	-	-	-	-
Intersection of gender and sexual orientation					
-	-	-	-	-	-
Client sexual orientation					
-	-	-	-	-	-
Client sex					
Fernbach et al. (1989)	A	• Significant main effect of client sex on treatment duration. Females were rated as requiring significantly longer treatment than males (F (1,96) = 4.22, p <.05)	Yes	-	63
Heatherington et al. (1986)	A	• Significant main effect of client sex on treatment duration. Females were expected to stay in treatment longer than males x2 (3, A^ = 163) = 17.45, p < .001)	Yes	-	83

Authors (Year)	Study type	Main findings in relation to client variable	Impact of client variable?	Effect size	Quality rating (%)
Oyster-Nelson & Cohen (1981)	A	No main effect of client sex on treatment duration.	No	-	58
Abramowitz et al. (1980)	O	No main effect of client sex on treatment duration	No	-	54

A = Analogue, O = Observational, S = Survey

3.5.1 The impact of client characteristics on clinicians' preferences and self-rated competence. The highest quality evidence suggests that clinicians are more willing to treat and find it more enjoyable to treat female clients than male clients (Almaliah-Rauscher et al., 2019; Eubanks-Carter & Goldfried, 2006; Schover, 1981). Clinicians may also feel that it is easier to establish a positive therapeutic relationship with a client of the same gender (Schover, 1981).

Clients' sexual orientation did not impact upon clinicians' confidence or willingness to treat clients (Eubans-Carter & Goldfried, 2006). However, excellent quality evidence suggests that clinicians view lesbian clients as more "attractive" to work with than heterosexual clients (Thompson et al., 2006). Moreover, the findings suggest that clinicians perceive themselves to be more competent and have a greater understanding of mental health issues for lesbian and gay clients than bisexual clients (Ebersole et al., 2018). No significant interaction was found between client gender and sexual orientation on clinicians' willingness to treat or confidence in treating clients (Eubanks-Carter & Goldfried, 2006). No literature examined the impact of clients' biological sex or gender identities other than male and female.

3.5.2 The impact of client characteristics on clinicians' decisions related to treatment processes. There was a paucity of research examining the impact of client characteristics on treatment process. No studies examined the impact of gender identities other than male and female, or the interaction between client gender and client sexual orientation**.**

Only three studies examined the impact of client gender on the treatment process. The findings suggest that clinicians use more directive comments in therapy with female clients than male clients (Schover et al., 1981). Clinicians' reported use of touch in therapy is influenced by the client's gender and the clinicians' own gender.

Female clinicians touch female clients significantly more than male clients in therapy (Stenzel & Rupert, 2004; Stake & Oliver, 1981). In contrast, male clinicians do not differ in how often they touch clients based on client gender (Stenzel & Rupert, 2004). However, the way in which male clinicians touch clients in therapy depends on the client's gender. For example, male clinicians reported that they were more likely to hug a female client than a male client, and more likely to touch a male client on the arm than a female client (Stake & Oliver, 1981).

There was a lack of research examining the impact of client sexual orientation. The findings of one study of good quality suggested that client sexual orientation does not impact on clinicians' cognitive, affective, and behavioural counter-transferential responses (Gelso et al., 1995). Similarly, only one study of good quality examined the impact of client biological sex on treatment process. The findings from this study suggest that clinicians recall and recognise a greater number of vocational and social facts about female clients than male clients. Moreover, clinicians are more likely to ask questions related to a female client's social functioning than a male client's (Buczek et al., 1981).

3.5.3 The impact of client characteristics on clinicians' treatment expectations. Few studies examined the impact of client characteristics on clinicians' treatment expectations. The available evidence suggests that a client's gender and biological sex do not significantly impact on how useful or successful clinicians predict treatment will be (Heatherington et al., 1986; Settin & Bramel, 1981). With regards to client sexual orientation, two studies of excellent quality found mixed results. Findings suggest that clinicians view clients of different sexual orientations as equally amenable to psychotherapy (Prunas et al., 2018). However, there appear to be clinician gender differences in expectations of clients' symptom improvement and risk of harming

others. Male clinicians view lesbian, gay and bisexual clients as more likely to harm others than heterosexual clients, whereas female clinicians expect greater symptom improvement for bisexual clients than heterosexual clients (Bowers & Bieschke, 2005). No studies were found that explored the interaction between client gender and sexual orientation, or the impact of client gender identities other than male and female.

3.5.4 The impact of client characteristics on clinicians' treatment recommendations. Client gender does not appear to impact on clinician treatment recommendations, with two analogue studies finding no difference between clinicians' recommendations related to treatment setting, type, or goals for males and females (Austad & Aronson, 1987; Wrobel, 1993;). No studies examined the impact of client sexual orientation or the interaction between client gender and sexual orientation on treatment recommendations. Four analogue studies of poor to fair quality yielded mixed findings for the impact of client biological sex. The highest quality studies suggest that female clients are more likely to be recommended for medication, individual therapy using a non-directive style, and counselling related to their work. Males are more likely to be recommended for group therapy (Fernbach et al., 1989; Lowery & Higgins, 1979). Clinicians' treatment goals for clients are not influenced by client biological sex (Billingsley, 1977).

3.5.5 The impact of client characteristics on clinicians' decisions related to treatment duration. No research explored the impact of client gender, client sexual orientation, or the interaction between these two aspects of client identity on clinician's decision-making related to treatment duration. The highest quality evidence suggests that client biological sex impacts on treatment duration, with clinicians being more likely to anticipate that female clients will require treatment of a longer duration (Fernbach et al., 1989; Heatherington et al., 1986).

Discussion

Previous research has found that psychological therapists' clinical decisions can be influenced by cognitive biases. This review aimed to systematically examine whether client gender and sexual characteristics influence clinical decision-making, showing such biases. This discussion summarises the main findings of the review, and how they relate to the existing literature and theory. It examines salient limitations of both the present review and papers included within it. Finally, recommendations for future research and implications for clinical practice are addressed.

4.1 Summary of main findings

This review included 47 papers, of varying quality, which examined the impact of client gender and sexual characteristics on psychological therapists' clinical decision-making. There were mixed findings for the impact of client gender and sexual characteristics on clinical decision-making.

Most of the studies explored client gender in a binary way (female versus male). Client gender impacted on referrals, with clinicians being more likely to refer female clients to other professionals than male clients. Client gender also influenced clinicians' diagnostic decisions for specific disorders. Females were more likely to be diagnosed with Histrionic personality disorder, Major Depressive disorder, Adjustment disorder and masochistic disorder. Males were more likely to be diagnosed with ADHD, most sexual disorders, and psychotic disorders. Client gender impacted prognosis and clinician preferences. Clinicians were more willing to treat females, rated them as more enjoyable to treat, and gave them a more favourable prognosis. The limited research examining gender bias in treatment decision-making suggests that client gender does not influence recommendations for treatment or goals. However, how clinicians use touch in therapy varies depending on the client's gender.

Moreover, clinicians are more likely to use a directive style with females than males.

Similarly, there were mixed findings for the impact of client biological sex. Biological sex was shown to influence diagnosis. Females were more likely to be diagnosed with Histrionic personality disorder and BPD. Males were more likely to be diagnosed with Antisocial personality disorder. Client sex was found to significantly influence judgement of psychological functioning, with females receiving more favourable assessments than males. As with gender, there was limited research exploring treatment decision-making, but it appears that biological sex might influence the type and duration of treatment that clinicians recommend. Clinicians expected females to require treatment for longer, and were more likely to recommend them for medication, individual therapy using a non-directive style, and counselling related to their work. In contrast, males were likely to be recommended for group therapy

There was no consistent evidence of clients' sexual orientation impacting upon clinicians' diagnosis, global assessment of functioning or willingness to treat clients. However, clinicians did show a preference for working with lesbian clients compared to heterosexual clients. Moreover, clinicians also perceived themselves to be more competent in working with lesbian/gay clients than bisexual clients. Client sexual orientation significantly influenced clinicians' evaluation of the clients. Lesbian and gay clients were rated as having greater relational functioning, motivation for therapy, and need for medication than heterosexual clients. Finally, client sexual orientation also influenced problem conceptualisation, with clinicians viewing gay and lesbian clients' sexual orientation as being more likely to be related to the clients' mental health difficulties than heterosexual clients.

The few studies that examined the interaction between client gender and client sexual orientation yielded mixed findings for the impact of these characteristics on

diagnosis. Client gender and sexual orientation did not interact in a way that impacted upon clinicians' confidence or willingness to treat clients.

Clinicians' gender interacted with client's sexual orientation only when assessing clients' likelihood to harm others and their prognosis. However, there were very few studies here.

4.2 Comparison with the existing literature.

The findings of this review add to the substantial body of literature illustrating that psychological therapists, like their clients and colleagues, hold social biases (Garb, 2009; Fitzgerald & Hurst, 2017; Dougall & Schwartz, 2018). More specifically, the findings are consistent with the results of previous non-systematic reviews of all mental health clinicians' decision-making (Garb, 2009; Lopez 1989). In line with the findings of the present review, those previous reviews concluded that client gender significantly influences clinicians' decision-making regarding diagnosis, expectations of client prognosis, and judgement of psychological functioning - all in the same directions as in this review. Likewise, they also concluded that client gender did not significantly impact on decision-making related to treatment recommendations and goals. The findings of this review add to the work of Garb (2009) and Lopez (1989) by examining the decision-making of psychological therapists specifically. Moreover, in addition to the previous review's findings, the present review also illustrates that client gender influences clinicians' decisions related to referrals, willingness to treat clients and use of touch in the therapy. Clinicians are more willing to treat females, and likely to refer them to other professionals. Moreover, clinicians predict that it will be easier to establish a therapeutic relationship with a client of the same gender and vary their use of touch depending on the client's gender.

This review includes papers published from 1970 – 2020. An examination of

clinician's decision-making on the basis of gender and sex across this 50-year period did not show significant changes across time despite the dramatic change in females participation in the labour force and education. This lack of change in clinicians' decision-making is in line with recent surveys of the general population which suggest that stereotypes on the basis have not changed significantly since 1960 (Haines et al., 2016).

This review found that clients' sexual orientation impacted on several aspects of clinicians' decision-making. Clinicians viewed lesbian clients as more "attractive" to work with. This favourable view of lesbians is consistent with surveys that have found that psychologists tend to hold positive attitudes towards the lesbian and gay population (Crisp, 2006). This review also found that clinicians perceive themselves to have less understanding of and competence to work with bisexual clients. This finding is consistent with literature showing that psychological therapists frequently report having had no teaching on or exposure to bisexuality-related topics during their clinical training (Mohr et al., 2001; Murphy et al., 2002).

One study included in this review found that clinicians were more likely to view lesbian clients' sexual orientation as related to their mental health difficulties than heterosexuals' sexual orientation. This finding could reflect clinicians' wider knowledge of discrimination that individuals who are not heterosexual can face because of their sexuality (Meyer et al., 2003). Alternatively, it is possible that some clinicians do not view homosexuality as a "normal variant of sexuality" (APA, 2013), but as a problematic aspect of identity. For example, Bergeret (2002), Bartlett et al., 2009 and others have found that a minority of mental health clinicians continue to pathologise homosexuality.

Finally, despite an extensive search, this review found only one paper that

explored how clients' diverse gender identities influenced clinical decision-making. The paucity of evidence is consistent with the lack of broader psychological literature. Exploring the experience and treatment of non-binary individuals (Matsuno & Budge, 2017; Zeeman et al., 2019). Likewise, few papers were found that examined how clients' sexual orientation and gender interact to influence clinicians' decision-making. Recent reviews have highlighted that whilst research exploring intersectionality is growing, many researchers in the field of psychological do not examine their work through an intersectional lens (Azmitia & Cumings Mansfield, 2020).

4.3 Relevance to existing theory; how can clinician bias be explained?

The majority of studies included in this review used experimental methodology, in which only the client's gender identity or sexual characteristics were manipulated between vignettes. Thus, clinicians were shown to make differential judgements about clients based on one, or two salient client characteristics (e.g., the client's gender identity and/or sexual characteristics). This biased clinician judgement and behaviour can be understood using socio-cognitive theory.

According to social categorisation theory, humans' group other people into conceptually rich social categories to predict their likely thoughts and behaviour (Liberman et al., 2017). The findings of this review suggest that clinicians group their clients into social categories related to the client's gender or sexual identity. They may use cognitive heuristics (mental shortcuts) such as stereotypes and prototypes to make predictions about their clients. For example, the influence of client gender and biological sex on diagnosis found in this review can be explained by clinicians using prototypes (e.g., a clinician's prototype for an individual with histrionic personality disorder might be that they are female). This would explain why clinicians were more likely to be recognise and diagnose histrionic personality disorder in female clients

than male clients. Similarly, clinicians might hold stereotypes about the attributes of male and female clients which explain why aspects of clients psychological functioning were assessed differently depending on the clients' gender.

4.4 Strengths and limitations of the current review

This review has several strengths, such as being pre-registered and utilising a comprehensive, systematic search of four major databases with the addition of ancestry searching. Moreover, the inclusion of a second rater to assess the methodological quality of studies improved the reliability of the critical appraisal process, thereby reducing the risk of researcher bias. However, this review also has a number of limitations, which must be considered.

First, only studies published in English were included in the review. This means that the findings may only be generalizable to countries where studies are routinely published in English, or that studies with weaker outcomes were missed. Moreover, only a smaller number of papers explored each aspect of clinician decision-making. Whilst the quantity and strength of the available evidence was considered when drawing conclusions about clinician decision-making, the limited numbers of papers for some aspects of the review limits generalisability. Furthermore, grey literature (e.g., dissertations) was excluded from this review. This decision was made to ensure that conclusions drawn were based upon peer-reviewed, more credible sources of evidence. It is not known whether accessing the grey literature would have changed the outcome of the review. It is possible that only including peer-reviewed studies overinflated the effect of client characteristics on clinical decision-making as studies with positive findings are more likely to be published.

Second, the authors created a novel categorisation system for the The QualSyst Checklist appraisal tool. Whilst this approach was useful for interpreting the

review's findings, categorising quality total scores in this way is not a strategy that has been examined for validity or reliability.

Third, only one researcher extracted the data, calculated effect sizes (where possible) and synthesised the findings. This approach opens to the review to criticism of researcher bias, as the conclusions drawn are potentially vulnerable to a degree of subjectivity (Cipriani & Geddes, 2003). Future research could address this criticism by including more than one researcher in these processes.

Finally, this review did not use a meta-analytic approach. This decision was made due to the large heterogeneity between studies, the limited quantity of available papers addressing each aspect of the review, and the lack of required statistical information (e.g., means, standard deviations and subgroup sizes) reported in the studies. In the future, a meta-analytic approach should be considered when the available papers are suitable. This would allow more objective, precise, and generalisable conclusions (Walker & Kattan, 2008) to be drawn about the impact of client gender, sexual interaction, and the intersection of these two aspects of identity on psychological therapists' decision-making.

4.5 Future research

Most papers included in this review used analogue methodology. Whilst this approach provides a high degree of internal validity, its external validity is more limited, as clinicians' responses to vignettes might not accurately reflect the way that they would respond in real life settings. Future research should examine the impact of client characteristics on clinicians' decision-making in their actual clinical practice. For example, future research could employ similar methodology to Kugellmass' (2016) innovative study, in which the impact of clients' gender on practising therapists' actual responses to self-referrals to therapy were examined.

Most of the studies were conducted in the USA. Future research should examine how client gender and sexual orientation impact on clinical decision-making in different countries (or in different areas within the same country), where attitudes towards gender and sexual orientation may be different.

The papers included in this review predominantly examined clinicians' assessment and expectations of clients. It is notable that there was a paucity of research examining how client characteristics influenced clinicians' decisions regarding treatment options and treatment delivery. Future research should examine how client gender identity and sexual orientation impact upon clinicians' decisions regarding the delivery of evidence-based treatments.

This review highlights the lack of available research examining the impact of gender diversity on clinical decision-making. The majority of included papers only examined the binary genders of female and male. Transgender and gender diverse clients have been shown to have poorer treatment outcomes than cisgender clients (Budge et al., 2016; Lefevor et al., 2019), and report negative experiences of therapy (Chisolm-Straker et al., 2017; Dolan et al., 2020; Ellis et al., 2015; Strauss et al., 2020). Future research should examine the casual pathways of these inequalities for gender diverse clients. For example, research should examine how clinicians' decision-making in psychological therapy is impacted by a client having a diverse gender identity.

Clinicians included in this study displayed decision-making consistent with gender bias. Future research should examine how different aspects of client's identities such as social class, race, gender identity and sexual orientation intersect and impact on clinical decision-making. Finally, a few of the studies included in this review examined how clinician variables (e.g., gender, sexual orientation, experience,

and therapeutic orientation) interacted with client characteristics and influenced clinical decision-making. Such interactions should be considered in future research.

4.6 Clinical and Training Implications

Biases in judgement are often unconscious processes (Morewedge and Kahneman, 2010). This means that clinicians are unlikely to be aware of their own biases (Nisbett and Wilson 1977), even though they might readily spot the existence and operation of cognitive biases in others (Pronin et al., 2002). There are several potential steps that clinicians, supervisors, and services could take to recognise and reduce the impact of clinicians' biases on clinical decision-making.

First, clinicians' diagnostic decisions are influenced by gender bias. Therefore, clinicians should use diagnostic tools such as semi-structured interview and symptom checklists. These tools would decrease clinicians' reliance on their own intuition (Ely et al., 2011), and reduce the risk of their biases influencing diagnostic decision-making.

Second, clinicians are unlikely to be aware of their own biases and may even underestimate their vulnerability to them (Scopelliti et al., 2015). Supervisors should therefore encourage supervisees to self-appraise their clinical work, and consider the extent to which cognitive biases, such as gender bias, influence their decision-making. It is important to note that supervisors, by virtue of being human, are unlikely to be free of bias. Indeed, supervisors have been shown to display gender bias within supervision (Simpson-Southward et al., 2016). Future research should examine the impact of cognitive bias within supervision on clinician treatment outcomes.

Third, the socio-cognitive theories that inform our understanding of social categorisation, stereotypes, and cognitive biases originate from the field of psychology. However, few mental health training programmes educate their trainees

on those theories and their implications for clinical judgement, compared to training programmes in other disciplines such as medicine (Jenkins & Youngstrom, 2016). Psychological therapy training programmes should include education on cognitive biases and clinical decision-making, embedded throughout the curriculum. For example, this training could include detailed descriptions of known cognitive biases, together with multiple clinical scenarios illustrating their detrimental effect on clinical decision-making. Such cognitive debiasing strategies have been shown to be effective in the field of medicine (Croskerry, 2003; Gigerenzer & Goldstein, 1996; Jenkins & Youngstrom, 2016). However, the effectiveness of using cognitive debiasing strategies with psychological therapists would need to be evaluated.

Finally, clinicians' treatments outcomes should be monitored for the influence of clinician cognitive bias. For example, a clinician's treatment outcomes should be disaggregated by client characteristics that have been shown to give rise to bias such as gender identity, sexuality, and race. This would allow clinicians, supervisors, and services to identify disparities in outcomes, and differences in clinician decision-making between clients belonging to different social groups.

4.7 Conclusions

This review aimed to systematically examine whether client gender and sexual characteristics influence clinical decision-making. It yielded mixed findings. Client biological sex and gender significantly influenced diagnosis and assessment of psychological functioning. Client sexual orientation did not significantly impact on diagnostic decisions but did influence assessment of psychological functioning. Few studies examined the influence of client gender and sexual characteristics on clinicians' treatment decisions. Further research is needed in this area. Most of the research examined binary client gender and sexual identities. Future research should

examine the impact of diverse client gender and sexual identities on clinical decision-making.

References

Abramowitz, S., Davidson, D., Greene, R., & Edwards, D. (1980). Sex role-related countertransference revisited. A partial extension. *The Journal of Nervous and Mental Disease, 68*(5), 309-311.

Abreu, J. M. (1999). Conscious and nonconscious African American stereotypes: Impact on first impression and diagnostic ratings by therapists. *Journal of Consulting and Clinical Psychology, 67*(3), 387–393. https://doi.org/10.1037/0022-006X.67.3.387

Adams, E. M., & Betz, N. E. (1993). Gender differences in counselors' attitudes toward and attributions about incest. *Journal of Counseling Psychology, 40*(2), 210-216.

Adler, D. A., Drake, R. E., & Teague, G. B. (1990). Clinicians' practices in personality assessment: does gender influence the use of DSM-III axis II? *Comprehensive Psychiatry*, *31*(2), 125–133. https://doi.org/10.1016/0010-440x(90)90016-

Agell, G., & Rothblum, E. D. (1991). Effects of clients' obesity and gender on the therapy judgments of psychologists. *Professional Psychology: Research and Practice, 22*(3), 223–229. https://doi.org/10.1037/0735-7028.22.3.223

Ali, N., Fleisher, W., & Erickson, J. (2016). Psychiatrists' and psychiatry residents' attitudes toward transgender people*. Academic Psychiatry, 40*(2), 268–273. https://doi.org/ 10.1007/s40596-015-0308-y

Almaliah-Rauscher, S., Ettinger, N., Levi-Belz, Y., & Gvion, Y. (2020). "Will you treat me? I'm suicidal!" The effect of patient gender, suicidal severity, and therapist characteristics on the therapist's likelihood to treat a hypothetical suicidal patient. *Clinical Psychology & Psychotherapy, 27(*3), 278-287. https://doi.org/10.1002/cpp.2426

American Psychiatric Association. (1968). Diagnostic and statistical manual of mental

disorders (2nd ed.)

American Psychological Association. (2012). Guidelines for psychological practice with lesbian, gay, and bisexual clients. *American Psychologist, 67*(1), 10–42. https://doi.org/10.1037/a0024659

American Psychological Association. (2017, August). *Multicultural guidelines: An ecological approach to context, identity and intersectionality*. APA.org. https://www.apa.org/about/policy/multicultural-guidelines

American Psychological Association. (2015). Guidelines for psychological practice with transgender and gender nonconforming people. *American Psychologist, 70*(9), 832-864. https://doi.org/10.1037/a0039906

Austad, C. S., & Aronson, H. (1987). The salience of sex role instructions to mental health professionals. *Sex Roles: A Journal of Research, 16*(7-8), 323–333. https://doi.org/10.1007/BF00289545

Anzani, A., Prunas, A., & Sacchi, S. (2020). Facing transgender and cisgender patients: the influence of the client's experienced gender and gender identity on clinical evaluation. *Sexuality Research and Social Policy, 17*(1), 128-136. https://doi.org/10.1007/s13178-019-00382-4

Azmitia, M. & Cumings Mansfield, K. (2021). Editorial: Intersectionality and Identity Development: How do we conceptualise and research identity intersectionalities in youth meaningfully? *Frontiers in Psychology, 12*(625765). https://doi.org/10.3389/fpsyg.2021.625765

Barrett, K. A., & McWhirter, B. T. (2002). Counselor trainees' perceptions of clients based on client sexual orientation. *Counselor Education and Supervision, 41*(3), 219–232. https://doi.org/10.1002/j.1556-6978.2002.tb01285.x

Bartlett, A., Smith, G. & King, M. The response of mental health professionals to clients

seeking help to change or redirect same-sex sexual orientation. *BMC Psychiatry, 9*(11). https://doi.org/10.1186/1471-244X-9-11

Biaggo, M., Roades, L., Staffelbach, D., Cardinali, J., & Duffy, R. (2000). Clinical evaluations: Impact of sexual orientation, gender and gender role, 30(8), 1657-1669. https://doi.org/10.1111/j.1559-1816.2000.tb02460.x

Bieschke, K., Paul, P., & Blasko, K. (2007). Review of empirical research focused on the experience of lesbian, gay, and bisexual clients in counseling and psychotherapy. In K. J. Bieschke, R. M. Perez, & K. A. DeBord (Eds.), *Handbook of counseling and psychotherapy with lesbian, gay, bisexual, and transgender clients* (p. 293–315). American Psychological Association. https://doi.org/10.1037/11482-012

Billingsley, D. (1977). Sex bias in psychotherapy: An examination of the effects of client sex, client pathology, and therapist sex on treatment planning. *Journal of Consulting and Clinical Psychology, 45*(2), 250-256. https://doi.org/10.1037//0022-006x.45.2.250

Becker, D., & Lamb, S. (1994). Sex bias in the diagnosis of borderline personality disorder and posttraumatic stress disorder. *Professional Psychology: Research and Practice, 25*(1), 55–61. https://doi.org/10.1037/0735-7028.25.1.55

Bergeret, J. (2002). Homosexuality or homoeroticism? 'Narcissistic eroticism.' The *International Journal of Psychoanalysis, 83*(2), 351–362. https://doi.org/10.1516/QGUF-WK3L-9Q7P-YF0W

Blashfield, R., Sprock, J., Pinkston, K., & Hodgin, J. (1985). Exemplar prototypes of personality disorder diagnosis. *Comprehensive Psychiatry, 26*(1). 11-21.

Bostwick, W., Boyd, C., & West, B. (2014). Discrimination and mental health among

lesbian, gay and bisexual adults in the United States. *The American Journal of Orthopsychiatry, 84(*1), 35-45. https://doi.org/10.1037/h0098851

Bowers, A. M. V., & Bieschke, K. J. (2005). Psychologists' clinical evaluations and attitudes: An examination of the influence of gender and sexual orientation. *Professional Psychology: Research and Practice, 36*(1), 97–103. https://doi.org/10.1037/0735-7028.36.1.97

Boysen, G., Vogel, D. & Wester, S. (2011). Mental Health Stereotypes about gay men. Sex Roles, 54, 69-82. https://doi.org/10.1007/s11199-006-8870-0

Braamhorst, W., Lobbestael, J., Emons, W. H., Arntz, A., Witteman, C. L., & Bekker, M. H. (2015). Sex bias in classifying borderline and narcissistic personality disorder. *The Journal of Nervous and Mental Disease*, *203*(10), 804–808. https://doi.org/10.1097/NMD.0000000000000371

British Psychological Society. (2018, July 04). *Guidelines for psychologists working with gender, sexuality and relationship diversity.* BPS. https://www.bps.org.uk/news-and-policy/guidelines-psychologists-working-gender-sexuality-and-relationship-diversity

Brown, S., Kucharaska, J., & Marczak, M. (2017). Mental health practitioners' attitudes towards transgender people: A systematic review of the literature. *International Journal of Transgenderism.* https://doi.org/10.1080/15532739.2017.1374227

Broverman, I. K., Broverman, D. M., Clarkson, F. E., Rosenkrantz, P. S., & Vogel, S. R. (1970). Sex-role stereotypes and clinical judgments of mental health. *Journal of Consulting and Clinical Psychology, 34*(1), 1–7. https://doi.org/10.1037/h0028797

Bruchmüller, K., Margraf, J., & Schneider, S. (2012). Is ADHD diagnosed in accord with diagnostic criteria? Overdiagnosis and influence of client gender on diagnosis. *Journal of Consulting and Clinical Psychology*, *80*(1), 128–138.

https://doi.org/10.1037/a0026582

Buczek, T. A. (1981). Sex biases in counseling: Counselor retention of the concerns of a female and male client. *Journal of Counseling Psychology, 28*(1), 13–21. https://doi.org/10.1037/0022-0167.28.1.13

Budge, S., Jayden, L., Elliot, A., Howard, K. (2016). The intersection of race, sexual orientation, socioeconomic status, trans identity and mental health outcomes. *The Counselling Psychologist, 44*(7), 1025-1049. https://doi.org/10.1177/0011000015609046

Chakraborty, A., McManus, S., Brugha, T. S., Bebbington, P., & King, M. (2011). Mental health of the non-heterosexual population of England. *The British Journal of Psychiatry: The Journal of Mental Science*, *198*(2), 143–148. https://doi.org/10.1192/bjp.bp.110.082271

Chisolm-Straker, M., Jardine, L., Bennouna, C., Morency-Brassard, N., Coy, L., Egemba, M. O., & Shearer, P. L. (2017). Transgender and gender nonconforming in emergency departments: A qualitative report of patient experiences. *Transgender Health*, *2*(1), 8–16. https://doi.org/10.1089/trgh.2016.0026

Clopton, J. R., & Haydel, J. (1982). Psychotherapy referral patterns as influenced by sex of the referring therapist and sex and age of the client. *Journal of Consulting and Clinical Psychology, 50*(1), 156–157. https://doi.org/10.1037/0022-006X.50.1.156

Cipriani, A., & Geddes, J. (2003). Comparison of systematic and narrative reviews: the example of the atypical antipsychotics. *Epidemiologia e Psichiatria Sociale*, *12*(3), 146–153. https://doi.org/10.1017/s1121189x00002918

Crosby, J. P., & Sprock, J. (2004). Effect of patient sex, clinician sex, and sex role on the diagnosis of antisocial personality disorder: Models of underpathologizing

and overpathologizing biases. *Journal of Clinical Psychology, 60*(6), 583–604. https://doi.org/10.1002/jclp.10235

Croskerry P. (2003). The importance of cognitive errors in diagnosis and strategies to minimize them. *Academic Medicine: Journal of the Association of American Medical Colleges*, *78*(8), 775–780. https://doi.org/10.1097/00001888-200308000-00003

Dawes, R. M. (1986). Representative thinking in clinical judgment. *Clinical Psychology Review, 6*(5), 425–441. https://doi.org/10.1016/0272-7358(86)90030-9

Danzinger, P. R., & Welfel, E. R. (2000). Age, gender and health bias in counselors: An empirical analysis. *Journal of Mental Health Counseling, 22*(2), 135–149.

Dejong, C., Van Den Brink, W., & Jansen., J. (1993). Sex role stereotypes and clinical judgement: How therapists view their alcohol patients. *Journal of Substance Abuse Treatment, 10*(1), 383-389.

De Kwaadsteniet, L., Kim, S., & Yopchick, E. (2013). How do practising clinicians and students apply newly learned causal information about mental disorders? *Journal of Evaluation in Clinical Practice, 19*(1), 112–117. https://doi.org/10.1111/j.1365-2753.2011.01781.x

Devine, P. G., & Sharp, L. B. (2009). Automaticity and control in stereotyping and prejudice. In T. D. Nelson (Ed.*), Handbook of Prejudice, Stereotyping, and Discrimination* (p. 61–87). Psychology Press

Dhejne, C., Van Vlerken, R., Heylens, G., & Arcelus, J. (2016). Mental health and gender dysphoria: A review of the literature. *International Review of Psychiatry, 28*(1), 44-57. http://dx.doi.org/10.3109/09540261.2015.1115753

Diamond, L., & Butterworth, M. (2008). Questioning gender and sexual identity: Dynamic links over time. *Sex Roles: A Journal of Research, 59*(5-6), 365–376.

https://doi.org/10.1007/s11199-008-9425-3

Dolan, I. J., Strauss, P., Winter, S., & Lin, A. (2020). Misgendering and experiences of stigma in health care settings for transgender people. *The Medical Journal of Australia, 212(*4), 150–151.e1. https://doi.org/10.5694/mja2.50497

Dougall, J., & Schwartz, R. (2018). The influence of client socioeconomic status on psychotherapists attributional biases and countertransference reactions. *The American Journal of Psychotherapy, 65*(3), 249-265. https://doi.org/10.1176/appi.psychotherapy.2011.65.3.249

Ebersole, R., Dillon, F., & Eklund, A. (2018). Mental health clinicians' perceived competence for affirmative practice with bisexual clients in comparison to lesbian and gay clients*. Journal of Bisexuality,18*(2), 127-144. https://doi.org/10.1080/15299716.2018.1428711

Ely, J. W., Graber, M. L., & Croskerry, P. (2011). Checklists to reduce diagnostic errors. *Academic Medicine: Journal of the Association of American Medical Colleges*, *86*(3), 307–313. https://doi.org/10.1097/ACM.0b013e31820824cd

Ellis, S., Bailey, L., & McNeil, J. (2014). Trans people's experiences of mental health and gender identity services: A UK study. *Journal of Gay & Lesbian Mental Health, 19*(1), 4-20. https://doi.org/10.1080/19359705.2014.960990

Eubanks-Carter, C., & Goldfried, M. R. (2006). The impact of client sexual orientation and gender on clinical judgments and diagnosis of borderline personality disorder. *Journal of Clinical Psychology*, *62*(6), 751–770. https://doi.org/10.1002/jclp.20265

Evans, D. L., Herbert, J. D., Nelson-Gray, R. O., & Gaudiano, B. A. (2002). Determinants of diagnostic prototypicality judgments of the personality disorders. *Journal of Personality Disorders*, *16*(1), 95–106.

https://doi.org/10.1521/pedi.16.1.95.22554

Fernbach, B. E., Winstead, B. A., & Derlega, V. J. (1989). Sex differences in diagnosis and treatment recommendations for antisocial personality and somatization disorders. *Journal of Social and Clinical Psychology, 8*(3), 238–255. https://doi.org/10.1521/jscp.1989.8.3.238

Fiske S., & Taylor S. (2013*). Social Cognition: From Brains to Culture*. Sage

FitzGerald, C., & Hurst, S. (2017). Implicit bias in healthcare professionals: a systematic review. *BMC Medical Ethics 18*(19). https://doi.org/10.1186/s12910-017-0179-8

Follingstad, D. R., DeHart, D. D., & Green, E. P. (2004). Psychologists' judgments of psychologically aggressive actions when perpetrated by a husband versus a wife. *Violence and Victims, 19*(4), 435–452. https://doi.org/10.1891/vivi.19.4.435.64165

Ford, M. R., & Widiger, T. A. (1989). Sex bias in the diagnosis of histrionic and antisocial personality disorders. *Journal of Consulting and Clinical Psychology*, *57*(2), 301–305. https://doi.org/10.1037//0022-006x.57.2.301

Friedman R. C. (1999). Homosexuality, psychopathology, and suicidality. *Archives of General Psychiatry*, *56*(10), 887–888. https://doi.org/10.1001/archpsyc.56.10.887

Fuss, J., Briken, P., & Klein, V. (2018). Gender bias in clinicians pathologization of atypical sexuality: A randomised controlled trial with mental health professionals. *Scientific Reports, 8*(1). https://doi.org//10.1038/s41598-018-22108-z

Garb, H. N. (1996). The representativeness and past-behavior heuristics in clinical judgment. *Professional Psychology: Research and Practice, 27*(3), 272–277. https://doi.org/10.1037/0735-7028.27.3.272

Garb, H. N. (1997). Race bias, social class bias, and gender bias in clinical judgment. *Clinical Psychology: Science and Practice, 4*(2), 99–120.

https://doi.org/10.1111/j.1468-2850.1997.tb00104.x

Garb, H. N. (1998). *Studying the clinician: Judgment research and psychological assessment.* American Psychological Association. https://doi.org/10.1037/10299-000

Garfinkle, E. & Morin, S. (1978). Psychologists' attitudes toward homosexual psychotherapy clients. *Journal of Social Issues, 34*(3), 101-112. https://doi.org/10.1111/j.1540-4560.1978.tb02617.x

Gelso, C., Fassinger, R., Gomez, M., & Latts. M. (1995). Countertransference reactions to lesbian clients: The role of homophobia, counsellor gender and countertransference management. *Journal of Counselling Psychology, 42*(5), 356-364. https://doi.org/10.1037/0022-0167.42.3.356

Gigerenzer, G., & Goldstein, D. G. (1996). Reasoning the fast and frugal way: Models of bounded rationality. *Psychological Review, 103*(4), 650–669. https://doi.org/10.1037/0033-295X.103.4.650

Glasman, L. & Albarracín, D. (2006). Forming attitudes that predict future behavior: a meta-analysis of the attitude-behavior relation. *Psychological Bulletin, 132*(5), 778–822. https://doi.org/10.1037/0033-2909.132.5.778

Grove, W. M., Zald, D. H., Lebow, B. S., Snitz, B. E., & Nelson, C. (2000). Clinical versus mechanical prediction: A meta-analysis. *Psychological Assessment, 12*(1), 19–30. https://doi.org/10.1037/1040-3590.12.1.19

Heatherington, L., Stets, J., & Mazzarella, S. (1986). Whither the bias: The female client's "edge" in psychotherapy? *Psychotherapy: Theory, Research, Practice, Training, 23*(2), 252–256. https://doi.org/10.1037/h0085606

Jenkins, M., & Youngstrom, E. (2016). A randomized controlled trial of cognitive debiasing improves assessment and treatment selection for paediatric bipolar

disorder. *Journal of Consulting and Clinical Psychology, 84*(4), 323–333. https://doi.org/10.1037/ccp0000070

Kahneman, D., Slovic, P., & Tversky, A. (Eds.). (1982). *Judgment under uncertainty: heuristics and biases*. Cambridge University Press. doi:10.1017/CBO9780511809477

Kerr, S., Walker, R., Warner, D., & McNeil, B. (2008). Diagnosis of lesbian clients with dysthymic disorder. *Journal of Psychology and Human Sexuality, 15*(2), 11-26. https://doi.org/10.1300/J056v15n02_02

Klein, F. (1993). *The bisexual option.* Harrington Park Press.

Kim, S., & Ahn, K. (2002). Clinical psychologists' theory-based representations of mental disorders predict their diagnostic reasoning and memory. *Journal of Experimental Psychology General, 131*(4), 451-76.

King, M., Semlyen, J., Tai, S. S., Killaspy, H., Osborn, D., Popelyuk, D., & Nazareth, I. (2008). A systematic review of mental disorder, suicide, and deliberate self-harm in lesbian, gay and bisexual people. *BMC Psychiatry*, *8*, 70. https://doi.org/10.1186/1471-244X-8-70

Kmet, L., Lee, R., & Cook L. (2004). *Standard quality assessment criteria for evaluating primary research papers from a variety of fields*. Alberta Heritage Foundation for Medical Research.

Kugelmass H. (2016). "Sorry, I'm not accepting new patients": An audit study of access to mental health care. *Journal of Health and Social Behavior*, *57*(2), 168–183. https://doi.org/10.1177/0022146516647098

Lefevor, G. T., Boyd-Rogers, C. C., Sprague, B. M., & Janis, R. A. (2019). Health disparities between genderqueer, transgender, and cisgender individuals: An extension of minority stress theory. *Journal of Counseling Psychology*, *66*(4),

385–395. https://doi.org/10.1037/cou0000339

Liberman, Z., Woodward, A., & Kinzler, K. (2017). The origins of social categorization. *Trends in Cognitive Sciences*, *21*(7), 556–568. https://doi.org/10.1016/j.tics.2017.04.004

Lilienfeld, O., Ritschel, A., Lynn, J., Cautin, L., & Latzman, D. (2013). Why many clinical psychologists are resistant to evidence-based practice: root causes and constructive remedies. *Clinical Psychology Review, 33*(7), 883–900. https://doi.org/10.1016/j.cpr.2012.09.008

Lopez, S. (1989). Patient variable biases in clinical judgement: conceptual overview and methodological considerations. *Psychological Bulletin, 106*(2). 184-203. https://doi.org/ 10.1037/0033-2909.106.2.184

López, S. R., Smith, A., Wolkenstein, B. H., & Charlin, V. (1993). Gender bias in clinical judgment: An assessment of the analogue method's transparency and social desirability. *Sex Roles: A Journal of Research, 28*(1-2), 35–45. https://doi.org/10.1007/BF00289746

Lowery, C. R., & Higgins, R. L. (1979). Analogue investigation of the relationship between clients' sex and treatment recommendations. *Journal of Consulting and Clinical Psychology*, *47*(4), 792–794. https://doi.org/10.1037//0022-006x.47.4.792

Matsuno, E. & Budge, S. (2017). Non-binary/genderqueer identities: a critical review of the literature. *Current Sexual Health Reports, 9,* 116-120. https://doi.org/10.1007/s11930-017-0111-8

McHugh, P. (1994). Psychotherapy awry. *The American Scholar, 63*(1), 17-30. http://www.jstor.org/stable/41212202

Meyer I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and

bisexual populations: conceptual issues and research evidence. *Psychological Bulletin*, *129*(5), 674–697. https://doi.org/10.1037/0033-2909.129.5.674

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

Meehl, P. (1954). *Clinical versus statistical prediction: A theoretical analysis and a review of the evidence.* University of Minnesota Press. https://doi.org/10.1037/11281-000

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & PRISMA Group (2009). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *PLoS Medicine*, *6*(7), e1000097. https://doi.org/10.1371/journal.pmed.1000097

Mohr, J., Chopp, R., & Wong, S. (2013). Psychotherapists' stereotypes of heterosexual, gay and bisexual men. *Journal of Gay & Lesbian Social Services, 25*(1), 37-55. https://doi.org/10.1080/10538720.2013.751885

Morewedge, C. K., & Kahneman, D. (2010). Associative processes in intuitive judgment. *Trends in Cognitive Sciences, 14*(10), 435–440. https://doi.org/10.1016/j.tics.2010.07.004

Murphy, J. A., Rawlings, E. I., & Howe, S. R. (2002). A survey of clinical psychologists on treating lesbian, gay, and bisexual clients. *Professional Psychology: Research and Practice, 33*(2), 183–189. https://doi.org/10.1037/0735-7028.33.2.183

Nisbett, R. E., & Wilson, T. D. (1977). The halo effect: Evidence for unconscious alteration of judgments. *Journal of Personality and Social Psychology, 35*(4), 250–256. https://doi.org/10.1037/0022-3514.35.4.250

Oyster-Nelson, C. K., & Cohen, L. H. (1981). The extent of sex bias in clinical treatment recommendations. *Professional Psychology, 12*(4), 508–515. https://doi.org/10.1037/0735-7028.12.4.508

Pronin, E., Lin, D., & Ross., L. (2002). The bias blind spot: Perceptions of bias in self versus others. *Personality and Social Psychology Bulletin, 28*(3), 369-381. https://doi.org/10.1177/0146167202286008

Perrin, P., Heesacker, M., & Shrivastav, R. (2008). Removing the tinted spectacles: Accurate client emotionality assessment despite therapist's gender stereotypes. *Journal of Social and Clinical Psychology, 27*(7), 711-733.https://doi.org/10.1521/jscp.2008.27.7.711

Prunas, A., Sacchi, S., & Brambilla, M. (2018). The insidious effects of sexual stereotypes in clinical practice. *The Journal of Sex Research, 55*(4), 642-653. https://doi.org/10.1080/00224499.2017.1337866

Riggs, D. & Sion, R. (2016). gender differences in cisgender psychologists' and trainees' attitudes toward transgender people. *Psychology of Men & Masculinity, 18*(2).187-190. https://doi.org/ 10.1037/men0000047

Rotondi, N. (2012). Depression in trans people: A review of the risk factors. *International Journal of Transgenderism, 13*(3), 104-116. https://doi.org/10.1080/15532739.2011.663243

Sandfort, T., De Graff, R., Bijl, R., & Schnabel, P. Same-sex sexual behaviour and psychiatric disorders: Findings from the Netherlands mental health survey and incidence study (NEMESIS). *Archives of General Psychiatry, 58*(1), 85–91. https://doi.org/10.1001/archpsyc.58.1.85

Schilt, K., & Westbrook, L. (2009). Doing gender, doing heteronormativity: "Gender normals," transgender people, and the social maintenance of heterosexuality.

Gender & Society, 23(4), 440–464. https://doi.org/10.1177/0891243209340034

Schover, L. R. (1981). Male and female therapists' responses to male and female client sexual material: An analogue study. *Archives of Sexual Behavior, 10*(6), 477–492. https://doi.org/10.1007/BF01541584

Schwartz, R. C., Lent, J., & Geihsler, J. (2011). Gender and diagnosis of mental disorders: Implications for mental health counseling. *Journal of Mental Health Counseling, 33*(4), 347–358. https://doi.org/10.17744/mehc.33.4.914g2n123u771316

Scopelliti, I., Morewedge, C., McCormick, E., Min, L., Lebrecht, & Kassam., K. (2015). Bias blind spot: structure, measurement, and consequences. *Management Science, 61(*10), 2468-2486. https://doi.org/10.1287/mnsc.2014.2096

Settin, J. M., & Bramel, D. (1981). "Interaction of client class and gender in biasing clinical judgment": *American Journal of Orthopsychiatry, 51*(4), 750. https://doi.org/10.1111/j.1939-0025.1981.tb01424.x

Settin, J. M. (1982). Clinical judgment in geropsychology practice. *Psychotherapy: Theory, Research & Practice, 19*(4), 397–404. https://doi.org/10.1037/h0088451

Shullman, S. L., & Betz, N. E. (1979). An investigation of the effects of client sex and presenting problem in referral from intake. *Journal of Counseling Psychology, 26*(2), 140–145. https://doi.org/10.1037/0022-0167.26.2.140

Simpson-Southward, C., Waller, G., & Hardy, G. E. (2016). Supervision for treatment of depression: An experimental study of the role of therapist gender and anxiety. *Behaviour Research and Therapy*, *77*, 17–22.

https://doi.org/10.1016/j.brat.2015.11.013

Stake & Oliver. (1991). Sexual contact and touching between therapist and client: A survey of psychologists' attitudes and behaviour. *Professional Psychology: Research and Practice, 22*(4), 297-307. https://doi.org/10.1037/0735-7028.22.4.297

Stearns, B. C., Penner, L. A., & Kimmel, E. (1980). Sexism among psychotherapists: a case not yet proven. *Journal of Consulting and Clinical Psychology*, *48*(4), 548–550. https://doi.org/10.1037//0022-006x.48.4.548

Stenzel, C. L., & Rupert, P. A. (2004). Psychologists' use of touch in individual psychotherapy. *Psychotherapy: Theory, Research, Practice, Training, 41*(3), 332–345. https://doi.org/10.1037/0033-3204.41.3.332

Stonewall. (2021). *Glossary of terms.* Stonewall. https://www.stonewall.org.uk/help-advice/faqs-and-glossary/glossary-terms

Strauss, P., Lin, A., Winter, S., Waters, Z., Watson, V., Wright Toussaint, D., & Cook, A. (2021). Options and realities for trans and gender diverse young people receiving care in Australia's mental health system: findings from trans pathways. *Australian & New Zealand Journal of Psychiatry, 55*(4), 391–399. https://doi.org/10.1177/0004867420972766

Thompson, M., Chin, M., & Kring, M. (2019). Examining mental health practitioners' perception of clients based on social class and sexual orientation. *American Psychological Association, 56*(2), 217-228. http://dx.doi.org/10.1037/pst0000222

Tversky, A., & Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science, 211*(4481), 453–458. https://doi.org/10.1126/science.7455683

Walker, E., Hernandez, A. V., & Kattan, M. W. (2008). Meta-analysis: Its strengths and limitations. *Cleveland Clinic Journal of Medicine*, *75*(6), 431–439. https://doi.org/10.3949/ccjm.75.6.431

Waller G. (2009). Evidence-based treatment and therapist drift. *Behaviour Research and Therapy*, *47*(2), 119–127. https://doi.org/10.1016/j.brat.2008.10.018

Woodward, H. E., Taft, C. T., Gordon, R. A., & Meis, L. A. (2009). Clinician bias in the diagnosis of posttraumatic stress disorder and borderline personality disorder. *Psychological Trauma: Theory, Research, Practice, and Policy, 2*(2), 96. https://doi.org/10.1037/a0020103

Wrobel, N. H. (1993). Effect of patient age and gender on clinical decisions. *Professional Psychology: Research and Practice, 24*(2), 206–212. https://doi.org/10.1037/0735-7028.24.2.206

Zeeman, L., Sherriff, N., Browne, K., McGlynn, N., Mirandola, M., Gios, L., Davis, R., Sanchez-Lambert, J., Aujean, S., Pinto, N., Farinella, F., Donisi, V., Niedźwiedzka-Stadnik, M., Rosińska, M., Pierson, A., Amaddeo, F., & Health4LGBTI Network (2019). A review of lesbian, gay, bisexual, trans and intersex (LGBTI) health and healthcare inequalities. *European Journal of Public Health*, *29*(5), 974–980. https://doi.org/10.1093/eurpub/cky226

Appendices

Appendix A

Glossary of terminology

Glossary of definitions related to gender and sexual diversity

Term	Definition
Bi	Bi is an umbrella term used to describe a romantic and/or sexual orientation towards more than one gender. Bi people may describe themselves using one or more of a wide variety of terms, including, but not limited to, bisexual, pan, queer, and some other non-monosexual and non-monoromantic identities. (Stonewall, 2020)
Cisgender	Someone whose gender identity is the same as the sex they were assigned at birth. Non-trans is also used by some people. (Stonewall, 2020)
Gay	Refers to a man who has a romantic and/or sexual orientation towards men. Also a generic term for lesbian and gay sexuality - some women define themselves as gay rather than lesbian. Some non-binary people may also identify with this term (Stonewall, 2021)
Gender	is socially constructed, and can be defined as the psychological, social, and cultural features and characteristics frequently associated with the biological categories of male and female (Good et al.,1990)
Gender Identity	A person's innate sense of their own gender, whether male, female or something else (see non-binary below), which may or may not correspond to the sex assigned at birth (Stonewall, 2021)
Heterosexual	Refers to a man who has a romantic and/or sexual orientation towards women or to a woman who has a romantic and/or sexual orientation towards men. Also termed 'straight' (Stonewall, 2021)
Homophobia	The fear or dislike of someone, based on prejudice or negative attitudes, beliefs or views about lesbian, gay or bi people. Homophobic bullying may be targeted at people who are, or who are perceived to be, lesbian, gay or bi (Stonewall, 2021)
Intersex	A term used to describe a person who may have the biological attributes of both sexes or whose biological attributes do not fit with societal assumptions about what constitutes male or female. Intersex people may identify as male, female or non-binary. (Stonewall, 2021)
Lesbian	Refers to a woman who has a romantic and/or sexual orientation towards women. Some non-binary people may also identify with this term (Stonewall, 2021)
Non-binary	An umbrella term for people whose gender identity doesn't sit comfortably with 'man' or 'woman'. Non-binary identities are varied and can include people who identify with some aspects of binary identities, while others reject them entirely (Stonewall, 2021)

Appendix A continued

Glossary of definitions related to gender and sexual diversity

Queer	Queer is a term used by those wanting to reject specific labels of romantic orientation, sexual orientation and/or gender identity. It can also be a way of rejecting the perceived norms of the LGBT community (racism, sizeism, ableism etc). Although some LGBT people view the word as a slur, it was reclaimed in the late 80s by the queer community who have embraced it. (Stonewall, 2021)
Sex	refers to a person's biological status and is typically categorized as male, female, or intersex (APA, 2012)
Sexual Orientation	A person's sexual attraction to other people, or lack thereof. Along with romantic orientation, this forms a person's orientation identity (Stonewall, 2020)
Trans	An umbrella term to describe people whose gender is not the same as, or does not sit comfortably with, the sex they were assigned at birth. Trans people may describe themselves using one or more of a wide variety of terms, including (but not limited to) transgender, transsexual, gender-queer (GQ), gender-fluid, non-binary, gender-variant, crossdresser, genderless, agender, nongender, third gender, bi-gender, trans man, trans woman, trans masculine, trans feminine and neutrois (Stonewall, 2020)
Transgender Man	A term used to describe someone who is assigned female at birth but identifies and lives as a man. This may be shortened to trans man, or FTM, an abbreviation for female-to-male. (Stonewall, 2021)
Transgender Woman	A term used to describe someone who is assigned male at birth but identifies and lives as a woman. This may be shortened to trans woman, or MTF, an abbreviation for male-to-female. (Stonewall, 2021)
Transexual	This was used in the past as a more medical term (similarly to homosexual) to refer to someone whose gender is not the same as, or does not sit comfortably with, the sex they were assigned at birth. This term is still used by some although many people prefer the term trans or transgender (Stonewall, 2021)

Appendix B

PROSPERO registration details

PROSPERO Registration message [215865] Inbox ×

CRD-REGISTER <irss505@york.ac.uk>
to me

Dear Miss Pluckwell,

Thank you for submitting details of your systematic review "Are psychological therapists' clinical decisions influenced by patient sex, gender identity and sexuality?" to the PROSPERO register. We are pleased to confirm that the record will be published on our website within the next hour.

Your registration number is: CRD42021215865

You are free to update the record at any time, all submitted changes will be displayed as the latest version with previous versions available to public view. Please also give brief details of the key changes in the Revision notes facility and remember to update your record when your review is published. You can log in to PROSPERO and access your records at https://www.crd.york.ac.uk/PROSPERO.

Comments and feedback on your experience of registering with PROSPERO are welcome at crd-register@york.ac.uk

Best wishes for the successful completion of your review.

Yours sincerely,

Lesley Indge
PROSPERO Administrator
Centre for Reviews and Dissemination
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Appendix C

The QualSyst Checklist for assessing the quality of quantitative studies

Criteria		YES (2)	PARTIAL (1)	NO (0)	N/A
1	Question / objective sufficiently described?				
2	Study design evident and appropriate?				
3	Method of subject/comparison group selection or source of information/input variables described and appropriate?				
4	Subject (and comparison group, if applicable) characteristics sufficiently described?				
5	If interventional and random allocation was possible, was it described?				
6	If interventional and blinding of investigators was possible, was it reported?				
7	If interventional and blinding of subjects was possible, was it reported?				
8	Outcome and (if applicable) exposure measure(s) well defined and robust to measurement / misclassification bias? Means of assessment reported?				
9	Sample size appropriate?				
10	Analytic methods described/justified and appropriate?				
11	Some estimate of variance is reported for the main results?				
12	Controlled for confounding?				
13	Results reported in sufficient detail?				
14	Conclusions supported by the results?				

Appendix D

Quality assessment of included studies

Author	Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total (%)
Anzani et al.	2020	2	2	2	2	2	n/a	n/a	1	2	2	2	2	2	2	96
Thompson et al.	2019	2	2	2	2	1	n/a	n/a	1	2	2	2	2	2	2	92
Almaliah-Rauscher et al	2018	2	2	2	2	1	n/a	n/a	1	1	2	2	2	2	2	79
Fuss et al.	2018	2	2	2	2	1	n/a	n/a	1	1	2	2	2	2	2	88
Ebersole et al.	2018	2	2	2	2	1	n/a	n/a	2	1	2	0	0	1	2	71
Prunas et al.	2018	2	2	2	2	1	n/a	n/a	2	2	2	2	1	2	2	92
Kugelmass	2016	2	2	2	0	1	n/a	n/a	2	1	2	1	0	2	2	71
Braamhorst et al.	2015	2	2	2	2	1	n/a	n/a	2	2	2	2	1	2	2	92
Bruchmuller et al.	2012	2	2	2	2	1	n/a	n/a	2	2	2	2	1	2	2	92
Schwartz et al.	2011	2	2	2	2	0	n/a	2	2	1	2	2	1	2	2	85
Woodward et al.	2009	2	2	2	2	1	n/a	n/a	1	2	2	0	2	2	2	83
Perrin et al.	2008	2	2	2	2	1	n/a	n/a	1	2	2	2	1	2	2	88
Eubanks-Carter & Goldfried.	2006	2	2	2	2	1	n/a	n/a	1	0	2	2	2	2	2	83
Bowers & Bieschke	2005	2	2	2	2	0	n/a	n/a	1	1	2	2	2	2	2	83
Crosby & Sprock	2004	2	2	2	2	1	n/a	n/a	1	1	2	2	1	2	2	83
Follingstad et al.	2004	2	2	2	2	1	n/a	n/a	2	1	2	2	1	2	2	88
Stenzel & Rupert	2004	2	2	2	2	n/a	n/a	n/a	0	1	2	1	0	2	2	73
Kerr et al.	2004	2	2	2	2	1	n/a	n/a	1	1	2	2	1	2	2	83
Barrett & McWhirter	2002	2	2	2	2	0	n/a	n/a	1	2	2	2	2	1	2	83
Biaggio et al.	2000	2	1	1	2	1	n/a	n/a	1	1	2	2	0	2	2	71
Danzinger & Welfel	2000	2	2	2	2	0	n/a	n/a	2	0	2	2	1	2	2	79
Gelso et al.	1995	2	2	2	1	1	n/a	n/a	1	1	2	2	0	1	2	71
Becker & Lamb	1994	2	2	2	2	0	n/a	n/a	1	1	2	2	1	2	2	79
Wrobel	1993	2	2	2	2	1	n/a	n/a	1	1	2	1	1	2	2	79
Dejong	1993	1	0	0	1	n/a	n/a	n/a	1	1	1	2	2	1	1	50

Appendix D

Authors	Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total (%)
Lopez et al.	1993	2	2	2	2	0	n/a	n/a	1	1	2	2	0	1	2	71
Adam & Betz	1993	2	2	2	2	0	n/a	n/a	2	1	2	2	1	1	2	79
Agell & Rothblum	1991	2	2	2	1	0	n/a	n/a	1	1	2	2	1	2	2	75
Stake & Oliver	1991	2	2	2	1	n/a	n/a	n/a	0	1	2	2	1	2	1	67
Adler et al.	1990	2	2	2	0	1	n/a	n/a	2	0	2	0	1	2	2	67
Fernbach et al.	1989	2	2	2	1	1	n/a	n/a	1	1	2	2	1	0	2	63
Ford & Widger	1989	2	2	2	2	1	n/a	n/a	1	1	2	2	1	2	2	83
Austad & Aronson	1987	1	2	1	1	0	n/a	n/a	1	1	1	0	0	1	1	42
Heatherington et al.	1986	2	2	2	1	1	n/a	n/a	2	1	2	2	1	2	2	83
Clopton & Haydel	1982	1	2	1	1	1	n/a	n/a	1	1	1	0	0	2	2	50
Settin & Bramel	1981	2	2	2	2	1	n/a	n/a	1	1	2	1	2	1	2	73
Buczek	1981	2	2	2	2	1	n/a	n/a	2	2	2	2	1	1	0	79
Schover	1981	2	2	2	2	1	n/a	n/a	1	1	2	2	1	2	2	83
Oyster-Nelson & Cohen	1981	2	2	2	1	0	n/a	n/a	1	1	2	0	1	0	2	58
Settin	1981	2	2	2	0	1	n/a	n/a	0	1	2	1	0	1	1	54
Stearns et al.	1980	1	2	2	2	0	n/a	n/a	1	1	2	2	0	1	2	67
Abramowitz et al.	1980	1	2	1	1	n/a	n/a	n/a	2	1	2	0	0	1	2	54
Shullman & Betz	1979	0	2	1	1	n/a	n/a	n/a	1	1	2	0	0	2	2	50
Lowery & Higgins	1979	2	2	2	0	0	n/a	n/a	1	1	2	2	0	2	2	67
Garfinkle & Morin	1978	2	2	2	2	0	n/a	n/a	1	1	2	2	2	1	2	79
Billingsley	1977	2	2	2	1	1	n/a	n/a	1	1	2	2	0	0	2	67

Section 2: Research report

The impact of clinician and client characteristics on clinicians' decision-making regarding imaginal exposure for post-traumatic stress disorder

Abstract

Objectives. Exposure-based therapies are underutilised by therapists, despite evidence for their crucial role of exposure in treating anxiety. This experimental study explored the impact of clinician and client characteristics on clinicians' preference for, and reported use of, imaginal exposure therapy to treat Post-Traumatic Stress Disorder (PTSD).

Method. 127 qualified and trainee therapists were randomised to one of four conditions in which they were required to indicate how they would treat a client with PTSD, detailed within a clinical vignette. The state anxiety and gender of the client varied across conditions. Participants' intolerance of uncertainty, likelihood of excluding clients from exposure therapy and negative beliefs about exposure therapy were also assessed.

Results. Clinicians with greater intolerance of uncertainty were more likely to hold negative beliefs about exposure therapy, delay the use of imaginal exposure, and exclude clients from exposure therapy. Clinicians were less likely to plan for imaginal exposure with female clients than they were with male clients**.**

Conclusions. Clinician and client characteristics impact upon use of imaginal exposure for PTSD. Further research should examine how other specific clinician and client characteristics interact, and impact upon clinical decision-making.

Practitioner points

- Clinicians need to be aware of their own anxiety and use supervision to ensure that it does not get in the way of treating patients effectively.
- Clinicians need to be aware that the gender of the client might steer them away from providing effective treatment, though that is unjustified.

Key words: PTSD, Imaginal exposure, therapist drift, gender bias

Introduction

Despite a significant body of literature evidencing the effectiveness of imaginal exposure (IE) in treating Post-traumatic stress disorder (PTSD), it is frequently underutilised. It is a clinician's responsibility to provide their clients with the best possible care, so why is it that many fail to give their patients the most effective treatment? This experimental study explores the impact of client and clinician characteristics on clinicians' preference for and reported use of exposure-based methods for PTSD.

1.1 Post-traumatic stress disorder

PTSD is an anxiety-based condition that can develop as a consequence of experiencing or witnessing single, repeated or multiple traumatic events (World Health Organisation, 2018). In 2013, PTSD was reclassified from an anxiety disorder to a trauma- and stress-based disorder in the Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM–5; American Psychiatric Association, 2013). It is characterised by four distinct symptom clusters: re-experiencing the traumatic event; avoiding reminders of the trauma; alterations in arousal and reactivity; and changes in cognition and mood (American Psychiatric Association, 2013). PTSD is associated with high individual and societal burden (Atwoli et al., 2015). The economic costs of PTSD are higher than for other mental disorders (Bothe et al., 2020). Individuals with PTSD are likely to experience difficulties with their physical health (Scott et al., 2013), reductions in quality of life (Atwoli et al., 2015), and disruptions in social functioning (Smith et al., 2005).

Given how disabling PTSD is, its effective treatment is imperative. IE is considered a gold standard treatment for PTSD (Foa et al., 2000; Rauch et al., 2012;

Zayfert & Becker, 2019), though other approaches can also be used, such as Eye Movement Desensitization and Reprocessing (EMDR) (NICE, 2018).

1.2 What is exposure therapy?

Exposure therapy involves repeated and prolonged confrontation with anxiety-provoking stimuli (in objectively safe conditions), without engaging in safety behaviours to overcome anxiety (Myers & Davis, 2007; Richard & Lauterbach, 2007). Exposure to feared stimuli has been identified as a key evidence-based mechanism of change for anxiety-based disorders (Ost & Ollendick, 2017) including Panic disorder (Gloster et al., 2011), Social phobia (Rapee et al., 2009), and PTSD (Bradley et al., 2005).

1.3 Imaginal exposure for PTSD

There are four key types of exposure therapy. The most used is *in vivo*, which involves exposing the client to actual fear-evoking situations or stimuli. for situations that are not amenable to in vivo work, such as in PTSD, where re-experiencing the trauma would be impossible or unethical, *IE* is used. IE refers to repeated and prolonged engagement, revisiting, and processing of the trauma memory that contributed to the development of PTSD. It requires clients to close their eyes and describe their memory of their traumatic event in detail repeatedly (Foa et al., 2007).

To understand how IE works, it is important to consider how PTSD is developed and maintained by maladaptive coping strategies. When an individual experiences a frightening event, the resultant traumatic memories made are stored as primitive sensory memories in a different part of the brain to normal memories (Brewin, 2001). Most individuals exposed to a traumatic event experience fear-related symptoms that overlap with those of PTSD (McLean & Foa, 2011), and occur as the individual attempts to assimilate this new information and its meaning into their

personal narrative (Breslau et al., 2005). However, if the material is very distressing, the individual may seek to avoid these memories.

Individuals with PTSD often hold the incorrect belief that recalling the trauma memory is harmful (Foa & Mclean, 2016). Such incorrect beliefs tend to motivate avoidance behaviour (e.g., avoiding stimuli that remind them of the traumatic experience). Unfortunately, this avoidance prevents the processing of the trauma memory that would normally occur and lead the person to have a less emotionally charged memory. This failure of processing leads to the development and maintenance of the symptoms that characterise PTSD (Foa & Rothbaum, 1998), as the person never experiences reduction in anxiety except through the avoidance of thinking about the memory.

Given this pattern of maintenance of the fear symptoms, it is important that the avoidance is reduced. IE enables the client to understand that they can: a) tolerate the anxiety associated with accessing the traumatic memory; b) learn that the memory cannot hurt them; and (c) create a coherent narrative of their traumatic memory, rather than the very 'bitty' memories that they experience in flashbacks (Becker et al., 2019).

1.4 The evidence-base for exposure-based therapy in treating PTSD

Exposure is considered a first line treatment for PTSD. It is recommended in numerous clinician guidelines, including the United Kingdom's National Institute for Health and Care Excellence (NICE) treatment guidelines for PTSD (2018). Exposure has been found to be an effective treatment for PTSD across a variety of trauma types (Cusack et al., 2015), and has demonstrated efficacy in treating individuals with PTSD with comorbid disorders, such as psychosis (van den Berg et al. 2015). It has also been shown to improve other difficulties associated with PTSD, including impaired social functioning (Foa & Mclean, 2016).

1.5 The utilisation of exposure therapy for PTSD in routine practice

Despite the robust evidence for the efficacy of exposure therapy for PTSD, Van Minnen et al. (2010), Russell & Silver (2007) and others have demonstrated that 'expert' clinicians are very variable in their utilisation of this treatment. For example, in a survey of 852 doctoral level psychologists, Becker et al. (2004) found that only 17% of clinicians used IE to treat PTSD. One possible explanation for this deviation from evidence-based practice might be clinicians' lack of training. Indeed, only one third of the clinicians surveyed reported that they had received formal training in IE. However, of the clinicians who had received training, only 54% utilised it to treat PTSD. Taken together, these findings suggest that clinician variables other than a lack of training impact upon their underutilisation of imaginal exposure.

1.6 The role of clinician characteristics in their implementation of evidence-based treatments

As with other aspects of human behaviour, clinicians' decision-making is likely to be shaped by their beliefs, attitudes, and emotions. Indeed, there is a well-documented influence of clinician factors on their delivery of approaches that involve exposure, such as cognitive behavioural therapy (CBT).

Therapists' failure to provide treatments that they have been trained to deliver or a failure to deliver them adequately can conceptualised as 'therapist drift' (Waller, 2009). This drift can occur in two ways. First, therapists might consciously choose not to use an evidence-based treatment, instead opting to use a non-evidence-based approach. Second, therapists might intend to deliver an empirically supported intervention (e.g., CBT), but omit key aspects of it that are necessary for change (e.g., exposure). In such circumstances, clinicians appear to be placing greater value on their clinical judgement than on the empirical evidence, despite the evidence that

illustrates clinicians should focus on the research rather than their own judgement to secure the best outcomes for their clients (e.g., Grove et al., 2000; Meehl, 1954). This drift and overreliance on clinical judgement is reflected in clinicians' underutilisation of exposure therapy. Therefore, it is necessary to explore the factors impacting upon this clinical decision-making.

1.7 Clinicians' attitudes and beliefs towards exposure therapy

A key characteristic that might explain therapist drift in the use of IE work is the clinician's own beliefs and attitudes. Clinicians have been shown to hold beliefs that exposure therapy will harm their clients by causing cognitive decompensation (Becker et al., 2004), symptom exacerbation (Cook et al., 2004), and increasing dropout rates (Van Minnen et al., 2010). Such beliefs have been disproved by the work of Feeny et al. (2003), Olatunji et al. (2009) and others, whose reviews have cited a wealth of empirical literature illustrating that exposure is safe and tolerable to clients. For example, Walker et al. (2020) have shown that symptom exacerbation and attrition rates for imaginal exposure in treating PTSD are low and comparable to pharmacology treatment.

Likewise, clinicians have also been shown to hold beliefs that delivering exposure-based therapy might pose risks to themselves through vicarious traumatization (Zoellner et al., 2011) or malpractice litigation (e.g., Kovacs, 1996). Again, the evidence shows that utilisation of exposure therapy does not have such effects (Richard & Gloster, 2007). As highlighted by Olatunji et al. (2009), the risks of exposure-based therapy negatively impacting on the client or clinician are largely mitigated by the therapist's ability to create a sufficiently safe and professional context.

While these negative beliefs regarding exposure therapy are unsubstantiated, that does not mean that clinicians are more likely to use exposure-based methods.

Clinicians' negative beliefs about exposure-based therapy remain linked to the underutilisation of IE (Becker et al., 2004) and to the suboptimal delivery of exposure-based methods more broadly (Deacon, Farrell, Kemp, Dixon, Sy, Zhang, & McGrath, 2013; Deacon, Lickel, Farrell, Kemp, & Hipol, 2013).

1.8 Clinicians' anxiety and their likelihood of using exposure therapy

Another potential factor contributing to the underutilisation of IE is clinicians' own anxiety about distressing the patient, even though evoking anxiety in the patient is a key element of exposure. Clinician's own anxiety has typically been measured using the Intolerance of Uncertainty scale (IUS-12; Carleton et al., 2012). The IUS-12 measures a core component of anxiety - intolerance of uncertainty and correlates well with clinical anxiety measures. However, it is not frequently used in routine clinical practice. Therefore, clinicians are less likely to recognise the measure, reducing the likelihood of social desirability impacting clinicians' responses. Intolerance of uncertainty is defined as a predisposition to negatively perceive and respond to uncertain information and situations irrespective of its probability and outcome (Ladouceur et al., 2000). It is considered a trans-diagnostic factor that commonly underpins anxiety-based disorders (Carlton, 2016; Shihata et al., 2016). Intolerance of uncertainty includes inhibitory intolerance (the likelihood of not acting due to uncertainty about the outcome) and prospective intolerance of uncertainty (the level of fear of not knowing what the outcome of action will be).

A substantial body of evidence has illustrated that clinicians who are anxious, and thus have a greater intolerance of uncertainty, are less likely to push for behavioural change in numerous disorders. These include being less likely to stress weight gain in anorexia (Brown et al., 2013), use behavioural activation in depression (Simpson-Southward et al., 2016), and apply exposure-based methods in anxiety-

based disorders (Meyer et al., 2014).

This deviation from evidence-based practice can be thought of as clinician ‘accommodation’. This term, often used in the field of child psychology, describes the involvement of caregivers in efforts by the anxious client to avoid anxiety-provoking activities (Taboas et al., 2015). When clinicians choose not to apply exposure in response to a client’s anxiety, they are effectively accommodating that anxiety by allowing avoidance. Accommodation might occur because the safety behaviours of the clinician mesh with those of the patient (Waller & Turner, 2016). The anxious clinician might be concerned about causing their patient distress, and therefore fails to push the patient to expose themselves to a feared stimulus. While this avoidant behaviour calms both patient and clinician in the short term, it has negative long-term consequences. It prevents the clinician and patient from learning that the patient can tolerate the distress associated with exposure, so the patient’s chances of recovery reduce, and the clinician does not improve their skills.

1.9 Therapist beliefs and behaviours relating to client characteristics

As well as the internal cognitive emotional factors outlined above, it is possible that clinicians’ beliefs and behaviours related to client characteristics contribute to the underutilisation of exposure therapy. Clinicians might believe that they can predict who will benefit or be harmed by exposure therapy. However, clinical judgment is often less accurate than statistical evidence based on empirical research (Grove et al., 2000), and is prone to cognitive biases (Garb, 2005). Meehl (1954) identified how clinicians regularly use faulty probabilistic reasoning to treat individual patients as exceptions to the rules of what works in therapy, often for reasons that are not valid. This process is termed ‘broken leg exceptions’ (Meehl, 1957).

1.10 Clinicians' responses to comorbidity

Considering such exceptions, clinicians have been shown to be particularly concerned about delivering exposure therapy to clients with co-occurring disorders or to individuals who have suffered multiple childhood traumas (Becker et al., 2004; Deacon et al., 2013; Van Minnen et al., 2010). However, many of these exclusions have proven to be unjustified. For example, exposure therapy has been shown to be effective in treating PTSD for individuals with a history of childhood abuse (Walker et al., 2020).

1.11 Clinicians' responses to patient gender

Clinicians have been shown to hold differing beliefs about patients of different genders (Garb, 2009). For example, they judge female clients as "less competent to make autonomous decisions" (Danzinger & Welfel, 2000) than male clients. That pattern of clinician judgements extends beyond perceptions of patients. It has also been shown that clinicians are biased in their judgements of other clinicians. For example, supervisors have been shown to treat male and female supervisees differently, according to the clients' level of state anxiety (Simpson-Southward et al., 2016).

This study will extend the work of Simpson-Southward et al. (2016) by examining how client characteristics (including their gender and level of anxiety) influence use of exposure therapy. It will also consider whether clinician characteristics interact with client characteristics to impact on the use of exposure. For example, clinicians with greater physical anxiety sensitivity and negative beliefs about exposure are more likely to exclude clients from exposure therapy based on specific characteristics (Deacon et al., 2014). However, that finding is correlational, and therefore needs to be supported with experimental evidence.

1.12 Summary

Overall, the evidence discussed shows that exposure-based therapy is often underutilised for PTSD. It is therefore important to understand the specific clinician and patient characteristics that result in poor treatment fidelity, and how they might interact. Prior research has established that clinician characteristics, including their emotions, attitudes, and beliefs, are associated with the underutilisation of exposure therapies. Moreover, clinicians exclude clients from exposure-based therapy based on characteristics that are not supported empirically ('broken leg exceptions'). Much of the research exploring clinician characteristics and exposure therapy has been correlational, meaning that causality needs to be determined using experimental methods. No empirical research exists that examines specifically whether clinician and client characteristics are related to the underutilisation of exposure-based therapy in the anxiety-based disorder of PTSD.

1.13 Aims & Hypotheses

Aim 1. This study will examine how specific clinician characteristics impact upon their use of IE for PTSD.

Primary Hypothesis. There will be an association between clinician intolerance of uncertainty (as a core element of anxiety) and use of IE.

Hypothesis 2. There will be an association between clinician intolerance of uncertainty and likelihood of excluding clients from exposure therapy.

Hypothesis 3. There will be an association between clinician intolerance of uncertainty and their beliefs about exposure therapy.

Hypothesis 4. Clinician use of IE will be predicted by their intolerance of uncertainty, beliefs about exposure therapy, likelihood of excluding clients from exposure therapy, and years qualified.

Aim 2. This study will explore whether client characteristics (including client concern about treatment and gender) impact upon use of IE in the anxiety-based disorder of PTSD.

Hypothesis 5. Clinicians will be less likely to use IE with female clients than with male clients

Hypothesis 6. Clinicians will be less likely to use IE therapy with "concerned" clients' than with "calm" clients.

Aim 3. The study will examine whether client gender and level of concern regarding the proposed treatment method interact, and impact on clinicians' use of imaginal exposure.

Hypothesis 7. Clinicians with higher levels of intolerance of uncertainty/anxiety will be less likely to use exposure therapy with "concerned female" clients than with "concerned male" clients.

Method

2.1 Ethical considerations

Ethical approval was granted for the study by the University of Sheffield's Department of Psychology Research Ethics Committee (Appendix A).

Informed consent to participate was ensured through providing a Participant Information Sheet (Appendix B). This sheet outlined the purpose of the research, what taking part would involve, and how participants' data would be used. The Qualtrics questionnaire required participants to indicate that they had had read and understood the information sheet before providing consent to participate. Participants were given the option of providing identifying details (their email address) be entered into a prize draw. All identifying information was kept confidential, was stored on a password-protected computer, was used for the purpose of this research only, and was destroyed once no longer needed.

2.2 Design

The study used quantitative methodology, with mixed correlational and comparative analyses. A randomised between-subjects design was employed with two independent variables (client level of concern and client gender). The dependent variable was clinician actions in response to the vignette. Potential covariates were clinician intolerance of anxiety, likelihood of excluding clients from exposure therapy and beliefs about exposure therapy.

2.3 Participants

Sample size calculations. For hypothesis 1 (the primary hypothesis), which is correlational, where therapist intolerance of uncertainty/anxiety is the independent variable and use of exposure-based methods is the dependent variable, an a priori sample size analysis (Cohen, 1992) was conducted to determine the sample size

required to prevent type II errors. Assuming a medium effect size from previous research in this area (Deacon et al., 2013) and a significance level of alpha = 0.05, a total sample size of 85 participants was required to achieve 80% power to assess the primary hypothesis. This equated to 22 participants per group.

Commented [HP1]: Do I need to run a separate power analysis for the ANCOVAS as the primary hypothesis was correlational?

Inclusion and exclusion criteria. Participants were included who were trainee or qualified psychologists or psychological therapists. Clinical Psychologists and CBT therapists were specifically recruited as they are more likely to provide evidence-based treatments and follow NICE guidance. Participants were excluded if they were under the age of eighteen, and if they did not complete the full battery of questionnaires.

Recruitment. This study used convenience sampling to recruit participants via email invitation. The invitation was sent to 755 qualified therapists who were either registered on The British Association for Behavioural and Cognitive Psychotherapies directory or were part of mailing lists for qualified therapists. Course administrators for Improving Access to Psychological Therapies (N=21) and Clinical Psychology Doctorate training programmes (N=19) were asked to disseminate the email invitation to their trainees.

The email invitation (Appendix C) summarised the scope of the study, requested participation and encouraged the recipient to share the email with other eligible potential participants known to the recipient. The participant information sheet and a web-link to the online survey were also included. Individuals who used the web-link were directed to the participant information sheet (Appendix B) and consent form (Appendix D). Participants were only given access to the battery of measures and clinical vignette once they had indicated that they agreed with each statement included in the consent form.

2.4 Clinical vignette development

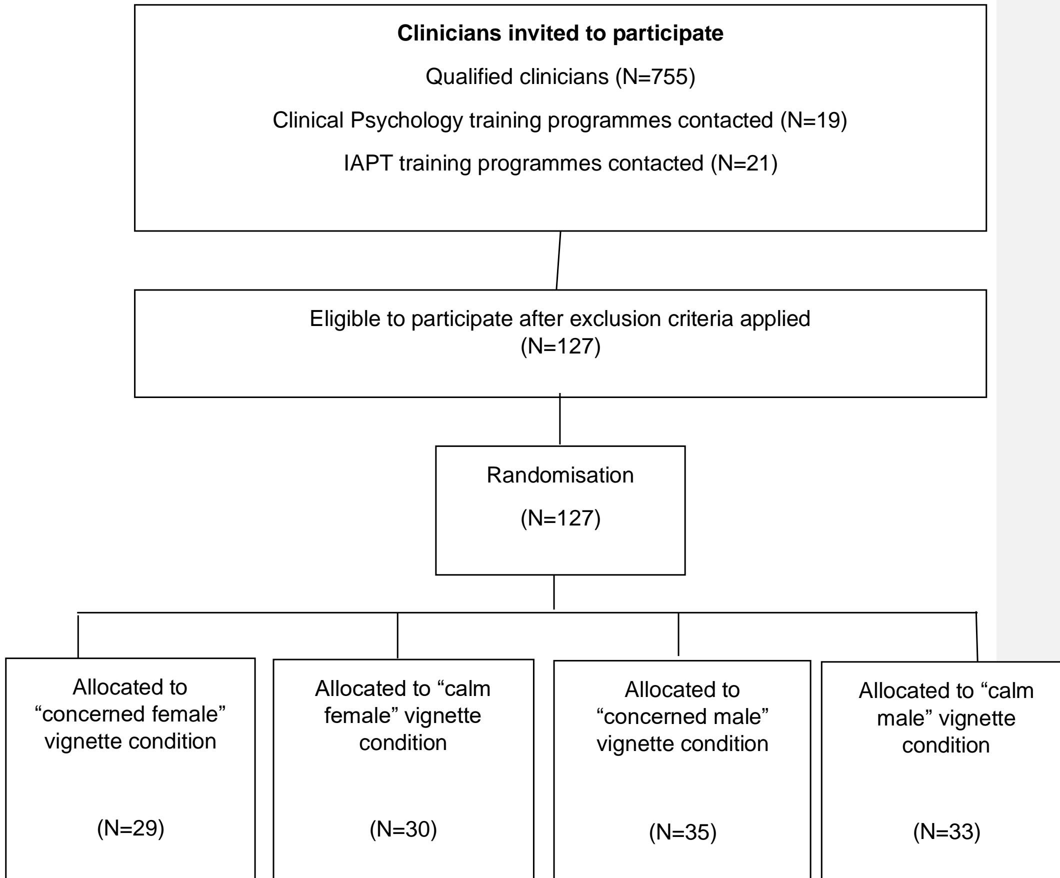
The vignettes (Appendices E - H) used in this study were developed by consulting the DSM-IV (American Psychiatric Association, 2013) to ensure that the hypothetical patient's symptoms were consistent with the diagnostic criteria for PTSD. Likewise, behavioural, and cognitive strategies exhibited were consistent with Ehlers & Clark's (2000) model of PTSD. Clinical psychologists and psychotherapists (N=7) were consulted to ensure that the vignette accurately portrayed a typical case of PTSD following a single traumatic event. All clinicians consulted reported that the vignette was accurate. To ensure that state levels of anxiety expressed by the hypothetical client in the "calm" and "concerned" vignettes were distinct from each other, a sample of trainee clinical psychologists (N=7) rated the emotional state of the client in each vignette ranging from 0 (calm) to 10 (anxious). The mean score for the "calm" vignette was 3. In contrast, the "concerned" vignette's mean rating was 8.

2.5 Procedure.

Following consenting, participants were first required to fill in a demographic questionnaire (Appendix I). Clinicians were asked to indicate their gender, age, profession, and years qualified. They were also asked whether they had previously worked with a client presenting with PTSD, received training in exposure-based therapy and had experience in delivering exposure-based therapy.

Participants were then randomly assigned to one of four conditions in which the gender and level of concern of the client detailed in the vignette varied. All other aspects of the vignette remained the same across the four conditions. Figure 1 provides a visual representation of this process. The number of participants (N = 127) meant that the study was adequately powered (see sample size calculation, above).

Figure 1. Flow chart of recruitment and randomisation procedure



In each condition, participants were presented with a clinical vignette regarding the delivery of exposure therapy to a hypothetical patient with a diagnosis of PTSD. They were asked to imagine that they were meeting with the patient for their first session of IE work. Within the concerned conditions, the patient expressed reservations about the imaginal exposure saying, *"This seems really difficult, what if I lose control, do I have to do it?"*. Within the calm condition, the client did not express any anxiety about the imaginal exposure, and instead enquired when the session would finish.

All participants were then required to complete a battery of questionnaires (see Measures section). They were presented with a debrief sheet upon completion of the survey (Appendix J).

2.6 Measures

All data was collected via online survey using Qualtrics. The following measures were used:

Intolerance of Uncertainty Scale-Short Version (IUS-12; Carleton et al., 2012; Appendix K). The IUS-12 measures a core component of anxiety - intolerance of uncertainty. The IUS-12 is a 12-item version of the original 27-item scale. It has a stable two-factor structure, reflecting inhibitory intolerance (the likelihood of not acting due to uncertainty about the outcome) and prospective intolerance of uncertainty (the level of fear of not knowing what the outcome of action will be). The overall IUS-12 has excellent internal consistency (alpha = 0.91), high correlation (r = .96) with the 27-item version, and satisfactory test–retest reliability (r = .77) (Khawaja & Yu, 2010).

The Broken Leg Exception Scale (BLES; Meyer et al., 2014; Appendix L). This 25-item measure assesses the likelihood of excluding clients from exposure based on 25 different client characteristics, such as intellectual ability, age, and physical health. Based on each client characteristic, clinicians are asked to rate the likelihood that they would choose not to provide exposure therapy to a client ranging from 0 (“Very unlikely to exclude from exposure therapy”) to 3 (“Very likely to exclude from exposure therapy”). The BLES demonstrated adequate item-level psychometric characteristics and excellent internal consistency (alpha= 0.93).

The Therapist Beliefs about Exposure Scale (TBES; Deacon et al., 2013; Appendix M). This 23-item questionnaire assesses therapists’ beliefs about exposure therapy, including perceptions that it is intolerable, aversive, unethical, unacceptable,

harmful, traumatizing, and inhumane. Respondents indicate their agreement with each item on a 5-point scale ranging from 0 (“disagree strongly”) to 4 (“agree strongly”). The TBES has excellent internal consistency alpha= .90–.96), and high six-month test–retest reliability (r =.89) (Deacon et al., 2013)

Clinician Application of Exposure Scale. (CAES; Appendix N). This 10-item questionnaire was developed for this study. It requires clinicians to indicate their likelihood of engaging in various behaviours in their first imaginal exposure session with a client discussed in a clinical vignette, using a five-point scale ranging from 0 (“very unlikely”) to 4 (“very likely”). Potential behaviours are randomly presented and include exposure planning and exposure delaying behaviours. The exposure planning items include clinician behaviours are consistent with IE treatment protocols. For example, reminding the client of the rationale behind exposure treatment. The exposure delaying behaviours are consistent with a substandard delivery of exposure-based therapy (e.g., actions that collude with the safety behaviours of the patient). For example, delaying exposure to prioritise the therapeutic alliance. A Principal Components Analysis will be undertaken to determine the factor structure of this measure.

2.7 Data analysis

Preparation. The raw data were downloaded from Qualtrics into a Microsoft Excel spreadsheet, before being transferred to SPSS Version 26 for data analysis. The categorical variable, “condition”, was created to label the condition participants had been randomly assigned to (1 = “concerned female”; 2 = “calm female”; 3 = “concerned male”; 4 = “calm male”). Total scores were calculated for clinician intolerance of uncertainty (IUS-12), beliefs about exposure therapy (TBES), and likelihood of excluding clients from exposure therapy (BLES). In addition, subscale

scores were calculated for the IUS-12 (prospective anxiety and inhibitory anxiety). On all measures, a higher score indicated greater difficulties.

Descriptive statistics. To determine the characteristics of the sample, means and standard deviations were obtained for all baseline data. Cronbach's alphas were calculated as a measure of scale internal consistency.

Therapist patterns of use of exposure in response to experimental manipulation. Principal Components Analysis was conducted to determine the factor structure of the CAES. Internal consistency of each scale was calculated. The resultant factors were included as subscales in further analysis.

Hypothesis testing. A series of Pearson's correlations were conducted to examine the relationships between; 1) clinicians' intolerance of uncertainty/anxiety and their use of exposure therapy (hypothesis 1); 2) clinician intolerance of uncertainty and their likelihood of excluding clients from exposure-based therapy (hypothesis 2); and 3) clinician intolerance of uncertainty/anxiety and their beliefs about exposure therapy (hypothesis 3). This involved multiple testing thereby increasing the risk of making a type one error. To reduce this risk, multiple regression analysis was also used.

To address hypothesis 4, multiple regression analysis was used to examine whether clinician characteristics (intolerance of uncertainty/anxiety; beliefs about exposure therapy; likelihood of excluding clients from exposure-based therapy; number of years qualified) were associated with their use of exposure therapy.

To address hypothesis 5 – 7, two-way analysis of covariance (ANCOVA) was used to determine whether there were any statistically significant differences between clinician use of exposure in the four client vignette conditions. Client gender and client anxiety were the two independent variables. Clinician IUS, TBES and BLES scores

were used as covariates. Finally, exploratory analysis was undertaken. The previous ANCOVA was repeated, with the addition of clinician gender as a third independent factor, although it is recognised that the small N in some groups and the exploratory nature of this analysis means that the result should be treated with caution.

Results

3.1 Sample characteristics

The baseline characteristics for all 127 participants are presented in Table 1.

Table 2 shows the Cronbach's alpha coefficients for all the standardised measures and their subscales. All questionnaires and their corresponding subscales had high internal consistencies. It also shows the mean baseline scores for the sample, which are comparable to those reported for non-clinical samples by the authors of the scales.

Table 1

Participant characteristics

Variable	Sample Characteristics
Mean Age (SD)	41 (14.7)
Gender	
Female, n (%)	100 (78.7)
Male, n (%)	27 (21.3)
Experience of working with single event PTSD, n (%)	97 (76.4)
Attended training on treating single event PTSD	108 (85)
Mean Years Qualified (SD)	7.2 (9.3)
Profession, n (%)	
Clinical Psychologist	15 (12)
Trainee Clinical Psychologist	49 (39)
CBT Therapist	43 (34)
Trainee CBT Therapist	7 (6)
PWP	1 (1)
Trainee PWP	3 (2)
Counselling Psychologist	2 (2)
Psychotherapist	4 (3)
Education Mental Health Practitioners	4 (3)

Table 2

Descriptive statistics for measures

Measure	Mean	(SD)	Range	Cronbach's Alpha
Intolerance of Uncertainty Scale (IUS-12)	21.2	(6.3)	12-39	.870
IUS-12 Prospective Anxiety Subscale	13.7	(4.3)	7-25	.810
IUS-12 Inhibitory Anxiety Subscale	7.5	(2.5)	5-19	.794
Broken Leg Exception Scale (BLES)	25.92	(11)	0-68	.882
Therapist Beliefs about Exposure (TBES)	26.62	(10.27)	2-59	.866

3.2 Understanding the factor structure of the Clinician Application of Exposure Scale (CAES)

Table 3 displays the results of a principal components analysis (PCA) conducted on the CAES to determine its factor structure. The suitability of PCA was assessed prior to analysis. The overall Kaiser-Meyer-Olkin (KMO) measure was 0.74, a classification of 'middling' according to Kaiser (1974). Bartlett's test of sphericity was statistically significant ($p < .0005$), indicating that the data were likely to be factorisable.

Using the criteria of scree analysis (Cattell, 1966) and an eigenvalue greater than 1.0, the PCA identified two viable factors, which explained 33% and 13% of the variance, respectively. Nine of the items each loaded clearly onto factor one or factor two (factor loading > 0.5, with no other loading within 0.1). However, the remaining item (number six) loaded onto both factor 1 and factor 3. Given that item six did not uniquely load onto a sole factor, it was excluded from further analysis. As no item loaded uniquely onto component three, the two-factor solution was supported.

An inspection of the items that constituted each factor led to the conclusion that factor one measured 'exposure planning behaviour', and factor two measured 'exposure delaying behaviour'. Both subscales were incorporated in all further analyses, using the item mean score for the relevant items.

Table 3

The CAES; means, standard deviations and factor loadings

Scale Item	Mean (SD)	Loadings		
		Factor 1	Factor 2	Factor 3
1. Remind James/Jenny of the treatment rationale and the benefits of exposure	4.7 (0.48)	-.202	**.640**	-.383
2. Reassure James/Jenny that he will be ok before continuing with the imaginal exposure.	3.3 (1.3)	-.250	**.547**	.324
3. Delay the imaginal exposure until you are sure that James/Jenny is totally calm in the session.	2.9 (1.01)	**.662**	.008	-.258
4. Begin James's/Jenny's imaginal exposure straight away	2.4 (1.01)	**-.745**	.030	.113
5. Delay the exposure work so that you can prioritise building a strong therapeutic alliance with James/Jenny [reverse scored].	3.7 (1.10)	**.766**	-.098	-.186
6. Spend 10 minutes encouraging James/Jenny to engage in arousal reduction techniques such as mindful breathing before continuing with the imaginal exposure.	3.8 (1.1)	**.576**	.119	**.637**
7. Consult with your supervisor…	3.7 (1.3)	**.535**	.355	.170
8. Offer James/Jenny the option of delaying the imaginal exposure until he feels ready for it.	3.2 (1.07)	**.600**	-.047	-.416
9. Ask James/Jenny to explain the rationale behind the imaginal exposure to you before continuing with it.	4.2 (96)	.226	**.672**	-.147
10. Delay the exposure work so that you can prioritise developing relaxation skills with James/Jenny.	3 (1.2)	**.768**	-.030	.295

Note: Salient loadings are displayed in bold.

3.3 The impact of clinician intolerance of uncertainty/anxiety

As mentioned previously, to test hypotheses 1 -3 multiple testing was used. Thus. results should be treated with caution. Multiple regression analysis, discussed in section 3.4, were used to address the risk of making a type one error.

Hypothesis 1. *There will be an association between clinician intolerance of uncertainty and use of exposure therapy.*

Table 4 displays a series of Pearson's correlations examining whether intolerance of uncertainty was associated with use of exposure therapy. The analyses used IUS, and exposure planning and exposure delaying behaviour scores.

There was a moderate positive correlation between clinician prospective anxiety and exposure delaying behaviour (r = .299, n = 127, p = .001), and a weaker positive relationship between clinician inhibitory anxiety and exposure delaying behaviour (r =.196, n = 127, p =.027). There were no statistically significant relationships between exposure planning behaviour and either prospective anxiety (r = -.021, n = 127, p = .816) or inhibitory anxiety (r = -.100, n = 127, p = .263).

These findings suggest hypothesis 1 was partially supported. There is an association between clinician intolerance of uncertainty and the likelihood of delaying the use of exposure. However, there was no such link with planning exposure.

Hypothesis 2. *There will be an association between clinician intolerance of uncertainty and likelihood of excluding clients from exposure therapy*

A Pearson's correlation between IUS and BLES scores was used to test this hypothesis. Table 4 shows that there was a weak positive relationship between likelihood of excluding clients from exposure therapy and both prospective anxiety (r = .179, n = 127, p = .045) and total intolerance of uncertainty scores (r = .177, n = 127, p = .046). Clinician inhibitory anxiety was not significantly associated with clinician likelihood of excluding clients from exposure therapy (r = .138, n = 127, p = .122). Therefore, clinician's prospective anxiety is related to their excluding clients from exposure therapy. Hypothesis 2 is therefore supported.

Hypothesis 3. *There will be an association between clinician intolerance of uncertainty and their beliefs about exposure therapy.*

A Pearson's correlation between IUS and TBES scores was used to test this hypothesis. Table 4 shows that negative beliefs about exposure therapy were moderately associated with both prospective anxiety (r = .404, n = 127, p = .001) and inhibitory anxiety (r = .332, n = 127, p = .001). This finding supports hypothesis 3.

Table 4
Pearson's correlations between participants' level of anxiety and their beliefs about exposure therapy, likelihood to exclude participants from exposure therapy, exposure planning and exposure delaying behaviour.

	Exposure Behaviour		IUS				
	Exposure Delaying	Exposure Planning	Prospective	Inhibitory	Total	BLES	TBES
Exposure Delaying	-	-	-	-	-	-	-
Exposure Planning	-.060	-	-	-	-	-	-
IUS Prospective	**.299****	-.021	-	-	-	-	-
IUS Inhibitory	**.196***	-.100	.684**	-	-	-	--
IUS Total	**.283****	-.054	.958**	.865**	-	-	-
Broken Leg Exception Scale	.170	**-.177***	**.179***	.138	.176*	-	-
Therapist Beliefs about Exposure	**.411****	**-.202***	**-.404****	**.332****	**.409****	**.459****	-

Note: Correlations related to hypotheses are highlighted in bold. IUS Prospective= Intolerance of Uncertainty Prospective Anxiety subscale, IUS Inhibitory= Intolerance of Uncertainty Inhibitory Anxiety subscale, TBES = Therapist Beliefs about Exposure Therapy, BLES=The Broken Leg Exception Scale. * p < .05. ** p < .01.

3.4 The impact of clinician characteristics on use of exposure therapy

Hypothesis 4. *Clinician intolerance of uncertainty, beliefs about exposure therapy, likelihood of excluding clients from exposure therapy and years qualified will predict their use of exposure therapy.*

First, a multiple regression analysis was used to predict the dependent variable of exposure planning behaviour. The independent variables were clinician years qualified, IUS-12 subscales, BLES, and TBES scores. Table 5 shows that the model statistically significantly predicted clinician exposure planning behaviour (F (5,121) = 2.358, $p < .05$, adj. $R^2 = .051$), explaining 5.1% of variance in planning to use exposure therapy. Clinician TBES score was the only significant predictor, indicating that clinicians who have more positive attitudes to exposure therapy are more likely to implement exposure therapy.

Second, the analysis was repeated using the same explanatory variables, to predict the dependent variable of exposure delaying behaviour. Table 5 shows that the model statistically significantly predicted exposure delaying behaviour (F (5,121) = 7.183, $p < .0005$, adj. $R^2 = .197$), explaining 19.7% of variance in delaying the use of exposure therapy. There were significant negative associations of both clinician years qualified and TBES scores with delaying exposure. Therefore, clinicians were more likely to delay the implementation of exposure therapy if they had more negative attitudes to exposure and if they had been qualified for a shorter time.

Table 5
Summary of regression analysis for clinician characteristics predicting therapist exposure planning and exposure delaying behaviour

	Exposure Planning Behaviour			Exposure Delaying Behaviour		
	B	*SE B*	*Β*	*B*	*SE B*	*β*
Clinician Characteristic						
IUSPro	.018	.017	.131	.028	.021	.153
IUSInhib	-.039	.029	-.161	-.025	.035	-.078
TBES	.013	.006	**.229***	-.022	.008	**-.292***
BLES	-.004	.005	-.079	.001	.006	.010
Years Qualified	-.011	.006	-.177	-.018	.008	**-.217***
Model						
R^2		.089			.229	
Adjusted R^2		.051			.197	
F		**2.36**			**7.18**	
P		.044			.001	

Note: IUSPro= Intolerance of Uncertainty Prospective Anxiety subscale, IUSInhib= Intolerance of Uncertainty Inhibitory Anxiety subscale, TBES = Therapist Beliefs about Exposure Therapy, BLES=The Broken Leg Exception Scale. * $p < .05$. ** $p < .01$.

3.5 The impact of clinician and client characteristics on use of exposure therapy

The following hypotheses were assessed using a series of two-way ANCOVAs, which examined whether client gender and level of concern influenced the dependent variables of clinician exposure planning and exposure delaying behaviour scores, using the IUS, BLES and TBES scores as covariates. Significant main effect interactions were examined using pairwise comparisons.

Hypothesis 5: *Clinicians will be less likely to use exposure therapy with female clients than male clients*

Table 6 displays the mean exposure planning and exposure delaying behaviour

scores for client gender. Table 7 shows that there was a statistically significant difference in adjusted marginal mean exposure planning behaviour scores, with female scores (3.968) being lower than male scores (4.176, 0.217 (95% CI, .008 to 0.427), p = .042) There was no main effect of gender on exposure delaying behaviour (Table 8).

These findings support hypothesis 5, suggesting that client gender predicts exposure planning behaviour. They indicate that clinicians are less likely to plan for exposure therapy with female clients than they are with male clients. However, client gender does not predict exposure delaying behaviour.

Table 6

Mean exposure planning and exposure delaying behaviour scores for client gender (female/male) and level of concern (concerned/calm)

Patient Gender	Patient level of concern	Exposure Planning Behaviour		Exposure Delaying Behaviour	
		M	(SD)	M	(SD)
Female	Concerned	3.86	(.68)	3.54	(.72)
	Calm	4.03	(.47)	3.28	(.88)
Male	Concerned	4.19	(.64)	3.21	(.74)
	Calm	4.18	(.58)	3.30	(.85)

Table 7

ANCOVA results for the effects of patient gender and level of concern on use of exposure planning behaviours, controlling for clinician anxiety levels (IUS), beliefs about exposure (TBES) and likelihood of excluding patients from exposure therapy (BLES).

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Patient gender x patient level of concern interaction	.390	1	.390	1.134	.289
Patient gender	1.444	1	1.444	**4.196**	.043
Patient level of concern	.316	1	.316	.043	.340
Covariates					
Prospective intolerance of uncertainty	.680	1	.680	1.974	.163
Inhibitory intolerance of uncertainty	.652	1	.652	1.895	.171
Therapist beliefs about exposure therapy	.788	1	.788	2.289	.133
Broken leg exception scale	.388	1	.388	1.126	.291
Error	40.958	119	.344		

*** p < .05.**

Table 8

ANCOVA results for the effects of patient gender and level of concern on use of exposure delaying behaviours, controlling for clinician anxiety levels (IUS), beliefs about exposure (TBES) and likelihood of excluding patients from exposure therapy (BLES).

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Client gender x level of concern interaction	.633	1	.633	1.227	.270
Client gender	.666	1	.666	1.29	.258
Client level of concern	.102	1	.102	.198	.657
Covariates					
Prospective intolerance of uncertainty	1.30	1	1.299	2.52	.115
Inhibitory intolerance of uncertainty	.058	1	.058	.112	.738
Therapist beliefs about exposure therapy	6.47	1	6.470	**12.55***	.001
Broken leg exception scale	.019	1	.019	.036	.850
Error	61.37	119	.516		

*** p < .05.**

Hypothesis 6. *Clinicians will be less likely to use exposure therapy with concerned clients than calm clients.*

As shown in Tables 7 and 8, the main effect of client level of concern was not a significant predictor of exposure planning or exposure delaying behaviour. This indicates that client level of concern (i.e., if the client presents as concerned or calm in the session) does not predict use of exposure therapy. Therefore, hypothesis 6 can be rejected.

Hypothesis 7. *Clinicians with higher levels of intolerance of uncertainty/anxiety will be less likely to use exposure therapy with "concerned female" clients than with "concerned male" clients.*

Tables 7 and 8 show that clinician intolerance of uncertainty did not have a significant covariate effect on exposure planning or delaying behaviour. The interaction effects between client gender and level of concern on exposure planning and exposure delaying behaviour were not statistically significant (F (1,119) = 1.227, p =.270, partial η^2 =.010). However, there was a significant covariate effect of TBES (F (1,119) =12.55, p =.001, partial η^2 =.095) on exposure delaying behaviour.

These findings suggest that clinicians with greater intolerance of uncertainty are not less likely to use exposure therapy with "concerned female" clients. Therefore hypothesis 7 should be rejected. In contrast, clinicians' beliefs about exposure therapy predict use of exposure therapy, with greater negative beliefs about exposure being associated with increased likelihood of exposure delaying behaviour.

3.6 Supplementary analysis. *The impact of clinician gender, client gender and client level of concern on use of exposure therapy.*

An exploratory ANCOVA was used to assess the interaction between three independent variables - clinician gender, client gender and client level of concern on

the dependent variables of exposure planning and exposure delaying behaviour. IUS, BLES and TBES scores were used as covariates. Table 9 shows the mean exposure planning and delaying behaviour scores.

Table 10 shows that there was a significant interaction between clinician gender and client gender on exposure planning behaviour. As illustrated in Table 8, male clinicians were more likely to engage in exposure planning behaviour with "concerned male" clients than "concerned female" clients. For female clinicians, there was no significant difference in exposure planning behaviour for male and female clients. As previously shown in hypothesis 5, client gender was a significant predictor, with clinicians being less likely to engage in exposure therapy with female clients than they are with male clients. Clinician beliefs about exposure therapy were a significant covariate.

For exposure delaying behaviour, Table 11 illustrates that no significant interactions were found between clinician gender, client gender and client level of concern. There was a significant covariate effect of clinician beliefs about exposure therapy.

The results of this exploratory analysis are limited, due to the small sample of male clinicians (N=27) included in the study. Taken together, these findings indicate tentatively that there is a significant interaction between clinician gender and client gender for exposure planning, with male clinicians being more likely to engage in exposure planning behaviour with male clients than female clients. Covariate analysis showed that clinicians who had more positive attitudes towards exposure therapy were more likely to implement IE therapy, while clinicians with more negative attitudes towards exposure were more likely to delay the implementation of IE.

Table 9

Mean exposure planning and exposure delaying behaviour for clinician gender, patient gender and level of concern

Clinician gender	Patient gender	Patient level of concern	Exposure Planning Behaviour		Exposure Delaying Behaviour	
			M	SD	M	SD
Female	Male	Concerned	4.11	(.65)	3.24	(.77)
		Calm	4.12	(.58)	3.38	(.78)
	Female	Concerned	4.02	(.67)	3.36	(.82)
		Calm	4.02	(.47)		
Male	Male	Concerned	4.66	(.33)	3.03	(.56)
		Calm	4.33	(.55)	3.15	(.96)
	Female	Concerned	3.57	(.61)	3.60	(1.00)
		Calm	4.11	(.51)	2.38	(.67)

Table 10

ANCOVA results from the clinician gender, patient gender and level of concern conditions comparison of use of exposure planning behaviours, controlling for clinician anxiety levels (IUS), beliefs about exposure (TBES) and likelihood of excluding patients from exposure therapy (BLES).

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Clinician gender x client gender x patient anxiety interaction	.838	4	.419	1.247	.291
Clinician gender x patient gender	1.379	1	1.379	**4.104***	.045
Clinician gender x patient anxiety	.005	1	.005	.014	.905
Clinician gender	.026	1	.026	.077	.782
Patient gender	2.304	1	2.304	**6.859***	.010
Patient level of concern	.064	1	.064	.192	.662
Covariates					
Prospective intolerance of uncertainty	.573	1	.573	1.706	.194
Inhibitory intolerance of uncertainty	.491	1	.491	1.461	.229
Therapist beliefs about exposure therapy	.222	1	.222	**.662***	.002
Broken leg exception scale	.752	1	.752	2.238	.137
Error	38.637	1	.336		

*** p < .05.**

Table 11

ANCOVA results from the clinician gender, patient gender and level of concern conditions comparison of use of exposure delaying behaviours, controlling for clinician anxiety levels (IUS), beliefs about exposure (TBES) and likelihood of excluding patients from exposure therapy (BLES).

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Clinician gender x client gender x patient anxiety interaction	.407	2	.639	1.229	.297
Clinician gender x patient gender	.816	1	.816	1.568	.213
Clinician gender x patient anxiety	.657	1	.657	1.262	.264
Clinician gender	.529	1	.529	1.017	.315
Patient gender	.005	1	.005	.010	.921
Patient level of concern	.812	1	.812	1.560	.214
Covariates					
Prospective intolerance of uncertainty	1.511	1	1.511	2.903	.091
Inhibitory intolerance of uncertainty	.057	1	.057	.109	.742
Therapist beliefs about exposure therapy	5.196	1	5.196	**9.983***	.002
Broken leg exception scale	.037	1	.037	.071	.791
Error	59.848	1	.520		

*** p < .05.**

Discussion

This study utilised an experimental design examine whether specific clinician and client characteristics impact on clinicians' use of imaginal exposure to treat PTSD.

This discussion will outline the main findings of the study. It will highlight how the findings relate to the existing evidence base, and the implications of these findings for future research and clinical practice.

4.1 Summary of main findings

This study had an adequate sample size to reach conclusions about the main hypotheses. Clinicians with greater intolerance of uncertainty (a key element of anxiety) were more likely to hold negative beliefs about exposure therapy (Hypothesis 3). Clinicians with greater intolerance of uncertainty were also more likely to delay the use of IE (Hypothesis 1) and exclude clients from exposure based on specific client characteristics (Hypothesis 2). Clinicians' beliefs about exposure therapy predicted use of IE. Clinicians who had more positive attitudes towards exposure therapy were more likely to implement IE, while clinicians with more negative attitudes towards exposure were more likely to delay the implementation of IE (Hypothesis 4).

With regards to client characteristics, there was a small but significant difference in clinicians use of exposure depending upon client gender; clinicians were less likely to plan for IE with female clients than they were with male clients (Hypothesis 5). Supplementary analysis suggested that this was due to biases among male clinicians rather than females, though this finding was limited by a small sample size. In contrast, client level of concern did not predict use of IE (Hypothesis 6). Clinician intolerance of uncertainty and client characteristics (client gender and level of concern) did not interact to predict
use of IE (Hypothesis 7).

Finally, principal component analysis and pearsons correlations (shown in table 4) highlight that there is no relationship between 'clinicians exposure planning' and 'exposure delaying' behaviour. This suggests that 'exposure planning' and 'exposure delaying' are separate constructs and aspects of clinician behaviour.

4.2 Findings in relation to the existing evidence base

4.2.1 Clinician beliefs and attitudes impact on use of exposure therapy

Our findings are consistent with the work of Meyer et al. (2014), Waller et al. (2014) and others who have shown that clinician intolerance of uncertainty/anxiety impacts upon use of exposure-based therapy and other behavioural techniques. For example, clinicians' negative beliefs about exposure therapy have also been shown to impact on use of exposure for other diagnoses such as obsessive-compulsive disorder (Deacon et al., 2013). This study extends Deacon et al.'s finding by illustrating that negative beliefs about exposure are a key barrier to the use of IE to treat the anxiety-based disorder of PTSD.

4.3.2 Client characteristics and the use of imaginal exposure

Use of IE differed depending on the client's gender, with clinicians being more likely to delay IE with female than male clients. This finding is consistent with the literature evidencing the impact of gender bias on clinician judgement (Garb, 2009; Lopez, 1989). This study adds to our understanding of clinician gender bias by illustrating that it not only impacts upon clinician assessment but also on clinician decision-making regarding intervention planning.

It was hypothesised that client level of concern would impact on clinician use of IE. In fact, there was no such impact. This finding contrasts with the work of Meyer et al. (2014), who found that clients who presented with a reluctance to engage in exposure were more likely to be excluded from exposure therapy by clinicians.

4.3.3 The interaction between clinician and client characteristics

Like Meyer et al. (2014), this study found that clinicians with greater intolerance of uncertainty were more likely to exclude clients from exposure therapy based on characteristics included in the BLES (such as emotional fragility). However, this interaction between clinician intolerance of uncertainty and client characteristics did not impact upon use of IE in response to a clinical vignette. This study found that clinician intolerance of uncertainty did not interact with client gender or level of concern to predict use of IE.

4.3 How can the findings be explained by existing theory?

4.3.1 Clinicians' intolerance of uncertainty and beliefs impact on use of exposure therapy

The findings of this study are consistent with a cognitive behavioural explanation of behaviour. Beck (1967) proposed that our beliefs about the self, the world, and the future shape our emotions and behaviour. This study has shown that clinicians, just like their clients, hold beliefs and emotions that influence their behaviour. Delivering exposure therapy requires clinicians to tolerate considerable anxiety, as they cannot be certain that it will be effective every time and they might fear negative responses on the part of the patient. A common response to heightened anxiety is avoidance of the feared situation. Therefore, it is possible that clinicians with heightened anxiety due to negative beliefs they hold about exposure avoid implementing it. Whilst this avoidance might relieve their anxiety in the short term, it ultimately prevents disinformation of their dysfunctional beliefs (Salkovskis, 1991). Such avoidance reinforces negative beliefs about exposure therapy and maintains its underutilisation.

4.3.2 The impact of client gender on clinical decision-making.

The differential treatment of female and male clients found in this study can be explained by gender stereotype theory (Basow,1992; Lindsey, 2010). Stereotypes are engrained beliefs about an individual's capabilities or attributes that are based upon their social category membership (e.g., being female). It has been shown that society has different stereotypes of the abilities of men and women (Heilman, 2012). For example, females are often viewed less competent and weaker than their male counterparts (Conway et al.,1996; Fiske et al, 2002). These stereotypes remain prevalent despite the advancement of women in many areas previously dominated by men (Haines et al., 2016).

In this study, clinicians delayed the use of exposure with female clients. This differential treatment might be reflective of clinicians' stereotyped beliefs. In accordance with Meehl's (1973) 'spun glass theory of mind', the clinicians may have viewed women as more 'fragile' and therefore unable to cope with IE. Gender bias, as with other types of cognitive bias, is often held implicitly and can be in opposition to an individual's stated beliefs and values (Carnes & Bartels et al., 2015). This means that clinicians might be unaware that they hold this bias, but it also means that they never challenge the bias.

4.4 Limitations of the study

This study has several limitations that must be considered. It used self-report measures – a method that has been associated with an increased risk of social desirability bias (Van de Mortel, 2008). However, the measures were completed via an anonymous online survey, making truthful reporting of sensitive information more likely compared to alternative methods of data collection (Kreuter et al., 2008). Convenience sampling was used to recruit participants. This sampling method could have resulted in response bias, as participants who were particularly interested in

exposure-based therapy might have been more likely to choose to participate. Likewise, of the 971 potential participants and 39 training courses contacted, only 127 clinicians chose to participate, thereby limiting the external validity of conclusions drawn from the study.

Clinicians were required to respond to hypothetical clinical vignettes via an online survey platform. Treatment decisions in this context might not correspond with actual clinician decision-making with their clients. For example, it is possible that a face-to-face interaction could have resulted in different clinician behaviour. However, the available evidence addressing this issue suggests that participants respond to hypothetical and real-life scenarios in a similar manner (Spencer et al., 2015). Clinicians being consulted during the development of the clinical vignettes was a strength of the study. However, it would have been beneficial to consults individuals who have experienced PTSD to ensure the vignettes accurately reflected clients lived experience of the condition.

This study only clinical vignettes in which the client's gender identity was reported as female or male. As highlighted by Molerio and Pinto (2015) the concept of gender identity has evolved over time to include individuals who do not identify either as female or male. This study did not assess how clients with gender identities other than female or male impact upon clinical decision-making.

4.5 Recommendations for future research

The findings in this study relate to clinicians' use of IE to treat PTSD. Further research will need to consider the impact of clinician and client characteristics on the use of exposure-based therapy for other anxiety-based disorders. This would determine whether clinicians' beliefs, anxiety and gender bias impact upon use of exposure in different contexts, or whether there is something unique about either

PTSD or IE that results in such underutilisation.

This study found that clinicians were less likely to use exposure with female clients than male clients. Further research should examine how diverse gender identities impact on use of exposure therapy and other evidence-based treatments.

Clinical vignettes were used to examine clinician decision-making in this study. It would be beneficial for naturalistic studies of real-life clinical practice to verify how clinician and client characteristics impact upon actual use of exposure.

Our findings suggested that clinicians were more likely to delay the implementation of exposure therapy if they had been qualified for a shorter time. Further research is needed to understand how clinicians' profession, years of experience and age influences use of exposure.

Finally, future research examining the impact of clinician and client characteristics on the use of evidence-based therapies should include a broader sample of participants, including a greater number of male clinicians. This would allow for robust evaluation of the interaction between clinician and client gender, as suggested by our supplementary analyses.

4.6 Clinical Implications

Several factors have been shown to impact upon use of exposure-based therapy, including lack of knowledge (see Becker et al., 2004) and dislike of manualised approaches (Addis & Krasnow, 2000). This research found small, but significant, relationships between clinicians' intolerance of uncertainty, their beliefs about exposure and clinician use of exposure suggesting that these clinician variables are significant factors explaining clinician's underutilisation of exposure therapy. Therefore, it is necessary to address clinicians' beliefs, biases, and intolerance of uncertainty to improve the delivery of IE therapy.

4.6.1 Addressing clinicians' beliefs and biases

. To address clinicians' negative attitudes towards exposure therapy, didactic teaching and workshops should be used. There is clear evidence that such approaches are effective (Deacon et al., 2013; Waller et al., 2016). Previously, these workshops have included education on the benefits of exposure therapy, case presentations and video-based client testimonials. These training sessions could be extended to include roleplays, which have been shown to increase knowledge retention (Westrup & Plander, 2013), reduce prejudice (McGregor, 1993), and change behaviours (Beard, et al., 1995).

Historically, unconscious bias training (UBT) has been used to reduce implicit gender bias. However, there is growing evidence that current models of (UBT) are ineffective (Atewologun et al., 2018; Forscher et al., 2018). To improve UBT, it has been suggested that it should be integrated into all training rather than delivered during a one-off training event (Bohnet, 2016). Therefore, clinical training programmes should include education on gender bias and consider its impact within clinical supervision. To evaluate the effectiveness of such interventions, it would be beneficial to monitor within supervision the impact of client gender on clinicians' decision-making by comparing their actual use of IE between clients of different genders, with a focus on clinical outcomes of clinicians of different genders.

4.6.2 Exposure for clinicians

Clinician anxiety has been shown to play a key role in the underutilisation of exposure-based therapy. Therefore, it is important to consider how evidence-based methods of anxiety reduction can be applied to clinicians. Farrell et al. (2013) has suggested that clinician anxiety might be addressed by their undertaking exposure work themselves. This clinician exposure could include direct training with clients,

simulations, and role-play exercises where clinicians do not engage in safety behaviours (Waller, 2014). Preliminary findings suggest that such experiential training results in significant reductions in clinicians' concerns about exposure and increased self-reported use of exposure therapy in treatment (Farrell et al., 2013)

4.6.3 The role of supervision

Effective evidence-based treatments such as CBT use outcome monitoring and behavioural change methods to increase intolerance of uncertainty, challenge beliefs and, ultimately, change behaviour. Such approaches should be applied within supervision to change clinician behaviour regarding exposure therapy.

Clinicians are unlikely to be aware of their biases. Therefore, treatment fidelity should be monitored during supervision. Supervisors should encourage their supervisees to self-appraise their treatment fidelity by using outcome measures with their clients to understand the client's difficulties, assess the impact of treatment, and plan change. As highlighted by Waller et al. (2014), behavioural experiments could be set up within supervision to enable clinicians to test alternative beliefs about the outcome of using exposure.

However, previous research has shown that supervision does not guarantee effective therapy, as supervisors also drift from evidence-based approaches within supervision (Simpson-Southward et al., 2016). Therefore, future studies should examine methods of reducing supervisory drift to enhance therapist fidelity and client outcomes.

Conclusions

This study has examined whether specific clinician and client characteristics impact upon the use of IE therapy to treat PTSD. Clinicians' intolerance of uncertainty

and beliefs about exposure therapy and client gender play such a role. Further research should examine how clinician and client factors impact on use of exposure for the other diagnoses and should extend these findings to examine how specific clinician and client characteristics interact in impacting on clinical decision-making.

References

Acierno, R., Knapp, R., Tuerk, P., Gilmore, A. K., Lejuez, C., Ruggiero, K., & Foa, E. B. (2017). A non-inferiority trial of prolonged exposure for posttraumatic stress disorder: In person versus home-based telehealth. *Behaviour Research and Therapy*, *89*(3), 57–65. https://doi.org/10.1016/j.brat.2016.11.009

Addis, M. E., & Krasnow, A. D. (2000). A national survey of practicing psychologists' attitudes toward psychotherapy treatment manuals. *Journal of Consulting and Clinical Psychology, 68*(2), 331–339. https://doi.org/10.1037/0022-006X.68.2.331

American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.).https://doi.org/10.1176/appi.books.9780890425596

Atewologun, D., Cornish, T., & Fatima, T. (2018). *Unconscious bias training: An assessment of the evidence for effectiveness*. Equality and Human Rights Commission. https://www.equalityhumanrights.com/en/publication-download/unconscious-bias-training-assessment-evidence-effectiveness

Atwoli, L., Stein, D., Koenen, K., McLaughlin, K. (2015). Epidemiology of posttraumatic stress disorder: prevalence, correlates and consequences. *Current Opinion in Psychiatry, 28(*4), 307-311. https://doi.org/10.1097/YCO.0000000000000167.

Beard, R. L., Salas, E., & Prince, C. (1995). Enhancing transfer of training: using role-play to foster teamwork in the cockpit. *The International Journal of Aviation Psychology*, *5*(2), 131–143. https://doi.org/10.1207/s15327108ijap0502_1

Becker, C. B., Zayert, C., & Anderson, E. (2004). A survey of psychologists' attitudes towards and utilization of exposure therapy for PTSD. *Behaviour Research*

and Therapy, 42(3), 277-92. https://doi.org/ 10.1016/S0005-7967(03)00138-4

Becker, D., & Lamb, S. (1994). Sex bias in the diagnosis of borderline personality disorder and posttraumatic stress disorder. *Professional Psychology: Research and Practice, 25*(1), 55–61. https://doi.org/10.1037/0735-7028.25.1.55

Becker, C., Farrell, N., & Waller, G. (2019). Exposure therapy for eating disorders. Oxford University Press. https://doi.org/10.1093/med-psych/9780190069742.001.0001

Bluett, E., Zoellner, L., & Feeny, N. (2014). Does change in distress matter? Mechanisms of change in prolonged exposure for PTSD. *Journal of Behavior Therapy and Experimental Psychiatry*, *45*(1), 97–104. https://doi.org/10.1016/j.jbtep.2013.09.003

Bohnet, I. (2016). *What Works: Gender Equality by Design*. Harvard University Press.

Bouchard, S., Dumoulin, S., Robillard, G., Guitard, T., Klinger, É., Forget, H., Loranger, C., & Roucaut, F. (2017). Virtual reality compared with *in vivo* exposure in the treatment of social anxiety disorder: a three-arm randomised controlled trial. *The British Journal of Psychiatry: The Journal of Mental Science*, *210*(4), 276–283. https://doi.org/10.1192/bjp.bp.116.184234

Bradley, R., Greene, J., Russ, E., Dutra, L., & Westen, D. (2005). A multidimensional meta-analysis of psychotherapy for PTSD. *The American Journal of Psychiatry*, *162*(2), 214–227. https://doi.org/10.1176/appi.ajp.162.2.214

Breslau, N., Lucia, V., & Davis, G. (2004). Partial PTSD versus full PTSD: an empirical examination of associated impairment. *Psychological Medicine*, *34*(7), 1205–1214. https://doi.org/10.1017/s0033291704002594

Brewin, C. R. (2001). Memory processes in post-traumatic stress disorder. *International Review of Psychiatry, 13*(3), 159–163. https://doi.org/10.1080/09540260120074019

Broverman, I. K., Broverman, D. M., Clarkson, F. E., Rosenkrantz, P. S., & Vogel, S. R. (1970). Sex-role stereotypes and clinical judgments of mental health. *Journal of Consulting and Clinical Psychology, 34*(1), 1–7. https://doi.org/10.1037/h0028797

Brown, A., Mountford, V., & Waller, G. (2013). Therapeutic alliance and weight gain during cognitive behavioural therapy for anorexia nervosa. *Behaviour Research and Therapy, 51*(4-5), 216-220. https://doi:10.1016/j.brat.2013.01.008.

Brunello, N., Davidson, J., Deahl, M., Kessler, R., Mendlewicz, J., Racagni, G., Shalev, A., & Zohar, J. (2001). Posttraumatic stress disorder: diagnosis and epidemiology, comorbidity and social consequences, biology and treatment. *Neuropsychobiology, 43*(3), 150-162. https://doi.org/10.1159/000054884

Carleton, R. N. (2016) Into the unknown: A review and synthesis of contemporary models involving uncertainty. *Journal of Anxiety Disorders, 39*, 30–43. https://doi.org/10.1016/j.janxdis.2016.02.007

Carleton, R. N., Mulvogue, M. K., Thibodeau, M. A., McCabe, R. E., Antony, M. M., & Asmundson, G. J. (2012). Increasingly certain about uncertainty: Intolerance of uncertainty across anxiety and depression. J*ournal of Anxiety Disorders, 26*(1), 468-479. https://doi.org/10.1016/j.janxdis.2006.03.014

Carnes, M., Bartels, C., Isaac, C., Kaatz, A., & Kolehmainen, C. (2015). Why is John more likely to become Department Chair than Jennifer? *Transactions of the American Clinical and Climatological Association, 126,* 197-214.

Conway, M., Pizzamiglio, M. T., & Mount, L. (1996). Status, communality, and agency: Implications for stereotypes of gender and other groups. *Journal of Personality and Social Psychology, 71*(1), 25–38. https://doi.org/10.1037/0022-3514.71.1.25

Cooke, J., Schnurr, P., & Foa, E. (2004). Bridging the gap between Posttraumatic Stress Disorder research and clinical practice: The example of exposure therapy. *Psychotherapy Theory Research & Practice,41*(4), 374-387. https://doi.org/10.1037/0033-3204.41.4.374

Craske, M. G., Kircanski, K., Zelikowsky, M., Mystkowski, J., Chowdhury, N., & Baker, A. (2008). Optimizing inhibitory learning during exposure therapy. *Behaviour Research and Therapy*, *46*(1), 5–27. https://doi.org/10.1016/j.brat.2007.10.003

Craske, M., Treanor, M., Conway, C., Zbozinek, T., & Vervliet, B. (2014). Maximizing exposure therapy: an inhibitory learning approach. *Behaviour Research and Therapy*, *58*, 10–23. https://doi.org/10.1016/j.brat.2014.04.006

Cusack, K., Jonas, D., Forneris, C., Wines, C., Sonis, J., Middleton, J., Feltner, C., Brownley, K., Olmsted, K., Greenblatt, A., Weil, A., & Gaynes, B. (2016) Psychological treatments for adults with posttraumatic stress disorder: A systematic review and meta-analysis. *Clinical Psychology Review, 43*, 128-141. https://doi.org/10.1016/j.cpr.2015.10.003

Danzinger, P. R., & Welfel, E. R. (2000). Age, gender and health bias in counselors: An empirical analysis. *Journal of Mental Health Counseling, 22*(2), 135–149.

Deacon, B., Farrell, N., Kemp, J., Dixon, L., Sy, J.., Zhang, A., & McGrath, P. (2013). Assessing therapist reservations about exposure therapy for anxiety disorders: The Therapist Beliefs about Exposure Scale. *Journal of Anxiety*

Disorders, 27(8), 772-780. https://doi.org/10.1016/j.janxdis.2013.04.006.

Deacon, B., Lickel, J., Farrell, N., Kemp, J., & Hipol, L. (2013). Therapist perceptions and delivery of interoceptive exposure for panic disorder. *Journal of Anxiety Disorders, 27*(8), 259-264. https://doi.org/10.1016/j.janxdis.2013.02.004.

Devine, P. G., & Sharp, L. B. (2009). Automaticity and control in stereotyping and prejudice. In T. D. Nelson (Ed.), *Handbook of Prejudice, Stereotyping, and Discrimination* (p. 61–87). Psychology Press.

Ehlers, A., & Clark, D. M. (2000). A cognitive model of posttraumatic stress disorder. *Behaviour Research and Therapy, 38*(4), 319–345. https://doi.org/10.1016/S0005-7967(99)00123-0

Fairbank, J., Ebert, L., & Caddell, J. (2001). Posttraumatic stress disorder. In P. B. Sutker & H. E. Adams (Eds.), *Comprehensive Handbook of Psychopathology* (p. 183–209). Kluwer Academic/Plenum Publishers.

Farrell, N. R., Deacon, B. J., Dixon, L. J., & Lickel, J. J. (2013). Theory-based training strategies for modifying practitioner concerns about exposure therapy. *Journal of Anxiety Disorders, 27*(8), 781–787. https://doi.org/10.1016/j.janxdis.2013.09.003

Farrell, N. R., Deacon, B. J., Kemp, J. J., Dixon, L. J., & Sy, J. T. (2013). Do negative beliefs about exposure therapy cause its suboptimal delivery? An experimental investigation. *Journal of Anxiety Disorders*, *27*(8), 763–771. https://doi.org/10.1016/j.janxdis.2013.03.007

Feeny, N., Hembree, E., & Zoellner. (2003). Myths regarding exposure therapy for PTSD. *Cognitive and Behavioral Practice, 10*(1), 85-90. https://doi.org/10.1016/S1077-7229(03)80011-1

Fiske, S., Cuddy, A., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype

content: Competence and warmth respectively follow from perceived status and competition. *Journal of Personality and Social Psychology, 82*(6), 878–902. https://doi.org/10.1037/0022-3514.82.6.878

Fiske S., & Taylor S. (2013*). Social Cognition: From Brains to Culture*. Sage

Foa, E., Hembree, E., & Rothbaum, B. (2007). *Treatments that work: Prolonged exposure therapy for PTSD: Emotional processing of traumatic experiences: Therapist guide.* Oxford University Press. https://doi.org/10.1093/med:psych/9780195308501.001.0001

Foa, E., Keane, T., & Friedman, M. (Eds.). (2000). *Effective treatments for PTSD: Practice guidelines from the International Society for Traumatic Stress Studies.* Guilford Press.

Foa, E., & Kozak, M. (1986). Emotional processing of fear: Exposure to corrective information. *Psychological Bulletin, 99*(1), 20–35. https://doi.org/10.1037/0033-2909.99.1.20

Foa, E., & McLean, C. (2016). The efficacy of exposure therapy for anxiety-related disorders and its underlying mechanisms: the case of OCD and PTSD. *Annual Review of Clinical Psychology*, *12*, 1–28. https://doi.org/10.1146/annurev-clinpsy-021815-093533

Foa, E., & Rothbaum, B. (1998). *Treatment manuals for practitioners. Treating the trauma of rape: Cognitive-behavioral therapy for PTSD.* Guilford Press.

Forscher, P. S., Lai, C. K., Axt, J. R., Ebersole, C. R., Herman, M., Devine, P. G., & Nosek, B. A. (2019). A meta-analysis of procedures to change implicit measures. *Journal of Personality and Social Psychology*, *117*(3), 522–559. https://doi.org/10.1037/pspa0000160

Frauke, K., Presser, S., & Tourangeau, R. (2008). Social desirability bias in CATI,

IVR, and web surveys: the effects of mode and question sensitivity. *Public Opinion Quarterly*, 72(5), 847–865. https://doi.org/10.1093/poq/nfn063

Garb H. (2005). Clinical judgment and decision making. *Annual Review of Clinical Psychology*, *1*, 67–89. https://doi.org/10.1146/annurev.clinpsy.1.102803.143810

Gloster, A., Wittchen, H.-U., Einsle, F., Lang, T., Helbig-Lang, S., Fydrich, T., Fehm, L., Hamm, A., Richter, J., Alpers, G., Gerlach, A., Ströhle, A., Kircher, T., Deckert, J., Zwanzger, P., Höfler, M., & Arolt, V. (2011). Psychological treatment for panic disorder with agoraphobia: A randomized controlled trial to examine the role of therapist-guided exposure in situ in CBT. *Journal of Consulting and Clinical Psychology, 79*(5), 406–420. https://doi.org/10.1037/a0025224

Grove, W., Zald, D., Lebow, B., Snitz, B., & Nelson, C. (2000). Clinical versus mechanical prediction: a meta-analysis. *Psychological Assessment*, *12*(1), 19–30.

Heilman, M. E. (2012). Gender stereotypes and workplace bias. *Research in Organizational Behavior*, *32*, 113-135. https://doi.org/10.1016/j.riob.2012.11.003

Heilman, M. E., Manzi, F., & Braun, S. (2015). Presumed incompetent: Perceived lack of fit and gender bias in recruitment and selection. In A. M. Broadbridge & S. L. Fielden (Eds.), *Handbook of gendered careers in management: Getting in, getting on, getting out* (p. 90–104). Edward Elgar Publishing.

Hoyer, J., Beesdo, K., Gloster, A.., Runge, J., Höfler, M., & Becker, E. S. (2009). Worry exposure versus applied relaxation in the treatment of generalized anxiety disorder. *Psychotherapy and Psychosomatics*, *78*(2), 106–115.

https://doi.org/10.1159/000201936

Khawaja, N. G., & Yu, L. N. H. (2010). A comparison of the 27-item and 12-item intolerance of uncertainty scales. *Clinical Psychologist, 14*(3), 97–106. https://doi.org/10.1080/13284207.2010.502542

Kreuter, F., Presser, S., &Tourangeau, R. (2008). Social desirability bias in CATI, IVR, and web surveys: The effects of mode and question sensitivity. *Public Opinion Quarterly*, 72(5),847–865. https://doi.org/10.1093/poq/nfn063

Ladouceur, R., Dugas, M. J., Freeston, M. H., Léger, E., Gagnon, F., & Thibodeau, N. (2000). Efficacy of a cognitive-behavioral treatment for generalized anxiety disorder: evaluation in a controlled clinical trial. *Journal of Consulting and Clinical Psychology*, *68*(6), 957–964.

Lee, K., Noda, Y., Nakano, Y., Ogawa, S., Kinoshita, Y., Funayama, T., & Furukawa, T. A. (2006). Interoceptive hypersensitivity and interoceptive exposure in patients with panic disorder: specificity and effectiveness. *BMC Psychiatry*, *6*3(2). https://doi.org/10.1186/1471-244X-6-32

MacGregor, J. (1993). Learning self-evaluation: Challenges for students. *New Directions for Teaching & Learning, 56,* 35-46. https://doi.org/10.1002/tl.37219935605

Meehl, P. (1954). *Clinical versus statistical prediction: A theoretical analysis and a review of the evidence.* University of Minnesota Press. https://doi.org/10.1037/11281-000

Meehl, P. (1957). When shall we use our heads instead of the formula? *Journal of Counseling Psychology, 4*(4), 268–273. https://doi.org/10.1037/h0047554

Meehl, P. (1973). Why I do not attend case conferences. *In* Meehl, P, *Psychodiagnosis Selected Papers* (pp. 225-302, Chapter 13). University of

Minnesota Press.

McLean, C., & Foa, E. (2011). Prolonged exposure therapy for post-traumatic stress disorder: a review of evidence and dissemination. *Expert Review of Neurotherapeutics*, *11*(8), 1151–1163. https://doi.org/10.1586/ern.11.94

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

Myers, K., & Davis, M. (2007). Mechanisms of fear extinction. *Molecular Psychiatry*, *12*(2), 120–150. https://doi.org/10.1038/sj.mp.4001939

National Institute for Health and Care Excellence. (2013). *Post-traumatic Stress Disorder (NG116).* https://www.nice.org.uk/guidance/ng116

Olatunji, B., Davis, M., Powers, M., & Smits, J. (2013). Cognitive-behavioral therapy for obsessive-compulsive disorder: a meta-analysis of treatment outcome and moderators. *Journal of Psychiatric Research*, *47*(1), 33–41. https://doi.org/10.1016/j.jpsychires.2012.08.020

Öst, L., & Ollendick, T. (2017). Brief, intensive and concentrated cognitive behavioral treatments for anxiety disorders in children: A systematic review and meta-analysis. *Behaviour Research and Therapy, 97*(2), 134-135. https://doi.org/10.1016/j.brat.2017.07.008.

Rapee, R., Gaston, J., & Abbott, M. (2009). Testing the efficacy of theoretically derived improvements in the treatment of social phobia. *Journal of Consulting and Clinical Psychology*, *77*(2), 317–327. https://doi.org/10.1037/a0014800

Rauch, S., Eftekhari, A., & Ruzek, J. (2012). Review of exposure therapy: a gold standard for PTSD treatment. *Journal of Rehabilitation and Research Development, 49*(5), 679-687. https://doi.org /0.1682/jrrd.2011.08.0152

Richard, D., & Gloster, T. (2007). Exposure therapy has a public relations problem: A dearth of litigation amid a wealth of concern. In D. Richard, & D. Lauterbach (2007). *Handbook of Exposure Therapies* (1st ed) (pp. 409-425). Academic Press.

Richard, D., & Lauterbach, D. (2007). *Handbook of Exposure Therapies* (1st ed). Academic Press.

Rothbaum, B., Anderson, P., Zimand, E., Hodges, L., Lang, D., & Wilson, J. (2006). Virtual reality exposure therapy and standard (in vivo) exposure therapy in the treatment of fear of flying. *Behavior Therapy*, 37(1), 80–90. https://doi.org/10.1016/j.beth.2005.04.004

Russell, M., & Silver, S. M. (2007). Training needs for the treatment of combat-related posttraumatic stress disorder: A survey of Department of Defence clinicians. *Traumatology, 13*(3)*,* 4-10. https://doi.org/10.1177/1534765607305440

Salkovskis, P. M. (1991). The importance of behaviour in the maintenance of anxiety and panic: A cognitive account. *Behavioural Psychotherapy, 19(*1), 6–19. https://doi.org/10.1017/S0141347300011472

Shihata, S., McEvoy, P. M., Mullan, B. A., & Carleton, R. N. (2016). Intolerance of uncertainty in emotional disorders: What uncertainties remain? *Journal of Anxiety Disorders*, *41*, 115–124. https://doi.org/10.1016/j.janxdis.2016.05.001

Simpson-Southward, C., Waller, G., & Hardy, G. E. (2016). Supervision for treatment of depression: An experimental study of the role of therapist gender and anxiety. *Behaviour Research and Therapy*, *77*, 17–22. https://doi.org/10.1016/j.brat.2015.11.013

Smith, M., Schnurr, P., Rosenheck, R, & Salzer, M. (2005). Employment outcomes

and PTSD symptom severity. *Mental Health Services Research, 7*(2), 89–101. https://doi.org/10.1007/s11020-005-3780-2

Spencer, S., Logel, S., Davies, P. (2016) Stereotype threat. *Annual Review of Psychology*, *67*(1), 415-437. https://doi.org/10.1146/annurev-psych-073115-103235

Sripada, R., Rauch, S., Tuerk, P., Smith, E., Defever, A., Mayer, R., Messina, M., & Venners, M. (2013). Mild traumatic brain Injury and treatment response in prolonged exposure for PTSD. *Journal of Traumatic Stress,* 26(3), 369-375. https://doi.org/10.1002/jts.21813

Taboas, W. R., McKay, D., Whiteside, S. P., & Storch, E. A. (2015). Parental involvement in youth anxiety treatment: conceptual bases, controversies, and recommendations for intervention. *Journal of Anxiety Disorders*, *30*, 16–18. https://doi.org/10.1016/j.janxdis.2014.12.005

Tuerk, P., Yoder, M., Grubaugh, A., Myrick, H., Hamner, M., & Acierno, R. (2011). Prolonged exposure therapy for combat-related posttraumatic stress disorder: an examination of treatment effectiveness for veterans of the wars in Afghanistan and Iraq. *Journal of Anxiety Disorders*, *25*(3), 397–403. https://doi.org/10.1016/j.janxdis.2010.11.002

Walker, R., Marks, E. H., Jaeger, J., Duax, J. M., Feeny, N. C., & Zoellner, L. A. (2020). Imaginal exposure exacerbation revisited: Deconstructing patient characteristics associated with worse reactions to the initiation of imaginal exposure in PTSD. *Behaviour Research and Therapy*, *135*, 103747. https://doi.org/10.1016/j.brat.2020.103747

Waller G. (2009). Evidence-based treatment and therapist drift. *Behaviour Research and Therapy*, *47*(2), 119–127. https://doi.org/10.1016/j.brat.2008.10.018

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

Waller, G., & Turner, H. (2016). Therapist drift redux: Why well-meaning clinicians fail to deliver evidence-based therapy, and how to get back on track. *Behaviour Research and Therapy, 77*, 129-37. https://doi.org/ 10.1016/j.brat.2015.12.005

Wechsler, T., Kümpers, F., & Mühlberger, A. (2019). Inferiority or even superiority of virtual reality exposure therapy in phobias? A systematic review and quantitative meta-analysis on randomized controlled trials specifically comparing the efficacy of virtual reality exposure to gold standard *in vivo* exposure in agoraphobia, specific phobia, and social phobia. *Frontiers in Psychology*, *10*, 1758. https://doi.org/10.3389/fpsyg.2019.01758

World Health Organisation (2018). *ICD-11 for mortality and morbidity statistics.* World Health Organisation. https://icd.who.int/browse11/l-m/en

Van de Mortel, T. (2008) Faking it: Social desirability response bias in self-report research. *Australian Journal of Advanced Nursing, 25*, 40-48.

Van den Berg, D., de Bont, P., van der Vleugel, B., de Roos, C., de Jongh, A., van Minnen, A., & van der Gaag, M. (2016). Trauma-focused treatment in PTSD patients with psychosis: symptom exacerbation, adverse events, and revictimization. *Schizophrenia Bulletin*, *42*(3), 693–702. https://doi.org/10.1093/schbul/sbv172

Van Minnen, A., Hendriks, L., & Olff, M. (2010). When do trauma experts choose exposure therapy for PTSD patients? A controlled study of therapist and patient factors. *Behaviour Research and Therapy*, *48*(4), 312–320.

https://doi.org/10.1016/j.brat.2009.12.003

Zayert, C., & Becker, C. B. (2019). *Cognitive-Behavioural Therapy for PTSD: A Case Formulation Approach* (2nd ed). Guildford.

Zoellner, L., Feeny, N., Bittinger, J., Bedard-Gilligan, M., Slagle, D., Post, L. (2011). Teaching trauma-focused exposure therapy for PTSD: critical clinical lessons for novice exposure therapists. *Psychological Trauma: Theory, Research, Practice, and Policy, 3*(3), 300-308.https://doi.org/10.1037/a0024642

Appendices

Appendix A

Ethical approval confirmation

Downloaded: 29/04/2021
Approved: 27/01/2020

Hayley Pluckwell
Registration number: 180157000
Psychology
Programme: Doctorate of Clinical Psychology

Dear Hayley

PROJECT TITLE: The impact of trainee therapist and patient characteristics on clinical decision-making regarding exposure-based treatment
APPLICATION: Reference Number 032109

On behalf of the University ethics reviewers who reviewed your project, I am pleased to inform you that on 27/01/2020 the above-named project was **approved** on ethics grounds, on the basis that you will adhere to the following documentation that you submitted for ethics review:

- University research ethics application form 032109 (form submission date: 13/01/2020); (expected project end date: 01/05/2021).
- Participant information sheet 1074142 version 2 (10/01/2020).
- Participant information sheet 1074456 version 1 (10/01/2020).
- Participant consent form 1074143 version 1 (19/12/2019).
- Participant consent form 1074458 version 1 (10/01/2020).

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

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

Yours sincerely

Thomas Webb
Ethics Administrator
Psychology

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

- The project must abide by the University's Research Ethics Policy: https://www.sheffield.ac.uk/rs/ethicsandintegrity/ethicspolicy/approval-procedure
- The project must abide by the University's Good Research & Innovation Practices Policy: https://www.sheffield.ac.uk/polopoly_fs/1.671066!/file/GRIPPolicy.pdf
- The researcher must inform their supervisor (in the case of a student) or Ethics Administrator (in the case of a member of staff) of any significant changes to the project or the approved documentation.
- The researcher must comply with the requirements of the law and relevant guidelines relating to security and confidentiality of personal data.
- The researcher is responsible for effectively managing the data collected both during and after the end of the project in line with best practice, and any relevant legislative, regulatory or contractual requirements.

Appendix B

Study information sheet

Department Of Psychology.
Clinical Psychology Unit.

Hayley Pluckwell
Trainee Clinical Psychologist
Department of Psychology
University of Sheffield
Floor D, Cathedral Court
1 Vicar Lane
Sheffield
S1 2LT

Email: hpluckwell1@sheffield.ac.uk

Study Information Sheet

The impact of clinician and client characteristics on clinicians' decision-making

regarding imaginal exposure for post-traumatic stress disorder

You are being invited to take part in this research project. Before you decide whether or not to do so, it is important that you understand why the research is being done and what it will involve. Please take time to read the following information carefully.

What is the study about?
The study hopes to explore therapist and client characteristics that can impact on clinical decision-making. The findings of the study could help to improve clinician adherence to evidence-based therapies, and potentially benefit patients.

What does taking part involve?

- You will read a clinical vignette and indicate how you would treat the patient.
- You will complete questionnaires which will ask you questions about your personal style, your beliefs about certain treatment methods and how you would treat clients on the basis of different client characteristics.
- This should all take no more than 30 minutes to complete.

Why have I been chosen?
You have been chosen because you are a trainee or qualified therapist.

Do I have to take part?
It is up to you to decide whether to take part. If you decide to take part, you will be able to indicate your agreement on a subsequent page. You can choose to withdraw from the study at any point during participation.

Will my taking part in this project be kept confidential?

You will not be required to give any identifiable information to us to participate in this study. Therefore, the data that we collect during the study will be anonymised and you will not be identified in any reports or publications.

However, if you chose to enter the prize draw to win an Amazon voucher, you will need to provide your email address. Your email address will be kept strictly confidential. It will not be revealed to people outside the project, and it will be deleted when it is no longer needed.

What is the legal basis for processing my personal data?
According to data protection legislation, we are required to inform you that the legal basis we are applying in order to process your personal data is that 'processing is necessary for the performance of a task carried out in the public interest' (Article 6(1)(e)). Further information can be found in the University's Privacy Notice https://www.sheffield.ac.uk/govern/data-protection/privacy/general.

What are the possible disadvantages and risks of taking part?
The study has received ethical approval from the University of Sheffield Research Ethics Committee. Participation involves responding to a clinical vignette. This information included in this vignette has been selected to reflect the difficulties that a patient might have when attending a psychological service for therapy. This material might be distressing to you. If this is the case, then we encourage you to discuss this with your clinical supervisor. At the end of the study, we will also signpost you to relevant organisations that might be able to support you.

Are there any benefits in participating?
It is hoped that this research will help to understand client and clinician characteristics which impact on clinical decision-making. This understanding could encourage clinicians and supervisors to adhere to evidence-based therapies, and potentially benefit patients. If you would like a summary of the findings once the research is completed, please contact the researcher.

What will happen to the data collected, and the results of the research project?
If you decide to withdraw from the study, it will not be possible to withdraw any data that you provided prior to the point at which you decide to end your participation. Likewise, as all data will be anonymised during collection it will not be possible to withdraw your data once you have completed the study.

The results from this study will be written up and submitted as a thesis for the clinical psychology doctorate at the University of Sheffield. Additionally, the results will be disseminated through publishing in a peer-reviewed journal. No participants will be identifiable in any publications as data will be pooled from all participants. Due to the nature of this research it is very likely that other researchers may find the data collected to be useful in answering future research questions. We will ask for your explicit consent for your data to be shared in this way.

The anonymised data we collect will be stored electronically on the research supervisor's university computer account. After ten years, the data will be disposed of in line with the University of Sheffield guidelines and legislation.

Who is organising and funding the research?
The University of Sheffield

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

Who has ethically reviewed the project?
This project has been ethically approved via the University of Sheffield's Ethics Review Procedure, as administered by Psychology department.

What if something goes wrong and I wish to complain about the research?
If you wish to make a complaint about your treatment by researchers or something serious occurring during or following your participation in this project, you should contact the research supervisor Glenn Waller at g.waller@sheffield.ac.uk in the first instance.

However, if you feel that your complaint has not been handled to your satisfaction by the research supervisor, you can contact the Deputy Head of the Psychology Department, who will then escalate the complaint through the appropriate channels.

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

You will be asked to complete a consent form before participating in this study.

Thank you for considering taking part in this research.

Contacts details
If you need any further information, please contact the lead researcher:

Lead Researcher
Hayley Pluckwell
hpluckwell1@sheffield.ac.uk
*0114 2226650

Research Supervisor
Professor Glenn Waller
g.waller@sheffield.ac.uk
*0114 2226650

Appendix C

Study invitation email

Department Of Psychology.
Clinical Psychology Unit.

Hayley Pluckwell
Trainee Clinical Psychologist
Department of Psychology
University of Sheffield
Floor D, Cathedral Court
1 Vicar Lane
Sheffield
S1 2LT

Email: hpluckwell1@sheffield.ac.uk

Study invitation: The impact of clinician and client characteristics on clinicians' decision-making regarding imaginal exposure for post-traumatic stress disorder

Dear colleague

We are conducting a study to help us to better understand the therapist and client characteristics that can impact on clinical decision-making. As a trainee or qualified therapist you are in an ideal position to provide us with valuable information about this. Further details are included in the attached participant information sheet.

If you choose to participate in the study, you will meet with a researcher to complete a short task and questionnaires. The questionnaires will ask for a few details about you, your personal style, and your beliefs about exposure. This will take around 30 minutes to complete. There is no compensation for participating in this study. However, all participants will be entered into a prize draw to win a £50 amazon voucher. Your participation will be a valuable addition to our research, and findings could lead to greater public understanding of the factors that impact on clinical decision-making in psychotherapy.

If you have any questions, please contact Hayley Pluckwell at hpluckwell1@sheffield.ac.uk.Your email will not be used for any other purpose. We would greatly appreciate it if you could also pass along the details of this invitation to any of your trainee therapist or therapist colleagues who you think may also be interested in participating. Thank you.

Please click the link below for further information and to participate in the research: (link here)

Kind regards,

Hayley Pluckwell
Trainee Clinical Psychologist

Glenn Waller
Professor of Clinical Psychology

Appendix D

Consent Form

Department Of Psychology.

Clinical Psychology Unit.

Hayley Pluckwell
Trainee Clinical Psychologist
Department of Psychology
University of Sheffield
Floor D, Cathedral Court
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The impact of clinician and client characteristics on clinicians' decision-making regarding imaginal exposure for post-traumatic stress disorder

Project Consent Form

Please read the consent form below. If you agree with each statement, please tick to indicate this. Please take time to read all of the following information carefully before indicating that you would like to participate in the study.

- □ I have read and understood the project information sheet
- □ I have been given the opportunity to ask questions about the project.
- □ I agree to take part in the project. I understand that taking part in the project will include answering questionnaires and responding to a clinical vignette. I understand that my taking part is voluntary and that I can withdraw from the study during participation; I do not have to give any reasons for why I no longer want to take part. There will be no adverse consequences if I choose to withdraw.
- □ I understand that whilst I can choose to withdraw from the study at any point during participation; I will NOT be able to withdraw any data that has been collected prior to me deciding to withdraw from the study.

How my information will be used during and after the project

- □ I understand my responses to this study will be anonymised. However, if I chose to enter the prize draw to win an Amazon voucher, I will need to provide my email address. I understand that my email address will not be revealed to people outside the project, and that it will be deleted when it is no longer needed.
- □ I understand and agree that other authorised researchers will have access to data collected in this study, only if they agree to preserve the confidentiality of the information as requested in this form.

- ☐ I understand and agree that other authorised researchers may use my data in publications, reports, web pages, and other research outputs, only if they agree to preserve the confidentiality of the information as requested in this form.

- ☐ I give permission for my anonymised data collected in the study to be deposited in the White Rose open access research repository so it can be used for future research and learning.

- ☐ **I consent, begin the study**
- ☐ **I do not consent, I do not wish to participate**

Project contact details for further information:

Lead researcher
Hayley Pluckwell
hpluckwell1@sheffield.ac.uk
0114 2226650

Research Supervisor
Professor Glenn Waller
g.waller@sheffield.ac.uk
0114 2226650

Appendix E

"Concerned female" vignette

Instructions:

Different cases might have different clinical needs, requiring us to use our judgement in determining how we would use evidence-based treatments.

We would like to know how you would use imaginal exposure when treating a patient with a diagnosis of Post-Traumatic Stress Disorder.

Please read the following clinical vignette, and then answer the following questions:

You are working with a Jenny, who has been diagnosed with Clinical Depression and Post-Traumatic Stress Disorder (PTSD) following a road traffic accident last year. Another car ran into hers, and she was trapped in her car for over an hour. During that time, Jenny feared that her car would catch fire, as she could smell petrol. She still has some pain in one leg as a result of the crash and avoids driving.

Jenny has been trying to avoid thoughts and images related to the accident. To do this, she has been spending an increasing amount of time at work to occupy her mind and to avoid thinking about the accident. However, she experiences flashbacks to the accident and physiological symptoms of hyper-arousal. She experiences unwanted intrusive thoughts and images about the accident (especially when she smells petrol or hears a loud bang), as well as distressing nightmares.

You have completed a thorough assessment and provided Jenny with psychoeducation about her PTSD symptoms. You have discussed the rationale for using imaginal exposure in your previous session, and Jenny agreed to do the exposure work.

In your first session of imaginal exposure, you are about to begin when Jenny expresses fears about the imaginal exposure. She expresses concerns and says, "This is really difficult, what if I lose control? Do I have to do it?"

How will you proceed with the imaginal exposure from this point?

Appendix F

"Calm female" vignette

Instructions:

Different cases might have different clinical needs, requiring us to use our judgement in determining how we would use evidence-based treatments.

We would like to know how you would use imaginal exposure when treating a patient with a diagnosis of Post-Traumatic Stress Disorder.

Please read the following clinical vignette, and then answer the following questions:

You are working with a Jenny, who has been diagnosed with Clinical Depression and Post-Traumatic Stress Disorder (PTSD) following a road traffic accident last year. Another car ran into her, and she was trapped in her car for over an hour. During that time, Jenny feared that her car would catch fire, as she could smell petrol. She still has some pain in one leg as a result of the crash and avoids driving.

Jenny has been trying to avoid thoughts and images related to the accident. To do this, she has been spending an increasing amount of time at work to occupy her mind and to avoid thinking about the accident. However, she experiences flashbacks to the accident and physiological symptoms of hyper-arousal. She experiences unwanted intrusive thoughts and images about the accident (especially when she smells petrol or hears a loud bang), as well as distressing nightmares.

You have completed a thorough assessment and provided Jenny with psychoeducation about her PTSD symptoms. You have discussed the rationale for using imaginal exposure in your previous session, and Jenny agreed to do the exposure work.

In your first session of imaginal exposure, you are about to begin when Jenny checks that the session will end at the planned time, as she has to meet a friend later. You confirm that it will end on time.

How will you proceed with the imaginal exposure from this point?

Appendix G

"Concerned male" vignette

Instructions:

Different cases might have different clinical needs, requiring us to use our judgement in determining how we would use evidence-based treatments.

We would like to know how you would use imaginal exposure when treating a patient with a diagnosis of Post-Traumatic Stress Disorder.

Please read the following clinical vignette, and then answer the following questions:

You are working with a James, who has been diagnosed with Clinical Depression and Post-Traumatic Stress Disorder (PTSD) following a road traffic accident last year. Another car ran into his, and he was trapped in her car for over an hour. During that time, James feared that his car would catch fire, as he could smell petrol. He still has some pain in one leg as a result of the crash and avoids driving.

James has been trying to avoid thoughts and images related to the accident. To do this, he has been spending an increasing amount of time at work to occupy his mind and to avoid thinking about the accident. However, he experiences flashbacks to the accident and physiological symptoms of hyper-arousal. He experiences unwanted intrusive thoughts and images about the accident (especially when he smells petrol or hears a loud bang), as well as distressing nightmares.

You have completed a thorough assessment and provided James with psychoeducation about his PTSD symptoms. You have discussed the rationale for using imaginal exposure in your previous session, and James agreed to do the exposure work.

In your first session of imaginal exposure, you are about to begin when James expresses fears about the imaginal exposure. He expresses concerns and says, "This is really difficult, what if I lose control? Do I have to do it?".

How will you proceed with the imaginal exposure from this point?

Appendix H

"Calm male" vignette

Instructions:

Different cases might have different clinical needs, requiring us to use our judgement in determining how we would use evidence-based treatments.

We would like to know how you would use imaginal exposure when treating a patient with a diagnosis of Post-Traumatic Stress Disorder.

Please read the following clinical vignette, and then answer the following questions:

You are working with a James, who has been diagnosed with Clinical Depression and Post-Traumatic Stress Disorder (PTSD) following a road traffic accident last year. Another car ran into his, and he was trapped in her car for over an hour. During that time, James feared that his car would catch fire, as he could smell petrol. He still has some pain in one leg as a result of the crash and avoids driving.

James has been trying to avoid thoughts and images related to the accident. To do this, he has been spending an increasing amount of time at work to occupy his mind and to avoid thinking about the accident. However, he experiences flashbacks to the accident and physiological symptoms of hyper-arousal. He experiences unwanted intrusive thoughts and images about the accident (especially when he smells petrol or hears a loud bang), as well as distressing nightmares.

You have completed a thorough assessment and provided James with psychoeducation about his PTSD symptoms. You have discussed the rationale for using imaginal exposure in your previous session, and James agreed to do the exposure work.

In your first session of imaginal exposure, you are about to begin when James checks that the session will end at the planned time, as he has to meet a friend later. You confirm that it will end on time.

How will you proceed with the imaginal exposure from this point?

Appendix I

Participant debrief Document

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EXPERIMENT DEBRIEF INFORMATION

The impact of clinician and client characteristics on clinicians' decision-making regarding imaginal exposure for post-traumatic stress disorder

What was the study about?

As therapists our own beliefs, attitudes and emotions play a role in our delivery of treatments. This experimental study explores the impact of therapists' anxiety on their preference for and reported use of exposure-based treatment for post-traumatic stress disorder (PTSD). It examines whether therapists hold negative beliefs about exposure-based therapy, and if they do, how these beliefs impact on their reported use of this intervention. Likewise, it examines therapists' likelihood of excluding clients from exposure-based treatment because of different client characteristics such as age, gender, and comorbidities. Finally, it compares planned provision of exposure-based treatment to patients of different genders and state anxiety levels, to determine whether patient characteristics interact with those of therapists.

How is the study relevant to clinical practice?

The aims of our study are important as previous research shows that exposure-based treatment for anxiety-based disorders are often underutilised by therapists. A potential cause for this is our own anxiety as therapists about distressing the patient. Certain characteristics of the patient such as their gender and state anxiety might mean that we are less likely to use exposure-based treatment effectively.

What did we ask you to do?

You completed a measure of conscious anxiety and a questionnaire examining your beliefs about exposure therapy. You also completed a questionnaire which asked you to identify whether you would use exposure-based treatment with clients based on different client characteristics.

We will examine whether there is a relationship between your anxiety levels,

beliefs about exposure and your use of exposure with the patient in our vignette.

You were randomly allocated into one of four conditions. In each condition, the gender and state anxiety of the patient included in the vignette varied.

We will examine whether there is a relationship between therapist characteristics, client characteristics and use of exposure-based treatment.

As outlined in your information sheet, your data from this study will be anonymous.

Further support

If completing this has made you consider your own clinical practice then we would advice you to talk about that with your supervisor to see if there is anything you feel like you could consider doing differently.

The vignette included in this study detailed a traumatic accident and the resultant psychological impact that experiencing this trauma had on the individual involved. This information might have brought up difficult feelings and emotions for you.

If you are experiencing distress because of any of the information included in this study, we would encourage you to discuss this with your clinical supervisor in the first instance. However, if you do not have access to a clinical supervisor or feel unable to speak about your experience with them, please find below a list of organisations who are able to offer support:

RoadPeace
08454 500 355
roadpeace.org
Information and support for people bereaved or seriously injured due to road crashes

assisttraumacare.org.uk
Information and specialist help for people who've experienced trauma or are supporting someone who has.

Anxiety UK
03444 775 774 (helpline)
07537 416 905 (text)
anxietyuk.org.uk
Advice and support for people living with anxiety.

Mind
0300 123 3393 (helpline)
86463 (text)
www.mind.org.uk
Advice and support for people experiencing mental health difficulties.
If you have any questions, please contact the primary researcher Hayley Pluckwell at hpluckwell1@sheffield.ac.uk.

Thank you for your time

Appendix J

Participant demographic form

The following questions ask for a few details about you, your personal style, and your beliefs about exposure. Please do not put your name anywhere. All answers are confidential.

Questions about you

What is your age: __________ years

Gender: Male ☐ Female ☐

What is your occupation: _____________

If you are a trainee, what year of training are you in:______________

If you are a qualified therapist, how many years have you been qualified for:___________

Have you ever worked with a client experiencing Post-traumatic stress disorder: YES/NO

Have you received any training on how to treat Post-traumatic stress disorder? YES/NO

Have you received any training on how to deliver exposure-based therapies? YES/NO

Appendix K

Intolerance of Uncertainty Scale - Short Form (Carleton et al., 2007)

Instructions: Please rate each of these items for how characteristic it is of you:

	Not at all characteristic of me	A little characteristic of me	Somewhat characteristic of me	Very characteristic of me	Entirely characteristic of me
1. Unforeseen events upset me greatly.					
2. It frustrates me not having all the information I need.					
3. Uncertainty keeps me from living a full life.					
4. One should always look ahead so as to avoid surprises.					
5. A small unforeseen event can spoil everything, even with the best of planning.					
6. When it's time to act, uncertainty paralyses me.					
7. When I am uncertain I can't function very well.					
8. I always want to know what the future has in store for me.					
9. I can't stand being taken by surprise.					
10. The smallest doubt can stop me from acting.					
11. I should be able to organize everything in advance.					
12. I must get away from all uncertain situations.					

Appendix L

Clinician Applications of Exposure Scale

Male Patient

You have now read the clinical vignette. We would like to know how you proceed in treating your client, James.

Instructions: Please circle how likely you would be to take the below actions with your client. Please circle only one response for each item.

Action	**Very Likely**	**Likely**	**Unsure**	**Unlikely**	**Very Unlikely**
1. Remind James/Jenny of the treatment rationale and the benefits of exposure	0	1	2	3	4
2. Reassure James/Jenny that he/she will be ok before continuing with the imaginal exposure.	0	1	2	3	4
3. Delay the imaginal exposure until you are sure that James/Jenny is totally calm in the session.	0	1	2	3	4
For how long (minutes) *(If applicable)*	10	20	30	35	N/A
4. Begin James's/Jenny's imaginal exposure straight away	0	1	2	3	4
5. Delay the exposure work so that you can prioritise building a strong therapeutic alliance with James/Jenny.	0	1	2	3	4
For how long (weeks) *(if applicable)*	1	2	3	4	5+
6. Spend 10 minutes encouraging James/Jenny to engage in arousal reduction techniques such as mindful breathing before continuing with the imaginal exposure.	0	1	2	3	4
7. Consult with your supervisor…	0	1	2	3	4

8. Offer James/Jenny the option of delaying the imaginal exposure until he feels ready for it.	0	1	2	3	4
9. Ask James/Jenny to explain the rationale behind the imaginal exposure to you before continuing with it.	0	1	2	3	4
10. Delay the exposure work so that you can prioritise developing relaxation skills with James/Jenny.	0	1	2	3	4
For how long (weeks)	1	2	3	4	5+

Appendix M

The Therapist Beliefs about Exposure Scale (TBES) (Deacon et al., 2013)

Instructions: Please tick the boxes to indicate how strongly you agree or disagree with each statement.

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

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

Appendix N

The Broken Leg Exception Scale (Meyer et al., 2014)

Instructions:
Exposure-based cognitive-behavioral therapy is an empirically supported treatment for anxiety disorders. In this therapy, clients gradually confront feared situations (e.g., places, objects, thoughts, memories) during therapy sessions with the treatment provider and on their own between sessions as homework. Although exposure therapy is an evidence-based treatment, not all clients benefit from this approach. Further, not all clients are considered appropriate for exposure therapy, and therapists sometimes elect not to provide this treatment to individual clients for various reasons. Below is a list of client characteristics that therapists sometimes deem important in considering the appropriateness of exposure therapy. Please read each characteristic and rate the likelihood that you would elect NOT to provide exposure therapy to a client because of that characteristic.

Please answer using the following scale:

0 = Very unlikely to exclude from exposure therapy based on this characteristic
1 = Somewhat unlikely to exclude from exposure therapy based on this characteristic
2 = Somewhat likely to exclude from exposure therapy based on this characteristic
3 = Very likely to exclude from exposure therapy based on this characteristic

Characteristics				
1. The client is younger than age 7.	0	1	2	3
2. The client is between the ages of 7 and 11.	0	1	2	3
3. The client is between the ages of 12 and 17.	0	1	2	3
4. The client is older than age 65.	0	1	2	3
5. The client holds strong religious beliefs.	0	1	2	3
6. The client is an ethnic minority.	0	1	2	3
7. The client has a comorbid personality disorder.	0	1	2	3
8. The client has comorbid depression.	0	1	2	3
9. The client has a comorbid substance use disorder.	0	1	2	3
10. The client has a comorbid psychotic disorder.	0	1	2	3
11. The client is currently experiencing significant stressful life events (e.g. divorce, loss of job, etc.).	0	1	2	3
12. The client is emotionally fragile.	0	1	2	3
13. The client has previously participated in exposure-based cognitive-behavioral therapy and did not find it helpful.	0	1	2	3

14. The client is reluctant to participate in exposure-based cognitive-behavioral therapy.	0	1	2	3
15. The client has angry outbursts.	0	1	2	3
16. The client is pregnant.	0	1	2	3
17. The client has a non-terminal medical disease related to his or her anxiety symptoms.	0	1	2	3
18. The client has a non-terminal medical disease unrelated to his or her anxiety symptoms.	0	1	2	3
19. The client's feared situation(s) are difficult to recreate in real life.	0	1	2	3
20. The client has below average intelligence.	0	1	2	3
21. The client has poor insight into the irrational nature of his or her fear(s).	0	1	2	3
22. Conducting exposures to the client's feared stimuli would require leaving the office.	0	1	2	3
23. The client prefers non-directive psychotherapy.	0	1	2	3
24. The client's fears have religious themes.	0	1	2	3
25. The client is afraid of harming oneself and/or others	0	1	2	3