What therapist and client characteristics influence the delivery of cognitive behavioural therapy to older adults?

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Declaration

I confirm that this project is an original research project conducted by the author under supervision. I confirm that the project was completed for the sole purpose of fulfilment of the research component of the doctorate in clinical psychology. This report has not been submitted, in part or whole, for any other degree classification or at any other institution.

Overall abstract

Cognitive behavioural therapy (CBT) is effective for anxiety and depression for older people. In some circumstances (e.g., the presence of cognitive or physical impairment), it can be appropriate to adapt CBT to help clients use the therapy. However, it may also be the case that simply because the person is old, the adaptations are overapplied, consequently reducing the therapy's efficacy. This thesis aimed to investigate such excessive adaptations (a form of therapist drift) in the application of CBT for older people. The thesis is divided into two sections. The first half is a systematic review of the literature, which explores what adaptations are made in randomised control trials of CBT for older people with anxiety and depression and its impact on therapeutic effect. Thirty-two papers were identified through a systematic search through Psycinfo and Pubmed. The results indicated that when there was a legitimate need to adapt therapy, such as a difficult-to-treat disorder or physical or cognitive impairment, the adaptation to therapy was helpful, but over-adaptation was not necessary.

The second section is an empirical research project, which aimed to investigate whether clinicians drift when applying manualised CBT for anxiety for older adults. A further aim was to investigate whether intra-clinician factors (e.g., anxiety, optimism, the tendency to make 'broken leg exceptions') predict drift behaviour. The results suggested that therapists do drift and that intra-clinician factors accounted for some of the drift behaviours. Further research into the topic is required to understand drift behaviour in these clinicians.

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Whilst I have worked tirelessly to ensure this report could be submitted, without the support of a number of people it would never have been possible. Firstly I must extend my sincere thanks to Professor Glenn Waller, who jointly developed the idea for this project and provided huge amounts of support and guidance whilst I undertook the research. As a result of his firm guidance, I have undoubtedly become a better researcher moving forward into my career.

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Is cognitive behavioural therapy effective for anxiety and depression in older people when it is adapted? A systematic review of the randomised controlled trial literature

Literature review

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Abstract

Objectives: Previous research into cognitive behavioural therapy (CBT) for anxiety and depression in older people has found that it is effective. However, questions remain regarding the most appropriate way to implement adaptations to CBT to improve effectiveness. This systematic literature review aimed to investigate: the types of adaptations made in randomised controlled trials into CBT for anxiety and depression in older people; whether CBT is effective for older people; whether adaptations generally add to CBT's effectiveness; and whether different forms of adaptation differentially improve the effectiveness of CBT.

Design: Systematic literature review

Method: Of the 1897 papers identified in searches of Pubmed and Psycinfo, 32 were taken forward for the review. The papers were appraised for quality and relevant data were extracted.

Results: The review found that several types of adaption were implemented in the trials, including procedural changes, technique focused changes and the inclusion of different programs to enhance CBT. Overall, it was concluded that CBT is effective for the treatment of anxiety, depression, and anxiety plus depression in older people. When adaptations improved effectiveness, they were specifically targeted for particular difficulties (such as generalised anxiety disorder) or physical or cognitive difficulties. The adaptations appeared to have limited effects when they did not have a specific purpose in helping the person access CBT.

Conclusions: When adaptations are used for a particular reason (e.g., a hard-to-treat issue or for cognitive or physical impairment) they may be helpful for the client. The clinical applications and potential research implications are discussed.

Practitioner Points

1. The main changes that are made to cognitive behavioural therapy for older people are either technique based (cognitive or behavioural techniques for older people) or procedural (changes to the delivery).
2. Generally, adaptations work best when they were aimed at hard-to-treat issues or were used to help clients with a specific difficulty (e.g., cognitive or physical impairment) access the therapy more readily.
3. Practitioners should be careful not to over-apply techniques purely because the client is older, as this may not improve the efficacy of routine cognitive behavioural therapy.

Introduction

NHS England (2017) report that 20% of people over the age of 65 in the community have depression. Research has found that older people prefer the option of engaging in psychological therapy rather than taking medication for mental health difficulties (Mohlman, 2012). Efforts have been made to ensure that older people are able to access evidence-based psychological therapies to address anxiety and depression (Department of Health, 2013). However, the proportion of older people accessing psychological therapies (in this case, through Improving Access to Psychological Therapies) is below that of the general population (NHS England, 2017).

Meta-analytic studies have found that cognitive behavioural therapy (CBT) is effective for both depression (Gould, Coulson & Howard, 2012a) and anxiety (Gould, Coulson & Howard, 2012b). However, it has been found that, in general, CBT for anxiety disorders is less effective for older people than working-age people (Gould, Coulson & Howard, 2012b). Furthermore, whilst the “oldest-old” in society wished to

engage in supportive therapy, "young-old" clients would prefer to engage in CBT (Mohlman, 2012). Mohlman (2012) suggested that this shift may be as a result of changing awareness of cognitive behavioural therapy in the "baby-boomer" generation. Therefore, the evidence suggests that CBT is effective and that it becoming the modality of preference for the "young-old".

James (2008) stated that adaptations should be made to CBT in response to a client's cognitive difficulties (e.g., a dementia) or physical health (e.g., medical condition) to ensure they are able better access the therapy. However, concerns have been raised that CBT is either being adapted incorrectly or not being offered at all to this population (Laidlaw, 2015). Laidlaw (2015) recommends that CBT should be adapted to match an individual client's need, rather than in response to their age alone. However, it is reported that potential adaptations are over-applied with older people (James, 2008). An example of this would be giving a 65 year old with no cognitive or sensory difficulties large print, simplified worksheets as opposed to standardised thought diaries. Making unjustified changes to routine CBT is not a new concept. Waller (2009) suggests that clinicians can 'drift' away from evidence-based practice, driven by intra-clinician factors (such as anxiety) or an erroneous belief in the accuracy of clinical judgement. The resultant changes in therapy can result in CBT being less efficacious. A recent systematic review and meta-analysis by Kishita and Laidlaw (2017) compared CBT for generalised anxiety disorder (GAD) between working-age and older adult populations. As part of this review, they investigated the adaptations that were made for older adults with the disorder. They found that overall, the adaptations that were made were sensible and therapy enhancing. However, one limitation to this study is that it focused on GAD, as opposed to a broader spectrum of anxiety disorders or depression.

Rationale and aims

It is clear that there can be legitimate therapy-enhancing methods of adapting CBT for older adults, but if used incorrectly the adaptations might reduce the therapeutic effect. Therefore, the aims of this literature review are to:

- Detail the ways in which CBT is adapted in the randomised control trials of anxiety and depression in older people.
- Investigate whether CBT is an effective treatment for anxiety and depression in older people.
- Assess whether adaptations to CBT add to its effectiveness.
- Investigate how different forms of adaptation differentially improve the effectiveness of CBT.

Method

Design

The design of this investigation is a systematic literature review. A systematic literature review uses a transparent, systematic and replicable approach to investigating and synthesising the current literature surrounding a topic (Dickson, Cherry & Boland, 2014).

Scoping searches

Two main literature databases were searched for relevant papers: Psycinfo and Pubmed. Search terms consisted of a population term (e.g., older people), a therapy term (e.g., cognitive behaviour therapy) and an impairment/adaptation term (e.g., dementia). All search terms can be found in Appendix A. All search terms were entered in quotation marks to ensure the specific phrase was found either in the title or abstract. In the Psycinfo searches, an * was used strategically to capture several potential spellings of a word (e.g., behav* reveals results for behaviour, behavior, behavioral,

behavioural). However, when this strategy was implemented in Pubmed, it appeared that the asterisk removed the quotation mark and resulted in too broad searches. To remedy this, full terms (such as cognitive behaviour therapy, cognitive behavioural therapy) were used instead. This issue resulted in two different sets of search terms being used (Appendix A) and more individual searches being run through Pubmed. Psycinfo was searched between January and February 2017, and Pubmed was searched in March 2017.

Inclusion and exclusion criteria for studies

Two sets of inclusion and exclusion criteria were used. The first set of inclusion criteria were used during the scoping searches. The inclusion criteria were intentionally kept broad to ensure all relevant papers were included. The criteria were:

- The study had to be a randomised control trial.
- The study population had to be over the age of 60 (or there had to be an indication that the group were over 60 – e.g., 'elderly').
- The primary intervention had to be cognitive behavioural in nature.
- The paper had to be published in an English-speaking publication.

Figure 1 is a PRISMA (Moher, Liberati, Tetelaff & Altman, 2009) diagram that illustrates the flow of papers in this study. As all search terms were entered individually (as described in appendix A), some papers appeared several times in the searches. Hence there was a high number of duplicates in the scoping searches. After the above criteria were applied, 144 papers were taken forward to full text review. At this point, a more stringent set of inclusion and exclusion criteria were applied to narrow the focus of the work. The inclusion criteria were:

- The mean age of participants had to be above 60 (in line with the World Health Organisation's (2015) classification of old age).

- A randomised controlled trial with either an active (e.g., other evidence-based approach) or inactive (treatment as usual, placebo) control.
- The study had to primarily look at anxiety or depression, measured by a self-report or clinician-rated psychometric measure.
- The study could also include clients with physical and cognitive impairments.
- The intervention could be delivered in a group or individual format.
- Papers had to have been published from 2003 onwards in a peer-reviewed journal.

The exclusion criteria were:

- Any paper in which the primary focus was not anxiety or depression. For example, if a paper focused entirely on quality of life but had a secondary outcome measure of depression, the paper was excluded.
- Studies that had no psychometric measures (e.g., focused on biomarkers, cortisol levels).
- The paper did not conduct inferential statistics between the intervention and control groups.
- In some cases, multiple analyses were run on the same populations in secondary analysis. The most relevant paper (e.g., the one that focused primarily on the randomised control trial) was included and often the secondary analyses (e.g. long-term follow ups, mediator/moderator analysis) were excluded. If a paper was secondary analysis but no original randomised control trial were identified in the scoping searches, the paper was included if relevant.
- Protocols for future randomised control trials were excluded.
- Interventions that were not delivered face to face (e.g., by telephone or email) or that were delivered as part of a stepped-care model.

- Carers (as opposed to the individual with anxiety or depression) were the main people evaluated.

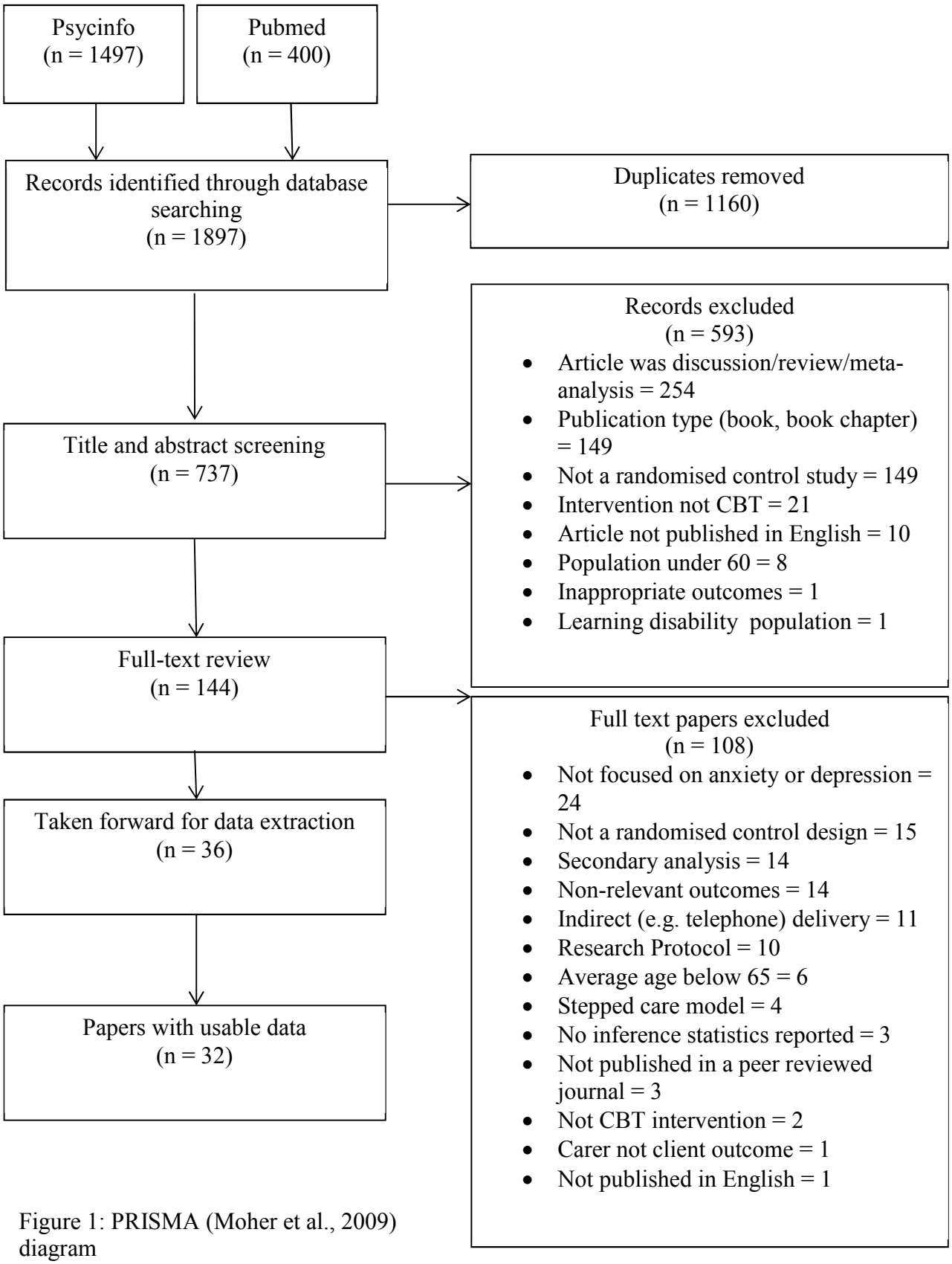

Figure 1: PRISMA (Moher et al., 2009) diagram

As can be seen from the PRISMA (Moher et al., 2009) diagram, 36 papers were taken forward following the application of the inclusion and exclusion criteria.

Data extraction

The 36 papers were included in the data extraction. As part of the initial data extraction, between-condition Cohen's d was calculated to help compare the results. In papers where multiple primary outcome measures were used, the researcher selected one measure to calculate the Cohen's d - where possible, the measure that most broadly measured anxiety (e.g. Beck Anxiety Inventory, Penn State Worry Questionnaire) and depression (Beck Depression Inventory, Geriatric Depression Scale). Where possible, Cohen's d was calculated with the most active control group (e.g., standard vs. enhanced CBT, as opposed to enhanced CBT vs Waitlist). In some papers, within-condition Cohen's d was provided by the authors, so these were used instead. The Cohen's d figures were calculated using an online calculator (Social Sciences Statistics, 2017). The calculations can be found in Appendix B. If it was not possible to calculate a Cohen's d, the paper was excluded from the systematic review. Three depression papers and one anxiety paper were excluded due to being unable to calculate Cohen's d. Table 1 shows the study characteristics of the 32 included papers.

Table 1

Characteristics of depression and anxiety studies

Anxiety							
Study	Mean age	N randomised participants	Conditions	Target difficulty	Individual or group	Primary outcome measure	Between group effect size (Cohen's d)
Bourgault-Fagnou & Hadjistavropoulos (2013)	68.7	57	Waitlist, standard CBT, Enhanced CBT	Sub-clinical health anxiety	Individual	WI	Between Standard CBT and Enhanced CBT: d = .40
Gorenstein et al. (2005)	67.8*	42	Medication management, CBT and Medication management	Non-responders to anxiolytic medication	Individual	STAI	.08 -
Hendriks et al. (2010)	68.6	49	Waitlist, Paroxetine, CBT	Panic disorder or panic disorder with agoraphobia	Individual	MIA	.25
Huang, Chung, Chen, Chin & Wang (2016)	79.1*	80	CBT, CBT and Exercise, TAU	Fear of falling in residential homes	Group	FES	.34
Huang, Yang, Liu (2011)	Unstated	186	CBT, CBT and Tai Chi, TAU	Fear of falling in the community	Group	FES	.41

Hui and Zhihui (2016)	66.3*	63	CBT- IU, Untreated	Community dwelling people with GAD	Group	BAI	1.27
Liu and Tsui (2014)	74.5*	122	CBT and Tai Chi, Tai Chi only	Fear of falling in community	Group	CFES	.40 -
Mohlman (2008)	66.4	8	CBT with executive functioning training, CBT	GAD in the community	Individual	PSWQ	1.88
Mohlman, Gorenstein, Kleber, de Jesus, Gorman and Papp (2003)	Study 1: 66.4 Study 2: 67.5	Study 1: 27 Study 2: 15	Study one: standard CBT vs Waitlist. Study two, Enhanced CBT vs Waitlist	GAD in the community	Individual	Study 1: Trait Worry Study 2: Anxiety and worry (a)	Study 1: .63 Study 2: 1.19
Mohlman and Gorman (2005)	68.8	32	CBT, Waitlist	Executive functioning difficulties in GAD	Individual	BAI	Intact EF vs Waitlist = .57 Improved EF vs Waitlist = .86 Exec-dys wait list = .57
Mohlman, Price and Vietri (2013)	66.8*	28	CBT, Waitlist	GAD in the community	Individual	PSWQ	2.23
Schuurmans et al. (2006).	69.8	84	Waitlist, Sertraline, CBT	Anxiety disorders	Individual	Mean Cohen's d for several measures	CBT (Pre-Post) = .42 -
Stanley, Beck et al. (2003)	66.2	80	CBT, Minimal Contact	GAD in the community	Group	PSWQ	1.08

Stanley, Hopko et al. (2003)	70.6	12	CBT-GAD/PC Usual care	GAD in community settings	Individual	BAI	1.01
Stanley et al. (2009)	66.9	134	CBT, Enhanced usual care	GAD in primary care	Individual	PSWQ	.90
Stanley et al. (2011)	78.6	32	Peaceful Mind, Usual care	Anxiety and depression in dementia	Individual	RAID	.62
Stanley et al. (2014)	66.9	223	PhD Level Psychologist, Batchelor Level Psychologist (both CBT) Usual care	GAD from community treatment and self-referrals	Individual	PSWQ-A	PhD vs usual care: .44 Batchelor vs usual care .24 Between therapists: .16
Wetherell et al. (2013)	70.5*	73	Escitalopram (both with and without CBT), Placebo, (both with and without CBT)	GAD in primary care	Individual	PSWQ	CBT vs No CBT: PSWQ= .6
Wetherell, Gatz and Craske (2003)	67.1	75	CBT, discussion group, Waitlist	GAD in the community	Group	BAI	CBT vs Discussion group .13
Zijlstra et al. (2009)	77.8*	540	Multi-component CBT, Usual care	Fear of falling in the community	Group	CAF	.26

Depression							
Study	Average age	N randomised participants	Control/alternative treatment group	Target difficulty	Individual or group	Primary measure	Cohen's d
Areán et al. (2005)	65.3	72	CBT and Clinical Case Management, Clinical Case Management, CBT	Depressed people with low incomes	Group	HDRS	CBT vs CBT and Clinical Case Management.002
Brody, Roch-Levecq, Kaplan, Moutier and Brown (2006)	81.5	32	CBT self-management, Tape recorded health education program, wait list	Depressed people with age related macular degeneration	Group	GDS-15	-.82
Ekkers et al (2011).	71.8*	93	COMET, TAU	Depression	Group	GDS	.55
Hyer, Yeager, Hilton and Sacks (2009)	78*	25	GIST (CBT), TAU	Depression in a veteran's nursing home	Individual and group	GDS-15	2.02
Konnert, Dobson and Stelmach (2009)	81.1	43	CBT, TAU	Sub-clinical depression in residential care	Group	GDS	.86
Laidlaw et al. (2008)	74*	44	CBT, TAU	Mild to Moderate depression	Individual	BDI	.41

Lamers et al. (2010)	70.5*	187	CBT Minimal Psychological Intervention, TAU	People with COPD and Depression	Individual	BDI	.29
McLaughlin and McFarland (2011)	67.6*	37	CBT, Relaxation	Epilepsy (with a focus on depression)	Group	GDS	.14
Serfaty et al. (2009)	74.1	204	CBT and TAU, Talking control and TAU, TAU	Depression	Individual	BDI	.18

Both anxiety and depression							
Study	Average age	N randomised participants	Control/alternative treatment group	Target difficulty	Individual or group		
Anderson, Wickramariyaratne and Blair (2016)	79.2	21	CBT, TAU	Mild to moderate anxiety depression in residential care	Group	GDS-15, GAI	GDS: 1.02 GAI: .81
Wuthrich and Rapee (2013)	67.4	62	CBT aging wisely, Waitlist	Anxiety and depression in the community	Group	GDS, GAI	Within condition: Within condition: CBT: GDS: .98 GAI: .95

Wuthrich, Rapee, Kangas and Perini (2016)	67.4	133	CBT aging wisely, Discussion group	Anxiety and depression in the community	Group	GDS, GAI	Within condition d: CBT: GDS:1.13 GAI: .73 -

Note: * denotes that no overall average age was stated. Instead, the main intervention group mean age was used. (a) = within this paper, due to a high correlation between several measures, composite scores of several measures were created. This makes direct comparison difficult. (–) Denotes that the main CBT condition mean/within condition d was worse than the control mean/within condition d. Abbreviations: BAI = Beck Anxiety Inventory, BDI = Beck Depression Inventory, CAF = Concerns About Falling Measure, CBT = Cognitive behavioural therapy, CBT GAD/PC = Cognitive behavioural therapy for GAD in Primary Care, CBT-IU = CBT Intolerance of Uncertainty, CFES = Chinese Falls Efficacy Scale, COMET = Competitive Memory Training, COPD = Chronic Obstructive Pulmonary Disease, FES = Falls Efficacy Scale, GAD = Generalised anxiety disorder, GAI = Geriatric Anxiety Scale, GDS = Geriatric Depression Scale, GDS-15, Geriatric Depression Scale 15, GIST = Group Individual and Staff Therapy, HDRS = Hamilton Depression Rating Scale, MIA = Mobility Inventory- Avoidance Scale, PSWQ = Penn State Worry Questionnaire, PSWQ-A = Penn State Worry Questionnaire- Abbreviated, RAID = Rating Anxiety in Dementia, STAI = State Trait Anxiety Inventory, TAU = Treatment as usual, WI = Worry Index.

The final 32 papers consisted of 20 anxiety papers, nine depression papers and three anxiety plus depression papers. Overall, the mean participant ages can be classified in the 'young-old' age bracket (below 70 years) and 'middle old' (below 80 years but above 70) brackets. Only two papers (Brody et al., 2006; Konnert et al., 2009) had a mean age above 80. Overall, 2915 participants were included in the studies. One study (Zijlstra et al., 2009) accounted for 540 of those participants, which represents one sixth of the overall participants. Of the anxiety papers, the majority focused on GAD presentations, four focused on fear of falling, and others looked at panic disorders, sub-clinical health anxiety, anxiety in dementia and withdrawal from anxiety medication. Within the depression papers, the majority looked at depression or sub-clinical depression, but some approached depression in specific contexts (such as Chronic Obstructive Pulmonary Disease, epilepsy, low-income families). In the anxiety and depression papers, they focused on reducing anxiety and depression in the community and care homes. Overall, 16 papers utilised an individual therapeutic approach, one used an individual and group approach, and the rest used a group approach.

Results data extraction. Further data were extracted surrounding the adaptations reported in the papers specifically for older people. They will be presented later in the results section. However, an important data extraction point is that only changes that were reported explicitly were included. If reference was made to an adaptation manual, no attempt was made to find the manual and it was recorded as "non-specified adaptation". The reason for this classification is because the authors do not state what techniques were included, making it difficult to establish what within the manual might have caused a better or worse response to CBT.

Critical appraisal

To assess the quality of the papers in this review, a quality appraisal tool was utilised. The Critical Appraisal Skills Programme (CASP, 2017) randomised control trial critical appraisal tool was selected to assess the quality of the papers. The tool was devised to help users investigate the key areas of randomised controlled trials and identify the potential drawbacks within its design. The tool has no overall score, but uses a "yes", "no" or "can't tell" scoring system. The tool can be found in appendix C. Question 7, which asked reviewers to identify the results of the study, was excluded as this was addressed elsewhere.

The papers were rated by the primary researcher and an independent rater to ensure accuracy. After the first rating, agreement was 87%. Discussions were held and disagreements were resolved. The main areas of disagreement were:

- Classification of "blindness". Due to the difficult nature of "blinded" therapists and participants, "blindness" to condition was defined in this context as assessors who were blind to condition.
- Whether or not all relevant measures were included.

After differences of opinion and errors were resolved, percentage agreement rose to 94%. Table 2 contains the overall quality ratings. As can be seen from the table, the overall quality of the papers was high. The main areas of poor quality were blindness to condition and accuracy of outcome reporting (e.g., lack of confidence intervals). As the quality of papers was high, no papers were excluded on the basis of quality.

Table 2

Quality rating from the CASP critical appraisal tool

	Depression									
Study	Defined focus?	Randomised?	All patients accounted for?	Blind to treatment?	Were groups similar?	Treated equally ?	Precise treatment effect estimates?	Results apply to context?	All relevant outcomes?	Benefits worth harm?
Areán et al. (2005)	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes
Brody et al. (2006)	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Ekkers et al. (2011)	Yes	Yes	Yes	Can't tell	No	Yes	Yes	Yes	No	Yes
Hyer et al. (2009)	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Konnert et al. (2009)	Yes	Yes	Yes	Can't tell	Yes	Yes	No	Yes	Yes	Yes
Laidlaw et al. (2008)	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Lamers et al. (2010)	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
McLaughlin and McFarland (2011)	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Serfaty et al. (2009)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Anxiety										
Study	Defined focus?	Randomised?	All patients accounted for?	Blind to treatment?	Were groups similar?	Treated equally ?	Precise treatment effect estimates?	Results apply to context?	All relevant outcomes?	Benefits worth harm?
Bourgault-Fagnou and Hadjistravropoulos (2013)	Yes	Yes	Yes	Can't tell	Yes	Yes	No	Yes	Yes	Yes
Gorenstein et al. (2005)	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Hendriks et al. (2010)	Yes	Yes	Yes	Can't tell	Yes	Yes	No	Yes	Yes	Yes
Huang et al. (2016)	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Huang et al. (2011)	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Hui and Zhihui (2016)	Yes	Yes	Yes	Can't tell	Yes	Yes	No	Yes	Yes	Yes
Liu and Tsui (2014)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mohlman (2008)	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Mohlman et al. (2013)	Yes	Yes	Yes	Can't tell	Yes	Yes	Yes	Yes	Yes	Yes
Mohlman and Gorman (2005)	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes
Mohlman, Price and Vietri (2013)	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes

Schuurmans et al. (2006)	Yes	Yes	Yes	Can't tell	Yes	Yes	No	Yes	Yes	Yes
Stanley, Beck et al. (2003)	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes
Stanley, Hopko et al. (2003)	Yes	Yes	Yes	Can't tell	Yes	Yes	No	Yes	Yes	Yes
Stanley et al. (2009)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Stanley et al. (2011)	Yes	Yes	Yes	Can't tell	Yes	Yes	Yes	Yes	Yes	Yes
Stanley et al. (2014)	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Wetherell et al. (2013)	Yes	Yes	Yes	Can't tell	Yes	Yes	Yes	Yes	Yes	Yes
Wetherell, Gatz and Craske (2003)	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Zijlstra et al. (2009)	Yes	Yes	Yes	Yes	Can't tell	Yes	Yes	Yes	Yes	Yes

Anxiety and depression

Study	Defined focus?	Randomised?	All patients accounted for?	Blind to treatment?	Were groups similar?	Treated equally?	Precise treatment effect estimates?	Results apply to context?	All relevant outcomes?	Benefits worth harm?
Anderson, Wickramariyaratne and Blair (2016)	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes

Wuthrich and Rapee (2013)	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Wuthrich, Rapee, Kangas and Perini (2016)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Results

Aim one: Detail the ways in which CBT is adapted in randomised control trials of anxiety and depression in older people.

The first aim was to investigate the ways in which the studies adapted cognitive behavioural therapy. Table 3 outlines the identified adaptations that were seen in the papers. Changes to routine CBT were identified by the researcher if the authors of the paper specifically highlighted they added a technique or procedure to enhance the therapy for older people. Whilst not all of the techniques were specific to an older adult population, if the authors reported the technique or procedure's inclusion specifically to enhance the therapy for older people, it was highlighted as an adaptation. As can be seen from the table, a wide variety of adaptations are made to CBT for older people. In general, the majority of the changes are *procedural* in nature (for example, slowing and repeating information). The majority of the procedural changes were additions to therapy. These include adding memory aids, marking and returning homework, adapting for specific issues and increasing session structure. Very few took elements away from therapy, such as simplifying concepts and flexible application of manuals. A further procedural change included replacing working-age specific examples with examples more relevant to older people. An example comes from Huang et al. (2011), who made the fear of falling material more applicable to the older person's life. Similarly, Bourgault-Fagnou and Hadjistravropoulos (2013) included a motivational video of older people who had completed the programme to increase motivation and socialise the participants into the model.

Some of the adaptations were *technique-focused*. These were particular cognitive or behavioural techniques implemented specifically for older people. One example of this was "experience mapping", as outlined in Hyer et al. (2009), which would allow an individual client to use the rest of the therapy group to understand

events, their reactions and how to move forward using a cognitive behavioural framework. Similarly, Mohlman et al. (2003) introduced a “graphing technique”, in which clients were encouraged to map their daily mood and sum this over the weeks and months to see incremental change and monitor their mood.

Table 3

Description of adaptations

Reference	Potential adaptation	Description	Adaptation type
A	Session length	Session length in time	N/A
B	Number of sessions	Number of sessions	N/A
C	Change to manualised number/length of sessions	Change to manualised number/length of session	Procedural
D	Increased repetition	Additional repetition of concepts within session to ensure they are retained	Procedural
E	Graphing Exercise	Tracking mood and anxiety on a graph to see changes over time	Technique
F	Mid-week homework reminder	Telephone call mid week for first four week to discuss and review homework tasks	Technique
G	Perspective taking strategy	Choosing 3-5 other people who are good at problem solving and generate evidence from their perspective	Technique
H	Motivational video	Video from older people who have taken the project previously to enhance motivation and socialise to model	Procedural
I	Manual-based deviations	Deviations to administration based on specific circumstances (e.g. physical health condition) which did not conflict with manual	Procedural
J	Theoretically-driven addition	Addition of a further programme (e.g. exercise, Tai Chi, Clinical Case Management) be completed alongside CBT or additional cognitive or behavioural based technique	Procedural/ Technique
K	Older People specific issues	Examples given in manual are adapted to reflect issues that	Procedural
L	Slow pace	Slowing down of pace	Procedural
M	Example homework	Example of homework completed prior to leaving	Technique
N	Expanding review of concepts	Discussion of the learning from the session and previous sessions to ensure client gets it. Eventually,	Technique

		client leads the review of concepts	
O	Flexible application of manual	Flexible application of CBT concepts.	Procedural
P	Paying more attention to psychoeducation.	Additional emphasis on psychoeducation.	Technique
Q	Revision of new information and learned coping skills	Revision of the information and techniques already given.	Technique
R	Collateral	Recruiting another person to help with the implementation of strategy	Procedural
S	Memory assistance	Structured retrieval, reminders, mnemonic aids	Procedural
T	Mail/telephone follow up	Mail or telephone follow up period	Procedural
U	Simplified	Simplification of homework or concepts	Procedural
V	Weekly reading/Workbook	Reading from an assisting book.	Technique
W	Marking and returning of homework	Each homework was marked, photocopied and returned to give guidance on how to improve learning.	Procedural
X	Specific issue adaptation	E.g. adapted for people experiencing low income	Procedural
Y	Open group format	Older people could enter the group at any point and may experience repeat	Procedural
Z	Non-psychologist/professional administration	Someone other than psychologist/psychotherapist delivering intervention	Procedural
AA	Increased structure to sessions and techniques	To improve recall	Procedural
BB	Non-specific adaptation	Adaptations made but not specified (e.g. “adaptations were made for older people”) or reference made to a manual.	Procedural/ Technique
CC	No Adaptations reported	No reported older adult issues	N/A

Mohlman et al. (2003) also utilised a technique-based addition called “expanding review”, in which the therapist would review the CBT techniques from the previous sessions and how they apply in the person’s life, which eventually leads to the client taking responsibility for conducting the review.

One technique that falls between the procedural- and technique-based classification is the inclusion of programmes alongside the CBT. For example, Mohlman (2008) introduced an executive functioning improvement plan alongside CBT to assess whether improvements in executive functioning also helped improve GAD symptoms. Furthermore, in the fear of falling literature, Tai Chi (Huang et al., 2011; Liu et al., 2014) and exercise programmes (Huang et al., 2016) were added in an attempt to reduce fear of falling. In the depression literature, one example was the addition of clinical case management alongside CBT for low income families (Areán et al., 2005).

Therefore, as can be seen, there are several changes to standard CBT, including procedural and technique-focused changes and adding further programmes.

Aim two: Is CBT effective for this age group?

Table 1 contains the Cohen's d for each study. Overall, it would appear that CBT is effective for both anxiety and depression. In all three sets of papers, the Cohen's d ranged from small to large effect sizes, demonstrating that CBT was more effective than the active or non-active control. One paper (Schurmanns et al., 2006) suggested that CBT was less effective than medication, but a further study (Hendriks et al., 2010) suggested CBT was as effective as medication. However, in the majority of papers, CBT outperformed the other conditions. To summarise, CBT has been shown to be effective for use with older people, as shown in other reviews (Gould, Coulson & Howard, 2012a; 2012b).

Aim three: Do adaptations add to CBT's effectiveness with this population?

Table 4 illustrates the pattern of adaptions made. Given the very small number of studies that assessed non-adapted CBT, it was not possible to conclude whether the adaptations added anything to the effects of routine CBT. Therefore, this aim cannot be tested.

Table 4

Adaptations and changes from table 3 in depression, anxiety and both anxiety and depression studies

	Depression																											
Study	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	Cohen's d
Areán et al. (2005)	2 hours	18								Y														Y						.02 -
Brody et al. (2006)	1 hour	12																						Y		Y				.82
Ekkers et al. (2011)	1.5 hours	7																				Y							Y	.55
Hyer et al. (2009)	75-90 mins	15								Y	Y				Y			Y							Y					2.02
Konnert et al. (2009)	60 mins	13							Y		Y								Y											.86
Laidlaw et al. (2008)	-	17																										Y		.41
Lamers et al. (2010)	1 hour	5																								Y			Y	.29
McLaughlin and McFarland (2011)	2 hours	6	Y																Y									Y		.14
Serfaty et al. (2009)	50 mins	12	Y								Y											Y						Y		.18

Anxiety																													
Study	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	Cohen's d
Bourgault-Fagnou and Hadjistravropoulos (2013)	1 hour	6			Y	Y	Y	Y													Y	Y								.40
Gorenstein et al. (2005)	50 mins	13								Y					Y															.08 -
Hendriks et al. (2010)	50 mins	14 + up to 6 boosters							Y																					..25
Huang et al. (2016)	20-25 mins	8								Y	Y															Y				.34
Huang et al. (2011)	1-1.5 hours	8								Y	Y				Y											Y				.41
Hui and Zhihui (2016)	2 hours	12								Y	Y																			1.27
Liu and Tsui (2014)	1 – 1.5 hours	8								Y																			Y	.40 -

Mohlman (2008)	1.5 hours	8		Y		Y				Y		Y	Y																1.88
Mohlman et al. (2003)	50 mins	13 + 6 booster		Y	Y	Y	Y							Y					Y				Y	Y						Study 1: .63 Study 2: 1.19
Mohlman and Gorman (2005)	50 mins	13 + 6 booster		Y	Y	Y	Y					Y	Y	Y									Y	Y						Intact EF = .57 Improved EF = .86 Exec-dys .57
Mohlman, Price and Vietri (2013)	-	-																										Y (a)		2.23
Schuurmans et al. (2006)	1 hour	15		Y												Y														Average CBT d = .42 -
Stanley, Beck et al. (2003)	1.5 hours	15																										Y		1.08
Stanley, Hopko et al. (2003)	-	8													Y				Y		Y							Y		1.01
Stanley et al. (2009)	1 hour	10																		Y								Y		.90
Stanley et al. (2011)	-	12		Y											Y	Y	Y	Y	Y	Y	Y									.62
Stanley et al. (2014)	-	10 + 8 (b)												Y								Y					Y			PhD = .44 Batch = .24

																												Between = .16
Wetherell et al. (2013)	-	16												Y			Y											PSWQ = .6
Wetherell, Gatz and Craske (2003)	1.5 hours	12								Y												Y						.13
Zijlstra et al. (2009)	2 hours	8 + 1 booster								Y														Y				.26

Anxiety and depression

Study	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	Cohen's d
Anderson, Wickramariyaratne and Blair (2016)	2 hours	10									Y																			GDS = 1.02 GAI .81
Wuthrich and Rapee (2013)	2 hours	12		Y							Y	Y										Y								CBT: GDS = .98, GAI = .95.
Wuthrich, Rapee, Kangas and Perini (2016)	2 hours	11									Y											Y								CBT: GDS = 1.13 GAI = .73 -

Notes: (A) this paper utilised the Mohlman and Gorman (2005) protocol, however did not specifically outline the manual items used. (B) 8 further sessions were spaced out over 3 months, 4 weekly then 4 biweekly. - indicates that CBT was outperformed by another condition. .(–) Denotes that the main CBT condition mean/within condition d was worse than the control mean/within condition d.

Aim four: Do different forms of adaptation differentially improve the effectiveness of CBT?

Anxiety. The adaptation of CBT for generalised anxiety disorder (GAD) has been extensively researched in the literature. Different styles of adaptation have been implemented to try and improve the effect of CBT. For example, Stanley, Hopko et al. (2003), Stanley, Beck et al. (2003), and Stanley et al. (2009) implemented a series of changes based on a previous adaptation manual, details of which were not outlined in the studies (with the exception of Stanley, Hopko et al. (2003) who mentioned some of the adaptations). Furthermore, Mohlman et al. (2003), Mohlman and Gorman (2005) and Mohlman et al. (2013) all used similar patterns of adaptation when using CBT with GAD (which can be found in Table 4). All of these studies found medium to large effect sizes with adapted CBT. The findings from the above studies appear to show an improved effect compared to studies that implemented fewer changes when treating GAD. (Schurmanns et al., 2006; Wetherell et al., 2013; Wetherell, Gatz & Craske, 2003). Other changes, such as the addition of executive functioning training (Mohlman et al., 2008) and an intolerance of uncertainty protocol (Hui & Zhihui, 2016), also show positive effects in smaller scale studies. Therefore, in the trials that address GAD, there is evidence that implementing particular patterns of changes or using additional programmes and protocols can improve CBT for GAD in older people.

However, whilst particular patterns of adaptation may work for one anxiety disorder, there is some evidence that it may not be transferable to all disorders. Bourgault-Fagnou and Hadjistravropoulos (2013) implemented changes from Mohlman et al. (2003) in an “enhanced” CBT condition for sub-clinical health anxiety. However, when the “enhanced” CBT was compared to a standard protocol, it was found that there was no evidence to suggest the “enhanced” CBT was superior.

One study (Stanley et al., 2011) investigated the effect of CBT for anxiety within a dementia population. They applied a number of procedural- (e.g., memory assistance, inviting collateral to assist) and technique-based (e.g., revision of material, increase psychoeducation) changes to overcome some of the barriers people with dementia may face when trying to access CBT. This study found a medium to large effect size for CBT for anxiety.

With reference to the fear of falling literature, there was a small amount of evidence to suggest that physical activity programmes, such as exercise (Huang et al., 2016, Zijlstra et al., 2009) and Tai Chi (Huang et al., 2011), are promising, with small to medium effect sizes. However, Liu et al. (2016) found that when compared with CBT alone, CBT and Tai Chi showed no improvement on effect.

Therefore, it appears that particular patterns of adaptations for targeted anxiety disorders or impairments (e.g., dementia) are helpful in treating certain disorders.

Depression. Within the depression research, there was limited consistency between studies regarding adaptation of CBT. Three papers (Laidlaw et al., 2008, McLaughlin & McFarland, 2011; Serfaty et al., 2009) used separate adaptation manuals in an attempt to enhance CBT for depression in older people. The results from these papers found small to medium effect sizes. Areán et al. (2005) found that when group CBT format was paired with clinical case management (signposting to support in the community for low income families), the effect size was small, suggesting this dual approach might not be effective.

Some of the studies focused on a minimally or non-adapted form of CBT. Lamers et al. (2010) implemented a minimal psychological intervention delivered by nurses for depressed patients with COPD. The minimal psychological intervention approach yielded a small effect size. Ekkers et al. (2011) implemented a CBT protocol that specifically targeted rumination within depression. This approach yielded a medium

effect size. Konnert et al. (2009) focused on sub-clinical depression whilst implementing fewer adaptations to their manual (e.g., manual based deviations, memory aids) alongside the manual; the results indicated that there was a large effect size.

Two studies utilised adaptations of CBT in very specific contexts. Brody et al. (2006) used a CBT-informed approach to help participants cope with age-related macular degeneration; they found a large effect size for depression. Hyer et al. (2009) implemented a programme that used group, individual and staff therapy ("GIST"), in which CBT skills were taught to care home residents. Other adaptations that are relevant for this population (e.g., examples specific to care home residents, open group formatting) were also implemented. The findings suggested that there was a large effect size on depression.

Therefore, it would appear that changing CBT did not particularly impact the effectiveness of CBT. However, when specific changes were made (e.g., targeted interventions in a residential home and coping with age-related macular degeneration), there appeared to be larger effect sizes. Therefore, there is some evidence that specific changes may enhance CBT.

Depression and anxiety. Within the anxiety and depression research, all of the approaches were in group format. Consistently across all of the interventions, the researchers applied older adult specific adaptations to make the CBT intervention more relevant to the client group. Wuthrich et al. (2016) and Wuthrich and Rapee (2013) reported including more older adult specific adaptations in their "ageing wisely" intervention programme. Anderson et al. (2016) reported a large effect size in their programme. In the Wuthrich et al. (2016) and Wuthrich and Rapee (2013) papers, they reported within-condition Cohen's ds for their interventions. Wuthrich and Rapee (2013) reported that the within-condition Cohen's d's were larger for the intervention compared to waiting list for both anxiety and depression. However, when compared to a

discussion group, Wuthrich et al (2016) found that when using similar changes an noticeably larger effect was only seen in the depression measure. Therefore, based on the above evidence, using a group based CBT programme to address anxiety and depression appears helpful. However, there is insufficient evidence to suggest that adapting further than this improves the efficacy of the intervention.

Discussion

This systematic literature review investigated adaptations made to CBT in randomised controlled trials of anxiety and depression for older people. The first aim investigated the types of adaptations that are made in these studies. In the papers reviewed, the changes were either procedural or technique-based adaptations. Furthermore, some researchers included additional programmes (e.g., executive functioning training, Tai Chi) based on the presenting difficulty. The second aim investigated whether CBT for anxiety and depression in older people is effective. Based on the papers identified in this research, it would be reasonable to conclude that CBT is effective for people with anxiety, depression and both anxiety and depression.

Finally, as we could not establish if adapted CBT was more effective than standard CBT, we investigated whether different adaptations impact on the effectiveness of CBT. For anxiety studies, there was evidence to suggest that adapting CBT based on particular patterns of adaptation (e.g., Mohlman et al., 2003) potentially improved the efficacy of the intervention. Other changes (e.g., intolerance of uncertainty protocol, executive functioning training programme) also appeared be helpful, but this was only based on limited evidence identified within this review. Promising evidence was also found for adaptations to CBT when treating anxiety in dementia and fear of falling. However, there is small evidence that using GAD adaptations in other anxiety disorders may not be effective. Within the depression research, inconsistent patterns of adaptation were implemented. A few papers that did

not disclose how they adapted CBT in the papers yielded small effect sizes. However, standard CBT interventions and specifically adapted CBT for certain presenting problems (such as depression in a residential home) appeared to show some effectiveness. Group CBT that was specific to older people's problems appeared to be effective for treating co-morbid anxiety and depression.

Links to previous research

The findings from this systematic review are consistent with expert opinion surrounding the adaptation of CBT for older people. Laidlaw (2015) and James (2008) suggested that adaptations to CBT should only be made when there is a potential barrier (physical or cognitive impairment) to accessing therapy or a theoretical justification for doing so. The adaptations that had the most impact in the research trials appeared to be specific to a particular issues (e.g., dementia) or a particularly hard to treat disorder (e.g. GAD). Gould, Coulson and Howard (2012b) and Kishita and Laidlaw (2017) found that CBT for older people with GAD is less effective when compared to working-age individuals. Therefore, it is understandable that the majority of the research into adaptations were found for those who were diagnosed with GAD. In line with Laidlaw and Kishita (2017), it can be concluded that the changes made to CBT are logical and may be therapy enhancing.

Strengths and limitations

This systematic literature review was the first to look at the effect of adaptations of CBT for older people. Whilst Kishita and Laidlaw (2017) looked specifically at the adaptations within GAD, this review had a much wider focus of all anxiety disorders and depression. A further strength to the research is that the critical appraisal was conducted using a recognised quality appraisal tool. Furthermore, the critical appraisal of papers was carried out by a second, independent rater to ensure the original researcher's evaluation of the papers was a fair interpretation of the paper's quality.

However, the review also had some drawbacks. Firstly, originally the analytic plan had been to conduct t-tests to assess the difference in effect size in the presence or absence of different adaptations. However, as the analysis of adaptations was being done, it became apparent that conducting this form of analysis would be difficult due to the inconsistent ways that adaptations were implemented. Consequently, review of the adaptations had to be conducted in a narrative format. A further drawback was that as part of the inclusion criteria, the study population had to have a mean age above 60. Consequently, by using a mean age as opposed to an over-60s only cut-off, some of the participants may have been under the age of 60. In future research, it would be more appropriate to include studies that only recruit people over 60.

Furthermore, improvements could have been made to the scoping searches. Within this review, only two databases were searched, which means that relevant papers may have been missed. Furthermore, the scoping search did not include a search of the grey literature. Therefore, this could mean that potentially relevant unpublished literature was not identified, resulting in the positive effect of CBT in older people's population being inflated. Finally, during the searching of Pubmed, the truncation facility was not applied due to potential complications. To ensure that the searches in Pubmed were conducted correctly, it might have been beneficial to consult a specialist in conducting searches through Pubmed, in order to try and resolve the issue with truncated searches.

Finally, the Cohen's d's used within this project only reflected post-treatment differences as opposed to longer-term follow-ups. Therefore, the results do not reflect the long-term effects of CBT that were reported in the reviewed studies. Further research could assess whether adaptations have an impact over a long-term.

Clinical and research implications

The main clinical implications from this systematic review are that practitioners should be aware of when it is appropriate and inappropriate to make changes to routine CBT. When working with an older person, a comprehensive assessment should be undertaken to assess what the client's presenting difficulties are. If, for example, the person presents with a GAD type presentation, it might be the case that more adaptations are required than for somebody presenting with depression. Furthermore, it would be worth considering how physical or cognitive impairments can be accounted for, and whether any adaptations for impairment can be incorporated in line with the manual. As a supervisor, it would be helpful to explore and identify when supervisees are making changes to routine CBT for older people and using a framework (as identified by James, 2008) to help identify when clinicians should or should not adapt therapy.

A number of implications for research emerge from this literature review. In future trials, it would be helpful to utilise a standard CBT condition alongside the adapted protocol. By doing this, it allows the researchers to make informed inferences regarding whether a particular adaptation improves efficacy. Furthermore, in the future if adaptations are used within research trials, it would be useful to outline specifically which adaptations have been made. By listing the adaptations clearly, it enables other researchers and clinicians to emulate the adaptations in practice without having to find additional (often unpublished) manuals or papers.

Conclusions

This study aimed to investigate the effects of adapting CBT for anxiety and depression in older people. Based on the limited research evidence identified in this review, there are indications that using specific adaptations can improve the effectiveness of CBT with hard to treat disorders or specific difficulties. However, as

was found in some of the depression literature, changing CBT for older people may not always be necessary.

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What therapist and client characteristics influence the delivery of cognitive behavioural therapy to older adults?

Empirical Report

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Abstract

Objectives: Cognitive behavioural therapy (CBT) has been found to be efficacious for anxiety in older people. However, recent evidence has suggested that psychological practitioners might implement inappropriate changes to CBT - a process known as 'therapist drift'. The aim of this project was to assess how clinicians adapt CBT for older people and what intra-clinician factor influenced the changes.

Design: Part correlational and part experimental.

Methods: Sixty-three participants completed an online survey, capturing intra-clinician factors (such as demographics, anxiety, optimism, tendency to make 'broken leg exceptions'), rating their likelihood of adapting CBT in ten vignette scenarios (including clients with no impairment, physical impairment and cognitive impairment) and what proportion of their caseload had particular impairments.

Results: The study found that more pessimistic clinicians estimated more cognitive impairment in their caseloads. Clinicians with higher prospective anxiety implemented more appropriate changes for clients with cognitive impairment. Clinicians who had been qualified for longer made more inappropriate changes for clients with physical impairments. Cluster analysis revealed that clinicians could be grouped by three adaptation patterns: the first implemented few changes to CBT; the second implemented more changes regardless of appropriateness; and the third routinely removed cognitive and behavioural elements from CBT.

Conclusion: The evidence suggests that clinicians working with older people do engage in 'drift' behaviours, but further research is required to explore what factors best explain 'drift' with this client group.

Practitioner points

1. There are legitimate reasons (e.g., the presence of cognitive or physical impairment) to adapt cognitive behavioural therapy for older people.
2. Clinicians sometimes make unjustified changes to routine cognitive behavioural therapy for older people with anxiety.
3. Intra-clinician factors (such as anxiety, optimism, years qualified) predict some of the changes clinicians make.
4. When working with older people, it is important to conduct a full assessment of cognitive and physical impairment and adapt the therapy based on actual as opposed to assumed need.

Introduction

At the 2011 census, there were 9.2 million people aged over 65 living in England and Wales - a 16% increase from the number in 2001 (Office for National Statistics, 2013). In 2015, over half a million people were aged over 90 in the United Kingdom, with the number of centenarians increasing by 65% in the last decade (Office for National Statistics, 2016). It has been recommended that services for older people should be able to treat a range of common mental health difficulties (Joint Commissioning Panel for Mental Health, 2013). According to Age UK (2016), in the over 65s, 22% of males and 28% of females have depression, with higher rates in care homes. Furthermore, it is estimated that between 1.2 and 15% of people over 60 have anxiety disorders, but 15 to 52% have anxiety symptoms in community samples (Bryant, Jackson & Ames, 2008).

The use of cognitive behavioural therapy (CBT) has been found to be effective for the treatment of depression and anxiety in older people (Gould, Coulson, & Howard, 2012a; Gould, Coulson, & Howard, 2012b). Research has found that increasingly, older

people would prefer to try psychotherapy before medication and the "young old" (under 70s) would prefer to engage with CBT rather than other therapeutic modalities (Mohlman, 2012). When working with this population, there may be a requirement to adapt the intervention to account for any physical or cognitive impairment that may hinder the therapeutic process. However, whilst techniques have been identified to improve therapy for older people (e.g., slowing and repeating of information), often this can be over-interpreted and implemented regardless of the individual client's needs (James, 2008). For example, the adaptations required for individuals aged 65 versus 100 years could be vastly different (e.g., in terms of cognitive and physical difficulties presented) (James, 2008).

In an attempt to identify appropriate occasions where adaptations are required, James (2010) outlined a framework to conceptualise when changes to the standard protocol should be made, based on four 'quadrants' (see Figure 1). The axes reflect levels of cognitive and physical impairment. The quadrants include:

- Quadrant one: No cognitive or physical impairments that impede therapy.
- Quadrant two: No cognitive impairment but physical impairment.
- Quadrant three: Cognitive impairment but with no physical impairment.
- Quadrant four: Cognitive and physical impairment

Within the four quadrants, the focus of the therapy and to whom it is delivered can vary. However, for those who occupy quadrant one, standard CBT protocols should be used, as there are no substantial cognitive or physical impairments that could impede therapy (James, 2010; Laidlaw, Thompson, Dick-Siskin, & Gallagher-Thompson, 2003). Appropriate adaptations can be made to CBT to account for the impairments seen in quadrants two, three and four, tailored to the impairments that may impede therapy (James, 2010). Furthermore, whilst working with older people, it may also be

appropriate to apply gerontological enhancements (such as adding cohort beliefs and role investments to a formulation), which could enhance the application of CBT to older people (Laidlaw & Kishita 2015).

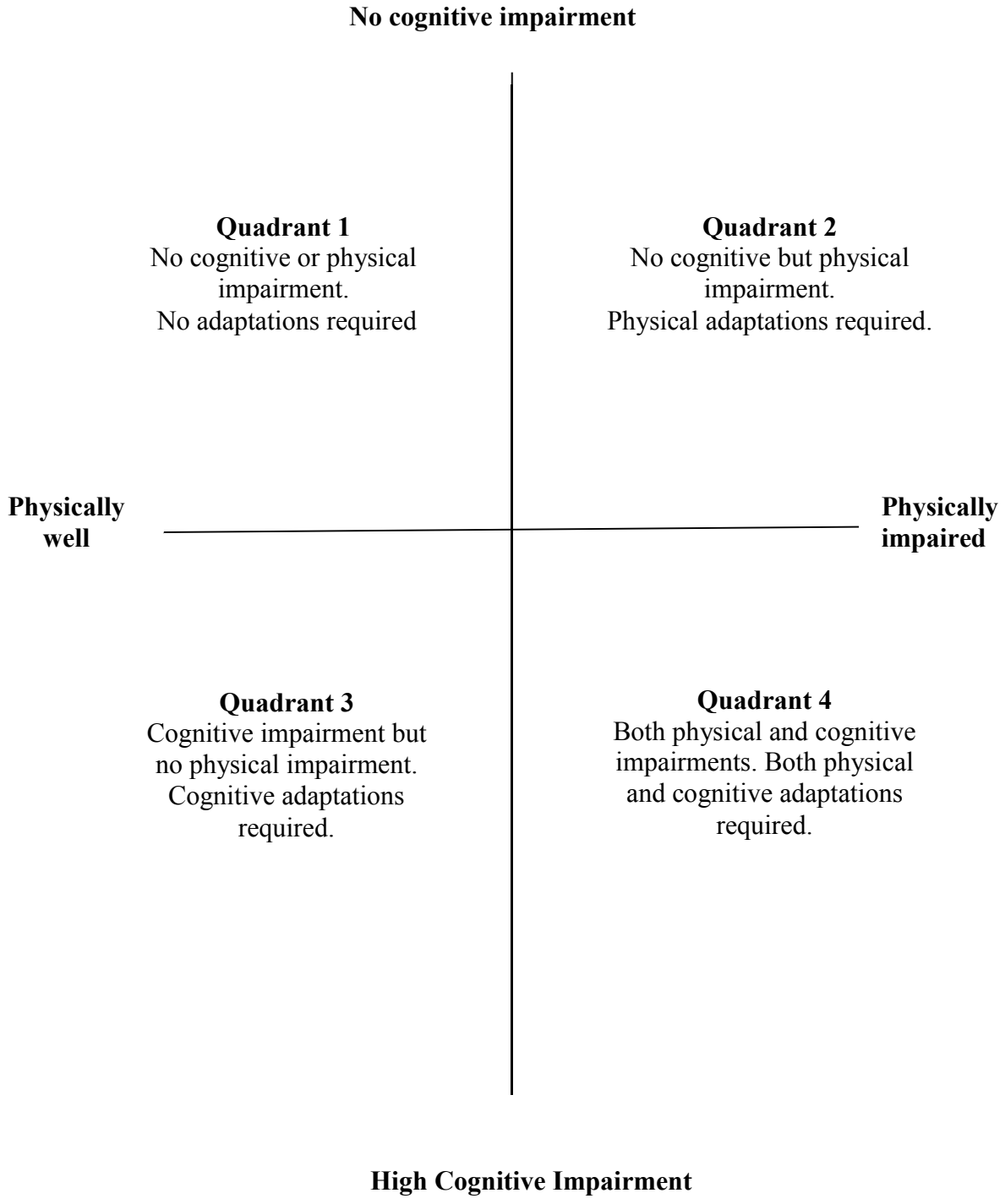

Figure 1: James' (2010) Quadrant Model

However, as well as justifiable adaptations to accommodate the needs of the individual, recent literature has suggested that psychologists often implement unjustified adaptations and exceptions to CBT. These changes are thought to be made due to perceived cognitive or physical impairment (as opposed to actual impairment), or purely because the clients are over 65 (Laidlaw, 2015). This issue may result in older people receiving poor quality CBT, or being completely excluded from evidence-based psychological therapies altogether (Laidlaw, 2015).

Making unjustified changes to evidence-based psychological therapy is not a problem that is unique to the psychological treatment of older adults. Clinicians routinely adapt CBT for adults based purely on clinical judgement (an element of 'therapist drift' – Waller, 2009), commonly based on the clinician's individual characteristics (e.g., age, anxiety). Meehl (1954) has suggested that we routinely exclude patients from evidence-based therapies (the 'broken leg exception'), based on our imprecise clinical judgements (i.e., the assumption that a characteristic of the patient means that they should not be given evidence-based approaches, when that is in fact an irrelevant factor).

Waller and Turner (2016) report that several intra-clinician factors can influence the delivery of routine CBT. Those factors include:

- The clinician's knowledge base about the particular approach
- The clinician's attitude towards the therapy they deliver
- Their own self belief in their therapeutic ability
- Clinician judgement
- Clinician's belief that the therapeutic alliance alone is enough to produce change
- The clinician's own emotional state (such as anxiety and depression)
- The clinician's personality traits (such as optimism, confidence, resilience).

- The clinician's own safety behaviours
- The clinician's work relationship and supervision arrangements.

There are 'types' or 'clusters' of clinician behaviour. For example, Cowdrey and Waller (2015) found that patients report that clinicians delivered three different types of therapy under the banner of CBT when treating people with eating disorders: "CBT-lite", "non-specific intervention" and "standard CBT".

Most of the research on such therapist behaviours to date has related to work with adult patients. However, it can be argued that the therapist drift is more likely when working with older adults, because there are two patient characteristics (physical and cognitive) that can be used to 'justify' not delivering the best care, either through inappropriate adaptations or exceptions.

Aims and hypotheses

The aims of this project are:

1. To investigate the proportion of existing clients who psychological practitioners working with older adults would allocate to each 'quadrant' of James' (2010) model.
2. To investigate the intra-clinician variables that explain why clinicians adapt therapy for older people.
3. To identify the characteristics of clients that make therapists more or less likely to make appropriate or atypical changes.
4. To assess to what extent clinicians' use of appropriate and inappropriate changes in treatment plans are related to the therapists' own characteristics.
5. To identify whether clusters of clinicians exist who adapt and modify CBT for older people in distinctive ways.

The resultant hypotheses are:

1. Psychologists working with older adults will allocate a relatively high proportion of their existing clients to the three 'impaired' quadrants.
2. Clinician anxiety, age and their tendency to make 'broken leg exceptions' will influence their allocation of existing patients, resulting in fewer being allocated to the 'No cognitive or physical impairment' quadrant. In contrast, those clinicians who are more optimistic by disposition will allocate more to the 'No cognitive or physical impairment' quadrant.
3. In the vignette condition, client characteristics (e.g., presence or absence of cognitive impairment) will influence their allocation to different patterns of adaptations and exceptions.
4. In the vignette condition, clinician characteristics will influence their pattern of appropriate or atypical changes to routine CBT. We anticipate that clinicians who score highly on the anxiety and broken leg exception measures will be more likely to implement more inappropriate changes, whereas more optimistic clinicians will implement fewer.
5. Cluster analysis will reveal groups of clinicians that adapt CBT in distinctive ways. Intra-clinician variables will predict the types of adaptation that will be made.

Method

Ethical Considerations

The project was reviewed by an internal University of Sheffield research board to ensure that the project had sufficient scientific and ethical rigour. Following this, ethical approval for the project was granted by the University of Sheffield Psychology Department. The letter confirming ethical approval was obtained can be found in

appendix D. Two information sheets were used. The first was shown prior to participants consenting to take part in the research. The second was a longer, more detailed version, which could be requested from the researchers. Both the brief and extended versions can be found in appendix E. The consent form that followed the information sheet can be found in appendix F.

Design

The study used a mixed design, with experimental and correlational elements. Several independent variables were used, including:

- clinician characteristics, such as optimism, anxiety, demographics (age, years qualified, years working with older people, gender), and their tendencies to make 'broken leg exceptions'.
- client characteristics, including physical, cognitive or no impairment (while James' [2010] quadrant framework also includes a fourth "cognitive and physical impairment" category, for the purpose of this study, it was considered more appropriate to use the first three quadrants only).

The first dependent variable for this study was the proportion of the clinician's existing caseload they estimated to fall into each of the quadrants in James' (2010) model. The second dependent variable was the clinician's rated likelihood of implementing adaptations or exceptions to routine CBT for older adults. An adaptation can be defined as any change to CBT, whereas exceptions would be the removal of any component. We classify appropriate and inappropriate changes as follows:

- Justified adaptation: any addition to CBT that has clear theoretical or gerontological justification for its inclusion (e.g., giving a client with memory deficits a workbook to write down their between-session tasks).

- Justified exception: removing elements of CBT that has a clear theoretical or gerontological justification for its removal (e.g., not setting a thought diary as between-session work as the client's physical impairment limits their writing ability).
- Unjustified adaptation: any addition to CBT that has no theoretical or gerontological justification (e.g., bringing a family member into a session when the person is in a wheelchair).
- Unjustified exception: removing any element of CBT based on no theoretical or gerontological justification (e.g., removing the behavioural components from the treatment of obsessive compulsive disorder because it is believed a 90 year old is too "frail" to conduct such work).

Service user involvement

As it is unlikely that individual service users would be able to identify the optimum methods of delivering and adapting cognitive behavioural therapy, it was felt that discussion and consultation with professionals in the field would be most appropriate. An expert in the field agreed that that the project had identified a potential gap in the research literature. Furthermore, changes were made to the measure of clinician adaptations/exceptions to therapy, based on consultation with a consultant clinical psychologist working with older people.

Participants

Power calculations were conducted based on a linear multiple regression analysis using the eight predictor variables (optimism, anxiety, broken leg exceptions, client age, cognitive impairment, physical impairment, years post qualification, years working with older adults) for the original fifth hypotheses. Full power calculations can

be found in Appendix G. To be appropriately powered, it was estimated that 109 participants needed to be recruited.

Participants within this study were qualified psychology professionals (e.g., clinical psychologists, Improving Access to Psychological Therapies (IAPT) practitioners) who have used cognitive behavioural therapy with older people. Participants were recruited via three main methods. First, an invitation to participate was circulated via email to members of a specialist facility for psychologists working with older people within the British Psychological Society. The invitation was also circulated to a local IAPT service. Second, each individual was encouraged to re-distribute the study invitation to any colleagues who might be interested in participating (snowball recruitment). Third, the invitation was posted onto two Facebook pages: the first for clinical psychologists working within the United Kingdom, and the second for psychologists with an interest in working with an older adult population. The invitation can be found in Appendix H.

In total, 89 clinicians started the survey. Sixty-three completed the entire questionnaire. The mean age of survey completers was 41.1 years (SD = 6.81). Participants had been qualified for a mean of 10.5 years (SD = 6.47) and had worked with older adults for a mean of 10.9 years (SD = 6.39). 88.9% of respondents were female. The majority of participants were clinical psychologists. Furthermore, the majority of clinicians worked in a service for older people (e.g. community mental health team, memory service, inpatient service). A full breakdown of participant job title and service type can be found in Appendix I. From this point onwards, the number of participants fluctuates, depending on how many participants completed each section.

The recruited N was not sufficient to carry out the planned regression analyses in the original fifth hypothesis. Therefore, that hypothesis was addressed using exploratory correlations, followed by using a reduced number of variables in regression

analysis based on significant correlations and cluster analysis only. The fifth hypothesis was also modified ensure it was relevant to the cluster analysis.

Measures

At the beginning of the online questionnaire, the participants were asked to provide basic demographic information, such as their age, gender, job title, years qualified and years working with older people. They then completed the following measures:

Brief Intolerance of Uncertainty Scale (IUS-12; Carleton, Norton &Asmundson, 2007). The IUS-12 is a 12 item measure used to measure anxiety. This measure is a brief version of the original 27 item Intolerance of Uncertainty scale. Carleton et al. (2007) found that the measure has excellent internal consistency ($\alpha = .91$) and is highly correlated with the original 27 item measure ($r = .96$). The Cronbach's alpha for the measure in this study was calculated as .885. The measure consists of twelve statements relating to a client's approach to situations (e.g., 'Unforeseen events upset me greatly') which are rated on a five point Likert scale, with 1 indicating "not characteristic of me at all" to 5 indicating "entirely characteristic of me". Scores on this measure are derived by adding all of the items together, producing a score between 12 and 60. Two sub-scale scores can also be calculated. Prospective anxiety (fear of future uncertainty) can be calculated by adding items 1, 2, 4, 5, 8, 9 and 11. Inhibitory anxiety (avoidance of anxiety) can be calculated by adding items 3, 6, 7, 10, 12. Cronbach's alpha was calculated as .794 for prospective anxiety and .864 for inhibitory anxiety. This measure can be found in Appendix J.

Broken Leg Exception Scale (BLES; Meyer, Farrell, Kemp, Blakey & Deacon, 2014). A clinician's tendency to exclude patients from evidence-based treatment was measured using the BLES (Meyer et al., 2014). Meyer et al. (2014) found that the measure's internal consistency was excellent ($\alpha = 0.93$) and there was

high item-total and inter-item correlations (Mean inter-item correlation = 0.57). The Cronbach's alpha for this study was calculated as .905. The measure asks the participant to rate how likely they would be to exclude a client from exposure-based cognitive-behavioural therapy based on 25 client characteristics (e.g., 'The client is older than age 65'). Participants rate their likelihood of excluding a client from evidence-based treatment on a four point Likert scale, with 1 indicating "very unlikely to exclude from exposure therapy based on this characteristic" to 4 indicating "very likely to exclude from exposure based therapy based on this characteristic". The score for this measure is calculated by totalling all of the items together, resulting in a figure between 25 and 100. This measure can be found in Appendix K.

Life Orientation Test-Revised (LOT-R; Scheier, Carver & Bridges, 1994). Optimism was measured using the LOT-R (Scheier et al., 1994). Scheier et al. (1994) calculated the internal consistency alpha as .78 and a test-retest correlation of .79. The measure contains 10 items - three designed to measure optimism, three designed to measure pessimism, and four filler items. Participants are asked to rate each statement using a five point Likert Scale, ranging from 0 indicating strongly disagree to 4 indicating strongly agree. The total score is calculated by adding the optimism items together with the pessimism items (which are reverse scored), providing a total range of potential scores of 0-24, with higher scores indicating higher levels of optimism. Variables were recoded in SPSS to a zero to four scale from a one to five scale presented in Qualtrics. The Cronbach's alpha was for this dataset was calculated as .736. The measure can be found in Appendix L.

Measures established in this study. To measure therapist drift from the evidence-base, an experimental vignette-based task was designed to assess the extent to which therapists considered making changes to standard CBT when working with older adults. Participants were presented with ten case vignettes, which contained fictitious

information regarding a client with an anxiety disorder alongside ‘no impairment’, ‘cognitive impairment’ or ‘physical impairment’. The vignettes can be found in Appendix M. Four case vignettes involved no impairment, three involved cognitive impairment and three involved physical impairment. Participants were then instructed to assess to what extent, based on the vignette presented, they would consider implementing the 11 listed changes to their cognitive behavioural practice. The 11 items can be in Table 1. The patterns of acceptable change depending on impairment type can be found in Appendix N. Some of the suggestions were general changes (e.g., removing or reducing cognitive elements) or gerontologically informed changes (e.g. challenging myths on ageing). The changes were identified from key texts on adapting CBT for older people (James, 2010; Laidlaw, 2015) and were judged to be appropriate or inappropriate adaptations by the researcher. The researcher’s judgements were judged to be correct by a consultant clinical psychologist working with older people. Participants then rated how likely they were to implement amendments on a five point Likert scale from “very unlikely to implement this” to “very likely to implement this”. Participants were also asked to respond quickly rather than aiming to give a ‘perfect’ response.

Finally, participants were asked to estimate the proportion of clients on their current caseload that fitted into individual quadrants of James’ (2010) framework: No impairment, physical impairment, cognitive impairment, and cognitive and physical impairment.

Table 1

Drift items

Drift Item
1. Reduce or remove cognitive elements of therapy
2. Reduce or remove behavioural elements of therapy
3. Consider bringing a family member into therapy
4. Consider using age appropriate cognitive techniques (e.g. timeline)
5. Consider using memory aids
6. Consider slowing or repeating information
7. Consider changing the length of session
8. Consider using formulation enhanced with age appropriate factors
9. Consider challenging myths about aging
10. Consider providing the intervention to carer only
11. Complete routine CBT

Procedure

Potential participants received an invitation to participate via one of the three recruitment methods - direct email invitation, snowball recruitment, or via Facebook. This invitation included a standardised message about the project, and a link to the questionnaire via Qualtrics.

Once participants had followed the link, they were presented with an information sheet, followed by a consent form that confirmed they had read and understood the information provided. The general structure of the questionnaire was as follows:

- Information sheet and informed consent
- Basic demographic information
- Broken Leg Exception Scale
- Intolerance to Uncertainty Scale
- Life Orientation Test Revised
- 10 vignettes
- Quadrant Percentages

- Confirmation of submission of data

Within the basic demographic information section, participants were required to create a unique participation code to ensure their data could be identified if they wished to withdraw. To reduce the risk of order effects, counterbalancing was used. Measures of optimism, anxiety and 'broken leg exceptions' were grouped together. The 10 vignettes were also grouped together as a 'block'. The two 'blocks' of measures were then counterbalanced by Qualtrics, meaning participants would randomly receive either the vignette or measure blocks first.

Data analysis

The data were exported into an SPSS file from Qualtrics. IUS (sub-scales and total), BLES and LOT-R scores were calculated.

To test hypothesis one, the mean scores of the estimated percentages for each quadrant (no cognitive or physical impairment, no cognitive but physical impairment, cognitive but no physical impairment, and cognitive and physical impairment) were calculated. Within-subjects ANOVAs were conducted with the estimates for each quadrant, to assess whether there were significant differences between them. Post-hoc pairwise analyses were conducted to identify which of the clinicians' estimates were different from each other. The assumptions of within-subjects ANOVA were also checked, which included: continuous variables, the same subjects were in each group, no significant outliers, normal distribution of variables, and sphericity.

To test the second hypothesis, the percentage estimates within each quadrant were correlated with demographic factors (clinician age, years qualified, years working with older people) and with the measures of optimism, anxiety and likelihood of making

broken leg exceptions. Then, regression analyses were conducted on the basis of the significant correlations to assess the predictive value of the variables.

To test hypothesis three, further variables were calculated. For each of the levels of impairment (no impairment, cognitive, physical), mean scores for appropriate and inappropriate changes were calculated. For example, the mean for appropriate changes in 'no impairment' clients was calculated by summing all of the appropriate items for vignettes with no impairment (as identified in Appendix I) and dividing by the number of items. Within each level of impairment, paired t-tests were conducted to assess whether clinicians implemented significantly more appropriate or inappropriate changes. A repeated measures ANOVA was used to assess whether the pattern of appropriate and inappropriate adaptations to CBT differs between level of impairment. The assumptions of within-subjects ANOVA were also checked, which included: the variables were continuous, same subjects were in each group, no significant outliers, normal distribution of variables, and sphericity.

To test hypothesis four, the means for the appropriate and inappropriate changes within each level of impairment were correlated with demographic factors (participant age, years qualified, years working with older people) as well as the measures of optimism, anxiety and likelihood to make broken leg exceptions. Twelve individual regressions were conducted, with the average appropriate and inappropriate changes for each impairment as the dependent variable. Two different sets of predictor variables were used; one with age, years qualified and years working with older people as predictors, and a second with anxiety, optimism and tendency to make broken leg exceptions. Whilst conducting more regressions may reduce the required power, it also increases the likelihood of a type one error in which a false positive result could be found.

To address hypothesis five, the original analytic plan had been to run a regression analysis to establish a model that best predicted drift. However, as the study was underpowered, it was decided to change the analysis type to ensure robust findings. Two-step cluster analysis was conducted to assess whether there are clear groups of clinicians who deliver CBT in different ways. To conduct this analysis, the mean item score was calculate for each vignette variable within each type of impairment (no impairment, physical impairment and cognitive impairment). This yielded 33 variables, which were then processed in the cluster analysis. Once the analysis established meaningful clusters, one way ANOVAs were conducted to assess whether demographic factors (participant age, years qualified, years working with older people) as well as the measures of optimism, anxiety and likelihood to make broken leg exceptions could account for the difference between clusters. The assumptions of a one way ANOVA were all checked, including continuous variables, independent groups, independence of observations, no outliers, normal distribution and homogeneity of variance.

Results

Hypothesis one: Clinicians allocate relatively higher proportions of their caseload to the "impaired" quadrants.

First, to address hypothesis one, we aimed to investigate whether participants estimated more of their current caseload to sit within the "impaired" quadrants, as opposed to the non-impaired quadrants. Table 2 contains the mean estimates that participants provided for each quadrant.

As can be seen from Table 2, participants estimated that they saw more participants with physical or cognitive and physical impairments compared to those with no impairment or cognitive impairment only. The assumptions of a within-subjects ANOVA were checked. When each individual quadrant was checked for normal

distribution, the Shapiro-Wilk statistics for the no impairment, cognitive impairment and cognitive and physical impairment quadrants were significant, indicating that the data was not normally distributed. When the histograms were visually assessed, it appeared that there may have been outliers in quadrant one, quadrant three and quadrant four. Mauchly's test of sphericity was violated ($X^2(5)$ 19.948, p = .001), so the Huynh-Feldt statistic for the within-subjects ANOVA were reported. Within-subjects ANOVA found that the differences between quadrants were significant (F (3, 160.330) = 7.220, p = .001, partial eta squared = .104).

Table 2

Mean Estimate of Participant Caseloads with each form of participant

Quadrant	Mean percentage estimate	*(SD)*	*N*
Quadrant one: no cognitive or physical impairment	20.08	(17.61)	63
Quadrant two: no cognitive but physical impairment	32.83	(18.77)	63
Quadrant three: cognitive but no physical impairment	18.39	(13.46)	63
Quadrant four: cognitive and physical impairment	28.70	(20.09)	63

Table 3 displays the pairwise comparisons between the mean score for each quadrant. The results suggest that there was no significant difference between the 'no impairment' and 'cognitive impairment' quadrants. Furthermore, there was no significant difference between the 'physical impairment' and 'cognitive and physical impairment' quadrants.

Table 3

Pairwise comparisons between quadrants (mean differences).

	Quadrant one: No cognitive or physical impairment	Quadrant two: no cognitive but physical impairment	Quadrant 3: Cognitive but no physical impairment	Quadrant 4: Cognitive and physical impairment
Quadrant one: no cognitive or physical impairment	N/A	-12.754*	1.690	-8.619*
Quadrant two: no cognitive but physical impairment		N/A	14.44*	4.135
Quadrant 3: cognitive but no physical impairment			N/A	-10.310*
Quadrant four: cognitive and physical impairment				N/A

* denotes statistical significance at .05

However, the 'no impairment' and 'cognitive impairment' quadrant estimates were each significantly different to the 'physical impairment' and 'cognitive and physical impairment' quadrants. To summarise, clinicians see their client groups as more populated with patients with 'physical impairments' and 'both cognitive and physical impairments'.

Hypothesis two: Intra-clinician factors will predict the clinicians' estimate of their caseload to each quadrant.

In order to investigate hypothesis two, Pearson's correlation analyses were conducted between the clinician variables and the estimates in each quadrant. Table 4 gives those correlations. The only clinician variable to correlate with the clinician's predictions was the optimism measure, which was negatively correlated with clinician estimate of clients' cognitive impairments on their caseload. The correlation suggests

that more pessimistic clinicians estimate that they see more clients with cognitive impairment than more optimistic clinicians, which was consistent with the hypothesis. However, aside from this finding, no other intra-clinician variables (such as anxiety, years qualified, years working with older people and broken leg exceptions) correlated with patient prevalence on caseloads.

Four separate regression analyses were conducted with the four quadrants as dependent variables; optimism, anxiety and likelihood to commit broken leg exceptions were entered as predictor variables in each of the regressions. Table 5 contains all of the regressions. The only model to achieve significance was for quadrant three, 'cognitive but no physical impairment'. t-values for the LOT-R suggest were statistically significant. The BLES was also close to significance but did not achieve a *p* value below .05. Therefore, the results confirm that less optimistic clinicians estimate higher levels of cognitive impairments in the clients they see.

Table 4

Pearson's Correlation between quadrant and intra-clinician factors

	Quadrant One: No cognitive or physical impairment		Quadrant two: No cognitive but physical impairment		Quadrant three: Cognitive but no physical impairment		Quadrant four: both cognitive and physical impairment	
	r	*p*	*r*	*p*	*r*	*p*	*r*	*p*
Age	0.68	NS	.069	NS	-.180	NS	-.004	NS
Years Qualified	-.162	NS	-.039	NS	-.051	NS	.212	NS
Years working with older people	-.170	NS	.024	NS	-.017	NS	.138	NS
BLES	.009	NS	.215	NS	-.205	NS	-.071	NS
IUS	-.160	NS	.088	NS	.146	NS	-.039	NS
LOT	.229	NS	.049	NS	-.375	.002	.004	NS

Note: NS = not significant.

Table 5

Regression analysis for each quadrant and intra-clinician factors.

Dependent variable	*F*	*p*	*% variance*	Independent variable	*t*	*p*	*Beta*
Quadrant one*	1.257	NS	1.2	BLES	.281	NS	.036
				IUS	-.669	NS	-.092
				LOT	1.441	NS	.196
Quadrant two*	1.169	NS	.8	BLES	1.593	NS	.205
				IUS	.632	NS	.087
				LOT	.682	NS	.093
Quadrant three*	4.709	.005	15.2	BLES	-1.965	NS	-.233
				IUS	.367	NS	.047
				LOT	-2.930	.005	-.370
Quadrant four*	.118	NS	-4.5	BLES	-.505	NS	-.067
				IUS	-.227	NS	-.032
				LOT	-.081	NS	-.011

Note: NS = not significant * Quadrant one: No cognitive or physical impairment, Quadrant two: No cognitive but physical impairment, Quadrant three: cognitive but no physical impairment, Quadrant four: cognitive and physical impairment.

Hypothesis three: Clinicians will make inappropriate changes to routine CBT for older people.

Hypothesis three investigated whether clinicians made more inappropriate adaptations than appropriate adaptations when working with older people. As described previously, the means of the appropriate and inappropriate adaptations were calculated for 'no impairment', 'cognitive impairment' and 'physical impairment' groups. The means and standard deviations for each group can be found in Table 6. Within each impairment type, paired t-tests were conducted to assess whether there were differences in the means of the appropriate and inappropriate adaptations. The paired t-tests revealed that there were significant differences between the appropriate and inappropriate adaptation means for all three vignette types. Within all impairment types [no impairment (t = 15.294, p = .001), cognitive impairment (t = 13.281, p =.001), physical impairment (t = 15.331, p =.001)], clinicians implemented more adaptations

that were considered appropriate than inappropriate. Whilst this indicates that clinicians overall implement more appropriate than inappropriate adaptations, it does not inform us whether there are difference between impairment types.

Table 6

Means and standard deviations for appropriate and inappropriate adaptions of each impairment type and repeated measures ANOVA for each appropriateness and impairment.

	No Impairment		Physical Impairment		Cognitive Impairment		Impairment		Appropriateness		Impairment x Appropriateness	
	M	*(SD)*	*M*	*(SD)*	*M*	*(SD)*	*F*	*p*	*F*	*p*	*F*	*p*
Appropriate	3.70	(0.51)	3.51	(0.54)	3.62	(0.40)	18.2*	.001	310.8	.001	5.93*	.005
Inappropriate	2.54	(0.54)	2.38	(0.51)	2.68	(0.57)						

NOTE: * denotes that the Huynh-Feldt statistic was used due to a violation of the Sphericity assumption.

To assess whether clinicians implemented different patterns of appropriate and inappropriate adaptations across the impairment types, a repeated measures ANOVA was conducted. Assumptions of the ANOVA were all met, with the exception of sphericity. Mauchly's test indicated that the assumption of sphericity was violated for the adaptation and interaction levels, therefore the Huynh-Feldt statistic was reported. The results can be found in Table 6. The interaction effects suggest that clinicians make different patterns of appropriate and inappropriate adaptations across the three impairment groups, with more inappropriate adaptations for the 'cognitive impairment' group and fewer adaptations of any kind in the physical impairment group.

Hypothesis four: Clinician characteristics will influence their pattern of appropriate and inappropriate changes.

In order to investigate hypothesis four, Pearson's correlation analyses were conducted with the intra-clinician variables and the means of the appropriate and inappropriate changes within each impairment type. The results can be found in Table 7. The results indicate that clinicians with higher prospective anxiety scores implemented more appropriate changes for clients with cognitive impairment. In contrast, clinicians who had been qualified longer implemented more inappropriate changes for clients with physical impairments. Regression analysis was also conducted with each of the impairment types and the appropriate and inappropriate adaptations. To ensure the analysis was adequately powered, two models were tested. One model included the LOT-R, BLES and IUS measures, while the other included clinician age, years qualified and years worked with older people. Table 8 shows the results of this analysis. None of the regressions were significant. However, for the cognitive impairment, appropriate adaptations, the model including age, years qualified and years worked with older people was close to significance ($p = .069$).

Table 7

Pearson's correlation between intra-clinician variables and appropriate and inappropriate adaptations between each impairment type

	No Impairment Appropriate adaptations		No Impairment Inappropriate adaptations		Physical Impairment Appropriate adaptations		Physical Impairment Inappropriate adaptations		Cognitive Impairment Appropriate adaptations		Cognitive Impairment Inappropriate adaptations	
	r	*p*	*r*	*p*	*r*	*p*	*r*	*p*	*r*	*p*	*r*	*p*
Age	.014	NS	.190	NS	.009	NS	.240	NS	-.055	NS	-.048	NS
Years Qualified	.029	NS	.179	NS	-.027	NS	.249	.042	.055	NS	.014	NS
Years working with older people	-.068	NS	.112	NS	-.054	NS	.179	NS	-.100	NS	-.049	NS
BLES	.014	NS	.110	NS	.098	NS	.174	NS	.101	NS	.105	NS
IUS	.102	NS	.003	NS	.123	NS	-.062	NS	.210	NS	.061	NS
IUS Prospective	.122	NS	.026	NS	.154	NS	.003	NS	.261	.037	.047	NS
IUS Inhibitory	.057	NS	-.029	NS	.059	NS	-.139	NS	.104	NS	.070	NS
LOT	-.053	NS	.085	NS	-.101	NS	.100	NS	.036	NS	.104	NS

Note: participant numbers range from 64-69

Table 8

Regression analysis with intra-clinician variable, impairment type and appropriateness

Dependent variable	*F*	*p*	% variance	Independent variable	*t*	*p*	*Beta*
No Impairment. Appropriate adaptations	.216	NS	-3.9	LOT	-.120	NS	-.017
				BLES	-.015	NS	-.002
				IUS	.687	NS	.096
No impairment. Appropriate adaptation	.998	NS	0	Age	-.001	NS	0.00
				Years qualified	1.481	NS	.442
				Years worked with older people	-1.711	NS	-.463
No impairment. Inappropriate adaptation	.427	NS	-2.8	LOT	.729	NS	.100
				BLES	.863	NS	.112
				IUS	.165	NS	.023
No Impairment. Inappropriate adaptations.	1.171	NS	.7	Age	.744	NS	.138
				Years Qualified	.991	NS	.295
				Years worked with older people	-.915	NS	-.246
Physical Impairment. Appropriate adaptations	.514	NS	-2.4	LOT	-.467	NS	-.064
				BLES	.625	NS	.081
				IUS	.623	NS	.087
Physical Impairment. Appropriate adaptation	.159	NS	-4	Age	.388	NS	.075
				Years qualified	.174	NS	.054
				Years worked with older people	-.550	NS	-.153
Physical Impairment. Inappropriate adaptation	.945	NS	-.3	LOT	.650	NS	.088
				BLES	1.473	NS	.188
				IUS	-.421	NS	-.058
Physical Impairment. Inappropriate adaptations.	1.783	NS	3.4	Age	.695	NS	.129
				Years Qualified	1.182	NS	.351
				Years worked with older people	-.831	NS	-.223

Cognitive Impairment. Appropriate adaptations	1.376	NS	1.8	LOT	.993	NS	.134
				BLES	.549	NS	.069
				IUS	1.834	NS	.250
Cognitive impairment. Appropriate adaptation	2.490	NS	6.4	Age	-1.019	NS	-.180
				Years qualified	2.600	.012	.702
				Years worked with older people	-2.429	.018	-.593
Cognitive impairment. Inappropriate adaptation	.665	NS	-1.7	LOT	1.073	NS	.147
				BLES	.759	NS	.098
				IUS	.730	NS	.101
Cognitive impairment. Inappropriate adaptations.	.460	NS	-2.6	Age	-.625	NS	-.116
				Years Qualified	1.097	NS	.310
				Years worked with older people	-.949	NS	-.242

Hypothesis five: Groups of clinicians will display distinctive patterns of CBT modification.

Finally, cluster analysis was conducted to assess whether clinicians naturally fall into groups, based on different patterns of adaptation of CBT. Two-step cluster analysis was conducted, based on two or three cluster models. In both analyses, the Silhouette measure of cohesion and separation was fair. However, the three cluster model provided a more meaningful explanation. The average Silhouette measure assessing cluster quality was .3, indicating a fair level of separation and cohesion. For each of the 33 items included in the cluster analysis, an 'importance' figure is calculated. To ensure only relevant items were used in the cluster descriptions, an importance statistic of .3 was set.

Table 9 provides a breakdown of the clusters. The first group (54.5%, 36 participants) were those who were most likely to conduct routine CBT and the least likely to implement changes when working with older people. The second group (28.8%, 19 participants) were more likely to utilise both appropriate and inappropriate changes to cognitive behavioural therapy. The third group (16.7%, 11 participants) were likely to remove the cognitive or behavioural elements of CBT regardless of the level of impairment. This finding supports the fifth hypothesis - clinicians fall into 'clusters' in terms of their likelihood of changing CBT when working with older people.

Post-hoc one-way ANOVAs were conducted, comparing the three clusters on the intra-clinician variables (see Table 10). Assumptions of a one-way ANOVA were tested. The data indicated that there may be outliers in the IUS (total score, inhibitory and prospective sub-scales) data. Furthermore, there were significant Shapiro-Wilk scores for the LOT, IUS total, IUS prospective, IUS inhibitory, years qualified and years worked with older people, indicating that the data were not normally distributed. None of the intra-clinician variables reached significance, and therefore did not explain

Table 9

Description of identified clusters

Cluster one Least adaptations to CBT 54.5% (36 clinicians)	Cluster two Adapters (both appropriate and inappropriate) 28.8% (19 clinicians)	Cluster three Remove Cognitive and behavioural elements 16.7% (11 clinicians)
• Least likely to slow and repeat information for clients with no impairment, physical impairment and cognitive impairment	• Most likely to repeat and slow down information for clients with no impairment	• Most likely to remove cognitive and behavioural elements for clients with physical impairment
• Least likely to use memory aids for clients with no impairment, cognitive impairment or physical impairment	• Most likely to repeat and slow down information for clients with physical impairment	• Most likely to remove cognitive and behavioural elements for clients with no impairment
• Least likely to implement age appropriate cognitive techniques with clients with no impairment	• Most likely to use memory aids with all three client groups (no impairment, cognitive impairment and physical impairment)	• Most likely to remove cognitive and behavioural elements for clients with cognitive impairment (Reductions for those with cognitive impairment were appropriate)
• Least likely to challenge aging myths for client with no impairments	• Most likely to slow and repeat information for clients with cognitive impairment	• Most likely to use age appropriate cognitive techniques (e.g. timelines) with clients with no impairment
• Least likely to change session length for clients with physical impairments	• Most likely to change the session length for clients with physical impairments	• Most likely to use enhanced formulations with no impairment client
• Least likely to change session length for clients with no impairment	• Most likely to challenge myths about aging for clients with no impairment • Most likely to change session lengths for clients with no impairment • Most likely to elect to conduct routine CBT for clients with physical or no impairment. • Least likely to remove cognitive and behavioural elements for clients with no impairment, cognitive impairment and physical impairment	

Table 10

Post-Hoc ANOVA analysis of intra-clinician factors by cluster analysis grouping

Dependent variable	Means			One-Way ANOVA	
	Cluster 1[a]	Cluster 2[b]	Cluster 3[c]	F	*p*
LOT-R	17.94	18.61	18.91	.393	NS
BLES	45.26	48.67	50.73	1.392	NS
IUS	19.23	20.67	19.09	.362	NS
IUS Prospective	12.43	13.39	12.82	.364	NS
IUS Inhibitory	6.8	7.28	6.27	.435	NS
Years qualified	10.28	10	11.73	.231	NS
Years worked with older people	10.86	9.42	12.91	.273	NS
Age	41.17	40.16	41.82	1.082	NS

Note: a = Least adaptations to CBT, b = adapters (both appropriate and inappropriate) c = remove cognitive and behavioural elements.

the differences between clusters. Chi squared analysis found no significant gender differences between clusters (X^2 (2, N = 66) = .459. p = .795).

Discussion

The results from this study provides preliminary evidence that therapists could 'drift' from evidence-based practice when working with older people. In line with hypothesis one, clinicians estimated that more clients on their caseload had physical impairment and cognitive and physical impairment. Support was found for hypothesis two, as more pessimistic clinicians tended to estimate more clients with cognitive impairment on their caseload. In line with hypothesis three, clinicians implemented statistically significant different patterns of adaptation for clients with no impairment, cognitive impairment and physical impairment. Overall, clinicians implemented more appropriate than inappropriate changes to CBT in all three impairment groups. However, there was an interaction effect that suggested that clinicians implemented more inappropriate changes for clients with cognitive impairment, but less overall for

those with physical impairments. In support of hypothesis four, intra-clinician factors predicted some clinicians' adaptation behaviour. Participants with high prospective anxiety implemented more appropriate changes for people with cognitive impairment. Furthermore, the longer a clinician had been qualified, the more inappropriate changes to CBT they made for clients with physical impairment. Cluster analysis found that three groups of clinician behaviour emerged - one that was least likely to implement changes, another that added changes to CBT regardless of appropriateness, and a third that routinely removed cognitive and behavioural elements.

Links to previous research

As can be seen from the above, the results are consistent with previous research. Waller (2009) suggested that intra-clinician factors can affect the delivery of routine CBT in a number of populations. This study found preliminary evidence that some intra-clinician factors (anxiety, years qualified, optimism) predicted some of the behaviours clinicians displayed. However, the number of such associations was relatively limited and could have been an artefact of repeated testing.

Consistent with previous literature (James, 2010; Laidlaw, 2015; Laidlaw et al., 2003), the group of clinicians were able to identify the appropriate changes and implement them more consistently than the inappropriate changes. However, as discussed in Laidlaw and Kishita (2015), there are two subgroups of clinicians (those who make all adaptations, and those who remove cognitive and behavioural elements) who make changes that are likely to dilute the effect of cognitive behavioural therapy.

Finally, the findings are consistent with Cowdrey and Waller (2015). Their research utilised cluster analysis to identify patterns in which CBT is adapted for people with eating disorders. Consistent with those findings, clinicians' behaviour in this study could be 'clustered' into three groups who delivered CBT in different ways.

Limitations

One limitation to this study was that the original plan had to be amended due to the study failing to recruit adequate numbers. Originally, the fifth hypotheses aimed to find a parsimonious model to investigate what best predicted drift behaviour. However, despite various recruitment strategies, the study remained underpowered to study this hypothesis. To accommodate this lack of the planned power, alternative analyses (smaller regressions, cluster analysis) were conducted to ensure appropriate power to detect an effect. As only 89 participants started the questionnaire, it may be the case that despite several recruitment methods, the survey did not manage to reach enough clinicians working with older people. Alternatively, not enough older people's practitioners might identify CBT as the therapeutic modality that they use most frequently, which might have deterred them from responding to the survey. Furthermore, whilst the analyses were adjusted to account for a lack of power, no additional power analyses were conducted to confirm the tests conducted were sufficiently powered, which may mean that they remained underpowered.

Other limitations of the study include the data analysis. Within this study, multiple analyses are conducted on the data. By taking this approach, it means there is an increased likelihood of achieving 'false positive' results (type one error). Therefore, due to the risk of potentially misleading findings, caution must be taken in interpreting the results of this study. Furthermore, the results from the one way ANOVA which assessed the differences between clusters and the within-subjects ANOVA investigating the differences between clinician estimates of caseload need to be interpreted with caution. The assumptions of the ANOVAs were not met, and whilst ANOVA analysis can be robust in the face of violated assumptions (Khan & Rayner, 2003; Schmider, Ziegler, Danay, Beyer, Bühner, 2010) caution should still be exercised when interpreting the results.

One potential issue regarding the recruitment method is that recruiting via Facebook and email means that there is no guarantee that all of the respondents were qualified psychological practitioners, as opposed to assistant, trainees and other non-qualified psychologist who have access to the groups and mailing lists. Furthermore, one potential issue was that a number of participants stopped the survey part way through or just after the vignette condition. It could be the case that within this particular study, too many vignettes were used. Participants, who might have been in time pressured environments, might either have found the process too time-consuming or have become bored in the process of completing ten vignettes. It might have been more useful in this early proof-of-concept study to have fewer vignettes and a potentially higher response rate.

A further potential issue is that the method by which the drift was measured might not accurately reflect the actual practice of the clinicians. The questionnaire stated that the clinicians should respond to indicate to what extent they would consider making these changes. Whilst this method might be a good indicator of intentions, it is difficult to assess how likely the clinicians would be to act in this way in the real world. It might be the case that they are more or less likely to implement changes in their actual practice.

Finally, the method used to identify relevant changes to CBT could have been conducted in an alternative manner. In this research, changes were identified from the appropriate textbooks regarding the adaptation of CBT for older people (James, 2010; Laidlaw, 2015) and approved by a consultant clinical psychologist. Whilst drawing from the relevant adaptation literature is a legitimate method of identifying changes to CBT, other approaches could have been taken to identify potential changes. For example, the adaptations implemented in research (as identified in the literature review) could have been used as potential adaptations. Furthermore, it may have been helpful to

ask service users directly what adaptations would have been or were helpful when they had CBT. In an ideal situation, all three methods could have been used to identify items for the measure, which would have improved the validity of the measure.

Clinical implications

There is evidence to suggest that clinicians inappropriately modify CBT for older people. The findings indicate that some older people are likely to be receiving a diluted, ineffective form of CBT, which does not result in an improvement of symptoms. In the worst case scenario, it may be the case that some clinicians are routinely removing both the cognitive and behavioural elements when working with older people, which makes it difficult to know what the clinicians are actually administering when they report to be conducting CBT.

As there is an established evidence base for CBT for anxiety disorders, older people should be offered the best treatment available. Therefore, clinicians working psychologically with older people need to assess whether some of the clinicians working within their service are able to deliver CBT appropriately when required.

As it would be difficult to remove any clinicians who did not deliver CBT according to the evidence base, it would be helpful to identify strategies that would help clinicians use evidence-based psychological therapies. As a supervisor, it would be helpful to be aware of the particular ‘clusters’ of clinician behaviours and to spot when clinicians are deviating away from manualised treatment. For example, if a supervisee appeared to be implementing random changes, such as memory aids and decreasing the length of sessions for a client who uses a walking stick, it might be helpful to educate them on how those adaptations may not be appropriate for the difficulties faced. However, that approach requires supervisors to be responsive to such drift on the part of their supervisees.

Furthermore, when a clinician shares a formulation with a supervisor, it would be helpful to consider whether the treatment route they describe conforms to cognitive behavioural principles, or whether the clinician is making erroneous judgements and removing cognitive and behavioural elements of therapy. If there are serious concerns about a clinician's practice, it will be helpful to implement more stringent monitoring processes, such as assessing audio-recordings of sessions and rating them formally (e.g., using the Cognitive Therapy Scale-Revised - Blackburn, James, Milne & Reichelt, 2000), and implementing continuing professional development or appraisal targets.

It is also helpful to consider what a clinician should do if their supervisor is the one advocating the drift. As years of practice does not guarantee adherence to evidence-based protocols (as the data suggests), it is possible that a clinician might have a supervisor who engages in drift behaviour. It might be the case that a supervisor assumes that many of the clients on the supervisee's caseload will have "unseen" cognitive impairments, and therefore require copious adaptations to ensure the clients are able to engage with any therapy they may be given. Alternatively, supervisors might suggest other, diluted versions of CBT (e.g., removing a behavioural experiment because they have a "gut feeling" clients would not be able to tolerate it). If a supervisor is seen to be doing engaging in drift behaviour, it would be important to have discussions with either a line manager regarding obtaining appropriate supervision, or finding measures to ensure the current supervisor is able to appropriately support the CBT practice.

Another issue is that some of the clinician's behaviours appear to centre around cognitive impairment. Pessimistic clinicians estimate that there are more clients with cognitive impairment on their caseload, and more anxious clinicians make more appropriate adaptations for clients with cognitive impairment. Whilst these findings require more investigation, there are early indications that clinicians might react

differently to clients with cognitive impairment. When working with clients with cognitive impairments, it might be helpful to assess their cognitive abilities and tailor adaptations to their actual (as opposed to perceived) need. For example, if a memory impairment is present, it might be helpful to trial a memory aid (such as a workbook) to help clients who might not be able to remember their between-session work, but why do so for a client who has no such memory impairment?

Future research directions

As this project can only be considered to be a pilot study, due to the low number of participants, further research is required to better understand the processes involved in therapist drift whilst working with older people.

Factors that predict drift. Whilst some of the intra-clinician factors (such as years qualified, optimism and anxiety) appeared to explain some drift behaviour, they did not fully explain the behaviours. For example, none of the clusters identified in the cluster analysis were explained by the intra-clinician factors in this study. Therefore, other factors need to be considered to explore therapist drift. To explore other factors, a replication and extension of this study could be conducted that used different factors to explore drift behaviours. Three further factors could usefully be linked to drift behaviours:

- Attitudes towards aging: if a clinician holds negative attitudes towards aging, this could lead to negative perceptions about what older people could achieve therapeutically. The Attitudes to Ageing Questionnaire (Laidlaw, Power, Schmidt & the WHOQOL-OLD group, 2007) could be used to investigate the clinician's attitudes towards aging.
- Attitudes towards CBT: if a clinician holds negative beliefs regarding the use of CBT, it is more likely that they would change or remove key components of the

therapy. The Negative Attitudes toward CBT scale (Parker & Waller, 2017) could be used to measure negative perceptions towards the intervention.

- Belief in the therapeutic alliance: similar to the above point, it may be the case that a clinician's belief in the therapeutic alliance alone as a change factor might make clinicians remove cognitive or behavioural elements of interventions (Waller & Turner, 2016).

Client age: While all the vignettes within this study were about clients above the age of 65, the study did not use client age as a potential factor for drift. In a future research, it would be useful to study whether the client's age alone influences how clinicians adapt CBT. For example, one way to investigate age as a factor would be to provide three vignettes (one 'young old' below 70, one 'middle old' between 70 and 80, and one 'old old' above 80) with similar presenting issues and ask clinicians to rate to what extent they would adapt CBT.

Conclusions

'Therapist drift' is the term used to describe planned or unintentional deviation away from standardised, evidence-based approaches. In this study, preliminary evidence has been found of therapist drift in clinicians working with older people. Of particular interest were clinician characteristics related to the pattern of modifications they made, and the 'clusters' of clinicians, defined by their pattern of use of CBT. Further research is required to understand why clinicians have the tendency to deviate inappropriately from the evidence-base. However, this preliminary research suggests that some clinicians are unable or unwilling to provide standardised, evidence-based CBT with older people.

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Appendix A: Search terms

Table 1
Psycinfo search terms

Population term		Therapy term		Impairment/adaptation
"Older People"	AND	"Cognitive behav* therapy"	AND	Population and therapy term only "Adapt*" "Change" "Modi*" "Cognitive impairment" "Dementia" "Physical impairment" "Disab*"
"Older adult"	AND	"Cognitive behav* therapy"	AND	Population and therapy term only "Adapt*" "Change" "Modi*" "Cognitive impairment" "Dementia" "Physical impairment" "Disab*"
"Elderly"	AND	"Cognitive behav* therapy"	AND	Population and therapy term only "Adapt*" "Change" "Modi*" "Cognitive impairment" "Dementia" "Physical impairment" "Disab*"
"Geriatric"	AND	"Cognitive behav* therapy"	AND	Population and therapy term only "Adapt*" "Change" "Modi*" "Cognitive impairment" "Dementia" "Physical impairment" "Disab*"

Table 2
Pubmed search terms

Population term	Therapy term	Impairment/adaptation

"Older People"	AND	"Cognitive behaviour therapy" "cognitive behavior therapy" "cognitive behavioural therapy" "cognitive behavioral therapy"	AND	Population and therapy term only "adapt" "adapted" "change" "modified" "modify" "cognitive impairment" "dementia" "physical impairment" "Disability" "disabled"
"Older adult"	AND	"Cognitive behaviour therapy" "cognitive behavior therapy" "cognitive behavioural therapy" "cognitive behavioral therapy"	AND	Population and therapy term only "adapt" "adapted" "change" "modified" "modify" "cognitive impairment" "dementia" "physical impairment" "Disability" "disabled"
"Elderly"	AND	"Cognitive behaviour therapy" "cognitive behavior therapy" "cognitive behavioural therapy" "cognitive behavioral therapy"	AND	Population and therapy term only "adapt" "adapted" "change" "modified" "modify" "cognitive impairment" "dementia" "physical impairment" "Disability" "disabled"
"Geriatric"	AND	"Cognitive behaviour therapy" "cognitive behavior therapy" "cognitive behavioural therapy" "cognitive behavioral therapy""	AND	Population and therapy term only "adapt" "adapted" "change" "modified" "modify" "cognitive impairment" "dementia" "physical impairment" "Disability" "disabled"

Appendix B: Effect size calculation

Between group Cohen's d calculated by inserting the post-treatment means and standard deviations from each study into a online calculator http://www.socscistatistics.com/effectsize/Default3.aspx					
Study	Group one mean (sd)	Group two Mean (sd)	Equation	Effect size	Measure
Bourgault-Fagnou & Hadjistavropoulos (2013)				Between Standard CBT and Enhanced CBT: d = .40	Worry Index
Gorenstein et al (2005)	CBT: 63.4 (12.3)	MM: 62.6 (8.6)	(62.6-63.4)/10.612493	.08	State Trait Anxiety Inventory
Hendriks et al (2010)	CBT: 1.7 (0.9)	Paroxetine: 1.9 (0.7)	(1.9-1.7) / 0.806226	.25	Mobility Inventory Avoidance scale
Huang, Chung, Chen, Chin & Wang (2016)	CBT and Exercise: FES = 26.41 (6.42)	CBT: FES = 23.64 (9.72)	FES: (23.64 – 26.41)/ 8.236953	FES: 0.34	Fall Efficacy Scale*
Huang, Yang, Liu (2010)	CBT and Tai Chi: FES = 96.71 (14.95)	CBT: FES = 90.13 (16.85)	FES: (90.13 – 96.71)/15.928355	FES: .41	Fall Efficacy Scale*
Hui and Zhihui (2016)	CBT: 12.44 (5.85)	Control: 24.87 (12.54)	BAI: (24.87-12.44)/9.784531	1.27	BAI
Liu and Tsui (2014)	CBT and Tai Chi: 25.48 (4.06)	Tai Chi: 23.89 (3.92)	C-FES: (23.89 – 25.48)/3.990614	.40	Chinese Fall Efficacy Scale
Mohlman (2008)	CBT/APT: 30.75 (6.63)	CBT: 43.13 (6.55)	PSWQ: (43.13 – 30.75)/6.590121	1.88	Penn State Worry Questionnaire
Mohlman, Gorenstein, Kleber, de Jesus, Gorman and Papp (2003)	Study 1: CBT -.30 (.97) Study 2: ECBT -1.35 (1)	Study 1: WL .33 (1.04) Study 2: WL	Study 1: (0.33—0.3)/1.005609 Study 2: (1.65- -	Study 1: .63 Study 2: 1.19	Study 1: "Worry" Study 2: "Anxiety and Worry"

		1.65 (3.41)	1.35)/2.512777		
Mohlman and Gorman (2005)	CBT: Intact exec: 7.83 (6.09) Improved exec: 6.07 (4.33) Exec dys: 8.07 (4.78)	Wait list: 12.45 (9.61)	Intact exec: (12.45-7.83)/8.224847 Improved exec: (12.45 – 6.07)/7.647124 Exec dys: (12.45 – 8.07/7.77999	Intact: .56 Improved: .83 Execdys: .56	Beck Anxiety Inventory
Mohlman, Price and Vietri (2013)	CBT: 44.56 (9.12)	Waitlist: 61.46 (5.62)	PSWQ: (61.46 – 44.56)/ 7.574919	2.23	Penn State Worry Questionnaire
Schuurmans et al (2006).				CBT (Pre-Post) = .42 Sertraline (Pre-Post) = 0.94	Mean d for many measures (given in paper)
Stanley, Beck et al (2003)	CBT: 51.6 (10.19)	MCC: 61.8 (8.61)	(61.8 – 51.6)/9.433138	1.08	State Trait Anxiety Inventory - Trait
Stanley, Hopko et al (2003)	CBT-GAD: BAI: 9.2 (4.92)	Usual Care: BAI: 19.8 (14.00)	(19.8-9.2)/10.493007	1.01	Beck Anxiety Inventory
Stanley et al (2009)	CBT: 45.6 (8.9)	EUC: 54.4 (10.6)	(54.4 – 45.6)/9.786981	.90	Penn State Worry Questionnaire
Stanley et al (2011)	Peaceful mind: 11.9 (6.92)	Usual Care: 17.2 (9.89)	(17.2 – 11.9)/8.535177	0.62	Rating Anxiety in Dementia
Stanley et al (2014)	Professional Level Psychologist: 19.58 (7.53)	Usual Care: 22.91 (7.57)	Professional = (22.91 – 19.58)/7.550026	Professional= .44 Batchelor = .24	Penn State Worry Questionnaire -

	Batchelor Level psychologist: 20.92 (8.68)		Batchelor= (22.91 – 20.92) /8.143933 Between (20.92-19.58)/8.125371	Between groups= .16	abbreviated
Wetherell et al (2013)				Escitalopram and CBT vs No CBT: PSWQ: .6	Penn State Worry Questionnaire
Wetherell, Gatz and Craske (2003)	CBT: 12.9 (9.6)	Discussion group: 14.2 (10.4)	(14.2 – 12.9)/10.007997	.13	BAI
Zijlstra et al (2009)	CBT (MULTICOMPONENT) : 25.5 (9.7)	Control: 28.2 (10.8)	(28.2 – 25.5)/10.264745	.26	Concerns about falling
Areán et al (2005)	CBT and Case Management: 13.49 (11.36)	CBT: 13.28 (10.52)	(13.28-13.49)/10.948059	0.02	Hamilton Depression Rating Scale
Brody, Roch-Levecq, Kaplan, Moutier and Brown (2006)	Self management (CBT): 4.58 (2.42)	Control: 6.80 (2.96)	(6.8-4.58)/2.703516	.82	Geriatric depression scale-15
Ekkers et al (2011)	CBT: 15.28(6.9)	TAU: 18.48 (4.48)	(18.48-15.28)/5.817233	.55	Geriatric Depression Scale
Hyer, Yeager, Hilton and Sacks (2009)	CBT: 5 (3.5)	TAU: 10.5 (1.6)	(10.5-5)/2.721213	2.02	Geriatric Depression Scale-15
Konnert, Dobson and Stelmach (2009)	CBT: 10.11 (2.95)	TAU: 12.50 (2.58)	(12.5-10.11)/2.771182	.86	Geriatric Depression Scale
Laidlaw et al (2008)	CBT: 9.4 (8.56)	TAU: 13.25 (10.30)	(13.25-9.4)/9.470048	.41	Beck Depression Inventory
Lamers et al (2010)				.29	Beck Depressio

					n Inventory
McLaughlin and McFarland (2011)	Programme Group: 11.39 (7.1)	Control group: 10.58 (4.13)	(10.58-11.39)/5.80805	.14	Geriatric Depression Scale
Serfaty et al (2009)	CBT and TAU: 18.4 (10.8)	Talking Control and TAU: 20.2(9)	(20.2-18.4)/9.940825	0.181071	Beck Depression Inventory
Anderson, Wickramariyaratne and Blair (2016	CBT: GDS: 3.88 (1.36) GAI: 3.5 (3.63)	TAU: GDS: 6.78(3.80) GAI: 7.44 (5.79)	GDS: (6.78-3.88)/2.85391 GAI: (7.44 – 3.5)/4.832236	GDS: 1.02 GAI: .81	GDS-15, Geriatric Anxiety Inventory
Wuthrich and Rapee (2013)				Within condition: CBT: GDS- .98 GAI: .95 Waitlist: GDS: .15 GAI: .23	Geriatric Depression Scale, Geriatric Anxiety Scale
Wuthrich, Rapee, Kangas and Perini (2016)				Within condition d: CBT: GDS:1.13 GAI: .73 Discussion GDS: .78 GAI: .82	Geriatric depression scale. Geriatric anxiety scale

- *** Higher scores on the Fall Efficacy Scale indicate higher confidence. This is not the case for the Chinese Fall Efficacy Scale.**

Appendix C: Critical Appraisal Skills Programme Tool

11 questions to help you make sense of a trial

How to use this appraisal tool

Three broad issues need to be considered when appraising a randomised controlled trial study:

Are the results of the study valid?	(Section A)
What are the results?	(Section B)
Will the results help locally?	(Section C)

The 11 questions on the following pages are designed to help you think about these issues systematically. The first two questions are screening questions and can be answered quickly. If the answer to both is "yes", it is worth proceeding with the remaining questions.

There is some degree of overlap between the questions, you are asked to record a "yes", "no" or "can't tell" to most of the questions. A number of italicised prompts are given after each question. These are designed to remind you why the question is important. Record your reasons for your answers in the spaces provided.

These checklists were designed to be used as educational pedagogic tools, as part of a workshop setting, therefore we do not suggest a scoring system. The core CASP checklists (randomised controlled trial & systematic review) were based on JAMA 'Users' guides to the medical literature 1994 (adapted from Guyatt GH, Sackett DL, and Cook DJ), and piloted with health care practitioners.

For each new checklist a group of experts were assembled to develop and pilot the checklist and the workshop format with which it would be used. Over the years overall adjustments have been made to the format, but a recent survey of checklist users reiterated that the basic format continues to be useful and appropriate.

Referencing: we recommend using the Harvard style citation, i.e.:

Critical Appraisal Skills Programme (2017). CASP (insert name of checklist i.e. Randomised Controlled Trial) Checklist. [online] Available at: *URL*. Accessed: *Date Accessed.*

(A) Are the results of the trial valid?

Screening Questions

1. Did the trial address a clearly focused issue? ❒**Yes** ❒**Can't tell** ❒**No**

HINT: An issue can be 'focused' In terms of

- The population studied
- The intervention given
- The comparator given
- The outcomes considered

---

2. Was the assignment of patients to treatments ❒**Yes** ❒**Can't tell** ❒**No**
randomised?

HINT: Consider

- How was this carried out?
- Was the allocation sequence concealed from researchers and patients?

---

3. Were all of the patients who entered ❒**Yes** ❒**Can't tell** ❒ **No**
the trial properly accounted for at its conclusion?

HINT: Consider

- Was the trial stopped early?
- Were patients analysed in the groups to which they were randomised?

Is it worth continuing?

Detailed questions

4. Were patients, health workers and study personnel 'blind' to treatment? ❒**Yes** ❒**Can't tell** ❒**No**

HINT: Think about
- Patients?
- Health workers?
- Study personnel?

---

5. Were the groups similar at the start of the trial? ❒**Yes** ❒**Can't tell** ❒**No**

HINT: Look at
- Other factors that might affect the outcome such as age, sex, social class

---

6. Aside from the experimental intervention, were the groups treated equally? ❒**Yes** ❒**Can't tell** ❒**No**

(B) What are the results?

7. How large was the treatment effect?

HINT: Consider

- What outcomes were measured?
- Is the primary outcome clearly specified?
- What results were found for each outcome?

8. How precise was the estimate of the treatment effect?

HINT: Consider

- What are the confidence limits?

(C) Will the results help locally?

9. Can the results be applied in your context? ❒Yes ❒Can't tell ❒No (or to the local population?)

HINT: Consider whether

- Do you think that the patients covered by the trial are similar enough to the patients to whom you will apply this?, if not how to they differ?

10. Were all clinically important outcomes considered? ❒**Yes** ❒**Can't tell** ❒**No**

HINT: Consider

- Is there other information you would like to have seen?
- If not, does this affect the decision?

---

11. Are the benefits worth the harms and costs? ❒**Yes** ❒**Can't tell** ❒**No**

HINT: Consider

- Even if this is not addressed by the trial, what do you think?

Appendix D: Ethical approval

Downloaded: 09/05/2016
Approved: 09/05/2016
Glenn Waller
Psychology
Dear Glenn
PROJECT TITLE: What therapist and client characteristics influence the delivery of cognitive behavioural therapy to older adults?
APPLICATION: Reference Number 007840
On behalf of the University ethics reviewers who reviewed your project, I am pleased to inform you that on 09/05/2016 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 007840 (dated 06/05/2016).
Participant information sheet 1015718 version 2 (06/05/2016).
Participant consent form 1015719 version 2 (06/05/2016).
If during the course of the project you need to deviate significantly from the above-approved documentation please inform me since written approval will be required.
Yours sincerely
Thomas Webb
Ethics Administrator Psychology
(Note, this letter was copy and pasted from the original PDF).

Appendix E: Information Sheets

Version for online administration

Thank you for your interest in our study. We are investigating the factors that impact the delivery of routine cognitive behavioural therapy to older people. It is possible that in older adult services, in which there are legitimate reasons to adapt CBT for appropriate physical and cognitive impairments, that clinicians may decide to adapt routine CBT when there is no justifiable cause. This research aims to investigate whether intra-clinician factors impacts the routine delivery of CBT in an older adult population.

To take part in this research, you **must** be a clinician that has used a cognitive behavioural approach with older people (i.e., those referred to older adult services, whatever the local age cut-off)

All answered are confidential and the data will only be kept for the purpose of this research. All information will be anonymised, and individual responses will not be attributed to individual clinicians. If this questionnaire causes any professional concerns, please speak to a colleague. This research has been approved by the University of Sheffield's Department of Psychology Ethics Committee, and is supervised by Glenn Waller.

If you have any questions or concerns please contact me, Ian Asquith (iasquith1@sheffield.ac.uk) or Glenn Waller (g.waller@sheffield.ac.uk). If you have any further concerns, please contact the University of Sheffield's office of the Registrar and Secretary at 01142221101.

Full form

1. **Research Project Title:**

What therapist and client characteristics influence the delivery of cognitive behavioural

therapy to older adults?

2. **Invitation paragraph**

You have been invited to take part in an online research project. Before deciding whether or not to participate in this research, it is important that you are aware of what the research entails. Therefore, in order to help you decide whether or not to proceed, please read the below information carefully. Please do not hesitate to contact myself or my supervisor if any of the information is unclear. Thank you for reading this.

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

It has been found that individual characteristics of a clinician can impact the delivery of routine cognitive behavioural therapy in routine practice.

4. **Why have I been chosen?**

You have arrived at this survey after clicking a link which has been distributed via email through a number of channels, either by an organisation or via an individual, using a "snowball" method of recruitment.

5. Do I have to take part?

Participation is entirely voluntary. By not participating in this study you will not have any penalty or loss. You may also withdraw at any point in the study without penalty. You do not have to give a reason for this.

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

The research will take approximately (to be confirmed). You will be asked to complete some basic demographic information (such as age, gender, service type). Then, you will then be asked to provide an estimate regarding populations that you see within your service. This will then be followed by 10 brief case vignettes of clients presenting with anxiety, as well as Likert scales asking to what extent you may implement adaptations. This is then followed up by three pages of questionnaires, which will require a response through Likert scales. You will be expected to answer as honestly as possible during this questionnaire.

Following this, we will conduct analysis (including correlation and regression analysis) to assess the extent to which the variables we have measured are related.

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

As far as we are aware, there are no risks or disadvantages to taking part in this research project. However, if any problems do arise, I would encourage you to bring this to our attention.

8. What are the possible benefits of taking part?

Whilst there are no immediate benefits from participating, the research will hopefully contribute to the growing evidence base of therapist drift.

9. What if something goes wrong?

If you are unhappy with any part of this process and wish to make a complaint, you should contact Professor Glenn Waller to express your concerns. If after this process you do not feel that your complaint was handled in an appropriate way, you are entitled to take this to the University Registrar and Secretary.

10. Will my taking part in this project be kept confidential?

All information that we collect about you during the course of the research will be kept confidential. You will not be able to identified in the subsequent reports or publications. This is in accordance with the University of Sheffield guidance.

11. What type of information will be sought from me and why is the collection of this information relevant for achieving the research project's objectives?

Primarily, the responses to the questionnaires will give us information surrounding adaptations towards therapy, and intra-clinician characteristics that may be relevant to the likelihood of changing or adapting therapy. The demographic information is also used to give us an idea as to the context of some of the results (for example, proportion of clients seen within a service). However, as stated above this will be kept in the strictest of confidence.

12. What will happen to the results of the research project?

Primarily, the results from this research will be used as part of a third year dissertation project for the Doctorate in Clinical Psychology programme at the University of Sheffield. The results of this research are likely to be published, where you will be able to retrieve a copy.

13. Who is organising and funding the research?

This research is organised by the University of Sheffield.

14. Who has ethically reviewed the project?

The project has been ethically approved by the University of Sheffield centralised ethics review procedure.

15. Contact for further information

For further information, please do not hesitate to contact:

Ian Asquith (Trainee Clinical Psychologist)
Iasquith1@sheffield.ac.uk

Or

Professor Glenn Waller (Project Supervisor)
Address: Clinical Psychology Unit, University of Sheffield, Sheffield, S10 2TP.
Telephone: 0114 222 6568
Email: G.Waller@sheffield.ac.uk

Appendix F: Consent form

This is the way the consent form was written in Qualtrics.
Reading the above information, I agree that:
I understand that my participation in this research is entirely voluntary, and that I am able to withdraw my participation and consent at any point without consequence. If I wish to do so, I will email the researcher to request this, using the code that I give next.
O Yes
O No
The information that is collected during this study will be confidential
O Yes
O No
I agree to take part in this study
O Yes
O No

Appendix G: Power calculation

Power calculation (G-Power)
(Standard multiple regression)
Effect size $f^2 = 0.15$ (Medium)
Alpha error probability= 0.05
Power (1-beta error probability) = 0.8
Number of predictors= 8 (Optimism, anxiety, broken leg exceptions, client age, cognitive impairment, physical impairment, years post qualification, years working with older adults).
Total sample size= 109

Appendix H: Participant invitation

Hello,

I am a student on the clinical psychology training course at the University of Sheffield, and I am writing to invite you to participate in my final year project study entitled "What therapist and client characteristics influence the delivery of cognitive behavioural therapy to older adults?". If you wish to participate, please click on the below link.

(Link included here)

Furthermore, if you know of anyone else who may be interested in participating in this project, I would be grateful if you could share this email with them.

Kind Regards

Ian Asquith

Appendix I: Participant job title and service type

Job Title	Frequency
Applied Psychologist	1
Clinical Lead/Consultant Clinical Psychologist	1
Consultant clinical psychologist/head of specialty	1
Clinical Psychologist (one identfied working op)	29
Cognitive behavioural therapist	2
Consultant clinical psychologist	17
Highly specialist clinical psychologist	4
Principal Clinical Psychologist	5
Psychotherapist	1
Registered clinical psychologist	1
Specialist Psychotherapist	1
	63
Service type	
Acute Health	1
Ageless Mental Health Service	1
Cancer Charity	1
Tertiary Clinical psychology service for older people	1
Community Mental Health Team for Older People	14
Community Mental Health Team	5
CMHT/memory service/stroke service	1
CMHT/Inpatient	3
Community mental health team older people and memory service	3
Community memory clinic and later life therapy	1
Day hospital	1
IAPT	3
Independent Practice	1
Memory assessment service/memory clinic	4
Mental health, inpatient and diagnostic memory service	1
Mental health liaison team	1
Older adult mental health	3
Older adult psychology service	5
Older adults	2
Older adults secondary care	1
Older adults Specialist	1
Older people	1
Older people's CMHT and inpatient service	1
Older people's mental health service	1
Older people's CMHT, Inpatient and home treatment service	1
Older People's mental health multiple roles	1
Psychological therapies service for older people	1
Service break	1
Community dementia services	1
Specialist late life psychology service	1

Appendix J: Brief intolerance of uncertainty scale
IUS-12

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

Appendix K: Broken Leg Exception Scale

BLES

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: 1 = Very unlikely to exclude from exposure therapy based on this characteristic 2 = Somewhat unlikely to exclude from exposure therapy based on this characteristic 3 = Somewhat likely to exclude from exposure therapy based on this characteristic 4 = Very likely to exclude from exposure therapy based on this characteristic

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

17. The client has a non-terminal medical disease related to his or her anxiety symptoms.	1	2	3	4
18. The client has a non-terminal medical disease unrelated to his or her anxiety symptoms.	1	2	3	4
19. The client's feared situation(s) are difficult to recreate in real life.	1	2	3	4
20. The client has below average intelligence.	1	2	3	4
21. The client has poor insight into the irrational nature of his or her fear(s).	1	2	3	4
22. Conducting exposures to the client's feared stimuli would require leaving the office.	1	2	3	4
23. The client prefers non-directive psychotherapy.	1	2	3	4
24. The client's fears have religious themes.	1	2	3	4
25. The client is afraid of harming oneself and/or others	1	2	3	4

Appendix L: Life Orientation Test-Revised

Please be as honest and accurate as you can throughout. Try not to let your response to one statement influence your responses to other statements. There are no "correct" or "incorrect" answers. Answer according to your own feelings, rather than how you think "most people" would answer.

	I disagree a lot	I disagree a little	I neither agree nor disagree	I agree a little	I agree a lot
1. In uncertain times, I usually expect the best	0	1	2	3	4
2. It's easy for me to relax (f)	0	1	2	3	4
3. If something can go wrong for me, it will. *	0	1	2	3	4
4. I'm always optimistic about my future	0	1	2	3	4
5. I enjoy my friends a lot (f)	0	1	2	3	4
6. It is important for me to keep busy (f)	0	1	2	3	4
7. I hardly ever expect things to go my way*	0	1	2	3	4
8. I don't get upset too easily (f)	0	1	2	3	4
9. I rarely count on good things happening to me. *	0	1	2	3	4
10. Overall, I expect more good things to happen to me than bad.	0	1	2	3	4

- * denotes reverse scoring. (f) denotes filler item.

Appendix M: Vignettes

1. Brenda is a 72 year old lady presenting at psychological services for a first episode of anxiety. Brenda has found herself worrying about her memory and the possibility that her health is failing. However, subsequent investigations found no evidence of cognitive impairment or physical problems.
2. Michael is an 89 year old gentleman who presented at services with excessive anxiety. He describes worries about his family, particularly surrounding his grandchildren and great grandchildren, and has begun to constantly phone them to see if they are okay.
3. Gerald is a 97 year old gentleman whom has recently developed a fear of falling. Whilst it has been recognised by the doctors that he does have arthritis in one of his knees, with the exception of taking time to walk to places, they have no concerns about his current mobility.
4. Thomas is a 68 year old who has anxiety about his developing a dementia. He was diagnosed with mild cognitive impairment in 2015, however since then he has become overcautious about his memory deficits and is constantly asking people to remind him of things, even though he is able to remember many things himself.
5. Jenny is an 80 year old lady who presented at services with obsessive compulsive disorder. She has found that she is increasingly having unwanted thoughts about her family coming to harm if her home is in disorder, so as a result spends enormous amounts of time cleaning and ensuring order within her home.
6. Roberta is a 70 year old lady presenting with generalised anxiety disorder. Roberta often finds herself ruminating about possible negative events regarding her family and friends, and has found that she is taking extra care with tasks to ensure they are completed correctly.
7. Penelope is a 92 year old lady who presented at services with memory difficulties. Although cognitive testing showed some deficits in memory, it was felt that she showed more signs of anxiety about her advancing age after the death of several of her friends.
8. Hubert is a 85 year old man whom recently has become fearful of leaving the home. After his back pain became worst and he began to struggle moving, Hubert has preferred to stay at home and watch TV, as he fears he if he goes outside he may embarrass himself in front of his friends.
9. Morris is a 69 year old man presenting at services for the first time. He has always been socially involved and until recently was the secretary of the local working men's club, however since he can now only get there in a wheelchair, he has shown increasing anxiety about going out in public.
10. Glenda is a 72 year old lady with an early diagnosis of vascular dementia. As her memory deficits developed, Glenda has increasingly worried that she is "forgetting to do something", despite reassurance from her husband that all of her normal tasks are complete.

Appendix N: Vignette scoring

	Very unlikely to implement this	**Unlikely to implement this**	**A little likely to implement this**	**Likely to implement this**	**Very likely to implement this**
Reduce or remove cognitive elements of therapy	**1**	**2**	**3**	**4**	**5**
Reduce or remove behavioural elements of therapy	**1**	**2**	**3**	**4**	**5**
Consider bring a family member into therapy	**1**	**2**	**3**	**4**	**5**
Consider using age appropriate cognitive techniques (e.g. timeline)	**1**	**2**	**3**	**4**	**5**
Consider using memory aids	**1**	**2**	**3**	**4**	**5**
Consider slowing or repeating information	**1**	**2**	**3**	**4**	**5**
Consider changing the length of sessions	**1**	**2**	**3**	**4**	**5**
Consider using formulation enhanced with age appropriate factors	**1**	**2**	**3**	**4**	**5**
Consider challenging myths about aging	**1**	**2**	**3**	**4**	**5**
Consider providing the intervention to carer only	**1**	**2**	**3**	**4**	**5**
Complete routine CBT	**1**	**2**	**3**	**4**	**5**

1. Reduce or remove cognitive elements of the therapy (Exception)
2. Reduce or remove behavioural elements of the therapy (Exception)
3. Consider bringing a family member into the therapy (Adaptation)
4. Consider using gerontological enhancements (e.g. timelines) (Adaptation)
5. Consider using memory aids (Adaptation)
6. Consider slowing or repeating information (Adaptation)(Adaptation)
7. Consider changing the length of session (adaptation or exception)
8. Consider using formulation based on age appropriate factors (adaptation)
9. Consider challenging myths about the aging process (adaptation)
10. Consider providing the intervention to the carer only (exception)
11. Complete routine CBT

Potential change to therapy	No impairment	Physical impairment	Cognitive impairment
Reduce or remove cognitive elements of therapy			x
Reduce or remove behavioural elements of therapy			
Consider bring a family member into therapy			x
Consider using gerontological enhancement (e.g. timeline)	x	x	x
Consider using memory aids			X
Consider slowing or repeating information			x
Consider changing the length of sessions		x	
Consider using formulation enhanced with age appropriate factors	x	x	X
Consider challenging myths about aging	X	X	x
Consider providing the intervention to carer only			
Complete routine CBT	x	x	x

Note: an x in the box indicates that it would be acceptable to implement the change to routine CBT.