

**An exploration of psychological interventions for suicide
in people experiencing psychosis**

A thesis submitted to the University of Manchester for the degree of Doctor of Clinical Psychology
in the Faculty of Biology, Medicine and Mental Health.

2020

Jody M. Quigley

Division of Psychology and Mental Health
School of Health Sciences

Contents

List of appendices	3
List of tables	3
List of figures	3
Abstract	4
Declaration	5
Copyright statement	6
Acknowledgements	7
Paper 1: Systematic review	8
1. Abstract	9
2. Background	10
3. Methods	12
3.1 Inclusion/exclusion criteria	12
3.2 Operational definitions	12
3.3 Search strategy	13
3.4 Assessment of methodological quality and risk of bias	13
3.5 Data extraction	14
3.6 Data synthesis	14
4. Results	14
4.1 Search results	14
4.2 Characteristics of included studies	14
4.2.1 Part A: RCTs reporting on suicide-related outcomes using standardised outcome measures	15
4.2.2 Part B: Studies without suicide-related outcome measures, reporting suicides as SAEs and reason for drop-out	21
4.3 Methodological quality and risk of bias	21
4.4 Effects of the interventions	21
4.4.1 Part A: RCTs reporting on suicide-related outcomes using standardised outcome measures	21
4.4.2 Part B: Studies without suicide-related outcome measures, reporting suicides as SAEs and reason for drop-out	24
5. Discussion	24
5.1 Strengths and limitations	27
5.2 Clinical implications and future research	28
6. Conclusion	29
7. References	30
Paper 2: Empirical paper	38
1. Abstract	39
2. Introduction	40

3. Methods	43
3.1 Approvals	43
3.2 Design	44
3.3 Participants	44
3.3.1 Patients	44
3.3.2 Therapists	45
3.4 Procedure	45
3.4.1. Part 1: Development of the adapted coding manual	45
3.4.2. Part 2: Application of the adapted coding manual	46
3.5 Analysis	46
4. Results	46
4.1 Part 1: Development of the adapted coding manual	46
4.1.1 Coding decisions	47
4.1.2 Patient cues/concerns	48
4.1.3 Therapist responses	49
4.2 Part 2: Application of the adapted coding manual	50
4.2.1 Patient cues/concerns	52
4.2.2 Therapist responses	55
5. Discussion	59
5.1 Strengths and limitations	62
5.2 Clinical implications and recommendations	63
6. Conclusion	64
7. References	65
Paper 3: Reflective paper	72
1. Introduction	73
2. Paper 1: Systematic review	73
2.1 Rationale for topic	73
2.2 Search strategy	74
2.3 Inclusion/exclusion criteria	75
2.4 Assessment of methodological quality and risk of bias	76
2.5 Analysis	77
2.6 Summary and implications	77
3. Paper 2: Empirical paper	79
3.1 Rationale for topic	79
3.2 Rationale for methodology	80
3.3 Part 1: Development of the adapted coding manual	81
3.4 Part 2: Application of the adapted coding manual	83
3.5 Summary and implications	83
4. Dissemination	85
4. References	86

Appendices

Appendix A – Author guidelines for Psychotherapy Research.....	92
Appendix B – Adapted tool for assessment of methodological quality and risk of bias	97
Appendix C – Table illustrating participant and recording selection process	112
Appendix D – Adapted coding manual	113

Tables

Table 1 – Summary information from included papers.....	16
Table 2 – Methodological quality/ risk of bias ratings	22
Table 3 – Coding framework for patient cues/concerns	48
Table 4 – Categories of providing space responses	49
Table 5 – Categories of reducing space responses	50
Table 6 – Patient characteristics.....	51
Table 7 – Frequency of cues/concerns and their source of elicitation	52
Table 8 – Frequency of providing/reducing space response to patient cues/concerns	56

Figures

Figure 1 – Flow diagram of search results	15
Figure 2 – Coding pathways for patient expressions and therapist responses.....	47
Figure 3 – Mean cues/concerns expressed by each patient, per session	53
Figure 4 – Mean cues/concerns expressed per session, collapsed across all patients.....	53
Figure 5 – Mean cues/concerns expressed in each section of session, collapsed across all sessions	54
Figure 6 – Mean cues/concerns expressed within sessions with each therapist.....	55
Figure 7 – Proportions (and means) of patient- and therapist-elicited cues/concerns expressed with each therapist.....	55
Figure 8 – Proportions (and means) of providing/reducing space responses offered per session, by each therapist	56
Figure 9 – Proportions (and means) of providing/reducing space responses offered per session, collapsed across therapists	57
Figure 10 – Proportions (and means) of providing/reducing space responses offered in each section of session, collapsed across therapists.....	57
Figure 11 – Proportions of each category of opening space responses offered by each therapist	58
Figure 12 – Proportion of each type of category of reducing space responses offered by each therapist	58

Word counts (excluding title pages and references)

Paper 1:	9,383
Paper 2:	9,676
Paper 3:	6,533
Total:	25,592

Abstract

The current thesis explores psychological interventions for suicide in people who experience psychosis, and is presented as three separate papers: 1) a systematic literature review; 2) an empirical paper; and 3) a critical appraisal of the research process.

Paper 1 systematically reviews the literature examining the impact of psychological interventions on suicidal experiences in people experiencing psychosis. Research within this specific population was relatively sparse, with only eight studies reporting on suicide-related outcomes as measured by standardised tools, and nine reporting on suicide-related serious adverse events (SAEs) only. Findings suggested that psychological interventions may be effective in reducing suicidal thoughts and behaviours in people experiencing psychosis. However, it was difficult to draw firm conclusions around factors influencing intervention effectiveness or maintenance of improvements over time, due to a diverse array of methodological designs, samples, measurement and reporting. Future research into interventions for suicidal thoughts and behaviours in this population should target psychosis-specific underlying mechanisms. Improvements in the consistency of both methodology and reporting are necessary, including more thorough measurement and reporting of SAEs.

Paper 2 reports on an empirical study exploring how suicide-related content was discussed within psychological therapy sessions for people experiencing psychosis. The study had two parts: 1) the methodological adaptation of the Verona Coding Definitions of Emotional Sequences (VR-CoDES) for use within a psychotherapeutic context; and 2) the application of the adapted VR-CoDES to the examination of how suicide-related content is discussed in psychological therapy sessions. A pilot set of five audio-recordings of psychological therapy sessions to prevent suicide amongst people experiencing psychosis were used to adapt the VR-CoDES manual for the current context and content. Thirty-seven recordings for eight therapy participants were then coded using the adapted manual, and patterns were explored around how individuals communicated suicide-related content, and how therapists responded to those communications. The findings revealed that it was possible to adapt VR-CoDES for use in a psychotherapeutic context, and that such adaptation provided useful insights into how "suicide talk" is managed within psychological therapy.

Paper 3 provides a critical appraisal of the findings of Papers 1 and 2 within the context of the wider literature. The rationale for selected topics and methods is discussed, the research process is reflected upon, and the implications of the findings for both clinical practice and future research are considered.

Declaration

No portion of the work referred to in this thesis has been submitted in support of an application for another degree or qualification of this or any other university or other institute of learning.

Copyright statement

- i. The author of this thesis (including any appendices and/or schedules to this thesis) owns certain copyright or related rights in it (the "Copyright") and s/he has given The University of Manchester certain rights to use such Copyright, including for administrative purposes.
- ii. Copies of this thesis, either in full or in extracts and whether in hard or electronic copy, may be made only in accordance with the Copyright, Designs and Patents Act 1988 (as amended) and regulations issued under it or, where appropriate, in accordance with licensing agreements which the University has from time to time. This page must form part of any such copies made.
- iii. The ownership of certain Copyright, patents, designs, trademarks and other intellectual property (the "Intellectual Property") and any reproductions of copyright works in the thesis, for example graphs and tables ("Reproductions"), which may be described in this thesis, may not be owned by the author and may be owned by third parties. Such Intellectual Property and Reproductions cannot and must not be made available for use without the prior written permission of the owner(s) of the relevant Intellectual Property and/or Reproductions.
- iv. Further information on the conditions under which disclosure, publication and commercialisation of this thesis, the Copyright and any Intellectual Property and/or Reproductions described in it may take place is available in the University IP Policy (see <http://documents.manchester.ac.uk/DocuInfo.aspx?DocID=24420>), in any relevant Thesis restriction declarations deposited in the University Library, The University Library's regulations (see <http://www.library.manchester.ac.uk/about/regulations/>) and in The University's policy on Presentation of Theses.

Acknowledgements

Firstly, I would like to thank the participants of the CARMS trial who consented to me accessing their data. Without their generous contribution it would not have been possible for me to complete this work. Thanks too to the CLG members who contributed to the design of the study.

I would also like to thank my research supervisors, Dan Pratt and Trish Gooding, for sharing their knowledge and advice throughout the course of this work, and my clinical tutor, Lara Bennett, for her kindness and support. Thanks too to Sarah Peters for her methodological advice, and to Charlotte Huggett for her help with independent reviewing.

Thank you to my friends and colleagues from my cohort for sharing this journey with me, and particular thanks to Dany, Stephen, and the Wine Friday gang, whose emotional support and valuable assistance with putting the world to rights has kept me on track on more than one occasion.

Finally, a massive thank you to my fiancé Andy, who has stoically held me up when I have been close to collapse, and kept me in a constant supply of tea, snacks and wine! No more doctorates, I promise!

Paper 1:

The impact of psychological interventions on suicide-related experiences in people experiencing psychosis: A systematic narrative review

Quigley, Jody^{1,2}, Gooding, Patricia^{1,2} & Pratt, Daniel^{1,2,3}

¹Division of Psychology and Mental Health, University of Manchester, UK.

²Greater Manchester Mental Health NHS Foundation Trust, UK.

³Manchester Academic Health Science Centre (MAHSC), Manchester, UK.

Word count: 12,545 (complete text), 205 (abstract),
6,954 (main text excluding tables, figures and references).

The following paper has been prepared for submission to Psychotherapy Research. Author guidelines can be found in Appendix A. Please note, there have been deviations from the guidelines in this version to ensure adherence to thesis submission requirements.

1. Abstract

Suicidal thoughts and behaviours are elevated in people experiencing psychosis, compared with the general population or people with other mental health difficulties. Risk and protective factors for suicidal thoughts and behaviours have both transdiagnostic and psychosis-specific factors, suggesting that suicidality may be somewhat different in nature in people experiencing psychosis. However, there is a relative dearth of research into the impact of psychological interventions on suicide-related outcomes in this group, specifically. Therefore, the current review aimed to explore the impact of psychological interventions on suicidal behaviour and ideation in people experiencing psychosis. Seventeen quantitative papers were identified for review; eight examining suicidal thoughts or behaviours as measured outcomes, and nine as serious adverse events (SAEs) only. Results showed that overall, psychological interventions may be effective in reducing suicidal ideation and behaviour in people experiencing psychosis, but the relative dearth of research, and the diversity in methodological designs, samples, outcome measurement and reporting, meant that the factors which influence intervention effectiveness and maintenance of any improvements remain unclear. Future research should aim to improve consistency of measurement and reporting of both measured outcome variables and SAEs. Novel interventions should aim to target the specific psychological mechanisms which underlie suicidal ideation and behaviours in people experiencing psychosis.

Keywords: Suicide, suicidal ideation, psychosis, psychological intervention, psychological therapy.

2. Background

Suicide accounts for approximately 1.4% of deaths worldwide, with 800,000 people dying by suicide annually (WHO, 2018). The prevention of suicide is therefore a major public health issue. People experiencing mental health difficulties are at an especially high risk of suicide, particularly those experiencing psychosis (Hawton & van Heeringen, 2009). A meta-analysis examining the risk of suicidal thoughts, attempts and deaths in people experiencing psychosis reported odds ratios of 2.39, 3.15, and 4.39 respectively (Yates, Lang, Cederlof, Boland, Taylor et al. 2018), indicating that this group are at a much higher risk than other groups. Evidence indicates that although many of the risk factors for suicide in people experiencing psychosis are similar to those of the general population (e.g., history of suicidal behaviour, low mood, relationship difficulties), some features may be specific to this population. For example, being married or cohabiting may not play the same protective role against suicide in people experiencing psychosis as it does in the general population, whilst alcohol use may not increase risk as it does within the general population (Bolton, Gooding, Kapur, Barrowclough & Tarrier, 2007; Hawton, Sutton, Haw, Sinclair & Deeks, 2005). Furthermore, whilst specific psychotic experiences may not necessarily be associated with an increased risk of dying by suicide, fear of “mental disintegration” may be, and hallucinatory experiences may even be associated with a decrease in risk (Hawton et al., 2005). With respect to suicidal ideation, negative illness perceptions and distress around hallucinations and delusions may be associated with an increased risk (Fialko, Freeman, Bebbington, Kuipers, Garety et al., 2006). These psychosis-specific patterns suggest that suicidal experiences within the context of psychosis may be somewhat different in terms of triggering and maintenance factors, compared to suicidal experiences in the general population.

Whilst antipsychotic medication appears to offer some benefit in alleviating acute psychotic experiences, short-duration psychosis, and first episodes of psychosis, the evidence for longer-term benefits is mixed, with some findings indicating long-term medication use may even have detrimental effects on physical, cognitive and neurological health (Haddad & Correll, 2018; Solmi, Murru, Pacchiarotti, Undurraga, Veronese et al., 2017). In particular, the evidence around whether antipsychotic medication is effective in reducing suicidal thoughts and behaviours, especially when used as the sole method of intervention, remains unclear and somewhat controversial (Aguilar & Siris, 2007; Pompili, Baldessarini, Forte, Erbutto, Serafini et al., 2016). Conversely, psychological interventions, such as psychologically-informed talking therapies, seek to understand both transdiagnostic and presentation-specific factors in the pathways to psychological distress, and may support people in the longer-term development of strategies for managing their difficulties and improving their wellbeing, either alone or in conjunction with medication (Johnson, Gooding & Tarrier, 2008; Morrison, 2019; Tarrier, Taylor & Gooding, 2008).

Many studies have examined the impact of psychological interventions on psychotic experiences (Anagnostopoulou, Kyriakopoulos & Alba, 2019; Bighelli, Salanti, Huhn, Schneider-Thoma, Krause et al., 2018; Lutgens, Garipey & Malla, 2017), and on suicidal thoughts and behaviours (Calati & Courtet, 2016; Meerwijk, Parekh, Oquendo, Allen, Franck & Lee, 2016), separately. However, it is unclear whether interventions that have been developed for psychosis

(with or without suicide risk) have any direct impact upon suicidal outcomes, or whether interventions developed to address suicidality (with or without psychosis) are efficacious for people experiencing both psychosis and suicidality. A review of trials focusing on suicide-related outcomes found that 61.5% of trials excluded people experiencing psychosis, so the impact of such interventions on this group is largely unknown (Villa, Ehret & Depp, 2019). Studies which have examined suicidal experiences specifically within the context of psychosis have indicated that there may be mechanisms underlying suicidal ideation which are specific to this group, such as feelings of defeat and entrapment around living with psychosis (e.g., Bornheimer, 2016; Johnson et al., 2008; Taylor, Gooding, Wood, Johnson, Pratt & Tarrier, 2010). It is therefore important to understand whether existing interventions are effective in reducing suicidal experiences in this group, or whether more specific interventions are required which target the intersections between psychosis and suicidal experiences.

One review attempted to establish whether psychological interventions reduce suicidal behaviour in people experiencing psychosis (Donker, Calear, Busby Grant, Van Spijker, Fenton et al., 2013). Findings suggested that they may do, but it was unclear whether there was any effect beyond that of the control condition/treatment as usual. Two key limitations to this review have been identified. First, the search terms used were very limited (e.g., no synonyms for either psychosis or therapy were searched for), so it is possible that relevant papers were missed. Indeed, a preliminary search identified several relevant papers which were excluded, the reasons for which are unclear. Second, the interventions delivered in a number of the papers reviewed were not purely psychological in nature, rendering it difficult to attribute any effects of the intervention to their psychological components. For instance, the intervention condition reported by one of the studies (Grawe, Falloon, Widen & Skogvol, 2006) comprised family psychoeducation and crisis management alongside psychological therapy, so any observed effects could have resulted from any one or combination of those components. Further, the publication of studies on psychological interventions for psychosis has steadily increased in recent years, so the evidence base may have grown since the Donker et al. (2013) review was published. As such, an updated review is warranted.

Hence, the gap in the literature concerning the extent to which psychological interventions are efficacious in people with both psychotic and suicidal experiences remains unexplored using a rigorous review methodology. Redressing this gap is necessary because psychological interventions may need to address both transdiagnostic and psychosis-specific mechanisms. Without a rigorous approach to synthesising the literature, the effects of such therapies cannot be evaluated in a way that impacts the improvement of therapeutic approaches. Therefore, the current systematic review aimed to provide a synthesis of the available evidence on the impact of psychological interventions on suicide-related experiences in people experiencing psychosis.

3. Methods

3.1 Inclusion/exclusion criteria

Papers were included for review if they a) were published in peer-reviewed journals; b) were written in the English language; c) sampled people who were currently experiencing or had ever experienced any form of psychosis d) examined delivery of a recognisable psychological intervention to individuals experiencing psychosis; and e) reported quantitatively on a suicide-related outcome, as defined below¹. The inclusion criterion for experiencing psychosis (criterion c) was deliberately broad in recognition of the diversity of samples used in relevant studies and to maximise the potential for inclusion. Study samples were considered to be experiencing/ have experienced psychosis if a) they had received formal ICD or DSM diagnosis of either schizophrenia, schizophrenia spectrum disorder, psychosis, psychotic disorder, schizoaffective disorder, schizophreniform disorder, or schizotypal disorder; b) they self-reported or were otherwise described as experiencing positive and/or negative “symptoms” of psychosis; or c) they were accessing healthcare services specifically for psychosis.

Papers were excluded if a) no quantitative results were reported pertaining to suicidal experiences; b) interventions had a primarily physical focus (e.g., acupuncture, massage); c) interventions included components from other domains (e.g., medication, occupational therapy), unless these were kept uniform across comparison groups; d) interventions targeted families or professional teams, as opposed to individuals experiencing psychosis themselves; or e) changes were made to other aspects of care during the course of the study (e.g., medication dosage). Reviews, position papers and dissertations/theses were also excluded.

3.2 Operational definitions

A *psychological intervention* was defined as any intervention, “treatment” or therapy that: a) used specific psychological principles, skills or techniques, which were b) aimed at reducing psychological distress or enhancing well-being, c) through modification of motivational, emotional, cognitive, behavioural, and/or interpersonal processes. This definition was based on a combination of pre-existing definitions (Chiles, Lambert & Hatch, 1999; Frederiksen, Farver-Vestergaard, Skovgaard, Ingerslev & Zachariae, 2015; Linde, Sigterman, Kriston, Rucker, Jamil et al, 2015; Tesson, Butow, Sholler, Sharpe, Kovacs & Kasparian, 2019).

Suicide-related outcomes were defined as thoughts, urges, plans, attempts or indeed deaths that were explicitly reported or believed to have occurred with suicidal intent. For simplicity and clarity, papers focusing on non-suicidal self-harm, or self-harm with unknown intent, were excluded². Suicidal experiences could have been measured as a primary or secondary outcome by the eligible study, and any measurement of suicide-related outcomes was permissible. For example, standardised measures (full or partial use), clinical interviews, official medical records or reports, and self- or informant-reports were all eligible for inclusion. In addition, papers reporting

¹ It was originally intended that all papers would be included, regardless of methodology (e.g., qualitative studies, case reports etc.). However, only one qualitative paper and two case reports were identified, and it was not felt that their potential contribution to the findings of the review warranted their inclusion.

² This decision is explained and reflected upon in Paper 3.

on suicide-related serious adverse events (SAEs) as part of a trial were also included, provided events were reported by trial arm.

3.3 Search strategy

PsycINFO, MEDLINE, EMBASE and the British Nursing Index were searched in May 2019 and updated in April 2020 (all dates), using the following terms: [suicide OR suicidal OR suicidality or suicid*] (full text) AND [psychos* OR psychot* OR schizo*] (titles or abstracts) AND [intervention OR therap* OR psychotherap*] (titles or abstracts). Titles and abstracts were screened for eligibility and potentially relevant full texts were obtained and examined against inclusion/exclusion criteria. Reference sections of potentially relevant papers (as well as relevant reviews) identified by title/abstract screening were also hand-searched. Eligibility for inclusion of a random sample of 20% (n=14) of all full texts was also examined by a second independent researcher to assess interrater reliability. A kappa score of 1.0 was achieved.

3.4 Assessment of methodological quality and risk of bias

The Cochrane Risk of Bias tool (RoB; Higgins, Altmanm, Gotzsche, Juni, Oxman et al., 2011; Sterne, Savovic, Page, Elbers, Blencowe et al., 2019) is widely considered one of the most robust quality assessment tools for quantitative papers (Zeng, Zhang, Kwong, Zhang, Li et al., 2015), and with adaptation, may be particularly useful in assessing psychological intervention research (Munder & Barth, 2018). An adapted version of the RoB was therefore developed, with individual items amended, where appropriate, to correspond with the different types of studies included in this review (see Appendix B). The methodological quality/ risk of bias of a random sample of 20% of eligible papers (n=3) was also assessed by a second researcher, and a kappa score of 0.55 (moderate agreement) was initially achieved. Discrepancies tended to occur where one researcher rated an absence of a particular feature as evidence that it was not present, whilst the other rated such items as lacking sufficient information to assess. Discussions clarifying which approach should be taken brought the kappa up to 1.0.

The adapted RoB tool assessed methodological quality across seven potential domains, namely, risk of bias from the randomisation process (randomised studies only), risk of bias due to deviations from the intended intervention (controlled studies only), risk of bias due to missing outcome data (all studies), risk of bias in measurement of the outcome (controlled studies only), risk of bias in selection of the reported results (studies with outcome analyses only), risk of bias related to control group (non-randomised studies only), and risk of bias related to reporting of SAEs (all studies). Studies were given a rating of low risk (1-point), medium risk (2-points), or high risk (3-points) for each relevant domain, as determined by the adapted RoB tool's decision flowcharts (Higgins et al., 2011; Sterne et al., 2019; see Appendix B). Overall summary percentages were calculated for comparison purposes, from scores in applicable domains. Higher percentages indicated higher risk of bias. An overall rating of less than 50% was considered low risk, 50-64% was considered medium risk, and above 65% was considered high risk of bias.

3.5 Data extraction

The following information was extracted from each included paper where available: study characteristics (location, setting, design), participant characteristics (age, sex, psychiatric diagnosis), intervention characteristics (type, length, form of delivery, allocation), suicide outcome (measurement, type), and results (description of relevant findings).

3.6 Data synthesis

Included studies were diverse with respect to characteristics of both samples and interventions, the specific outcomes examined, and methods of outcome measurement and reporting. As such, meta-analysis was deemed unfeasible (Boland, Cherry & Dickson, 2014; Impellizzeri & Bizzini, 2012), and a narrative synthesis was undertaken. Included studies were examined for their similarities and differences with reference to study design, sample characteristics, intervention characteristics, outcome measurement, and methodological quality. Studies were grouped by methodological design and outcome reporting.

4. Results

4.1 Search results

A total of 14,179 titles and abstracts were examined, of which 54 full text papers were obtained for further scrutiny, in addition to a further 18 papers identified through other sources (e.g., hand searching reference sections of relevant review papers). Following the screening of full texts, 15 papers were deemed eligible for inclusion from the original search, plus a further two from additional sources. Figure 1 illustrates the results of the search process. Reasons for exclusion included interventions which were mixed (i.e., such that the specific effect of any psychological component could not be assessed), samples which were mixed (i.e., including people with presentations other than psychosis) and a lack of reporting on suicide-related outcomes or SAEs.

4.2 Characteristics of included studies

Summary information from the 17 included papers is illustrated in Table 1. A total of 1,911 (different) people participated in 16 different trials³, based in five different countries (nine in the UK, two each in the US, Australia and Germany, and one in the Netherlands). Of the 14 studies from which the information could be extracted⁴, the overall mean age of participants across the samples was 41.1 years (n=13) and 67.4% were male. Samples were recruited from a range of settings, including community mental health services (n=5), psychiatric inpatient services (n=3), psychiatric outpatient services (n=3), early intervention services (n=2), assertive outreach services (n=1), secondary care mental health services (n=2), unspecified clinical or mental health

³ As Kuipers et al. (1998) reported on the follow-up to Kuipers et al. (1997), samples included some of the same participants.

⁴ Kuipers et al. (1997) and Kuipers et al. (1997) used the same population, Power et al. (2003) and Morrison et al. (2014) did not report demographics, and Tarrrier et al. (2006) reported median age only.

services (n=3), and a hospital database (n=1). Three studies recruited from multiple settings (Kuipers et al., 1997; Kuipers et al., 1998; Tarrrier et al., 2014).

Types of psychological intervention examined included cognitive or cognitive-behavioural interventions (n=14)⁵, telehealth psychoeducational programs (n=2), and combined trauma-focused therapy (n=1). Interventions were delivered by psychologists (n=8), nurses (n=4), CBT therapists (n=1), psychological therapists (n=1), psychiatrists (n=1) and unspecified therapists (n=3)⁶. One intervention was delivered online (Ruegg et al., 2018), and two were delivered by phone (Kasckow et al., 2015; Kasckow et al., 2016).

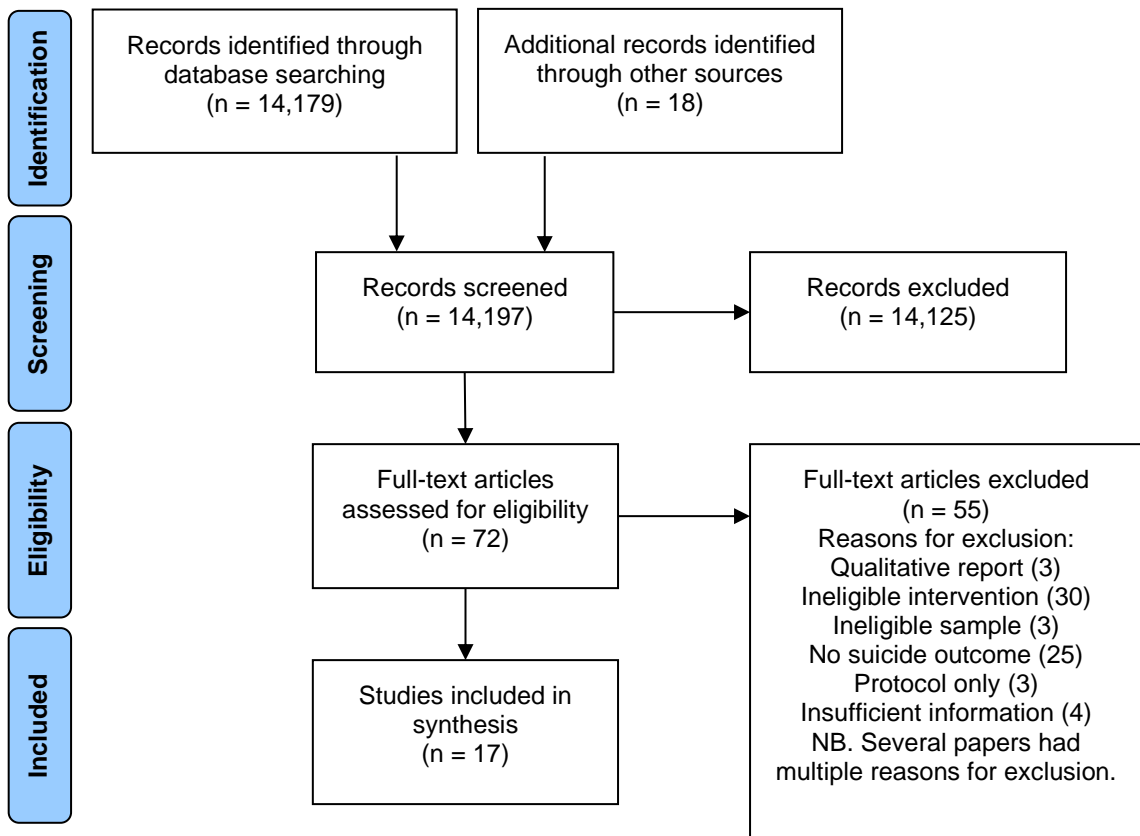


Figure 1: Flow diagram of search results (based on Moher, Liberati, Tetzlaff & Altman, 2009).

4.2.1 Part A: RCTs reporting on suicide-related outcomes using standardised outcome measures.

Eight studies measured suicidal experiences using a standardised measure, as a primary or secondary outcome. Five of these studies were randomised controlled trials (RCTs; Bateman et al., 2007; Kasckow et al., 2015; Peters et al., 2010; Power et al., 2003; Tarrrier et al., 2014), one reported only on the follow-up stage of an RCT (Tarrrier et al., 2006), and two were pilot RCTs (Kasckow et al., 2016; Sheaves et al., 2019). Suicidal experiences measured included suicidal ideation (n=8), suicide attempts (n=2), suicide probability (n=1) and suicidal plans and

⁵ Kuipers et al. (1998) was a follow-up of Kuipers et al. (1998), so examined the same CBT intervention.

⁶ Tarrrier et al. (2006) and Morrison et al. (2014) had psychological interventions delivered by more than 1 type of professional.

Table 1: Summary information from included papers.

Paper	Location/ setting	Design	Sample	Allocation	Intervention	Suicide outcome	Findings	Risk of bias rating
Part A: RCTs reporting on suicide-related outcomes using standardised outcome measures.								
Bateman et al. (2007)	London and North West England, UK – 5 Unspecified “clinical services”.	RCT.	N=90. Mean age 39 (CI= 37-42); 59% male; all met DCM4/ICD10 criteria for schz; positive “symptoms” described as “resistant to medication”.	Randomisation to CBT (n=46) or befriending (n=44).	Both groups: 45 mins per week for first 2 months, then less frequently (up to 9 months), delivered by same unspecified “therapist”.	SI measured by item 7 on CPRS, at baseline, post-intervention and 9-month f/u.	Reduction in SI in both groups post-int and at 9-month f/u but only significant in CBT group. Significant difference between groups at post-int and f/u (in favour of CBT).	50%
Kasckow et al. (2015)	Pittsburgh, US – Community mental health services.	RCT.	N=25. Mean age 52.5 (SD=12.9); all male; all diagnoses of schz or schz-aff; recent SI.	Randomisation to Health Buddy with TAU (n=15) or TAU alone (n=10).	Health Buddy: daily telehealth monitoring and psychoeducation for 12 weeks, delivered by nurses.	SI measured by BSSI score, at 2, 4, 8 and 12 weeks.	No significant difference in SI between groups at any time point. Significant group by time interaction with Health Buddy group showing more improvement over time than controls.	72%
Kasckow et al. (2016)	Pittsburgh, US – Community Mental Health services.	Pilot RCT.	N=51. Mean age 51.1 (SD=11.3); all male; all diagnoses of schz or schz-aff; recent SI.	Randomisation to Health Buddy with case management (n=25) or case management alone (n=26).	Health Buddy: daily telehealth monitoring and psychoeducation for 3 months, delivered by nurses.	SI measured by BSSI score, monthly for 3 months.	Reduction in SI in both groups after 3 months (significance not reported), but no group differences. Trend towards higher rate of remission in Health Buddy group in those with past SA.	67%
Peters et al. (2010)	London, UK – Outpatient mental health service.	RCT.	N=74. CBT group: mean age 34 (SD=9.8); 72% male. TAU group: mean age 39.6 (SD=10.2); 53% male. All had at least 1 positive “symptom” of psychosis; medication stable for 3 months.	Randomisation to immediate CBTp (n=36) or TAU (waitlist control) (n=38).	CBTp: weekly or fortnightly sessions for 6 months, delivered by CBT therapists.	SI variable calculated from BSSI, at baseline, 3 months, post-int and 3-month f/u.	Reduced odds of being suicidal in CBTp group (combined original and waitlist intervention groups) compared to TAU post-int, but not maintained at f/u.	61%

Power et al. (2003)	Melbourne, Australia – Community EI service.	RCT.	N=56. No demographics reported. Currently attending EI service; previous SA or SI.	Randomisation to LifeSPAN therapy with TAU (n=31) or TAU alone (n=25).	LifeSPAN: 8-10 sessions drawing on "cognitive oriented therapy" over 10 weeks, delivered by psychologists.	SI and SA measured by BPRS suicide subscale and ASIQ, at baseline, post-int and 6-month f/u.	Both groups improved progressively at post-int and f/u on SI and SA, but no difference between groups. Greater average drop in SI in LifeSPAN group.	61%
Sheaves et al. (2019)	Oxford and London, UK – Secondary mental health services.	Pilot RCT.	N=24. CBT group: mean age 43 (SD=12); 58.3% male. TAU group: mean age 39 (SD=13); 58.3% male. All diagnoses of non-affective psychosis; experiencing distressing nightmares and persecutory delusions; medication stable for 4 weeks.	Randomisation to CBT for nightmares with TAU (n=12), or TAU alone (n=12).	CBT for nightmares: 4-6 hour-long sessions delivered over 4 weeks by a CP.	SI measured by BSSI at baseline, post-int and 8-week f/u.	SI remained stable in CBT group, and reduced in TAU group. SAEs: 2 SA in CBT group, 1 SA in TAU group.	39%
Tarrier et al. (2006)	North West England and Midlands, UK – 11 inpatient mental health units.	18-month f/u of RCT.	N=309. Median age 27.4; 69.9% male; met DSM4 criteria for schz (39.8%), schz-aff (12.6%), schizophreniform (35.3%), delusional disorder (8.1%), and psychosis NOS (4.2%).	Randomisation to CBTp (n=101), supportive counselling (n=106) or TAU (n=102).	CBTp: 15-20 hours over 5 weeks, booster sessions 2 weeks, 1, 2 and 3 months later. Supportive counselling: same 5-week period with 3 booster sessions. All delivered by CPs and nurses.	SI, SA, plans, deaths measured by non-accidental self-injury scale of the HoNOS at baseline, 6 weeks, 3-month f/u, 18-month f/u.	No difference in suicidal behaviour between groups at any time point. (NB. There was a marked reduction in all groups at start of trial.) SAEs: 2 suicide deaths in supportive counselling group, 1 in CBTp group.	50%
Tarrier et al. (2014)	North West England, UK – Community mental health, EI and assertive outreach teams.	RCT.	N=49. Mean age 34.9 (SD=13.1); 63.3% male; diagnoses – 34.7% schz, 16.3% schz-aff, 6.1% delusional disorder, 20.4% psychosis NOS (22.4% unknown); previous SI or SA; receiving antipsychotic medication.	Randomisation to CBPSp plus TAU (n=25) or TAU alone (n=24).	CBPSp: therapy derived from the SAMS model, up to 24 sessions twice per week for 12 weeks, delivered by CPs.	SI and suicidal probability measured by BSSI, ASIQ, SPS at baseline, 4-month f/u and 6-month f/u.	Reduction over time in SI (as measured by ASIQ but not BSSI) and suicidal probability (measured by SPS) in CBSPp group compared to TAU.	44%

Part B: Studies without suicide-related outcome measures, reporting suicides as SAEs and reason for drop-out.

Farhall et al. (2009)	Melbourne, Australia – 2 Community mental health clinics.	RCT.	N=94. CBT group: Mean age 32.1 (SD=9.61); 57.8% male; diagnoses – 53.3% schz, 2.2% schz-aff, 8.9% schizophreniform disorder, 4.4% delusional disorder, 22.2% mood disorder with delusions/ hallucinations, 8.9% other. TAU group: Mean age 33.6 (SD=10.81); 59.6% male; diagnoses – 53.3% schz, 2.2% schz-aff, 8.9% schizophreniform disorder, 4.4% delusional disorder, 22.2% mood disorder with delusions/ hallucinations, 8.9% other.	Randomisation to either recovery therapy plus TAU (n=45) or TAU alone (n=49).	Recovery therapy: a form of CBTP focused on goals, 12-24 sessions of manualised therapy, delivered by CPs.	Suicide deaths as SAEs; recorded using unspecified methods.	SAEs: 2 suicide deaths in TAU group (none in recovery therapy group).	47%
Freeman et al. (2015)	Oxford and Southampton, UK – Unspecified “mental health services” across 2 NHS trusts.	RCT.	N=150. CBT group: mean age 40.9 (SD=10.5); 58% male; diagnoses – 79% schz, 7% schz-aff, 5% delusional disorder, 8% psychosis NOS. TAU group: Mean age 42.1 (SD=12.2); 57% male; diagnoses of 69% schz, 7% schz-aff, 7% delusional disorder, 16% psychosis NOS; medication stable for 1 month.	Randomisation to CBT worry reduction intervention plus TAU (n=73) or TAU alone (n=77).	CBT: 6 hour-long worry reduction sessions over 8 weeks, delivered by CPs.	Suicide-related SAEs only (SA); reported during trial or were recorded in medical notes.	SAEs: 2 SA in CBT group, 4 SA in TAU group.	40%
Klingberg et al., (2012)	Germany – Outpatient psychiatric services.	RCT.	N=198. Mean age 36.9 (SD=9.9); 56.1% male; all met DSM4 criteria for schz.	Randomisation to CBT plus TAU (n=99) or Cognitive Remediation (CR) plus TAU (n=99).	Both groups: 20 sessions over 9 months, delivered by unspecified “therapists”.	Suicide-related SAEs only (SA, planning); recorded monthly throughout trial.	SAEs: CBT group: 1 SA, 1 suicide planning, and 1 “symptom exacerbation” followed by SA (total 3 suicidal events). CR group: 1 “symptom exacerbation” followed by SA, 1 “symptom exacerbation”	50%

Kuipers et al. (1997)	London, Cambridge and Norfolk, UK – Community teams and inpatient teams.	RCT.	N=60. CBT group: Mean age 38.5 (range= 19-65); 53.6% male. TAU group: Mean age 41.8 (range= 18-63); 74.2% male. Diagnoses – 72.2% schz, 3.7% schz-aff, 24.1% delusional disorder. At least 1 positive psychotic “symptom” described as “unresponsive to medication”.	Randomisation to either CBT plus TAU (n=28) or TAU alone (n=32).	CBT: up to 9 months of weekly, then fortnightly, sessions of up to an hour, delivered by CPs.	Suicide deaths as reason for dropout; recorded using unspecified methods.	followed by suicide planning, and 1 instance of 2 “symptom exacerbations” followed by suicide planning (total 3 suicidal events). SAEs: 1 suicide death in TAU group (none in CBT group).	60%
Kuipers et al. (1998)	London, Cambridge and Norfolk, UK – Community teams and inpatient teams.	18-month f/u of RCT (Kuipers et al., 1997).	N=47 (remaining from Kuipers et al., 1997). CBT group: Mean age 39.9 (range= 22-65). TAU group: Mean age 42.1 (range= 18-63). Updated gender split and diagnoses not reported.	See Kuipers et al (1997). 47 of original randomised participants remained at f/u – 23 CBT, 24 TAU.	See Kuipers et al. (1997).	Suicide deaths as reason for dropout; recorded using unspecified methods.	SAEs: 1 suicide death in TAU group (none in CBT group). Unclear if this is the same person as in Kuipers et al. (1997).	67%
Morrison et al. (2014)	Manchester and Newcastle, UK – 2 unspecified “centres”.	Pilot RCT.	N=74. No demographics reported. Inclusion criteria: aged 16-65, in contact with MH services, met ICD10 criteria for schz, schz-aff or delusional disorder.	Randomisation to either cognitive therapy plus TAU (n=37) or TAU alone (n=37).	CT: 26 weekly sessions for up to 9 months. Delivered by CPs, nurses, psychiatrist.	Suicide-related SAEs only (SA); recorded using unspecified methods.	SAEs: 1 SA in CT group, 1 SA in TAU group.	60%
Morrison et al. (2019)	Manchester, Glasgow, Edinburgh, Newcastle and Southampton, UK –	RCT.	N=487. CBT group: Mean age 42.2 (SD=10.7); 72.7% male; met ICD10 or service criteria for schz (86.4%), schz-aff (11.6%), delusional disorder (0.8%), and psychosis NOS (0.8%). TAU group: Mean age	Randomisation to either CBT plus TAU (n=242) or TAU alone (n=245).	CBT: up to 30 hours of therapy over 9 months, delivered by psychological therapists.	Suicide-related SAEs only (SA, deaths); measured using self-report post-int or at	SAEs: 6 deaths in CBT group, 4 in TAU (but not clear if any by suicide). 2 SA in CBT group, 3 SA in TAU group. No diff. in planning between groups.	40%

	Secondary care mental health services.		42.8 (SD=10.4); 70.6% male; met ICD10 or service criteria for schz (89.0%), schz-aff (8.2%), delusions disorder (2.0%) and psychosis NOS (0.4%); 6 months free of antipsychotic medication.			withdrawal, and planning measured, post-int and 12-month f/u.		
Ruegg et al. (2018)	Hamburg, Germany – Community (online study for anyone on hospital database).	Uncontrolled pre-post design.	N=15. Mean age 44.0 (SD=8.3); 53.3% male; all self-declared diagnoses of schz or schz-aff.	N/a – uncontrolled.	Online metacognitive training course based on MCT therapy manual. 6-8 modules.	Suicidal thoughts as a side effect of the program; measured by self-report.	<i>Side effects:</i> High scorers on SBQ-R were excluded from participation. No suicidal thoughts reported.	78%
Van Den Berg et al. (2016)	Netherlands – Outpatient services for people with “severe mental illness”.	RCT.	N=155. Mean age 41.2 (SD=10.5); 54.2% male; diagnosis – 61.3% schz, 29.0% schz-aff, 4.5% bipolar with psychotic features, 2.6% psychosis NOS, 1.9% depression with psychotic features, 0.6% brief psychotic disorder.	Randomisation to combined Prolonged Exposure (PE) or EMDR therapy plus TAU (n=108) or TAU alone (waitlist control) (n=47).	PE/EMDR: both 8 weekly 90-minute sessions over 10 weeks, delivered by unspecified “therapists”.	Suicide-related SAEs only (SA); self-reported at baseline, post-int and 6-month f/u.	<i>SAEs:</i> During the trial, 2.2% of PE/EMDR group reported SA compared to 2.6% in TAU group. During follow-up, 3.4% of PE/EMDR group reported SA compared to 5.1% of TAU group.	72%

Key: EI = early intervention. CBT(p) = cognitive behaviour therapy (for psychosis). CT = cognitive therapy. CBPsp = cognitive behavioural prevention of suicide in psychosis. EMDR = eye movement desensitisation and reprocessing. TAU = treatment as usual. Schz = schizophrenia. Schz-aff = schizoaffective disorder. CP = clinical psychologist. SI = suicide ideation. SA = suicide attempts. Post-int = post-intervention (end of therapy). F/u = follow-up. CPRS = Comprehensive Psychopathological Rating Scale. BSSI = Beck Scale for Suicidal Ideation. BPRS = Brief Psychiatric Rating Scale. BSIQ = Beck Suicide Ideation Questionnaire. ASIQ = Adult Suicidal Ideation Questionnaire. SPS = Suicidal Probability Scale. HoNOS = Health of the Nation Outcome Scale. SAEs = serious adverse events.

deaths (n=1). Standardised measures used included the Comprehensive Psychopathological Rating Scale (CPRS; Asberg, Montgomery, Perris, Shalling & Sedvall, 1978) (n=1), the Beck Scale for Suicidal Ideation (BSSI; Beck, Kovacs & Weissman, 1979) (n=5), the Brief Psychiatric Rating Scale (BPRS; Ventura, Lukoff, Nuechterlein, Liberman, Green & Shaner, 1993) (n=1), the Adult Suicidal Ideation Questionnaire (ASIQ; Reynolds, 1991) (n=2), the Suicidal Probability Scale (SPS; Cull & Gill, 1982) (n=1), and the Health of the Nation Outcome Scale (HoNOS; Wing, Beevor, Curtis, Park, Hadden & Burns, 1998) (n=1)⁷. Two studies in this section also reported on suicide-related SAEs, including suicide attempts (n=1) and suicide deaths (n=1).

4.2.2 Part B: Studies without suicide-related outcome measures, reporting suicides as SAEs and reason for drop-out.

Nine studies included no standardised suicide measure. Instead, their main focus was on outcomes relating to characteristics of psychotic experiences (e.g., paranoia, delusions, hallucinations, frequency, severity, distress), self-esteem, insight, social functioning, worry, depression, anxiety, hopelessness, coping, recovery, well-being, beliefs about self, beliefs about control, therapeutic relationship, treatment satisfaction, and service use. Two of these papers focused specifically on suicide-related SAEs during trials (Klingberg et al., 2012; Van Den Berg et al., 2016). The remaining seven reported anecdotally on suicidality as SAEs, side effects, or reasons for drop-out (four RCTs, one pilot RCT, one follow-up of one of the RCTs, and one uncontrolled pre-post study). Suicidal experiences reported included deaths (n=4), attempts (n=5), thoughts (n=1), and plans (n=1). These were measured through self-report (n=3), examination of medical records (n=1), and unspecified methods (n=6)⁸.

4.3 Methodological quality and risk of bias

The mean risk of bias rating was 56.4%, and ratings ranged between 39% (relatively low risk) and 78% (relatively high risk), indicating wide variation in the quality of studies. Table 2 illustrates each study's risk ratings for each domain, and their overall risk rating. The lower the risk of bias rating, the more robust the study may be considered, and therefore the more reliable the findings are likely to be. When comparing findings, it may therefore be appropriate to give more weight to those from a study rated as low risk of bias than from a study rated as high risk of bias, as biases or methodological limitations may have had greater influence over the latter than the former.

4.4 Effects of the interventions

4.4.1 Part A: RCTs reporting on suicide-related outcomes using standardised outcome measures.

Of the eight studies which reported outcomes using standardised measures of suicidal experience, five found reductions in suicidal ideation (Bateman et al., 2007; Kasckow et al., 2015; Kasckow et al., 2016), or both suicidal ideation and behaviours (Power et al., 2003; Tarrrier et al., 2006), in both the intervention and control groups. Although no group differences

⁷ Some studies used more than one measure of suicidality.

⁸ Some studies measured SAEs via more than one method.

were reported by Kasckow et al. (2016) or Power et al. (2003), trends towards higher “rates of remission” and greater average drop in suicidal ideation (respectively) were noted in their intervention groups, compared with controls. Two studies found no greater effect in the intervention group compared with controls (Sheaves et al., 2019; TARRIER et al., 2006).

Table 2: Methodological quality/ risk of bias ratings.

Study	Risk domain							Overall %
	1	2	3	4	5	6	7	
Part A: RCTs reporting on suicide-related outcomes using standardised outcome measures.								
Bateman et al. (2007)	Low	Low	Low	Low	Med	n/a	High	Med (50%)
Kasckow et al. (2015)	Med	Med	Med	Med	Med	n/a	High	High (72%)
Kasckow et al. (2016)	Low	Med	Med	Med	Med	n/a	High	High (67%)
Peters et al (2010)	Med	Low	Med	Med	Low	n/a	High	Med (61%)
Power et al. (2003)	Low	Med	Med	Low	Med	n/a	High	Med (61%)
Sheaves et al. (2019)	Low	Low	Low	Low	Low	n/a	Med	Low (39%)
TARRIER et al. (2006)	Low	Med	Med	Low	Low	n/a	Med	Med (50%)
TARRIER et al. (2014)	Low	Low	Med	Low	Low	n/a	Med	Low (44%)
Part B: Studies without suicide-related outcome measures, reporting suicides as SAEs/reason for drop-out.								
Farhall et al. (2009)	Low	Low	Low	Med	n/a	n/a	Med	Low (47%)
Freeman et al. (2015)	Low	Low	Low	Low	n/a	n/a	Med	Low (40%)
Klingberg et al. (2012)	Low	Med	Low	Low	Med	n/a	Med	Med (50%)
Kuipers et al. (1997)	Low	Med	Low	Med	n/a	n/a	High	Med (60%)
Kuipers et al. (1998)	Low	Med	Med	Med	n/a	n/a	High	High (67%)
Morrison et al. (2014)	Med	Low	Med	Med	n/a	n/a	Med	Med (60%)
Morrison et al. (2019)	Low	Low	Low	Low	n/a	n/a	Med	Low (40%)
Ruegg et al. (2018)	n/a	n/a	Low	n/a	n/a	High	High	High (78%)
Van Den Berg et al. (2016)	Med	High	Low	Med	High	n/a	Med	High (72%)

Key: Domain 1 = risk of bias from the randomisation process (randomised studies only), 2 = risk of bias due to deviations from the intended intervention (controlled studies only), 3 = risk of bias due to missing outcome data (all studies), 4 = risk of bias in measurement of the outcome (controlled studies only), 5 = risk of bias in selection of the reported result (studies with outcome analyses only), 6 = risk of bias related to control group (non-randomised studies only), and 7 = risk of bias related to reporting of adverse events (all studies).

In studies that found intervention effects, findings were mixed with regard to maintenance over time. Bateman et al. (2007) and TARRIER et al. (2014) both found reductions in suicidal ideation and/or suicidal probability in their intervention groups compared with controls, immediately post-intervention, and at follow-ups of 4-months, 6-months (TARRIER et al., 2014) and 9-months (Bateman et al., 2007). Conversely, Peters et al. (2010) found greater reductions in suicidal ideation in their intervention group than controls over the course of the intervention, but

this was not maintained at 3-month follow-up. Whilst all four of these studies employed cognitive-behavioural interventions, there are some differences which may account for these discrepant findings. Although Tarrrier et al.'s (2014) intervention was half as long in duration as Peters et al.'s (2010), sessions were offered more often (twice per week as opposed to weekly or fortnightly), which may have meant intervention was experienced more intensely, leading to longer lasting effects. Bateman et al.'s (2007) intervention was more similar in format to Peters et al.'s (2010), but they measured suicidal ideation using only one item from the CPRS, whilst Peters et al. (2010) used the full BSSI scale. It is possible that variance in outcome were the result of differences in measurement. Nonetheless, the risk of bias ratings for both Bateman et al.'s (2007) and Tarrrier et al.'s (2014) studies are lower than Peters et al.'s (2010), suggesting that findings from the former two may be somewhat more robust than the latter (particularly with respect to the randomisation process and outcome measurement – see Table 1).

Only two studies found no greater improvements over time in intervention groups compared with controls (Sheaves et al., 2019; Tarrrier et al., 2006). Tarrrier et al. (2006) reported that there was a marked reduction in suicidal ideation in all three groups (intervention plus two controls) at the start of the trial which may have masked any potential intervention-related effects. Sheaves et al. (2019) reported a reduction in suicidal ideation in their control group but no change in the intervention group, although there was a markedly higher rate of suicidal ideation in their control group at baseline compared with the intervention group (half of whom reported no suicidal ideation at all). It is possible that participants in the control groups of both Tarrrier et al.'s (2006) and Sheaves et al.'s (2019) studies benefited merely from being part of a research trial (Becker, Roberts & Voelmeck, 2003; Brauholtz, Edwards & Lilford, 2001), during a particularly vulnerable period for them. The Tarrrier et al. (2006) study differs from others in that the intervention phase ran over a 5-week period in which participants had just been admitted to hospital for acute psychological distress. As such, early reductions in suicidal ideation, regardless of treatment group, may have been accounted for by the increased availability of support inherent to inpatient hospitalisation (Katz, Cox, Gunasekara & Miller, 2004). It is perhaps notable that both of these studies (Sheaves et al., 2019; Tarrrier et al., 2006) were amongst those with the most favourable (lowest) risk of bias ratings (39% and 50%, respectively), which indicates that their findings may be relatively reliable in comparison to other studies which had greater likelihoods of bias. In addition, Sheaves et al. (2019) and Tarrrier et al. (2006) were the only outcome measure studies to also report on suicide-related SAEs (which of course contributed to their lower risk of bias ratings). Sheaves et al. (2019) reported the occurrence of two suicide attempts by members of their intervention group, and one by a member of their control group, whilst Tarrrier et al. (2006) reported one suicide death in their intervention group, and two in their active control group. Numbers were obviously too small for any meaningful analyses to be conducted, and none of these SAEs were reportedly related to the trials.

4.4.2 Parts B: Studies without suicide-related outcome measures, reporting suicides as SAEs and reason for drop-out.

Nine studies reported only on suicide-related events as SAEs, side-effects or reasons for drop-out, as opposed to primary/secondary outcomes. Overall, there was approximately twice the number of confirmed⁹ suicidal events in the control groups as there was in the psychological intervention groups (although numbers were too small for meaningful statistical analyses). Specifically, there were eight suicidal events in intervention groups (seven suicide attempts and one instance of suicide planning) and 15 events in control groups¹⁰ (four deaths, ten attempts, and one instance of suicide planning). As mentioned in Part A (Section 4.4.1), Tarrrier et al (2006) also reported one suicide death in their intervention group and two in their active control group, whilst Sheaves et al. (2019) reported two suicide attempts in their intervention group and one in their control group. Although frequencies are unknown, Van den Berg et al. (2016) reported that 2.2% and 3.4% of their intervention group, and 2.6% and 5.1% of their control group, had made suicide attempts during the trial and at 6-month follow-up, respectively. Whilst suicide-related SAEs were therefore far less common in intervention than control groups in those studies which reported them, lack of clarity in reporting means that it is unclear whether or not some of these events may have been related to trial participation or group allocation, nor how this was determined.

5. Discussion

Taken together, the findings of the 17 included papers suggest that psychological interventions appear to have a beneficial impact on suicidal ideation and behaviours in people experiencing psychosis, or at the very least may not have a detrimental one. Six out of the eight reviewed RCTs showed reductions in suicidal ideation and behaviour post-intervention compared with controls, and around half as many suicide-related SAEs were reported in intervention groups as in control groups. Findings were somewhat mixed regarding whether the benefits obtained through intervention were maintained over time, although some of the higher quality studies suggested that improvements may persist, albeit under particular circumstances (e.g., when the intervention is delivered intensively; Tarrrier et al., 2014). Further, the findings of some studies suggested that mere participation in such studies may have beneficial effects on suicidal ideation (Sheaves et al., 2019; Tarrrier et al., 2006).

However, the literature was sparse, with only eight RCTs using standardised measures to assess suicidal thoughts and behaviours. Suicide-related SAEs/ side effects were not widely reported, with only two of the included RCTs reporting on the occurrence of suicide deaths and attempts during the trial (Sheaves et al., 2019; Tarrrier et al., 2006), and only nine other

⁹ Morrison et al. (2019) also reported six deaths in the CBT group and four in the control group, but it is unclear whether or not these were suicide.

¹⁰ It is unclear whether the single death reported in the Kuipers et al. (1997) and (1998) studies are the same or different people.

intervention studies reporting on suicide-related SAEs or side-effects. The findings of this review are therefore tentative, in that they are drawn from an evidence base with significant limitations.

Despite expanding upon the review by Donker et al. (2019) by excluding mixed interventions and non-suicidal self-harming behaviours, and including SAEs, the findings of the current review nonetheless mirror the conclusions made by Donker et al. (2013). They too reported reductions in suicidal ideation and behaviour in intervention groups, but a lack of clarity over whether these were always significant in comparison with controls, or maintained over time. Indeed, inconsistency in findings across studies has been identified for psychological interventions for suicide more generally (e.g., Corcoran, Dattalo, Crowley, Brown & Grindle, 2011; Tarrier et al., 2008). There are a number of potential reasons for this inconsistency. First, it is possible that due to heterogeneity in the way suicidality develops and is experienced by different people, interventions may similarly be experienced differently, such that not everyone benefits from the same aspects or to the same extent (Brownson, Drum, Smith & Denmark, 2011; Shadish & Sweeney, 1991). Second, it is likely that what constitutes treatment as usual (and/or other control conditions) varies widely across services in both content and quality, such that comparisons with target interventions may not be equivalent across studies (Lofholm, Brannstrom, Olsson & Hansson, 2012). Third, improvements were seen across all treatment groups within many studies. It is possible that effects observed within intervention groups that might be attributable to intervention, can be masked by controls obtaining similar benefits simply by virtue of involvement in the study (Becker et al., 2003; Brauholtz et al., 2001), particularly in inpatient settings (e.g., Tarrier et al., 2006). Finally, specific features of individual studies may render findings difficult to compare meaningfully. For example, outcomes may reasonably be expected to differ between studies with different protocols around medication (such as stipulations that participants must not be on medication, e.g., Morrison et al., 2014; or must have been stable on medication for a given period of time, e.g., Freeman et al., 2015), or inclusion/exclusion criteria (such as excluding individuals with high levels of depression, e.g., Klingberg et al., 2012; or even suicidality itself, e.g., Van Den Berg et al., 2006).

Measurement of suicidal experience (in those studies which employed standardised measures) further complicates things. The range of measures employed in reviewed studies was broad (e.g., BSSI, ASIQ, CPRS, HoNOS), and in some cases only subscales or single items were used (e.g., Bateman et al., 2007; Power et al., 2003), capturing different aspects of suicidality (e.g., ideation, attempts, plans, probability, frequency, severity, likelihood). Such diversity of measurement meant that comparison of findings across studies was not straightforward. For example, the ASIQ requires people to rate on a Likert scale how often (e.g., every day, once a week) they have experienced each of a list of specific thoughts (e.g., "I have thought about how I would kill myself"), whilst the BSSI requires people to rate more abstract constructs (e.g., "wish to live"), on a more subjective scale (e.g., moderate, weak). The extent to which responses on such diverse scales are comparable is unclear. Further, measures used were also relatively old (i.e., the CPRS (1978) was the oldest; the HoNOS (1998) the most recent), such that the language used may not accurately reflect our current understanding – or people's experiences – of suicidality (e.g., the term "commit suicide" is used in the BSSI).

The majority of the reviewed studies did not focus on suicide-related outcomes or attempt to capture them using standardised measures, but instead reported only incidental suicide-related events such as side-effects or SAEs. Although these studies made up the majority, they were still relatively few in number, which is perhaps surprising given the high prevalence of suicidal thoughts and behaviour in people experiencing psychosis (Pompili et al., 2007), and the relatively large number of studies examining interventions for psychosis generally (e.g., Hutton & Taylor, 2014; Lutgens et al., 2017). According to guidelines on trial reporting (CONSORT, 2010; Grant, Mayo-Wilson, Montgomery, Macdonald, Michie et al., 2018), all harms which occur during a trial should be reported and discussed, regardless of whether or not they are deemed a consequence of the trial. Whilst there appears to be issues around underreporting of SAEs in research trials in general (Tang, Ravaud, Riveros, Perrodeau & Dechartes, 2015), one review suggested that only around a fifth of psychological intervention trials reported monitoring harms, and only a tiny proportion of those reported sufficient detail on what those harms were and how they were measured (Jonsson, Alaie, Parling & Arnberg, 2014). This was seemingly reflected in the current review. As a result, the extent to which people may be adversely affected by psychological interventions, and even trial participation, remains unclear.

Whilst no obvious patterns in findings emerged regarding the type of intervention delivered, interventions were largely cognitive or cognitive-behavioural in nature (although detail on precise content of many interventions was limited), so more varied comparison was not possible. Whilst CBT for psychosis is indicated by NICE (2014), it is unclear why family interventions – which are also indicated – or other psychological therapies, are not more widely researched. Further, many studies targeted psychotic experiences (as opposed to suicidality) and measured suicidality only as a secondary or anecdotal outcome. Targeted interventions have been effective in reducing suicidal ideation in non-psychotic outpatient and inpatient populations (e.g., Ellis, Green, Allen, Jobes & Nadorff, 2012; Jobes, Wong, Conrad, Drozd & Neal-Walden, 2005), and systematic reviews suggest that interventions targeting suicidal thoughts and behaviour directly are likely to be more effective in reducing suicidality than those which work indirectly through targeting other psychological experiences (Meerwijk et al., 2016; Mewton & Andrews, 2016; TARRIER et al., 2008). It is possible then, that more targeted interventions may improve outcomes further.

Despite the relative homogeneity of therapeutic approaches examined, there is much potential variability within cognitive-based interventions. Differences in the duration, content and mode of delivery of interventions, professional background and training of therapists, quality and content of comparison conditions, and length and context of follow-up may all affect outcomes, and make it difficult to determine which factors are more or less key in promoting change. Whilst most of the reviewed studies involved face-to-face intervention delivery, two utilised telehealth technology (Kasckow et al., 2015; Kasckow et al., 2016) and one was delivered online (Ruegg et al., 2018), without any obvious difference in outcomes. This is contrary to previous research indicating that face-to-face delivery of CBT is more effective in the reduction of suicide than electronic modes of delivery (Leavey & Hawkins, 2017), and perhaps suggests that other factors may be more important than mode of delivery. For example, a vast literature exists evidencing the centrality of the therapeutic relationship in achieving favourable therapeutic outcomes, and

there is some evidence that therapeutic alliance predicts intervention outcomes in psychosis (Priebe, Richardson, Cooney, Adedeji & McCabe, 2011). Suicidal thoughts and behaviours appear to be particularly strongly associated with the quality of therapeutic relationships (Dunster-Page, Haddock, Wainwright & Berry, 2017), so the same intervention delivered by different therapists may yield different results. As such, clearer reporting of intervention content and process, and mechanistic evaluation of different components' relative contributions to outcomes, may be an important consideration for intervention development.

The risk of bias ratings of the included studies varied substantially, with some papers acquiring low-risk ratings in most domains (e.g., Freeman et al., 2015; Sheaves et al., 2019), and others acquiring predominantly medium- and high-risk ratings (Kasckow et al., 2015; Van Den Berg et al., 2016). Given that the findings were similar across studies, the variation in quality may not substantially impact the conclusions that can be drawn, but it is perhaps concerning that given the relative dearth of studies that exist in this area, the quality is not higher (particularly for RCTs). Further, a substantial proportion of studies were rated as medium or high risk for over half of the domains considered, with relatively higher risk ratings generally awarded for measurement of outcomes, selection of reported results, and reporting of SAEs. This potentially raises concerns regarding selective analysis/ reporting of positive results (Bradley, Rucklidge & Mulder, 2016), and non-reporting of adverse events (Duggan, Parry, McMurrin, Davidson & Dennis, 2014), which would clearly have implications in terms of the weight that should be applied to reported findings, and the presumed safety of interventions.

5.1 Strengths and limitations

A number of limitations to this review warrant consideration. First, due to the small number of relevant studies identified, and the heterogeneity of study design, outcome measurement and reporting, meta-analysis was deemed unfeasible (Boland et al., 2014; Impellizzeri & Bizzini, 2012), and firm conclusions could therefore not be drawn. However, this in itself is an important finding, with implications around improved consistency in future research and reporting of adverse events during trials. Second, whilst inclusion criteria were kept deliberately broad in order to capture as many studies as possible, studies were only included if they examined self-harming behaviour described specifically as suicidal in intent. It is recognised that this distinction is not necessarily a straightforward one, and considerable debate and uncertainty exists around the necessity and utility of distinguishing between self-harming behaviours that are suicidal in intent and non-suicidal self-harm (e.g., Dorpat, 1963; Henriques, Wenzel, Brown & Beck, 2005; Kapur, Cooper, O'Connor & Hawton, 2013; O'Carroll, Berman, Maris, Moscicki, Tanney & Silverman, 1996; Silverman, Berman, Sanddal, O'Carroll & Joiner, 2007). Whilst it is possible that by excluding studies focusing on behaviour with non-suicidal or unknown intent, relevant evidence was omitted, this provided the benefit of ensuring that the reported findings were specific to suicidal behaviour (as opposed to other types of self-harm) – a distinction which is clearly important for the targeted prevention of suicide deaths. Finally, for pragmatic reasons, the current review only included peer-reviewed studies published in English language, and publication bias was not tested for. As such, relevant unpublished, non-significant or foreign-language research may have inadvertently been excluded, which may

have impacted upon findings, although given that findings were so mixed, the likelihood of this seems relatively low.

Nonetheless, the current review provides a necessary update to that conducted by Donker et al. (2013), offering a more concentrated focus on psychological interventions and suicidal behaviour specifically, and expanding upon suicide-related outcomes to include those reported as incidental adverse events (in addition to planned outcome measurement).

5.2 Clinical implications and future research

The findings of this review have important potential implications for clinical practice and future research. Whilst many of the interventions examined appear to reduce suicidal ideation and behaviours in people experiencing psychosis, a better understanding is required of the features of interventions which are necessary and sufficient for effectiveness, and more consistency across studies is required to help clarify this. Compared with other groups, there may be substantial differences in the ways in which people experiencing psychosis develop and experience suicidality (Fialko et al., 2006; Hawton et al., 2005; Johnson et al., 2008; Taylor, et al., 2010), and communicate their difficulties with significant others (Fedyszyn, Harris, Robinson, Edwards & Paxton, 2011; Wolk-Wassermann 1986; Yamaguchi, Fukii, Nemoto, Takeshi & Mizuno, 2015). As such, more meaningful and accurate ways of assessing suicidal ideation and behaviour within the context of psychosis specifically, and a better understanding of the psychosis-specific mechanisms that can be addressed through psychological intervention, may help to reduce suicidality in this group, and ultimately save lives.

Consideration should therefore be given to the more accurate and consistent measurement of suicidal experiences. Many studies clearly use tools which are out of date, and reasons for tool selection are not generally given. Several measures used by studies in the current review were excluded from a recent review of suicide measurement tools (Batterham, Ftanou, Pirkis, Brewer, Mackinnon et al., 2015) for not meeting basic measurement criteria, such as having an insufficient number of items measuring suicidality (e.g., CPRS), or only measuring suicidal thoughts or behaviours (e.g., SPS). If such measures do not warrant inclusion in reviews, it is difficult to understand why they should be used in research at all. More comprehensive and consistent measurement across studies, and the use of terminology which is rooted in current understanding of suicidality, would be beneficial in more accurately and meaningfully capturing individuals' suicidal experiences.

The impact of alternative interventions which are informed by approaches other than the traditional cognitive and cognitive-behavioural models should also be investigated, as it is possible that valuable opportunities for suicide prevention are being missed. For example, family, psychodynamic, and third-wave cognitive therapies have been shown to be helpful for both psychotic (Khoury, Lecomte, Gaudiano & Paquin, 2013; Pilling, Bebbington, Kuipers, Garety, Geddes et al., 2002; Rosenbaum, Harder, Knudsen, Koster, Lajer et al., 2012) and suicidal experiences (Calear, Christensen, Freeman, Fenton, Busby-Grant et al., 2015; Forkmann, Wichers, Geschwind, Peeters, van Os et al., 2014; Tang, Jou, Ko, Huang & Yen, 2009), so might also be useful in the reduction of suicidality within the context of psychosis. Regardless of which therapeutic approach is utilised, future interventions should aim to target

both psychosis-specific and transdiagnostic features of suicidal ideation and behaviour, to increase the likelihood that reduction will be effective (Bornheimer, 2016; Johnson, et al., 2008; Meerwijk et al., 2016; Mewton & Andrews, 2016).

Importantly, the current review revealed that much improvement is required with regard to the reporting of research into psychological interventions. Future studies should more comprehensively describe their methods and the interventions they assess, so that they can more effectively be compared, critiqued and replicated. In particular, description of the outcomes measured and analyses conducted should be made transparent, with all findings reported (not just the significant ones). It is however, recognised that this pertains to a broader issue around the general non-publication of non-significant findings within academic research. An extension to the CONSORT statement on trial reporting (CONSORT, 2010) has been developed offering guidance on the reporting of social and psychological intervention trials, and future suicide intervention trials should aim to adhere to this (Grant et al., 2018). Perhaps most importantly, adverse events which occur during the study period should be more carefully defined, monitored and reported, even if they are deemed unrelated to the trial, and explanations should be provided for non-reporting (Jonsson et al., 2014).

6. Conclusions

Psychological interventions appear to be effective in reducing suicidal ideation and behaviour in people experiencing psychosis, but the extent of that reduction, its maintenance over time, and the components of interventions which are most strongly implicated in that reduction, remain unclear. Research to date has been inconsistent in its design, measurement, intervention type, and reporting; methodological quality is mixed; and suicide-related adverse events are not regularly reported. More high-quality research is required, with greater consistency in methods and clarity of reporting, in order to gain a clearer picture. In particular, more detail on intervention content and process is required to identify the components of interventions which are most effective for reducing suicidal ideation and behaviour in individuals experiencing psychosis.

7. References

- Aguilar, E.J. & Siris, S.G. (2007). Do antipsychotic drugs influence suicidal behaviour in schizophrenia? *Psychopharmacology Bulletin*, 40(3), 128-142.
- Anagnostopoulou, N., Kyriakopoulos, M. & Alba, A. (2019). Psychological interventions in psychosis in children and adolescents. *European Child Adolescent Psychiatry*, 28(6), 735-746. DOI: 10.1007/s00787-018-1159-3.
- Asberg, M., Montgomery, S. A., Perris, C., Shalling, D., & Sedvall, G. (1978). A comprehensive psychopathological rating scale. *Acta Psychiatrica Scandanavica*, 271(Suppl.), 5-27. DOI: 10.1111/j.1600-0447.1978.tb02357.x.
- Bateman, K., Hansen, L., Turkington, D. & Kingdon, D. (2007). Cognitive behavioural therapy reduces suicidal ideation in schizophrenia: Results from a randomised controlled trial. *Suicide and Life-Threatening Behaviour*, 37(3), 284-290. DOI: 10.1521/suli.2007.37.3.284.
- Batterham, P.J., Ftanou, M., Pirkis, J., Brewer, J.L., Mackinnon, A.J., Beautrais, A., Fairweather-Schmidt, A.K. & Christensen, H. (2015). A systematic review and evaluation of measures for suicidal ideation and behaviours in population-based research. *Psychological Assessment*, 27(2), 501-512. DOI: 10.1037/pas0000053.
- Beck, A.T., Kovacs, M. & Weissman, A. (1979). Assessment of suicidal intention: The scale for suicide ideation. *Journal of Consulting and Clinical Psychology*, 47, 343-352. DOI: 10.1037//0022-006x.47.2.343.
- Becker, H., Roberts, G. & Voelmeck, W. (2003). Explanations for improvement in both experimental and control groups. *Western Journal of Nursing Research*, 25(6), 746-755. DOI: 10.1177/0193945903253002.
- Bighelli, I., Salanti, G., Huhn, M., Schneider-Thoma, J., Krause, M., Reitmeir, C., Wallis, S., Schwermann, F., Pitschel-Walz, G., Barbui, C., Furukawa, T. A. & Leucht, S. (2018). Psychological interventions to reduce positive symptoms in schizophrenia: Systematic review and network analysis. *World Psychiatry*, 17(3), 316-329. DOI: 10.1002/wps.20577.
- Boland, A., Cherry, M.G. & Dickson, R. (2014). *Doing a Systematic Review: A Student's Guide*. London: Sage.
- Bolton, C., Gooding, P., Kapur, N., Barrowclough, C., & Tarrier, N. (2007). Developing psychological perspectives of suicidal behaviour and risk in people with a diagnosis of schizophrenia: We know they kill themselves but do we understand why? *Clinical Psychology Review*, 27(4), 511-536. DOI: 10.1016/j.cpr.2006.12.001.
- Bornheimer, L.A. (2016). Moderating effects of positive symptoms of psychosis in suicidal ideation among adults diagnosed with schizophrenia. *Schizophrenia Research*, 176, 364-370. DOI: 10.1016/j.schres.2016.07.009.
- Bradley, H.A., Rucklidge, J.J. & Mukder, R.T. (2016). A systematic review of trial registration and selective outcome reporting in psychotherapy randomised controlled trials. *Acta Psychiatrica Scandanavica*, 135(1), 65-77. DOI: 10.1111/acps.12647.
- Braunholtz, D.A., Edwards, S.J. & Lilford, R.J. (2001). Are randomised clinical trials good for us (in the short term)? Evidence for a "trial effect". *Journal of Clinical Epidemiology*, 54(3), 217-224. DOI: 10.1016/s0895-4356(00)00305-x.

- Brownson, C., Drum, D.J., Smith, S.E., Denmark, A.B. (2011). Differences in suicidal experiences of male and female undergraduate and graduate students. *Journal of College Student Psychotherapy*, 25(4), 277-294. DOI: 10.1080/87568225.2011.605692.
- Calati, R. & Courtet, P. (2016). Is psychotherapy effective for reducing suicide attempt and non-suicidal self-injury rates? Meta-analysis and meta-regression of literature data. *Journal of Psychiatric Research*, 79, 8-20. DOI: 10.1016/j.jpsychires.2016.04.003.
- Calear, A.L., Christensen, H., Freeman, A., Fenton, K., Busby Grant, J., van Spijker, B. & Donker, T. (2015). A systematic review of psychosocial suicide prevention interventions for youth. *European Child & Adolescent Psychiatry*, 25, 467-482. DOI: 10.1007/s00787-015-0783-4.
- Chiles. J.A., Lambert, M.J. & Hatch, A.L. (1999). The impact of psychological interventions on medical cost offset: A meta-analytic review. *Clinical Psychology Science & Practice*, 6, 204-220. DOI: 10.1093/clipsy.6.2.204.
- CONSORT (2010). 19. Harms: All important harms or unintended effects in each group [online]. Available at: <http://www.consort-statement.org/checklists/view/32--consort-2010/116-harms> [accessed 23rd March 2020].
- Corcoran, J., Dattalo, P., Crowley, M., Brown, E. & Grindle, L. (2011). A systematic review of psychosocial interventions for suicidal adolescents. *Children and Youth Services Review*, 33, 2112-2118. DOI: 10.1016/j.chilyouth.2011.06.017.
- Critical Appraisal Skills Program (2013). *CASP Qualitative Checklist: Critical Appraisal Skills Program* [online]. Available at: <https://casp-uk.net/wp-content/uploads/2018/01/CASP-Qualitative-Checklist-2018.pdf> [accessed: 16th January 2020].
- Cull, J.G. & Gill, W.S. (1982). *Suicide Probability Scale*. Los Angeles: Western Psychological Service.
- Donker, T., Calear, A., Busby Grant, J., Van Spijker, B., Fenton, K., Hehir, K.K., Cuijpers, P. & Christensen, H. (2013). Suicide prevention in schizophrenia spectrum disorders and psychosis: A systematic review. *BMC Psychology*, 1(1), 6. DOI: 10.1186/2050-7283-1-6.
- Dorpat, T.L. (1963). An evaluation of suicidal intent in suicide attempts. *Comprehensive Psychiatry*, 4 (2), 117-125. DOI: 10.1016/S0010-440X(63)80093-0.
- Duggan, C., Parry, G., McMurrin, M., Davidson, K. & Dennis, J. (2014). The recording of adverse events from psychological treatments in clinical trials: Evidence from a review of NIHR-funded trials. *Trials*, 15, 335. DOI: 10.1186/1745-6215-15-335.
- Dunster-Page, C., Haddock, G., Wainwright, L. & Berry, K. (2017). The relationship between therapeutic alliance and patient's suicidal thoughts, self-harming behaviours and suicide attempts: A systematic review. *Journal of Affective Disorders*, 223(1), 165-174. DOI: 10.1016/j.jad.2017.07.040.
- Ellis, T.E., Green, K.L., Allen, J.G., Jobes, D.A. & Nadorff, M.R. (2012). Collaborative Assessment and Management of Suicidality in an inpatient setting: Results of a pilot study. *Psychotherapy*, 49(1), 72-80. DOI: 10.1037/a0026746
- Farhall, J., Freeman, N.C., Shawyer, F. & Trauer, T. (2009). An effectiveness trial of cognitive behaviour therapy in a representative sample of outpatients with psychosis. *British Journal of Clinical Psychology*, 48, 47-62. DOI: 10.1348/014466608X360727.

- Fedyszyn, I.E., Harris, M.G., Robinson, J., Edwards, J. & Paxton, S.J. (2011). Characteristics of suicide attempts in young people undergoing treatment for first episode psychosis. *Australian & New Zealand Journal of Psychiatry*, *45*, 838-845. DOI: 10.3109/00048674.2011.595687.
- Fialko, L., Freeman, D., Bebbington, P.E., Kuipers, E., Garety, P.A., Dunn, G. & Fowler, D. (2006). Understanding suicidal ideation in psychosis: Findings from the psychological prevention of relapse in psychosis (PRP) trial. *Acta Psychiatrica Scandinavica*, *114*(3), 177-186. DOI: 10.1111/j.1600-0447.2006.00849.x.
- Forkmann, T., Wichers, M., Geschwind, N., Peeters, F., van Os, J., Mainz, V. & Collip, D. (2014). Effects of mindfulness-based cognitive therapy on self-reported suicidal ideation: Results from a randomised controlled trial in patients with residual depressive symptoms. *Comprehensive Psychiatry*, *55*(8), 1883-1890. DOI: 10.1016/j.comppsy.2014.08.043.
- Frederiksen, Y., Farver-Vestergaard, I., Skovgard, N.G., Ingerslev, H.J. & Zachariae, R. (2015). Efficacy of psychosocial interventions for psychological and pregnancy outcomes in infertile women and men: A systematic review. *BMJ Open*, *5*(1). DOI: 10.1136/bmjopen-2014-006592.
- Freeman, D., Dunn, G., Startup, H., Pugh, K., Cordwell, J., Mander, H., Cernis, E., Wingham, G., Shirwell, K. & Kingdon, D. (2015). Effects of cognitive behaviour therapy for worry on persecutory delusions in patients with psychosis (WIT): A parallel, single-blind, randomised controlled trial with a mediation analysis. *Lancet Psychiatry*, *2*, 305-313. DOI: 10.1016/S2215-0366(15)00039-5.
- Grant, S., Mayo-Wilson, E., Montgomery, P., Macdonald, G., Michie, S., Hopewell, S., Moher, D. & on behalf of the CONSORT-SPI group (2018). CONSORT-SPI 2018 explanation and elaboration: Guidance for reporting social and psychological intervention trials. *Trials*, *19*(406). DOI: 10.1186/s13063-018-2735-z.
- Grawe, R.W., Falloon, I.R., Widen, J.H., & Skogvoll, E. (2006). Two years of continued early treatment for recent-onset schizophrenia: A randomised controlled study. *Acta Psychiatrica Scandinavica*, *114*, 328-336. DOI: 10.1111/j.1600-0447.2006.00799.x.
- Haddad, P.M. & Correll, C.U. (2018). The acute efficacy of antipsychotics in schizophrenia: A review of recent meta-analyses. *Therapeutic Advances in Psychopharmacology*, *8*(11), 303-318. DOI: 10.1177/2045125318781475.
- Hawton, K., Sutton, L., Haw, C., Sinclair, J. & Deeks, J.J. (2005). Schizophrenia and suicide: Systematic review of risk factors. *British Journal of Psychiatry*, *187*, 9-20. DOI: 10.1192/bjp.187.1.9.
- Hawton, K. & Van Heeringen, K. (2009). Suicide. *The Lancet*, *373*(9672), 1372-1381. DOI: 10.1016/S0140-6736(09)60372-X.
- Henriques, G., Wenzel, A., Brown, G.K. & Beck, A.T. (2005). Suicide attempters' reaction to survival as a risk factor for eventual suicide. *American Journal of Psychiatry*, *162*(11), 2180-2182. DOI: 10.1176/appi.ajp.162.11.2180.
- Higgins, J.P., Altman, D.G., Gotzsche, P.C., Juni, P., Moher, D., Oxman, A.D., Savovic, J., Schulz, K.F., Weeks, L. & Sterne, J.A.C. (2011). The Cochrane Collaboration's tool for assessing risk of bias in randomised trials. *BMJ*, *343*, d5928. DOI: 10.1136/bmj.d5928.

- Hutton, P. & Taylor, P. (2014). Cognitive behavioural therapy for psychosis prevention: A systematic review and meta-analysis. *Psychological Medicine*, *44*, 449-468. DOI: 10.1017/S0033291713000354.
- Impellizzeri, F.M. & Bizzini, M. (2012). Systematic review and meta-analysis: A primer. *International Journal of Sports Physical Therapy*, *7*(5), 493-503.
- Jobes, D.A., Wong, S.A., Conrad, A.K., Drozd, J.F. & Neal-Walden, T. (2005). The Collaborative Assessment and Management of Suicidality versus treatment as usual: A retrospective study with suicidal outpatients. *Suicide and Life-Threatening Behaviour*, *35*(5), 483-497. DOI: 10.1521/suli.2005.35.5.483.
- Johnson, J., Gooding, P.A. & TARRIER, N. (2008). Suicide risk in schizophrenia: Explanatory models and clinical implications, the Schematic Appraisal Model of Suicide (SAMS). *Psychology and Psychotherapy: Theory, Research and Practice*, *81*, 55-77. DOI: 10.1348/147608307X244996.
- Jonsson, U., Alaie, I., Parling, T. & Arnberg, F.K. (2014). Reporting of harms in randomised controlled trials of psychological interventions for mental and behavioural disorders: A review of current practice. *Contemporary Clinical Trials*, *38*(1), 1-8. DOI: 10.1016/j.cct.2014.02.005.
- Kapur, N., Cooper, J., O'Connor, R. & Hawton, K. (2013). Non-suicidal self-injury v. attempted suicide: New diagnosis or false dichotomy? *British Journal of Psychiatry*, *202*, 326-328. DOI: 10.1192/bjp.bp.112.116111.
- Kasckow, J., Gao, S., Hanusa, B., Rotondi, A., Chinman, M., Zickmund, S., Gurklis, J., Fox, L., Cornelius, J., Richmond, I. & Haas, G.L. (2015). Telehealth monitoring of patients with schizophrenia and suicidal ideation. *Suicide and Life-Threatening Behaviours*, *45*(5), 600-611. DOI: 10.1111/sltb.12154.
- Kasckow, J., Zickmund, S., Gurklis, J., Luther, J., Fox, L., Taylor, M., Richmond, I. & Haas, G.L. (2016). Using telehealth to augment an intensive case monitoring program in veterans with schizophrenia and suicidal ideation: A pilot trial. *Psychiatry Research*, *239*, 111-116. DOI: 10.1016/j.psychres.2016.02.049.
- Katz, L.Y., Cox, B.J., Gunasekara, S. & Miller, A.L. (2004). Feasibility of dialectical behaviour therapy for suicidal adolescent inpatients. *Journal of the American Academy of Child and Adolescent Psychiatry*, *43*(3), 276-282. DOI: 10.1097/00004583-200403000-00008.
- Khoury, B., Lecomte, T., Gaudiano, B.A., Paquin, K. (2013). Mindfulness interventions for psychosis: A meta-analysis. *Schizophrenia Research*, *150*(1), 176-184. DOI: 10.1016/j.schres.2013.07.055.
- Klingberg, S., Herrlick, J., Wiedemann, G., Wolwer, W., Meisner, C., Engel, C., Jakobi-Malterre, U.E., Buckremer, G. & Wittorf, A. (2012). Adverse effects of cognitive behavioural therapy and cognitive remediation in schizophrenia. *Journal of Mental Disease*, *200*(7), 569-576. DOI: 10.1097/NMD.0b013e31825bfa1d.
- Kuipers, E., Garety, P., Fowler, D., Dunn, G., Bebbington, P., Freeman, D. & Hadley, C. (1997). London-East Anglia randomised controlled trial of cognitive-behavioural therapy for psychosis. I: Effects of the treatment phase. *British Journal of Psychiatry*, *171*, 319-27. DOI: 10.1192/bjp.171.4.319.

Kuipers, E., Fowler, D., Garety, P., Chisholm, D., Freeman, D., Dunn, D., Bebbington, P. & Hadley, C. (1998). London-East Anglia randomised controlled trial of cognitive-behavioural therapy for psychosis. III: Follow-up and economic evaluation at 18 months. *British Journal of Psychiatry*, 173, 61-68. DOI: 10.1192/bjp.173.1.61.

Leavey, K. & Hawkins, R. (2017). Is cognitive behavioural therapy effective in reducing suicidal ideation and behaviour when delivered face-to-face or via e-health? A systematic review and meta-analysis. *Cognitive Behaviour Therapy*, 46(5), 353-374. DOI: 10.1080/16506073.2017.1332095.

Linde, K., Sigterman, K., Kriston, L., Rucker, G., Jamil, S., Meissner, K. & Schneider, A. (2015). Effectiveness of psychological treatments for depressive disorders in primary care: Systematic review and meta-analysis. *Annals of Family Medicine*, 13(1), 56-68. DOI: 10.1370/afm.1719.

Lofholm, C.A., Brannstrom, L., Olsson, M. & Hansson, K. (2012). Treatment-as-usual in effectiveness studies: What is it and does it matter? *International Journal of Social Welfare*, 22(1), 25-34. DOI: 10.1111/j.1468-2397.2012.00870.x.

Lutgens, D., Garipey, G. & Malla, A. (2017). Psychological and psychosocial interventions for negative symptoms in psychosis: Systematic review and meta-analysis. *British Journal of Psychiatry*, 210(5), 324-332. DOI: 10.1192/bjp.bp.116.197103.

Meerwijk, E.L., Parekh, A., Oquendo, M.A., Allen, E., Franck, L.S. & Lee, K.A. (2016). Direct versus indirect psychosocial and behavioural interventions to prevent suicide and suicide attempts: A systematic review and meta-analysis. *Lancet Psychiatry*, 3, 544-54. DOI: 10.1016/S2215-0366(16)00064-X.

Mewton, L. & Andrews, G. (2016). Cognitive behavioural therapy for suicidal behaviours: Improving patient outcomes. *Psychology Research & Behaviour Management*, 9, 21-29. DOI: 10.2147/PRBM.S84589.

Moher, D., Liberati, A., Tetzlaff, J. & Altman, D.G. (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA statement. *PLoS Med*, 6(7), e1000097. DOI:10.1371/journal.pmed1000097.

Morrison, A.P. (2019). Should people with psychosis be supported in choosing cognitive therapy as an alternative to antipsychotic medication: A commentary on current evidence. *Schizophrenia Research*, 203, 94-98. DOI: 10.1016/j.schres.2018.03.010.

Morrison, A.P., Turkington, D., Pyle, M., Spencer, H., Brabban, A., Dunn, G., Christodoulides, T., Dudley, R., Chapman, N., Callcott, P., Grace, T., Lumley, V., Drage, L., Tully, S., Irving, K., Cummings, A., Byrne, R., Davies, L.M. & Hutton, P. (2014). Cognitive therapy for people with schizophrenia spectrum disorders not taking antipsychotic drugs: A single-blind randomised controlled trial. *Lancet*, 383, 1395-1403. DOI: 10.1016/S0140-6736(13)62246-1.

Morrison, A.P., Pyle, M., Gumley, A., Schwannauer, M., Turkington, D., MacLennan, G., Norrie, J., Hudson, J., Bowe, S., French, P., Hutton, P., Byrne, R., Syrett, S., Dudley, R., McLeod, H.J., Griffiths, H., Barnes, T.R.E., Davies, L., Shields, G., Buck, D., Tully, S. & Kingdon, D. (2019). Cognitive-behavioural therapy for clozapine-resistant schizophrenia: The FOCUS RCT. *Health Technology Assessment*, 23(7). DOI: 10.3310/hta23070.

Munder, T. & Barth, J. (2018). Cochrane's risk of bias tool in the context of psychotherapy outcome research. *Psychotherapy Research*, 28(3), 347-355. DOI: 10.1080/10503307.2017.1411628.

NICE (2014). [CG178] Psychosis and schizophrenia in adults: Prevention and management [online]. Available from: <https://www.nice.org.uk/guidance/cg178/chapter/1-Recommendations#subsequent-acute-episodes-of-psychosis-or-schizophrenia-and-referral-in-crisis-2> [accessed 18th March 2020].

O'Carroll, P.W., Berman, A.L., Maris, R.W., Moscicki, E.K., Tanney, B.L. & Silverman, M.M. (1996). Beyond the tower of babel: A nomenclature for suicidology. *Suicide and Life-Threatening Behaviour*, 26 (3), 237-252. DOI: 10.1111/j.1943-278X.1996.tb00609.x.

Peters, E., Landau, S., McCrone, P., Cooke, M., Fisher, P., Steel, C., Evans, R., Carswell, K., Dawson, K., Williams, S., Howards, A. & Kuipers, E. (2010). A randomised controlled trial of cognitive behaviour therapy for psychosis in a routine clinical service. *Acta Psychiatrica Scandinavica*, 122, 302-318. DOI: 10.1111/j.1600-0447.2010.01572.x.

Pilling, S., Bebbington, P., Kuipers, E., Garety, P., Geddes, J., Orbach, G. & Morgan, C. Psychological treatments in schizophrenia: I. Meta-analysis of family interventions and cognitive behaviour therapy. *Psychological Medicine*, 32, 763-782. DOI: 10.1017/S0033291702005895.

Pompili, M., Baldessarini, R.J., Forte, A., Erbutto, D., Serafini, G., Fiorillo, A., Amore, M. & Girardi, P. (2016). Do atypical antipsychotics have antisuicidal effects? A hypothesis-generating overview. *International Journal of Molecular Sciences*, 17(10), 1700. DOI: 10.3390/ijms17101700.

Power, P.J.R., Bell, R.J., Mills, R., Herrman-Doig, T., Davern, M., Henry, L., Yuen, H.P., Khademy-Deljo, A. & McGorry, P.D. (2003). Suicide prevention in first episode psychosis: The development of a randomised controlled trial of cognitive therapy for acutely suicidal patients with early psychosis. *Australian and New Zealand Journal of Psychiatry*, 37, 414-420. DOI: 10.1046/j.1440-1614.2003.01209.x

Priebe, S., Richardson, M., Cooney, M., Adedeji, O. & McCabe, R. (2011). Does the therapeutic relationship predict outcomes of psychiatric treatment in patients with psychosis? A systematic review. *Psychotherapy and Psychosomatics*, 80, 70-77. DOI: 10.1159/000320976.

Reynolds, W.M. (1991). *Adult Suicidal Ideation Questionnaire: Professional Manual*. Odessa, FL: Psychological Assessment Resources.

Rosenbaum, B., Harder, S., Knudsen, P., Koster, A., Lajer, M., Lindhardt, A., Valbak, K. & Winther, G. (2012). Supportive psychodynamic psychotherapy versus treatment as usual for first-episode psychosis: Two-year outcome. *Psychiatry*, 75(4), 331-341. DOI: 10.1521/psyc.2012.75.4.331.

Ruegg, N., Moritz, S & Westerman, S. (2018). Metacognitive training online: A pilot study of an internet-based intervention for people with schizophrenia. *Zeitschrift fur Neuropsychologie*, 29(1), 35-47. DOI: 10.1024/1016-264X/a000213.

Shadish, W.R. & Sweeney, R.B. (1991). Mediators and moderators in meta-analysis: There's a reason we don't let dodo birds tell us which psychotherapies should have prizes. *Journal of Consulting Clinical Psychology*, 59(6), 883-893. DOI: 10.1037//0022-006x.59.6.883.

Sheaves, B., Holmes, E.A., Rek, S., Taylor, K.M., Nickless, A., Waite, F., Germain, F., Espie, C.A., Harrison, P.J., Foster, R. & Freeman, D. (2019). Cognitive behavioural therapy for nightmares for patients with persecutory delusions (Nites): An assessor-blind, pilot randomised controlled trial. *Canadian Journal of Psychiatry*, 64(10), 686-696. DOI: 10.1177/0706743719847422.

Silverman, M.M., Berman, A.L., Sanddal, N.D., O'Carroll, P.W. & Joiner, T.E. (2007). Rebuilding the Tower of Babel: A revised nomenclature for the study of suicidal behaviours. Part 2: Suicide-related ideations, communications and behaviours. *Suicide and Life-Threatening Behaviour*, 37, 264-277. DOI: 10.1521/suli.2007.37.3.264.

Solmi, M., Murru, A., Pacchiarotti, I., Undurraga, J., Veronese, N., Fornaro, M., Stubbs, B., Monaco, F., Vieta, E., Seeman, M.V., Correll, C.U. & Carvalho, A.F. (2017). Safety, tolerability, and risks associated with first- and second-generation antipsychotics: A state-of-the-art clinical review. *Therapeutics and Clinical Risk Management*, 13, 757-777. DOI: 10.2147/TCRM.S117321.

Sterne, J.A.C., Savović, J., Page, M.J., Elbers, R.G., Blencowe, N.S., Boutron, I., Cates, C.J., Cheng, H.-Y., Corbett, M.S., Eldridge, S.M., Hernán, M.A., Hopewell, S., Hróbjartsson, A., Junqueira, D.R., Jüni, P., Kirkham, J.J., Lasserson, T., Li, T., McAleenan, A., Reeves, B.C., Shepperd, S., Shrier, I., Stewart, L.A., Tilling, K., White, I.R., Whiting, P.F., Higgins, J.P.T. (2019) RoB 2: A revised tool for assessing risk of bias in randomised trials. *BMJ*, 366, l4898. DOI: 10.1136/bmj.l4898.

Tang, E., Ravaud, P., Riveros, C., Perrodeau, E. & Dechartes, A. (2015). Comparison of serious adverse events posted at ClinicalTrials.gov and published in corresponding journal articles. *BMC Medicine*, 13(189). DOI: 10.1186/s12916-015-0430-4.

Tang, T.C., Jou, S.H., Ko, C.H., Huang, S.Y. & Yen, C.F. (2009). Randomised study of school-based intensive interpersonal psychotherapy for depressed adolescents with suicidal risk and parasuicide behaviours. *Psychiatry & Clinical Neurosciences*, 63(4), 463-470. DOI: 10.1111/j.1440-1819.2009.01991.x.

Tarrier, N., Haddock, G., Lewis, S., Drake, R. & Gregg, L. (2006). Suicide behaviour over 18 months in recent onset schizophrenic patients: The effects of CBT. *Schizophrenia Research*, 83, 15-27. DOI: 10.1016/j.schres.2005.12.846.

Tarrier, N., Kelly, J., Maqsood, S., Snelson, N., Maxwell, J., Law, H., Dunn, G. & Gooding, P. (2014). The cognitive behavioural prevention of suicide in psychosis: A clinical trial. *Schizophrenia Research*, 156, 204-210. DOI: 10.1016/j.schres.2014.04.029.

Tarrier, N., Taylor, K. & Gooding, P. (2008). Cognitive-behavioural interventions to reduce suicide behaviour: A systematic review and meta-analysis. *Behaviour Modification*, 32(1), 77-108. DOI: 10.1177/0145445507304728.

Taylor, P.J., Gooding, P.A., Wood, A.M., Johnson, J., Pratt, D. & Tarrier, N. (2010). Defeat and entrapment in schizophrenia: The relationship with suicidal ideation and positive psychotic symptoms. *Psychiatry Research*, 178(2), 244-248. DOI: 10.1016/j.psychres.2009.10.015.

Tesson, S., Butow, P.N., Sholler, G.F., Sharpe, L., Kovacs, A.H., & Kasparian, N.A. (2019). Psychological interventions for people affected by childhood-onset heart disease: A systematic review. *Health Psychology, 38*(2), 151-161. DOI: 10.1037/hea0000704.

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

Ventura, J., Lukoff, D., Nuechterlein, K., Liberman, R., Green, M. & Shaner, A. (1993). *Brief Psychiatric Rating Scale* (Expanded, Version 4.0). Los Angeles: UCLA Department of Psychiatry and Behavioural Sciences. Clinical Research Centre for Schizophrenia and Psychiatric Rehabilitation.

Villa, J., Ehret, B.C. & Depp, C.A. (2019). Systematic review of the inclusion of people with psychosis in suicide-specific clinical trials. *Crisis, 28*, 1-4. DOI: 10.1027/0227-5910/a000628.

Wing, J.K., Beevor, A.S., Curtis, R.H., Park, S.B.G., Hadden, S. & Burns, A. (1998). Health of the Nation Outcome Scales (HoNOS), research and development. *British Journal of Psychiatry, 172*, 11-18. DOI: 10.1192/bjp.172.1.11.

Wolk-Wasserman, D. (1986). Suicidal communication of persons attempting suicide and responses of significant others. *Acta Psychiatrica Scandinavica, 73*(5), 481-499. DOI: 10.1111/j.1600-0447.1986.tb02715.x.

World Health Organisation (2018). Mental health: Suicide data [online]. Available at: http://www.who.int/mental_health/prevention/suicide/suicideprevent/en/ [accessed 31st October 2019].

Yamaguchi, T., Fujii, C., Nemoto, T., Tsujino, N., Takeshi, K. & Mizuno, M. (2015). Differences between subjective experiences and observed behaviours in near-fatal suicide attempters with untreated schizophrenia: A qualitative pilot study. *Annals of General Psychiatry, 14*, 17. DOI: 10.1186/s12991-015-0055-1.

Yates, K., Lang, U., Cederlof, M., Boland, F., Taylor, P., Cannon, M., McNicholas, F., DeVlyder, J. & Kelleher, I. (2018). Association of psychotic experiences with subsequent risk of suicidal ideation, suicide attempts, and suicide deaths: A systematic review and meta-analysis of longitudinal population studies. *JAMA Psychiatry, 76*(2), 180-189. DOI:10.1001/jamapsychiatry.2018.3514.

Zeng, X., Zhang, Y., Kwong, J.S., Zhang, C., Li, S., Sun, F. & Du, L. (2015). The methodological quality assessment tools for preclinical and clinical studies, systematic review and meta-analysis, and clinical practice guideline: A systematic review. *Journal of Evidence Based Medicine, 8*(1), 2-10. DOI: 10.1111/jebm.12141.

Paper 2:

Making space for “suicide talk”: How is suicide talked about within therapy sessions?

Quigley, Jody^{1,2}, Pratt, Daniel^{1,2,3} & Gooding, Patricia^{1,3}

¹Division of Psychology and Mental Health, University of Manchester, UK.

²Greater Manchester Mental Health NHS Foundation Trust, UK.

³Manchester Academic Health Science Centre (MAHSC), Manchester, UK.

Word count: 12,226 (complete text), 213 (abstract),
8,334 (main text excluding tables, figures and references).

The following paper has been prepared for submission to Psychotherapy Research. Author guidelines can be found in Appendix A. Please note, there have been deviations from the guidelines in this version to ensure adherence to thesis submission requirements.

1. Abstract

People experiencing psychosis are more likely to die by suicide, compared to the general population. Talking about suicide provides opportunities for intervention and may reduce individuals' risk of harm, with psychological therapists well placed to promote such discussions. The current study examined how the topic of suicide is discussed within psychological therapy, using an adapted version of the Verona Coding Definitions of Emotional Sequences (VR-CoDES). VR-CoDES were developed to examine the management of emotional content in interactions within medical settings. The current study aimed to a) explore whether VR-CoDES could be adapted for use within a psychotherapeutic context around suicide-related content, and b) apply the adapted system to an exploration of discussions around suicide within psychological therapy. Five pilot audio-recordings of psychological therapy sessions from a trial evaluating an intervention to prevent suicide amongst people experiencing psychosis, were used to adapt the original VR-CoDES manual for the current context. Thirty-seven audio-recordings for eight therapy participants were then coded using the adapted manual. Patterns around individuals' explicit and ambiguous expressions relating to suicide, and therapists' responses which both provided and reduced space for further discussion, were examined. The findings evidence the applicability of adapted VR-CoDES for use in a psychotherapy context, and provide useful insights into how "suicide talk" is managed within psychological therapy.

Keywords: suicide, psychosis, psychological therapy, VR-CoDES, therapeutic interaction.

2. Introduction

Every year, 800,000 people die by suicide worldwide, accounting for approximately 1.4% of all deaths (World Health Organisation, 2020). In the UK, 6,507 suicide fatalities were registered in 2018, which is an age-standardised rate of 11.2 deaths per 100,000 population (Office for National Statistics, 2020). People experiencing mental health difficulties are at an especially high risk of suicide, particularly those experiencing psychosis (Hawton & van Heeringen, 2009). For example, in a Danish cohort study that followed up 176,347 people for 36 years from their first contact with psychiatric services, 6.55% of men and 4.91% of women experiencing psychosis were found to have died by suicide (Nordentoft, Mortensen, & Pedersen, 2011). In addition to suicide deaths, many more people experiencing psychosis experience suicidal thoughts, urges and attempts, which can be extremely distressing both for themselves and for their friends and family (Taylor, Hutton & Wood, 2015). Therefore, the prevention of suicidal thoughts and behaviours, particularly in individuals experiencing psychosis, is vital.

Nondisclosure of suicidal experiences represents a major risk factor for suicide death. Avoiding “suicide talk” isolates an individual in dealing with their suicidal feelings alone, and prevents opportunities for intervention (Fulginiti, Pahwa, Frey, Rice & Brekke, 2016). Conversely, communication around suicidal experiences is associated with a number of beneficial outcomes, the most obvious of which is perhaps the increased likelihood of the individual receiving support, thus reducing their risk of attempting and dying by suicide (Fulginiti et al., 2016; Sheehan, Oexle, Armas, Wan, Bushman et al., 2019). Additionally, disclosure may provide a cathartic or emotional regulatory function (Gould, Marrocco, Kleinman, Thomas, Mostkoff et al., 2005), and may result in lower levels of thwarted belongingness and perceived burdensomeness (both of which are strong predictors of suicide; Van Orden, Witte, Cukrowicz, Braithwaite, Edward & Joiner, 2010), provided responses from family, friends and/or healthcare professionals’ are positive and supportive (Calear & Batterham, 2019; Frey & Fulginiti, 2017; Frey, Hans & Cerel, 2017). Disclosure may also increase the perceived social acceptability of talking about suicide, thereby enabling others to communicate their experiences, and promoting opportunities for peer support (Sheehan et al., 2019).

However, many people do not communicate their suicidal feelings at all, and evidence suggests individuals are even less likely to seek professional help for their suicidal feelings than they are to seek support from significant others (Barnes, Ikeda & Kresnow, 2001; Encrenaz, Kovess-Masfety, Gilbert, Galera, Lagarde et al., 2012; Fulginiti et al., 2016). Those who do not clearly or explicitly communicate their suicidal feelings with professionals – even those who are already in contact with mental health services – may be at particularly high risk of dying by suicide (Barnes et al., 2001; Owens, Lambert, Donovan & Lloyd, 2005; Rudd, Joiner & Rajab, 1995). Barriers to professional help-seeking for suicidal feelings may include beliefs about one’s ability to self-manage, distrust in professionals and, relatedly, fear of forced intervention, fear of other people’s reactions, significant others’ lack of knowledge about the difficulties experienced (and therefore lack of encouragement to seek help), and concerns relating to the shame and stigma surrounding suicidal thoughts and behaviours (Blanchard & Farber, 2020; Cyzy, Horwitz,

Eisenberg, Kramer & King, 2013; Hom, Stanley & Joiner, 2015; Owens et al., 2005; Reynders, Kerkhof, Molenberghs & Van Audenhove, 2015; Sheehan et al., 2019). Further, mental health professionals do not always successfully detect and/or appropriately respond to suicide-related concerns that are expressed, possibly due to fears around responsibility and containment/exacerbation of risk, potential threat to their self-esteem or perceived professional competence, transference/ countertransference issues, or concerns around their own emotional response (Gvion & Fachler, 2017; Hendin, Maltzberger, Lipschitz, Haas & Kyle, 2001; Montgomery, 2018; Richards, 2000). Problems in communication between individuals accessing therapy and their therapists can result in their deliberately concealing suicidal feelings in future, which may be incorrectly interpreted by therapists as indicating an absence of such feelings and their associated risks, resulting in opportunities for intervention being missed and risk of harm potentially increased (Hendin et al., 2001).

Whilst therapists are specially trained in supporting people to talk about difficult internal experiences, and individuals accessing psychological therapies have necessarily already overcome *some* of the barriers to help-seeking in that they are engaging with therapy, conversations around suicidal experiences may still be difficult for all parties (Hom et al., 2015; Montgomery, 2018; Richards, 2000). Individuals with psychotic experiences may be more likely to have experienced interpersonal trauma (Gibson, Alloy & Ellman, 2016; Stanton, Denietolis, Goodwin & Dvir, 2020) and may be more susceptible to paranoia or find it more difficult to trust others (Fett, Shergill, Joyce, Riedl, Strobel et al., 2012; Matteson, Shepherd, Pinchbeck, Laurens & Carr, 2013; Mauritz, Goossens, Draijer & Van Achterberg, 2013). As such, talking about suicidality with a stranger may feel particularly threatening. It is therefore especially important that therapists remain vigilant to such potential barriers, open to detecting subtle clues that individuals may offer to their internal experiences, and mindful of responding sensitively. Improved detection of, and response to, individuals' suicidal expression may be beneficial in a number of ways, such as improving therapeutic relationships, enhancing individuals' psychological well-being, reducing future service use, and ultimately, promoting recovery and preventing suicide.

As such, investigation into the quality and effectiveness of these interactions is clearly warranted to support their improvement. However, despite its importance in terms of reducing psychological distress and potentially preventing deaths, there is a dearth of research into how suicide is talked about within psychological therapy sessions. Such research is vital to informing our understanding of communication within therapy sessions, in order to improve the quality and usefulness of therapy, and increase the likelihood of positive outcomes.

There is an emerging body of evidence within the physical healthcare field examining communication around content which is potentially sensitive or difficult to talk about, within medical consultations. A system called the Verona Coding Definitions of Emotional Sequences (VR-CoDES) has been developed (Del Piccolo, Finset, Mellblom, Figueiredo-Braga, Korsvold et al., 2017; Zimmermann, Del Piccolo, Bensing, Bergvik, Haes et al., 2011) to examine interaction processes occurring between healthcare providers and their patients. VR-CoDES are based on the premises that all clinical interactions are characterised by three-part sequences comprising an eliciting event, a patient expression, and a provider response, and that these sequences can

be analysed for their emotional content, and used to map the quality of the interaction and the responsiveness of the provider in meeting patient needs (Del Piccolo et al., 2017). Part of the rationale for the development of the system was that emotional expressions within medical consultations may be subtle or ambiguous, and such events, whilst potentially important to patient outcomes, might easily be lost if they are interrupted, undetected or misunderstood by providers (Bensing, Zandbelt & Zimmermann, 2003). It was argued that other interaction analysis tools were ill-equipped for dealing with such conversational events (Bensing et al., 2003), so improved capacity for understanding the content and process of patient-provider interactions was deemed vital for the improvement of patient care.

To date, VR-CoDES have been used to explore a range of issues relating to how emotional content is managed between healthcare providers and their patients. Most studies using VR-CoDES have explored how doctors, nurses, and other medical professionals respond to emotional expressions from different patient groups within a range of healthcare settings (Aelbrecht, De Maesschalck, Willems, Deveugele & Pype, 2017; Gorowara-Bhat, Hafskjold, Gulbrandsen & Eide, 2017; Hoglander, Eklund, Eide, Holmstron & Sundler, 2017; Korsvold, Mellblom, Finset, Ruud & Lie, 2017). However, a small number of studies have investigated other aspects of healthcare communication, such as whether trainee and junior doctors' attachment styles or emotional intelligence are associated with how patients' emotional expressions are elicited or responded to (Atherton, Chisholm, Rutter & Peters, 2009; Cherry, Fletcher, Berridge & O'Sullivan, 2018), and even how emotional expressions are managed within veterinary consultations (Vijfhuizen, Bok, Matthew, Del Piccolo & McArthur, 2017). To the authors' knowledge, the system has never been used within psychotherapeutic settings, nor in the exploration of more specific content (i.e., than general emotional expression).

The aims of the current study were therefore twofold. First, the study aimed to explore whether VR-CoDES could be adapted for use in the analysis of psychotherapeutic (as opposed to medical) interactions, around content specifically relating to suicidality (as opposed to a broader focus on *any* emotional content). It was felt that the sensitivity of the tool to subtle and ambiguous expressions may be appropriate for the analysis of suicide-related communication, and provide a detailed description of the characteristics of therapeutic exchanges. It was expected that substantial adaptations to the original system would need to be made for its application to therapeutic settings and for suicide-specific content.

Second, the study aimed to examine the way in which content relating to suicidal experiences was managed by both parties (therapist and patient¹¹) within one-to-one therapeutic sessions, using the adapted VR-CODES system. Specifically, the current study examined the extent to which individuals experiencing psychosis, who were accessing psychological therapy targeting suicidal experiences, made both spontaneous and therapist-elicited suicide-related expressions, whether those expressions tended to be explicit or more ambiguous, and the way in which therapists responded to those expressions (i.e., whether exploration of those expressions was facilitated or inhibited, and the types of responses offered).

¹¹ To maintain consistency with the original VR-CoDES, individuals receiving therapy will be referred to as "patients" throughout.

The study represented the first attempt to utilise VR-CoDES in this way, and was therefore exploratory in nature. However, there were nine tentative hypotheses. It was hypothesised that due to its sensitivity and the challenges associated with talking about suicide, (1) patient expressions of suicide-related content would more often be vague or ambiguous than explicit; and (2) patient expressions of suicide-related content would more often be elicited by the therapist than offered spontaneously; but that (3) expression of suicide-related content would vary between patients. However, as patients “settle in” to therapy and the therapeutic relationship develops, it was expected that (4) more expressions of suicide-related content may be observed in later sessions. It was also hypothesised that (5) patient expressions of suicide-related content would vary at different points within a single session (i.e., in the beginning, middle and end parts of sessions). Given the different backgrounds, characteristics and orientations of individual therapists, it was expected that (6) therapist elicitation of suicide-related expression and types of responses offered would vary between therapists; and given the therapeutic purpose of psychological therapy, it was expected that (7) therapists would more often offer space for discussing suicide-related content than they would inhibit it, and (8) the provision of this space would remain consistent throughout therapy (i.e., across sessions). Finally, given the importance of balancing therapeutic content with risk management, it was expected that (9) therapists’ offer of space for discussing suicide-related content would reduce towards the end of individual sessions.

3. Method

3.1 Approvals

The current study was conducted within the context of the Cognitive AppRoaches to CoMbatting Suicidality (CARMS) trial (Gooding, Pratt, Awenat, Drake, Elliot et al., *submitted*). CARMS is a single-blinded randomised controlled trial examining the efficacy of Cognitive-Behavioural Suicide Prevention for psychosis (CBSPp) – which is based on the Schematic Appraisals Model of Suicide (SAMS; Johnson, Gooding & Tarrier, 2008) – in reducing suicidality in people experiencing psychosis (Tarrier, Gooding, Pratt, Kelly, Awenat et al., 2013; Tarrier, Kelly, Maqsood, Snelson, Maxwell, Law et al., 2014). Pilot studies have shown this intervention to be feasible and acceptable to people experiencing psychosis (Awenat, Shaw-Nunez, Kelly, Law, Ahmed et al., 2017; Tarrier et al., 2014). CARMS participants were randomised to therapy plus treatment as usual, or treatment as usual only.

The CARMS trial was funded by the Efficacy and Mechanism Evaluation programme, a Medical Research Council and National Institute for Health Research partnership. NHS ethical approval was obtained (ref: 17/NW/0089) and sponsorship was provided by the University of Manchester. As part of the trial, participants were invited to consent to the use of both their audio-recorded therapy sessions and their self-reported questionnaire data, in additional research projects. Only participants who agreed to both the use of their audio-recorded therapy sessions and their self-reported questionnaire data were included in the current study.

3.2 Design

The study comprised two parts: Part 1 entailed methodological adaptation; that is, adapting the VR-CoDES system to fit the current context. Part 2 was observational, using audio-recordings of therapy sessions to examine the applicability of the adapted VR-CoDES to the exploration of psychotherapeutic interactions, and provide a tentative micro-longitudinal description of patient-therapist interactions around suicide-related content.

3.3 Participants

3.3.1 Patients

CARMS participants were recruited from mental health services including inpatient wards and outpatient community mental health teams. Inclusion/exclusion criteria were as follows: Inclusion: a) ICD-10 diagnosis of psychosis; b) suicidal thoughts and/or acts in the three months prior to consenting; c) in contact with mental health services and under the care of a care coordinator at the time of consenting; d) aged 18 or over; e) English-speaking; and f) assessed as able to give informed consent. Exclusion: a) dementia or organic brain disorder; b) unable to complete self-report assessments due to language barriers.

A census date of December 2019 was decided upon for the current study and all eligible CARMS participants enrolled into the trial by this date were considered for inclusion in the current study. In total, this applied to 218 participants, of whom 111 received therapy. Thirty-nine of these consented to their data being used for the current study. Those who consented were ranked according to their scores on the Adult Suicidal Ideation Questionnaire (ASIQ; Reynolds, 1991) and those for whom at least four audio-recordings were available from within the first eight therapy sessions were identified (n=18). Eight participants were then selected from that list in descending order of ASIQ scores, whilst ensuring that a range of therapists were represented (i.e., by only selecting the first two participants associated with each therapist). A table illustrating the selection process can be found in Appendix C. The rationale for selecting based on ranked ASIQ scores was that suicide may be more salient to the highest scorers, such that they may be more likely to discuss suicide within their therapy sessions, therefore providing more potentially rich and relevant data to enable the research questions to be addressed. The availability of recordings of earlier sessions (over later sessions) was prioritised for two reasons. First, recordings from earlier sessions were more often available for most people relative to later sessions, and this enabled recordings from similar timepoints in therapy to be explored across all participants. Second, it was believed that the early stages of therapy may yield the most interesting data, as the development of the therapeutic relationship and the creation of therapeutic space is likely to be shaped earlier on in therapy, and the quality of this early alliance is likely to persist over time (Paivio & Patterson, 1999). Representation of interactions involving several different therapists was considered important in order to ensure that results were not merely reflective of individual therapist styles or characteristics (e.g., Black, Hardy, Turpin & Parry, 2005; Rubino, Barker, Roth & Fearon, 2000). The number of audio-recordings selected was pragmatic, in that only participants with at least four available audio-recordings were selected, in order to capture a reasonable course of therapy longitudinally for each

participant. The number of participants selected was also pragmatic, in that it provided a sufficient quantity of data to enable meaningful analysis.

3.3.2 Therapists

Five therapists delivered the therapy sessions to the eight patients. Two were female (1 and 3), two were qualified clinical psychologists (2 and 5), and three were qualified mental health nurses (1, 3 and 4). All were trained and experienced in delivering CBT.

3.4 Procedure

3.4.1. Part 1: Development of the adapted coding manual

The first part of the study comprised the development of an adapted manual, based on the original VR-CoDES manual (Verona Network on Sequence Analysis, 2016). The original manual provides guidance on identifying, within medical settings, emotional expressions made by patients (termed “cues” and “concerns”) and healthcare provider responses (described as either “providing space” or “reducing space” for further exploration).

The manual defines a cue as “*a verbal or non-verbal hint which suggests an underlying unpleasant emotion and would need a clarification from the health provider*” (Verona Network on Sequence Analysis, 2016, p7). This would include the use of vague or unspecific words/phrases and metaphors, for example, “*it gets on top of me*” or “*it’s a strange feeling*”. A concern is defined as “*a clear and unambiguous expression of an unpleasant current or recent emotion*” (Verona Network on Sequence Analysis, 2016, p7); for example, “*I am upset*” or “*I am angry*”. The manual then provides further instruction on coding cues/concerns according to their source of elicitation; either therapist-elicited (if stated in direct response to therapist’s previous statement/question) or patient-elicited (if unrelated to therapist’s previous statement/question).

The manual defines therapist responses which provide space as “*any intervention which gives space for further disclosure of the cue/concern expressed by the patient*” (Verona Network on Sequence Analysis, 2016, p24); for example, “*tell me more about that*” or “*what is it that worries you about the operation?*”. A reducing space response is defined as “*any response or intervention which reduces the space for or closes down further disclosure about the cue or concern expressed by the patient*” (Verona Network on Sequence Analysis, 2016, p24); for example, “*it’s silly to worry about a routine operation*” or “*everything will be ok*”. The manual gives further guidance on categorising therapist responses into subtypes, indicating the content of the response. Some examples include “*Acknowledge*”, “*Explore*”, and “*Silence*” which all provide space, and “*Ignore*”, “*Postpone*”, and “*Information-advise*”, which all reduce space (Verona Network on Sequence Analysis, 2016, p25-32).

The current study adapted the content of the manual for use specifically in relation to suicide-related content (as opposed to any emotional content) within a psychotherapeutic setting (as opposed to a medical setting). Adapted cues and concerns were defined through examination of suicide-related content in a random selection of five “pilot” therapy recordings that were not included in the subsequent analysis (Part 2 of the study), and with reference to the suicide literature. In line with the original manual (but adapted for suicide-related content), cues were defined as *verbal hints at underlying suicidal thoughts or behaviour, which would require*

clarification or further explanation to fully understand. Concerns were defined as clear, unambiguous, explicit verbal expressions of suicide-related content.

Categories of therapist responses were also defined through examination of recordings not included in the analysis. Attempts were made to align categories as closely as possible to those in the original manual. Cues, concerns and categories of therapist responses were then further shaped and expanded upon, as appropriate, throughout the coding of included recordings (for example, if additional categories emerged or it became apparent that definitions required refinement). The adapted coding manual can be viewed in full, in Appendix D.

3.4.2. Part 2: Application of the adapted coding manual

Following selection for inclusion, four or five audio-recordings of consecutive therapy sessions for each patient (dependent upon availability) were listened to in their entirety by the first author. Sections containing definite or possible reference to suicide-related content – as defined by the coding manual – were then transcribed verbatim and time-stamped.

Patient cues and concerns were coded as such, and then further coded by their source of elicitation, as either therapist- or patient-elicited. Therapist responses to cues and concerns were coded according to whether they provided or reduced space for continued exploration, and further coded into categories reflecting different types of providing or reducing space responses. Further detail on coding can be found in the coding manual, Appendix D.

To maximise the trustworthiness of the data, all coded transcripts were double-checked for agreement by the primary supervisor (PG), and any areas of disagreement or uncertainty were discussed. The proportion of instances of disagreement/uncertainty was calculated as a percentage of the total number of codes, indicating that 2.9% required further discussion to reach consensus (i.e., there was 97.1% initial inter-rater agreement).

3.5 Analysis

Analysis was primarily descriptive. Frequencies of codes were counted individually and as members of different categories, and means, ranges and proportions (as appropriate) were calculated. Categories included: type of patient expressions (cues or concerns), source of elicitation (therapist-elicited or patient-elicited), type of therapist response (providing space or reducing space), and specific category of therapist response. These figures were calculated with reference to individual patients, to session number, to section of session, and to individual therapists, in order to explore whether any patterns or differences existed between different patients or therapists, or over the course of a session or the duration of therapy.

4. Results

4.1 Part 1: Development of the adapted coding manual

The adapted coding manual was developed to align as closely as possible with the original VR-CoDES manual, whilst ensuring relevance and utility for the current context. As was

expected, substantial adaptations were required for application within a psychotherapeutic context, focusing on suicide-related content.¹²

4.1.1 Coding decisions

There were four stages of the coding process: the first two pertaining to patient cues/concerns, and the latter two pertaining to therapist responses:

Step 1 – *Identification of patient expressed cues/concerns.*

Step 2 – *Coding of cues/concerns as patient- or therapist-elicited.*

Step 3 – *Coding of therapist responses as providing or reducing space for further disclosure.*

Step 4 – *Coding therapist responses into categories.*

Figure 2 illustrates the coding pathways for patient expressions and therapist responses.

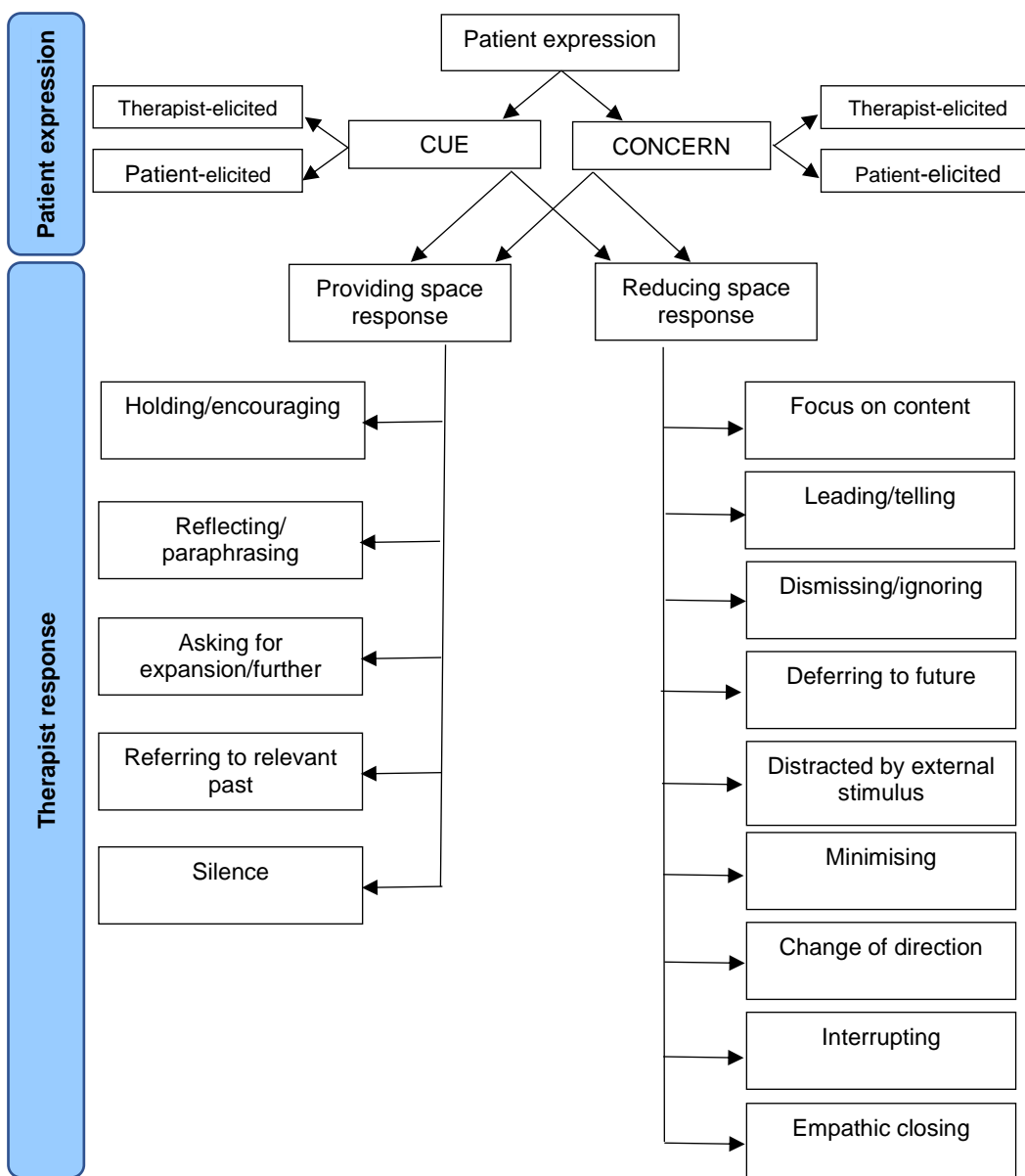


Figure 2: Coding pathways for patient expressions and therapist responses.

¹² Full detail on the content of the adapted manual is beyond the scope of this paper, but some discussion is provided in Paper 3, and the manual itself can be found in Appendix D.

4.1.2 Patient cues/concerns

The cues and concerns identified are illustrated in Table 3.

Table 3: Coding framework for patient cues/concerns.

Cues	Concerns
<p>Active attraction to death E.g., wanting to die, wishing to be dead.</p> <p>Passive attraction to death E.g., not wanting to live anymore, not wanting to be here anymore, wanting to disappear, giving up.</p> <p>Entrapment/“stuckness” E.g., having had enough, feeling unable to go on, needing to get out, needing to escape, having no way out, having no escape.</p> <p>Burdensomeness/uselessness E.g., others being better off without one, nobody noticing/missing one if one was not around, feeling like a burden to others, not deserving to live, feeling worthless, feeling totally alone.</p> <p>Hopelessness E.g., having no hope, feeling hopeless, feeling totally lost, seeing no hope of change, not seeing the point, things feeling pointless.</p> <p>Functional difficulties E.g., significant deterioration in functioning, struggling to manage.</p> <p>Emotional difficulties E.g., having unbearable thoughts/ feelings, significant low mood/ depression, significant deterioration in mood, struggling with feelings, being in crisis.</p> <p>Metaphors E.g., exploding, drowning, suffocating, losing, being in a bad place/hell.</p> <p>Other suggestions of underlying suicidal thoughts or behaviours</p> <ul style="list-style-type: none"> - Writing a note (content unspecified) - Consequences of self-harming/ attempting suicide/ being dead. - Reasons for self-harming/ attempting suicide/ dying by suicide. - Vague/ ambiguous comments alluding to “<i>doing something/ anything/ it</i>”. - Vague/ ambiguous responses to direct questions about suicide (e.g., Therapist: “<i>Was that when you thought about suicide?</i>” Patient: “<i>I’m not sure</i>”). 	<p>Thoughts/plans/urges relating to:</p> <ul style="list-style-type: none"> - Suicide (attempting, “committing”, dying by). - Taking/ ending one’s own life. - Killing oneself. - Harming/ hurting oneself. - Specific methods (e.g., overdose, hanging, jumping from height). - Other people dying by/ attempting suicide. - Writing a suicide note. <p>Reference to plans made/ acts already carried out:</p> <ul style="list-style-type: none"> - Method (e.g., overdose, hanging). - Means (e.g., gathering tablets, researching ligatures). - Specific steps regarding dying by suicide (e.g., gathering tablets, planning when to overdose). <p><i>NB. Reference to plans/ acts are only coded as concerns if explicitly related to suicide thoughts, plans, urges or attempts. For example, talking about a bridge or tablets would not be coded as a concern unless mentioned within the context of jumping from it or overdosing on them.</i></p>

Below are some examples of cues expressed by patients, for illustrative purposes.

Patient 2: *It’s life in general really... it wears you down after a while.*

Patient 4: *You know, nobody would miss me or owt.*

Below are some examples of concerns expressed by patients, for illustrative purposes.

Patient 5: *And then I feel guilty for it and I kind of like, start thinking about death or like dying or suicide.*

Patient 7: *Maybe I should've gone through with it properly, like hung myself, like thinking if I did it, I wouldn't have all these problems now.*

4.1.3 Therapist responses

Substantial amendments were also necessary to the range (and names) of categories of therapist responses, in order to more closely reflect the types of responses categories represented. Several categories from the original manual were collapsed into one category for current purposes, due to the nature of the interactions. For example, *Content acknowledgement* and *Affective acknowledgement* tended to denote the same thing, as the majority of the content was affect-related, so they were collapsed into *Reflecting/paraphrasing*, which seemed a more fitting label. Further, the original manual also provides instruction on coding nonverbal responses (e.g., eye contact, facial expression), but given that the current study used audio-recordings, this was obviously not possible. The original manual also includes a step which distinguishes between implicit and explicit therapist responses, but the purpose and utility of this distinction is unclear, and it was not considered important for the current purposes. Names, brief descriptions and examples of categories of both providing space and reducing space responses are illustrated in Tables 4 and 5, respectively.

Table 4: Categories of providing space responses.

Providing space category	Description	Example
Holding/encouraging (similar to <i>Backchannel</i> in the original manual)	Words/sounds indicating therapist is listening, but allowing patient to continue uninterrupted.	Therapist: <i>Mm-hm / Yeah / OK / Right</i>
Reflecting/paraphrasing (similar to <i>Content acknowledgement</i> and <i>Affective acknowledgement</i>)	Repeating cue/concern in same or similar words, or rephrasing to aid clarification.	Patient: <i>I'm so tired of it</i> Therapist: <i>It sounds like it's really worn you out</i>
Asking for expansion/further info (similar to <i>Active invitation</i> and <i>Affective exploration</i>)	Explicitly asking for additional information or clarification of patient's meaning.	Patient: <i>Dying seems the only solution</i> Therapist: <i>What is it about dying you think would make things better?</i>
Referring to relevant past (no similar category in original manual)	Bringing up relevant points previously discussed that facilitates further discussion.	Patient: <i>We started arguing again and I had to get out of there</i> Therapist: <i>Because the fights led to suicidal thoughts in the past?</i>
Silent space (similar to <i>Silence</i>)	Providing a clear pause of at least 3 seconds, allowing patient space to continue if they wish.	Patient: <i>It's just too hard, it just feels so...</i> Therapist: <i>[pause 3 secs]</i>

Table 5: Categories of reducing space responses.

Reducing space category	Description	Example
Focus on content (no similar category in original manual)	Attending only to concrete or factual content of cue/concern.	Patient: <i>I felt like I couldn't go on any longer</i> Therapist: <i>What day was this?</i>
Leading/telling (similar to <i>Information-advise</i>)	Informing, giving advice, or suggesting what patient thinks/feels/ means to say.	Patient: <i>I'm sick of feeling like this</i> Therapist: <i>You know it always gets better though</i>
Dismissing/ignoring (similar to <i>Shutting down</i> and <i>Ignoring</i>)	Seemingly missing or actively blocking further discussion of cue/concern.	Patient: <i>The voices were unbearable</i> Therapist: <i>OK, shall we pick up on what we started last week?</i>
Deferring to future (similar to <i>Postponement</i>)	Preventing immediate exploration of the cue/concern, suggesting it is delayed until some future point in time.	Patient: <i>I'm worried I won't be able to cope</i> Therapist: <i>I'd like to talk about that a bit more later</i>
Distracted by external stimulus (no similar category in original manual)	Attending to other stimuli at the expense of responding to cue/concern.	Patient: <i>I've been feeling low</i> Therapist: <i>(Shuffling papers) I think I've left your worksheets in the car</i>
Minimising (similar to <i>Active blocking</i>)	Devaluating, disconfirming or otherwise minimising cue/concern, at either a factual or affective level.	Patient: <i>I'm so worried I won't be able to cope</i> Therapist: <i>There's no need for you to worry</i>
Change of direction (similar to <i>Switching</i>).	Changing the subject or steering discussion away from the cue/concern.	Patient: <i>I feel like I can't take much more of the voices</i> Therapist: <i>How do they make you feel about yourself?</i>
Interrupting (no similar category in original manual)	Speaking over patient or intervening mid-sentence.	Patient: <i>Not seriously, but I was-</i> Therapist: <i>And was that fleeting?</i>
Empathic closing (similar to <i>Implicit empathy</i>)	Providing empathy or showing understanding, but nonetheless closing down the conversation.	Therapist: <i>That sounds hard / I understand / I can imagine.</i>

4.2 Part 2: Application of the adapted coding manual

Therapy sessions for eight patients were analysed. 50% of patients were female, the mean age was 35 years (range 20 years, 10 months – 60 years, 7 months), and all were white/Caucasian. A total of 37 therapy sessions were analysed (five sessions each for five patients, four each for the remaining three patients), constituting 27 hours and 47 minutes of therapy session recordings. Patient characteristics are illustrated in Table 6.

Table 6: Patient characteristics.

Pt ID	Therapist	Age (years)	Sex	ASIQ score	Relationship status	Current living status	Children	Current employment status	Education level	Therapy time analysed
1	1	24.7	F	123	Single	In inpatient services	0	Exempt – disability	Further education	5 sessions = 2h 54m
2	1	60.6	M	104	Single	Living alone	0	Exempt – disability	Further education	5 sessions = 4h 10m
3	2	41.7	F	120	Married/ in a relationship	Living with partner	0	Student	Further education	4 sessions = 3h 14m
4	2	55.0	M	56	Married/ in a relationship	Living with partner	1	Exempt – disability	Secondary school	5 sessions = 3h 51m
5	3	20.8	M	119	Married/ in a relationship	Living with partner	0	Unemployed	Further education	4 sessions = 3h 49m
6	4	28.2	F	89	Married/ in a relationship	Supported living	1	Exempt – disability	Other	5 sessions = 3h 53m
7	4	27.3	M	79	Single	Living with parents	0	Exempt – disability	Secondary school	5 sessions = 3h 29m
8	5	22.0	F	52	Married/ in a relationship	Living with partner	4	Exempt – disability	Further education	4 sessions = 2h 28m

4.2.1 Patient cues/concerns

A total of 586 cues/concerns were identified across all 37 therapy session recordings, comprising 328 cues and 258 concerns. A mean of 2.0 cues/concerns were expressed per patient, per session (1.1 cues, 0.9 concerns), with a range of between 0 and 48 cues/concerns per patient, per session (between 0 and 32 cues, and between 0 and 37 concerns). A total of six sessions contained no cues, four sessions contained no concerns, and three sessions contained no cues or concerns. All sessions without cues/concerns pertained to the same three patients (Patients 2, 3, and 7). As predicted by Hypothesis 1, cues were more common than concerns, but contrary to Hypothesis 2, both tended to be more often patient- than therapist-elicited. Table 7 illustrates the breakdown of cues/concerns which were therapist-elicited and patient-elicited.

Table 7: Frequency of cues/concerns and their source of elicitation.

	Cues (%)	Concerns (%)	Total (%)
Therapist-elicited	133 (40.6)	121 (46.9)	254 (43.3)
Patient-elicited	195 (59.5)	136 (52.7)	331 (56.5)
Unknown source ¹³	0	1 (0.4)	1 (0.2)
Total	328 (56.0)	258 (44.0)	586

Cues/concerns were examined across patients. Each patient expressed a mean of 73.3 cues/concerns across all of their sessions (41.0 cues, 32.3 concerns). Cues/concerns were also broken down by individual patient to explore variability of expression between patients. As illustrated in Figure 3, there was substantial variation in total cue/concern expression, with some patients (e.g., Patients 4 and 5) expressing several times the number of cues/concerns that others (e.g., Patients 3 and 7) expressed. This variation provides support for Hypothesis 3, and could indicate that suicide-related content was more significant/salient to some patients than others, or simply that some patients found it easier to talk about suicide than others. Despite this variation in total expression, most patients (75%) tended to express cues and concerns at a ratio of approximately 3:2, indicating a slight preference for less explicit expression. Two patients however (25% – Patients 5 and 6), were the exception to this, with ratios closer to 5:6, indicating further variation in responding and further support for Hypothesis 3.

¹³ One concern was expressed at the very beginning of a recording so it was not possible to determine its source of elicitation.

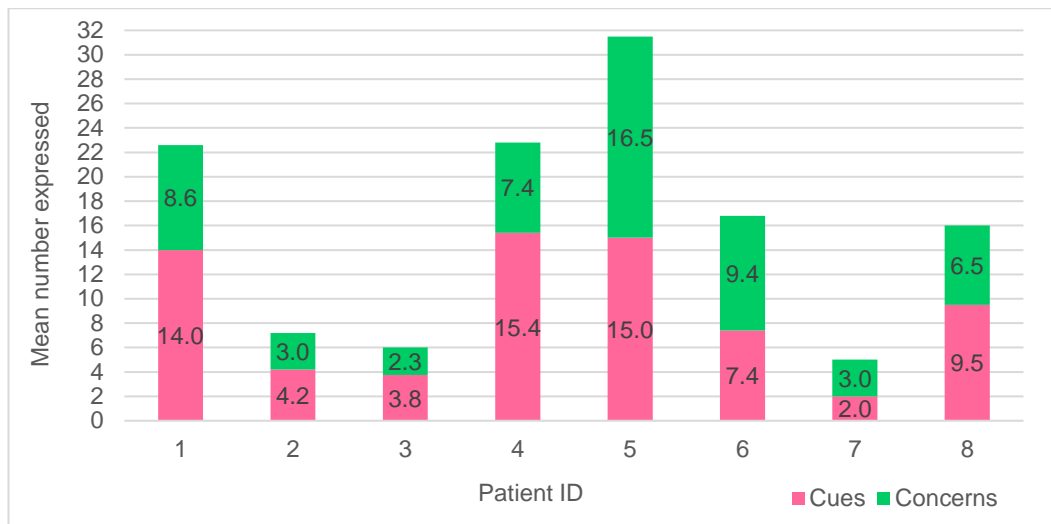


Figure 3: Mean cues/concerns expressed by each patient, per session.

Cues/concerns were then examined by session¹⁴. A mean of 15.8 cues/concerns were expressed per session (8.9 cues, 7.1 concerns). These were further broken down by session number to explore the spread of cues/concerns expressed throughout the course of therapy. As illustrated by Figure 4, the range was broad, and although cues tended to be expressed more often than concerns for most sessions (Hypothesis 1), there was no obvious pattern in expression over the course of therapy (contrary to Hypothesis 4).

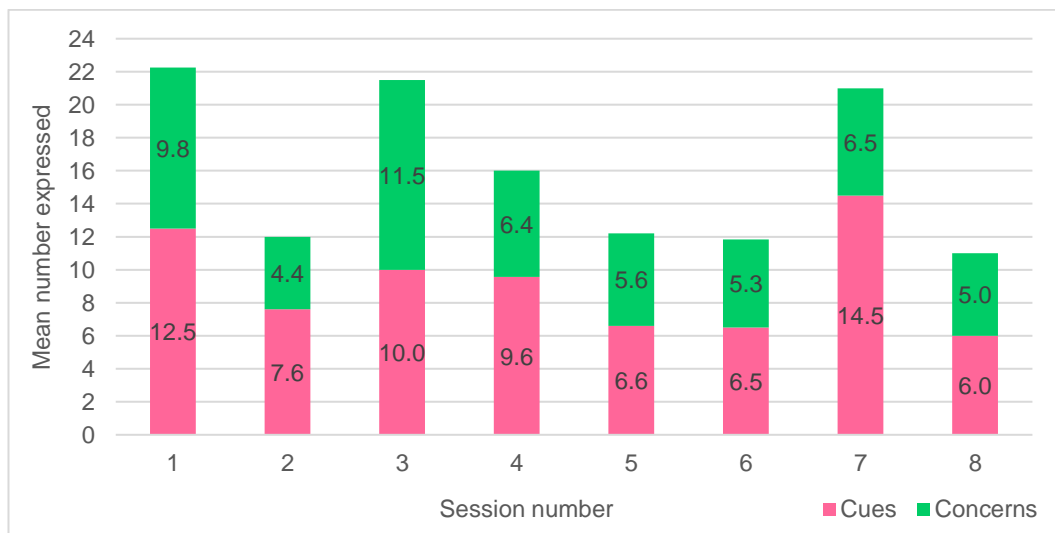


Figure 4: Mean cues/concerns expressed per session, collapsed across all patients.

Next, sessions were broken down into three sections of time (the beginning, middle and end thirds), to explore the pattern of cues/concerns expressed during the course of individual sessions. As was hypothesised (Hypothesis 5), expression of cues/concerns appeared to vary (in that they reduced) slightly over the course of a session, with a total of 214 expressed in

¹⁴Means were calculated for all session 1s, all session 2s etc. across patients. As a range of different session numbers were available for different patients (i.e., no one had a complete "set"), the number of sessions that make up each mean varied between 2 and 7.

beginning sections (122 cues, 92 concerns), 199 in middle sections (126 cues, 73 concerns) and 166 in end sections (75 cues, 91 concerns), perhaps indicating patient preference for discussing suicide-related content earlier on in sessions (an “offloading” effect). More cues than concerns were expressed overall and in the beginning and middle sections of therapy. However, slightly more concerns than cues were expressed in the end section, perhaps indicating a tendency towards being more explicit when there is less time remaining for discussion, or simply reflecting increased safety planning (and therefore focus on suicide-related content) towards the end of sessions. Figure 5 illustrates the mean numbers of cues/concerns expressed in each section of session, across all patients/sessions.

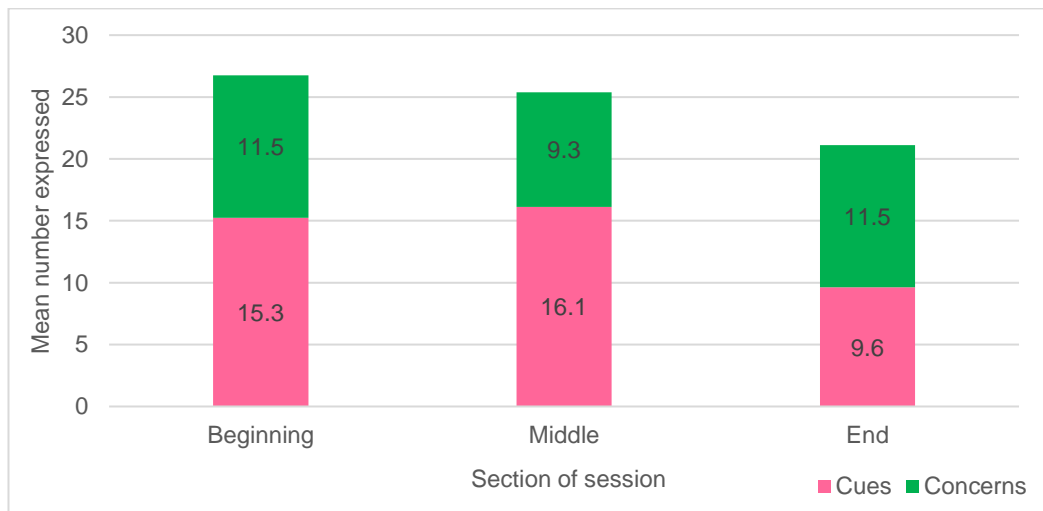


Figure 5: Mean cues/concerns expressed in each section of session, collapsed across all sessions.

Finally, cues/concerns were categorised by therapist¹⁵, to explore whether cue/concern expression or source of elicitation differed between therapists. As illustrated in Figure 6, contrary to what was hypothesised (Hypothesis 6), total expressions appeared to be relatively similar across therapists, with the exception of Therapist 3, to whom considerably more cues/concerns were expressed. However, Hypothesis 6 was partially supported in that there was some variation in the proportion of cues to concerns expressed to different therapists, with Therapists 1, 2 and 5 receiving more cues, and Therapists 3 and 4 receiving more concerns.

¹⁵ Means were calculated from all sessions with all patients who saw the same therapist. As therapists saw different numbers of patients and patients had different numbers of sessions, the number of patient sessions that make up each mean varied between 4 and 10.

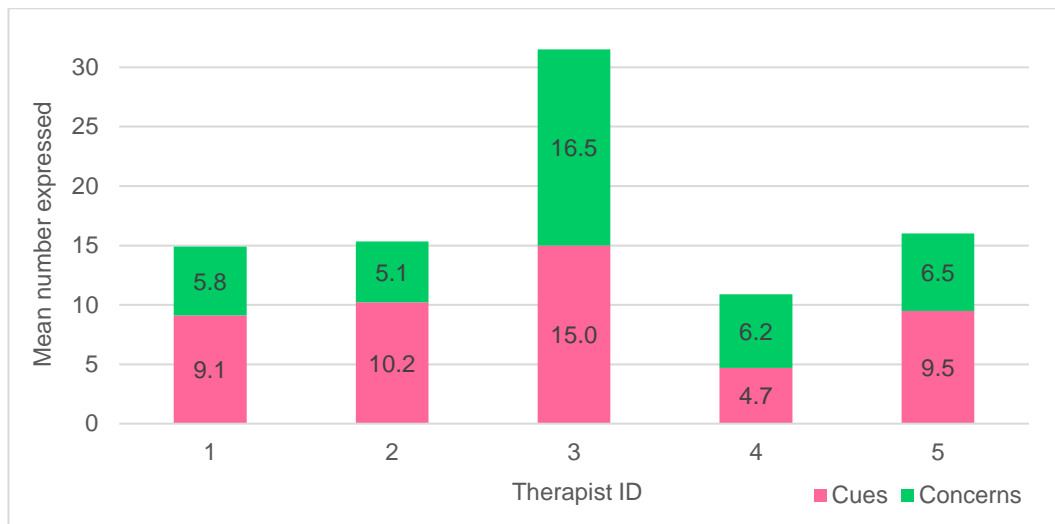


Figure 6: Mean cues/concerns expressed within sessions with each therapist.

In further support of Hypothesis 6, there was some variation in source of elicitation of cues/concerns expressed to different therapists. Although proportions of patient- to therapist-elicited cues/concerns were relatively uniform across Therapists 1, 2 and 3, cues/concerns appeared to be somewhat more likely to be patient-elicited with Therapist 4, and therapist-elicited with Therapist 5, as can be seen in Figure 7.

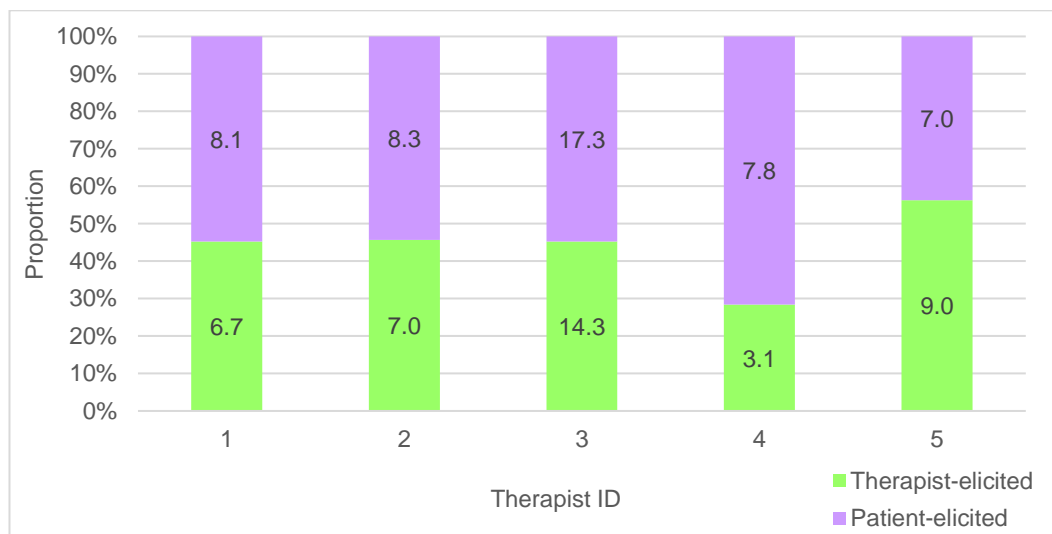


Figure 7: Proportions (and means) of patient- and therapist-elicited cues/concerns expressed with each therapist.

4.2.2 Therapist responses

A total of 606 therapist responses to patient cues/concerns were identified from all 37 session recordings. As predicted in Hypothesis 7, responses which provided space for further discussion of cues/concerns (n=460, 75.9%) were far more common than those which reduced space (n=146, 24.1%). A mean of 14.2 providing space responses, and 4.1 reducing space responses, were expressed per therapist, per session. Table 8 illustrates the breakdown of providing/reducing space responses to patient cues/concerns.

Table 8: Frequency of providing/reducing space response to patient cues/concerns.

	Providing space (%)	Reducing space (%)	Total (%)
Patient cues	252 (73.5)	91 (26.5)	343 (56.6)
Patient concerns	208 (79.1)	55 (20.9)	263 (43.4)
Total	460 (75.9)	146 (24.1)	606

Providing/reducing space responses were examined by therapist. Each therapist offered a mean total of 92.0 providing space responses (50.4 in response to cues, 41.6 in response to concerns) and 29.2 reducing space responses (18.2 in response to cues, 11.0 in response to concerns) across all of their sessions. These were broken down to explore variability of responses between therapists. As can be seen in Figure 8, and in support of Hypothesis 7, all therapists offered far more providing space than reducing space responses, indicating that the tendency to more often encourage (than inhibit) discussion of suicide-related content was consistent across all therapists. However, the mean proportion of providing space to reducing space responses varied slightly between therapists (consistent with Hypothesis 6), with Therapists 3 and 4 offering a greater proportion of providing space than reducing space responses, compared with their peers.

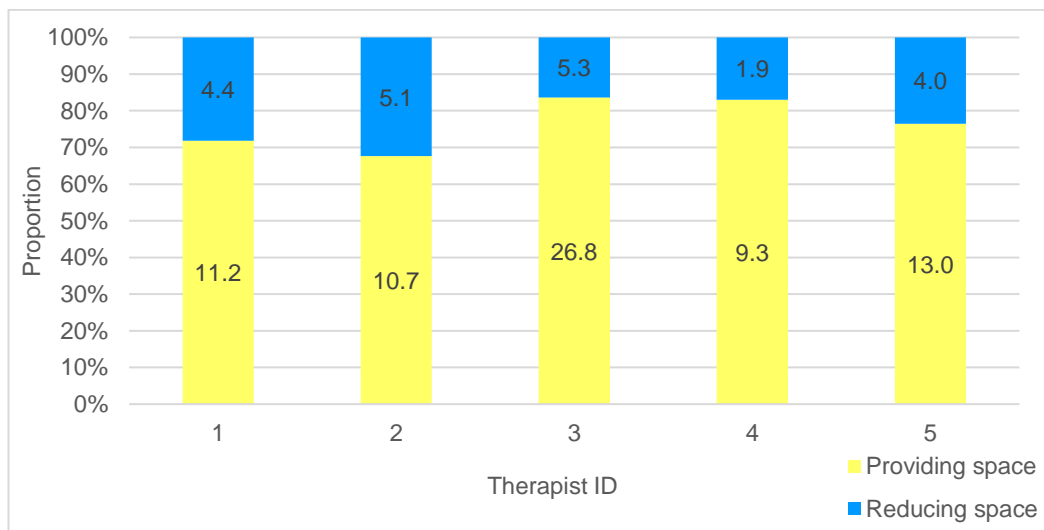


Figure 8: Proportions (and means) of providing/reducing space responses offered per session, by each therapist.

Responses were then examined by session¹⁶, revealing a mean number of 12.4 providing space, and 4.0 reducing space responses, per session. These were broken down by session number to explore the spread of responses over time. As illustrated by Figure 9 and in support of Hypothesis 8, proportions of providing space to reducing space responses remained relatively consistent throughout the course of therapy.

¹⁶As before, means were calculated for all session 1s, all session 2s etc. across therapists, and the number of sessions that make up each mean varied between 2 and 7.

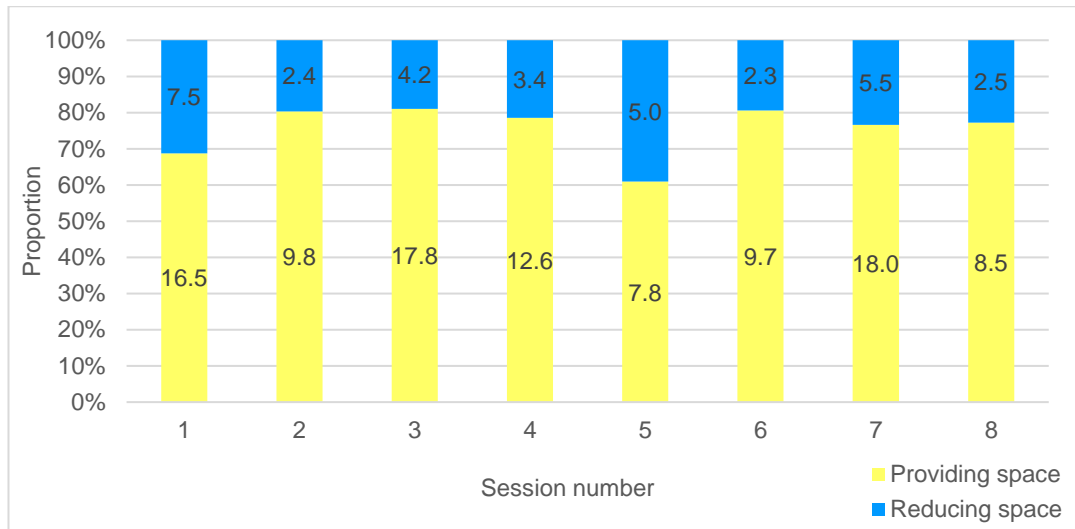


Figure 9: Proportions (and means) of providing/reducing space responses offered per session, collapsed across therapists.

Next, responses were broken down by section of session to explore the pattern of providing/reducing space responses offered throughout the course of individual sessions. A total of 164 providing space responses, and 57 reducing space responses were offered in the beginning third across all therapists/sessions; 155 providing and 55 reducing space responses in the middle third, and 141 providing and 34 reducing space responses in the end third, indicating that contrary to Hypothesis 9, the proportion of providing space to reducing space responses was similar in the beginning and middle sections of sessions, but increased towards the end of the session. Figure 10 illustrates the proportions of providing/reducing space responses following cues/concerns, in each section of session.

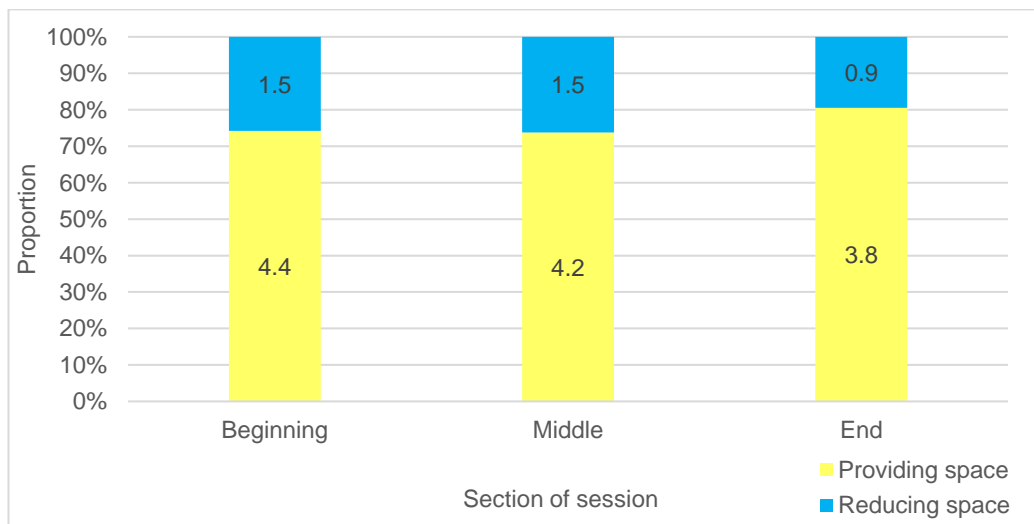


Figure 10: Proportions (and means) of providing/reducing space responses offered in each section of session, collapsed across therapists.

Finally, providing and reducing space responses were categorised into subtypes, according to the coding manual. Figure 11 illustrates the proportions of each therapist's opening

space responses that fell into each category. In line with Hypothesis 6, there were variations between therapists, but overall, *Holding/encouraging* responses were most frequent, followed by *Asking for expansion/further info*.

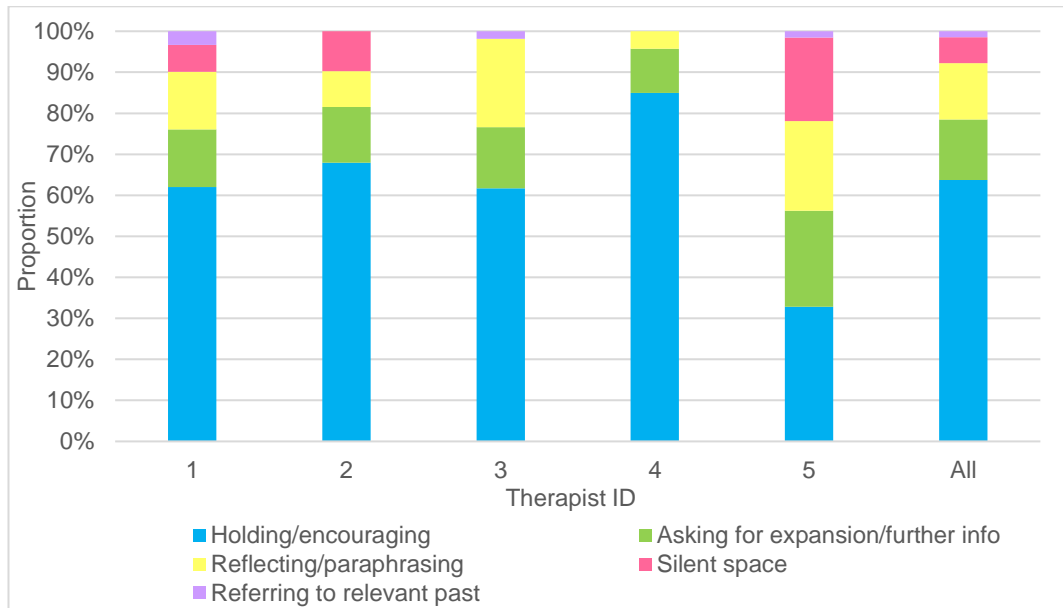


Figure 11: Proportions of each category of opening space responses offered by each therapist.

Figure 12 illustrates the percentage of each therapist's reducing space responses that fell into each category. Again, there was some variation between therapists, but overall, *Focus on content* was the most frequent type, followed by *Leading/telling*.

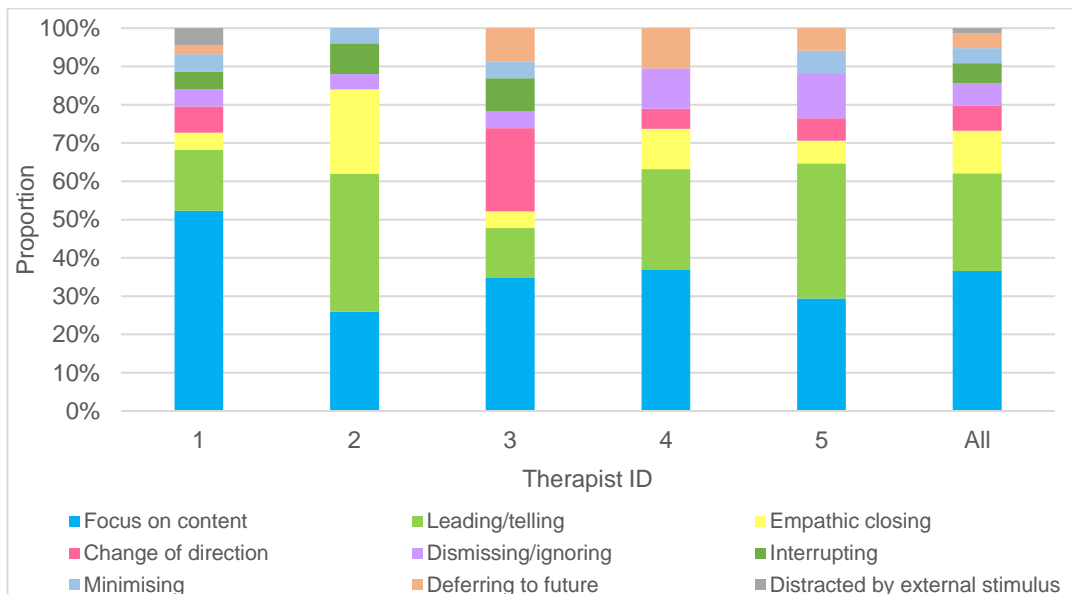


Figure 12: Proportion of each category of reducing space responses offered by each therapist.

5. Discussion

Part 1 of the current study aimed to adapt the VR-CoDES system for exploration of suicide-related content within psychotherapeutic interactions. Substantial adaptations to the coding manual were necessary due to the nature of the context and the target content, in comparison to those previously studied. Therapy sessions are obviously likely to be higher in emotional content than medical consultations (Zimmerman, Del Piccolo & Finset, 2007), as a major goal of therapy is usually to improve emotional wellbeing (as opposed to physical health). Additionally, therapists are likely to be more focused on, sensitive and responsive to, emotional content than are medical professionals (Jennings & Skovholt, 1999; Zimmerman et al., 2007), as supporting people to understand their internal experiences and manage their emotional distress is arguably one of the main purposes of their role (e.g., Beck, 2011; Hazler & Barwick, 2001; Barkham, Guthrie, Hardy & Margison, 2017). Further, suicide is an extremely sensitive and emotive subject to discuss, and the use of metaphors, euphemisms, and even ambiguity may be more prevalent in conversations around the subject than around emotional content more generally (Owens, Belam, Lambert, Donovan, Rapport & Owens, 2012). From a risk management perspective, the necessity for careful assessment and formulation arguably requires the clinician to have an especially clear and coherent understanding of suicidal expression than might be necessary for understanding emotional expression more generally. Taken together, these contextual differences meant that the coding manual required a high level of sensitivity for detecting subtle or ambiguous expressions of suicide-related distress, a specific framework for identifying potentially suicide-related content, and a tailored range of categories of therapist responses.¹⁷

Part 2 of the study aimed to apply the adapted coding scheme to transcribed audio-recordings of psychological therapy sessions, in order to explore the ways in which suicide-related content was managed by both patients and therapists, and test a number of tentative hypotheses. Cues/concerns were commonly expressed by patients, and although the extent of this expression varied between patients, it was more often vague or ambiguous (cues) than explicit (concerns). This is consistent with evidence that suicide is difficult to talk about (Hom et al., 2015; Montgomery et al., 2018), and is therefore more often approached indirectly or using more abstract language (Owens et al., 2012). The expression of cues/concerns was fairly consistent throughout the course of therapy, although patients appeared to express slightly fewer cues/concerns towards the end of individual sessions. It is possible that this pattern reflects patients' desire to "offload" early on in the session, and may demonstrate the potential impact of time availability on therapeutic progress (Eckert, 1993; Reynolds, Stiles, Barkham, Shapiro, Hardy & Ress, 1996). Patient expression of cues/concerns was at a much higher rate than previous VR-CoDES studies (e.g., Aelbrecht et al., 2017; Zimmermann et al., 2007), but this is perhaps unsurprising given that psychological well-being is the main focus of psychological therapy, and other competing needs (e.g., physical healthcare needs) are likely to require far less attention than in medical consultations (e.g., Fuhrmann, 2017).

¹⁷ Full consideration of issues around the adaptation of VR-CoDES is beyond the scope of this paper, but is discussed further in Paper 3.

Contrary to expectations, cues/concerns were more often spontaneous than elicited by therapists, although again, this varied between patients. Therapists' own fears of or aversion to discussing suicide may make them reluctant to initiate such conversations (Montgomery, 2018; Richards, 2000), which would be consistent with findings from medical consultations that healthcare providers may actively inhibit disclosure of sensitive content (Zimmermann et al., 2007). However, once patients had already initiated a suicide-related exchange, therapists more often responded by providing space for further exploration than reducing space, a finding which is consistent with some of the previous VR-CoDES work with medical professionals (e.g., Aelbrecht et al., 2017; Hoglander et al., 2017), but not all (e.g., Zimmermann et al., 2007). One might hope that therapists would be particularly responsive to emotional or distressing content given their training and expertise (Hazler & Barwick, 2001; Machado, Beutler & Greenberg, 1999), and it might be relatively easier for them to provide conversation space due to the fact that the time they have with patients is arguably less pressurised than in medical consultations (e.g., a 10-minute GP appointment). However, even when time became more pressurised towards the end of sessions, the current findings showed that therapists tended towards providing *more* space for further discussion of cues/concerns (compared with the beginning or middle sections). This may reflect the seriousness of the current content, in that therapists may be keen to more quickly understand the level of risk attached to disclosures of suicidality when less time remains for discussion/assessment.¹⁸

A broad range of categories of therapist responses were identified, possibly reflecting differences in therapists' individual characteristics and therapeutic styles (Black et al., 2005; Rubino et al., 2000) or active decision-making regarding how best to respond (Cocksedge & May, 2005). *Focus on content* represented the most common reducer of space, followed by *Leading/telling*. This is consistent with previous VR-CoDES research, which has shown that even when inviting further disclosure, healthcare providers often focus more on factual surface content than on underlying emotions (Epstein, Hadee, Carroll, Meldrum, Lardner & Shields, 2007). A number of factors have previously been identified which influence healthcare providers' decisions regarding how to respond to the emotional content of patient expressions, including their own mood, their workload and how they feel about the patient (Cocksedge & May, 2005). However, given the therapeutic nature of the current context and the risks associated with inadequate responding to disclosures around suicide, focus on surface detail of patient communication may be more likely to reflect therapists' eagerness to gather sufficient information to manage risk effectively, and anxiety around their own competence or ability to help the patient (Montgomery, 2018).

Holding/encouraging responses (akin to *Backchannelling* in the original VR-CoDES) such as "right", "mm-hm" etc. were by far the most common provider of space in the current study. Sacks (1992) described the use of these seemingly empty "response tokens" as having an important function in therapeutic interactions; indicating to the speaker that their story is heard, and directing them to continue. Although this pattern of therapist responses is contrary to

¹⁸ Although the above general patterns were noted, a number of differences between individual patients and therapists were also observed, the exploration of which was beyond the scope of the current study. Further discussion of these can be found in Paper 3.

previous VR-CoDES studies involving doctors, which more often report active questioning around the content of expressions (e.g., Aelbrecht et al., 2017; Epstein et al., 2007), it is in line with studies examining the responses of nurses (e.g., Finset, Heyn & Ruland, 2013; Hoglander et al., 2017). It is possible that within therapeutic (and nursing) contexts, simply being present and actively listening to the person, without necessarily guiding the focus of the interaction or offering advice, is more important (Geller & Greenberg, 2012; Hobson, 1985; Rogers, 2003; Weger, Castle Bell, Minei & Robinson, 2014). It is widely understood that active listening is a vital component of both nursing and psychological therapy, and when applied skilfully, plays an important role in bolstering the therapeutic relationship and enabling people to feel heard and understood (Ackerman & Hilsenroth, 2003; Fitzgerald & Leudar, 2010; Levitt, 2001; Stickley & Freshwater, 2006; Weger et al., 2014). Given that the use of *Silent space* was surprisingly infrequent in the current study, it would seem that therapists' active listening was more often demonstrated through the use of these short utterances, than through silence. It may be that in a more psychodynamically-informed therapy, greater use of silence would be observed (Barkham et al., 2017; Hobson, 1985; Lane, Koetting & Bishop, 2002).

The notion of being with people and bearing witness to their experience in a compassionate way speaks to debates around the active ingredients of psychological therapy, the importance of the therapeutic relationship over and above other factors, and the utility of distinguishing between different therapeutic models and approaches (Howgego, Yellowlees, Owen, Meldrum & Dark, 2003; Jorgensen, 2004; Rogers, 2003; Smith-Hansen & Probart, 2014). This may be particularly important for people experiencing suicidal thoughts and feelings, given the severity of potential outcomes if distress (and the associated risk) is not effectively reduced. It is understood that people accessing therapy benefit from therapists being able to tolerate witnessing their distress without flinching (Markowitz & Milrod, 2011), so striking a delicate balance between systematically assessing and managing risk, and providing adequate empathy and therapeutic support, is therefore a challenging but necessary task for therapists (Cole-King, Green, Gask, Hines & Platt, 2013; Fowler, 2012).

Whilst it is clearly desirable that therapists provide space for people to disclose and explore suicide-related content, it is worth considering how much space would be optimal, and whether it is ever appropriate – or indeed preferable – that such discussion is inhibited. It might be reasonable to expect that relatively less space would be offered for talking about suicide at the start of a therapy contract, when the focus might be on developing the therapeutic relationship and building trust and rapport, or at the beginning of individual sessions when – particularly in manualised therapies – tasks like agenda-setting and reviewing between-session work might be prioritised (Beck, Rush, Shaw, & Emery, 1979; Beck, 2011). Similarly, it might reasonably be considered safer to limit discussions around difficult topics (like suicide) towards the end of sessions in order to avoid opening up distressing feelings which people will then be left to manage on their own after the session has ended (Karakurt, Anderson, Badford, Dial, Korkow et al., 2014). However, none of these patterns were shown to be the case in the current study, and further work would be required to understand the impact of different patterns of providing/reducing space responses on the therapeutic relationship, individuals' experiences of therapy, and ultimately outcomes.

5.1 Strengths and limitations

The findings of the current study should be considered within the context of three main limitations. First, the adaptation of the coding manual and its application in this context was time and resource intensive, so it is worth considering whether the benefits justify the extent of the process. However, adaptation of the coding manual would not need to be repeated in any future research in this area (aside from possible context-specific adaptations), so future work may prove more efficient. Second, it could be argued that the extent to which the adapted coding system deviated from the well-validated VR-CoDES is problematic and compromises its validity. That said, the adaptations were necessary for its application in this context, and future work could potentially focus on replication and validation of the adapted system. Finally, a limitation of this kind of methodology more generally is that technical coding systems like VR-CoDES are unable to detect or account for broader contextual or interpersonal/relational factors that may influence dynamics within, or characteristics of, an interaction. Factors such as an individual's internal working model (Bowlby, 1969), their beliefs about mental health, suicide and therapy (Cyzy et al., 2013; Ibrahim, Amit, Shahar, Wee, Ismail et al., 2019; Prins, Meadows, Bobevski, Graham, Verhaak et al., 2011), and even what has happened to them earlier that day, might all influence their ability or willingness to discuss suicide-related content. Therapist characteristics (such as gender, age, culture, personality) and how those features are perceived by the person accessing therapy may also have an impact. For example, a female who has been abused by a male may feel less safe with a male therapist; or an older person may feel uncomfortable disclosing difficult experiences to a young therapist who reminds them of their grandchild. It is therefore important to bear in mind a broader range of factors which might influence the course of interpersonal interactions, than it may be possible for technical methods to account for.

Nonetheless, the reported study has a number of strengths. To the authors' knowledge, it represents the first application of VR-CoDES to interactions outside of medical settings, and with a focus on target content other than general emotional expressions. Although substantial adaptations were required, and still further adaptations may be beneficial, the core methodology was applicable in this context, which provides impetus for further application in this area. Its applicability within a context relatively dissimilar from that within which it was developed also arguably provides justification for exploring its potential applicability to other types of therapeutic interaction (e.g., interpersonal therapy, family therapy), other contexts in which interpersonal interactions occur (e.g., education, social care), or where exploration of other types of subtle or ambiguous content may be beneficial (e.g., trauma, safeguarding).

Another major strength is that the study examined interactions within real-life therapy sessions, recorded in real-time. This means that not only are they likely to be unaffected by biases resulting from recall, social desirability or reporting errors, they also offer an ecologically valid overview of how suicide-related content is managed within actual therapeutic sessions. Interrater agreement on the coding was also high, indicating that the reported findings are likely to be relatively reliable.

Finally, the current findings have strong practical applications and potential implications for clinical practice, and the exploratory nature of the study enables identification of a number of areas for further research. The current study was only the first step towards gaining a detailed

understanding of the ways in which suicide-related content emerges and is responded to within psychological therapy, but future research expanding upon this work could prove invaluable in informing therapist training and improving risk management processes. Improving our understanding of the factors that influence whether and how people accessing therapy express suicide-related content may help to increase the likelihood that they will, and thereby offer opportunities for intervention and prevention of harm. Similarly, understanding the factors that influence whether therapists detect and respond to such expressions may support their improved ability and increased confidence to do so, thereby enabling individuals to feel heard and understood, and ultimately supporting their recovery.

5.2 Clinical implications and recommendations

The findings of the current study have important implications for both clinical practice and future research. Identifying individuals' subtle allusions to suicide-related content and allowing space for further discussion to take place is clearly desirable in terms of risk management, intervention, and promoting psychological well-being and recovery (Fulginiti et al., 2016; Sheehan et al., 2019; Gould et al., 2005). Whilst the therapists in the current study provided substantial space for further discussion, responses which reduced space were often used, which may have resulted in patients feeling unheard, and opportunities for intervention being missed. Ensuring that space for exploration of cues/concerns is consistently offered is therefore vital, as is the provision of reassurances around potential consequences of suicidal disclosure (Blanchart & Garber, 2020).

Further work is required to better understand factors which influence therapist identification of cues/concerns, and the impact of different types of therapist response, as this might be important in informing therapist training and improving care. For example, encouraging therapists to make greater use of silence may provide people accessing therapy with valuable space for reflection and enable them to more effectively formulate their thoughts and make connections (Ladany, Hill, Thompson & O'Brien, 2004; Levitt, 2002). Additionally, focusing less on content in favour of directing attention towards individuals' internal experiences and the meaning they derive from their experiences, may help therapists to achieve a richer understanding of that individual, thereby enabling them to better support them (Barkham et al., 2017; Hatfield, McCulloch, Frantz & Krieger, 2010; Hobson, 1985). Finally, refraining from offering advice and reassurance may enable therapists to empower people to find their own solutions, and reduce the risk of their being perceived as all-knowing or persecutory (Mearns & Hobson, 1977).

The adaptability of VR-CoDES for use in areas outside its original intended area has been highlighted by the current study. As mentioned above, further exploration of its potential utility in other areas is therefore warranted. Additionally, the current study could be expanded upon by further developing the adapted manual, and by incorporating individuals' formulations into the coding framework for cues/concerns. Although a generic coding manual enables consistency of coding across individuals, it necessarily excludes idiosyncratic features of individuals' experiences. Incorporating a formulation-based component (in combination with the

generic framework) may enable more thorough identification of all relevant communication, and provide a more nuanced understanding of individuals' experiences.

6. Conclusions

The Verona Coding Definitions of Emotional Sequences were successfully adapted and applied to exploring suicide-related content within psychotherapeutic interactions. This suggests that applications to a range of other settings in which interpersonal interactions take place, and to the exploration of other sensitive or difficult-to-confront topics, may be feasible. Perhaps unsurprisingly, more often than not psychological therapists responded in ways which encouraged further exploration of patient-expressed suicide-related content, which is encouraging given the potential risks associated with nondisclosure of suicidal experiences. Nonetheless, there is scope for improvement in therapists' responses to individuals' expressions of both explicit suicide-related content, and more subtle or ambiguous allusions to underlying concerns. The factors which affect and support both individuals' expressions of suicide-related content within therapy, and therapist detection and response to such expressions, require further exploration.

7. References

- Ackerman, S.J. & Hilsenroth, M.J. (2003). A review of therapist characteristics and techniques positively impacting the therapeutic alliance. *Clinical Psychology Review*, 23, 1-33. DOI:
- Aelbrecht, K., De Maesschack, S., Willems, S., Deveugele, M. & Pype, P. (2017). How family physicians respond to unpleasant emotions of ethnic minority patients. *Patient Education and Counselling*, 100, 1867-1873. DOI: 10.1016/j.pec.2017.04.001.
- Atherton, K., Chisholm, A., Rutter, L. & Peters, S. (2009). Breaking barriers in clinical communication: Are securely attached doctors more empathetic doctors? *International Journal of Undergraduate Research*, 2(1).
- Awenat, Y.F., Shaw-Nunez, E., Kelly, J., Law, H., Ahmed, S., Welford, M., Tarrier, N. & Gooding, P.A. (2017). A qualitative analysis of the experiences of people with psychosis of a novel cognitive behavioural therapy targeting suicidality. *Psychosis*, 9(1), 38-47. DOI: 10.1186/s12888-018-1921-6.
- Barkham, M., Guthrie, E., Hardy, G.E. & Margison, F. (2017). *Psychodynamic-Interpersonal Therapy: A Conversational Model*. London: Sage.
- Barnes, L.S., Ikeda, R.M. & Kresnow, M.J. (2001). Help-seeking behaviour prior to nearly lethal suicide attempts. *Suicide and Life-threatening Behaviour*, 32(1 Suppl), 68-75. DOI: 10.1521/suli.32.1.5.68.24217.
- Beck, A.T., Rush, A.J., Shaw, B.F. & Emery, G. (1979). *Cognitive Therapy of Depression*. New York: Guilford Press.
- Beck, J.S. (2011). *Cognitive Behaviour Therapy: Basics and Beyond*. New York, US: Guilford Press.
- Bensing, J., Zandbelt, L. & Zimmermann, C. (2003). Introduction: Sequence analysis of patient-provider interaction. *Epidemiologia e Psichiatria Sociale*, 12, 78-80. DOI: 10.1017/s1121189x00006114.
- Black, S., Hardy, G., Turpin, G. & Parry, G. (2005). Self-reported attachment styles and therapeutic orientation of therapists and their relationship with reported general alliance quality and problems in therapy. *Psychology and Psychotherapy*, 75(3), 363-377. DOI: 10.1348/147608305X43784.
- Blanchard, M. & Farber, B.A. (2020). "It is never okay to talk about suicide": Patients' reasons for concealing suicidal ideation in psychotherapy. *Psychotherapy Research*, 30(1), 124-136. DOI: 10.1080/10503307.2018.1543977.
- Bowlby, J. (1969). *Attachment: Attachment and loss Vol. 1*. New York, US: Basic Books.
- Calear, A.L. & Batterham, P.J. (2019). Suicidal ideation disclosure: Patterns, correlates and outcome. *Psychiatry Research*, 278, 1-6. DOI: 10.1016/j.psychres.2019.05.024.
- Cherry, M.G., Fletcher, I., Berridge, D. & O'Sullivan, H. (2018). Do doctors' attachment styles and emotional intelligence influence patients' emotional expressions in primary care consultations? An exploratory study using multilevel analysis. *Patient Education and Counselling*, 101, 659-664. DOI: 10.1016/j.pec.2017.10.017.

Cocksedge, S. & May, C. (2005). The listening loop: A model of choice about cues within primary care consultation. *Medical Education*, 39(10), 999-1005. DOI: 10.1111/j.1365-2929.2005.02264.x.

Cole-King, A., Green, G., Gask, L., Hines, K. & Platt, S. (2013). Suicide mitigation: A compassionate approach to suicide prevention. *Advances in Psychiatric Treatment*, 19(4), 276-283. DOI: 10.1192/apt.bp.110.008763.

Cyzy, E.K., Horwitz, A.G., Eisenberg, D., Kramer, A. & King, C.A. (2013). Self-reported barriers to professional help seeking among college students at elevated risk for suicide. *Journal of American College Health*, 61(7), 398-406. DOI: 10.1080/07448481.2013.820731.

Del Piccolo, L., Finset, A., Mellblom, A.V., Figueiredo-Braga, M., Korsvold, L., Zhou, Y., Zimmermann, C. & Humphris, G. (2017). Verona Coding Definitions of Emotional Sequences (VR-CoDES): Conceptual framework and future directions. *Patient Education & Counselling*, 100, 2303-2311. DOI: 10.1016/j.pec.2017.06.026.

Eckert, R.A. (1993). Acceleration of change: Catalysts in brief therapy. *Clinical Psychology Review*, 13(3), 241-253. DOI: 10.1016/0272-7358(93)90022-E.

Encrenaz, G., Kovess-Masfety, V., Gilbert, F., Galera, C., Lagarde, E., Mishara, B. & Messiah, A. (2012). Lifetime risk of suicidal behaviours and communication to a health professional about suicidal ideation: Results from a large survey of the French adult population. *Crisis*, 33(3), 127-136. DOI: 10.1027/0227-5910/a000113.

Epstein, R.M., Hadee, T., Carroll, J., Meldrum, S.C., Larnder, J. & Shields, C.G. (2007). "Could this be something serious?" Reassurance, uncertainty, and empathy in response to patients' expressions of worry. *Journal of General Internal Medicine*, 22(12), 1731-1739. DOI: 10.1007/s11606-007-0416-9.

Fett, A.K., Shergill, S.S., Joyce, D.W., Riedl, A., Strobel, M., Gromann, P.M. & Krabbendam, L. (2012). To trust or not to trust: The dynamics of social interaction in psychosis. *Brain*, 135(3), 976-984. DOI: 10.1093/brain/awr359.

Finset, A., Heyn, L., & Ruland, C. (2013). Patterns in clinicians' responses to patient emotion in cancer care. *Patient Education and Counselling*, 93(1), 80-85. DOI: 10.1016/j.pec.2013.04.023.

Fitzgerald, P. & Leudar, I. (2010). On active listening in person-centred, solution-focused psychotherapy. *Journal of Pragmatics*, 42, 3188-3198. DOI: 10.1016/j.pragma.2010.07.007.

Fowler, J.C. (2012). Suicide risk assessment in clinical practice: Pragmatic guidelines for imperfect assessments. *Psychotherapy*, 49(1), 81-90. DOI: 10.1037/a0026148.

Frey, L.M. & Fulginiti, A. (2017). Talking about suicide may not be enough: Family reaction as a mediator between disclosure and interpersonal needs. *Journal of Mental Health*, 26(4), 366-372. DOI: 10.1080/09638237.2017.1340592.

Frey, L.M., Hans, J.D. & Cerel, J. (2017). An interpretive phenomenological inquiry of family and friends' reactions to suicide disclosure. *Journal of Marital and Family Therapy*, 43(1), 159-172. DOI: 10.1111/jmft.12180.

Fuhrmann, A.C. (2017). *Physical health in psychotherapy: An examination of discussion and response from therapist and client perspectives* (doctoral dissertation, University of Maryland, US). Retrieved from: <https://drum.lib.umd.edu/handle/1903/21427>.

Fulginiti, A., Pahwa, R., Frey, L.M., Rice, E. & Brekke, J.S. (2016). What factors influence the decision to share suicidal thoughts? A multilevel social network analysis of disclosure among individuals with serious mental illness. *Suicide and Life-Threatening Behaviour*, 46(4), 398-412. DOI: 10.1111/sltb.12224.

Geller, S.M. & Greenberg, L.S. (2012). *Therapeutic Presence: A Mindful Approach to Effective Therapy*. Washington DC, US: American Psychological Association.

Gibson, Alloy & Ellman (2016). Trauma and the psychosis spectrum: A review of symptom specificity and explanatory mechanisms. *Clinical Psychology Review*, 49, 92-105. DOI: 10.1016/j.cpr.2016.08.003.

Gooding, P.A., Pratt, D., Awenat, Y., Drake, R., Elliot, R., Emsley, R., Huggett, C., Jones, S., Kapur, N., Lobban, F., Peters, S. & Haddock, G. (*submitted*). A psychological intervention for suicide applied to non-affective psychosis: The CARMS (Cognitive AppRoaches to coMbatting Suicidality) randomised controlled trial protocol. *BMC Psychiatry*.

Gorawara-Bhat, R., Hafskjold, L., Gulbrandsen, P. & Eide, H. (2018). Exploring physicians' verbal and nonverbal response to cues/concerns: Learning from incongruent communication. *Patient Education and Counselling*, 100, 1979-1989. DOI: 10.1016/j.pec.2017.06.027.

Gould, M.S., Marrocco, F.A., Kleinman, M., Thomas, J.G., Mostkoff, K., Cote, J. & Davies, M. (2005). Evaluating iatrogenic risk of youth suicide screening programs: A randomised controlled trial. *JAMA*, 293(13), 1635-1643. DOI: 10.1001/jama.293.13.1635.

Gracie, A., Freeman, D., Green, S., Garety, P.A., Kuipers, E., Hardy, A., Ray, K., Dunn, G., Bebbington, P. & Fowler, D. (2007). The association between traumatic experience, paranoia and hallucinations: A test of the predictions of psychological models. *Acta Psychiatrica Scandinavica*, 116(4), 280-289. DOI: 10.1111/j.1600-0447.2007.01011.x.

Gvion, Y. & Fachler, A. (2017). When suicide is at stake: Some thoughts on the therapeutic space between therapists and adolescents. *Journal of Infant, Child, and Adolescent Psychotherapy*, 16(4), 267-278. DOI: 1080/15289168.2017.1377579.

Hatfield, D., McCullough, L., Frantz, S.H.B. & Krieger, K. (2011). Do we know when our clients get worse? An investigation of therapists' ability to detect negative client change. *Clinical Psychology and Psychotherapy*, 17, 25-32. DOI: 10.1002/199.656.

Hawton, K. & Van Heeringen, K. (2009). Suicide. *The Lancet*, 373 (9672), 1372-1381. DOI: 10.1016/S0140-6736(09)60372-X.

Hazler, R.J. & Barwick, N. (2001). *The Therapeutic Environment*. Buckingham: Open University.

Hendin, H., Maltzberger, J.T., Lipschitz, A., Pollinger Haas, A. & Kyle, J. (2001). Recognising and responding to a suicide crisis. *Suicide and Life-Threatening Behaviour*, 31(2), 115-128. DOI: 10.1521/suli.31.2.115.21515.

Hobson, R.E. (1985). *Forms of Feeling: The Heart of Psychotherapy*. London, UK: Tavistock Publications.

Hoglander, J., Eklund, J.H., Eide, H., Holmstron, I.K. & Sundler, A.J. (2017). Registered nurses' and nurse assistants' responses to older persons' expressions of emotional needs in home care. *Journal of Advanced Nursing*, 73(12), 2923-2932. DOI: 10.1111/jan.13356.

Hom, Stanley & Joiner (2015). Evaluating factors and interventions that influence help-seeking and mental health service utilization among suicidal individuals: A review of the literature. *Clinical Psychology Review*, 40, 28-39. DOI: 10.1016/j.cpr.2015.05.006.

Howgego, I.M., Yellowlees, P., Owen, C., Meldrum, L. & Dark, F. (2003). The therapeutic alliance: The key to effective patient outcome? A descriptive review of the evidence in community mental health case management. *Australian and New Zealand Journal of Psychiatry*, 37(2), 169-183. DOI: 10.1046/j.1440-1614.2003.01131.x.

Ibrahim, N., Amit, N., Shahar, S., Wee, L.H., Ismail, R., Khairuddin, R., Siau, C.S. & Safien, A.M. (2019). Do depression literacy, mental illness beliefs and stigma influence mental health help-seeking? A cross-sectional study of secondary school and university students from B40 households in Malaysia. *BMC Public Health*, 19(544). DOI: 10.1186/s12889-019-6862-6.

Jennings, L. & Skovholt, T.M. (1999). The cognitive, emotional, and relational characteristics of master therapists. *Journal of Counselling Psychology*, 46(1), 3-11. DOI: 10.1037/0022-0167.46.1.3.

Johnson, J., Gooding, P. & Tarrier, N. (2008). Suicide risk in schizophrenia: Explanatory models and clinical implications, the Schematic Appraisal Model of Suicide (SAMS). *Psychology and Psychotherapy: Theory, Research and Practice*, 81, 55-77. DOI: 10.1348/147608307X244996.

Jorgensen, C.R. (2004). Active ingredients in individual psychotherapy: Searching for common factors. *Psychoanalytic Psychology*, 21(4), 516-540.

Karakurt, G., Anderson, A., Badford, A., Dial, S., Korkow, H., Rable, F. & Doslovich, S.F. (2014). Strategies for managing difficult clinical situations in between sessions. *American Journal of Family Therapy*, 42(5), 413-425. DOI: 10.1080/01926187.2014.909657.

Korsvold, L., Mellblom, A.V., Finset, A., Ruud, E. & Lie, H.C. (2017). A content analysis of emotional concerns expressed at the time of receiving cancer diagnosis: An observational study of consultations with adolescent and young adult patients and their family members. *European Journal of Oncology Nursing*, 26, 1-8. DOI: 10.1016/j.ejon.2016.10.005.

Ladany, N., Hill, C.E, Thompson, B.J., & O'Brien, K. M. (2004). Therapist perspectives on using silence in therapy: A qualitative study. *Counselling and Psychotherapy research*, 4(1), 80-89. DOI: 10.1080/14733140412331384088.

Lane, R., Koetting, M.G. & Bishop, J. (2002). *Clinical Psychology Review*, 22(7), 1091-1104. DOI: 10.1016/S0272-7358(02)00144-7

Levitt, D.H. 2001. Active listening and counsellor self-efficacy: Emphasis on one micro-skill in beginning counsellor training. *The Clinical Supervisor*, 20, 101-115. DOI: 0.1300/J001v20n02_09.

Levitt, H.M. (2002). The unsaid in the psychotherapy narrative: Voicing the unvoiced. *Counselling Psychology Quarterly*, 15(4), 333-350. DOI: 10.1080/0951507021000029667.

Machado, P.P.P., Beutler, L.E., Greenberg, L.S. (1999). Emotion recognition in psychotherapy: Impact of therapist level of experience and emotional awareness. *Journal of Clinical Psychology*, 55(1), 39-57. DOI: 10.1002/(SICI)1097-4679(199901)55:1<39::AID-JCLP4>3.0.CO;2-V.

Markowitz, J.C. & Milrod, B.L. (2011). The importance of responding to negative affect in psychotherapies. *American Journal of Psychiatry*, 168(2), 124-128. DOI: 10.1176/appi.ajp.2010.10040636.

Mattheson, S.L., Shepherd, A.M., Pinchbeck, R.M., Laurens, K.R. & Carr, V.J. (2013). Childhood adversity in schizophrenia: A systematic meta-analysis. *Psychological Medicine*, 43(2), 225-238. DOI: 10.1017/S0033291712000785.

Mauritz, M.W., Goossens, P.J.J., Draijer, N. & Van Acheterberg, T. (2013). Prevalence of interpersonal trauma exposure and trauma-related disorders in severe mental illness. *European Journal of Psychotraumatology*, 4, 19985. DOI: 10.3402/ejpt.v4i0.19985.

Mearns, R.A. & Hobson, R.F. (1977). The persecutory therapist. *British Journal of Medical Psychology*, 50(4), 349-359. DOI: 10.1111/j.2044-8341.1977.tb02433.x.

Montgomery, M.R. (2018). An exploration of the psychotherapist's fears, anxieties and changing capacity for risk tolerance, when working with expressed suicidal ideation by a client: A grounded theory study. *Journal of Psychological Therapies*, 3(2), 29-36.

Nordentoft, M., Mortensen, P.B. & Pedersen, C.B. (2011). Absolute risk of suicide after first hospital contact in mental disorder. *Archives of General Psychiatry*, 68, 1058-1064. DOI: 10.1001/archgenpsychiatry.2011.113.

Office for National Statistics (2020). Suicide in the UK: 2018 Registrations [online]. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/suicidesintheunitedkingdom/2018registrations> [accessed 9th March 2020].

Owens, C., Lambert, H., Donovan, J. & Lloyd, K.R. (2005). A qualitative study of help-seeking and primary care consultation prior to suicide. *British Journal of General Practice*, 55(516), 503-509.

Owens, G., Belam, J., Lambert, H., Donovan, J., Rapport, F. & Owens, C. (2012). Suicide communication events: Lay interpretation of the communication of suicidal ideation and intent. *Social Science and Medicine*, 75(2), 419-428. DOI: 10.1016/j.socscimed.2012.02.058.

Paivio, S.C. & Bahr, L.M. (1999). Interpersonal problems, working alliance and outcome in short-term experiential therapy. *Psychotherapy Research*, 8, 392-407. DOI: 10.1080/10503309812331332487.

Prins, M., Meadows, G., Bobevski, I., Graham, A., Verhaak, P., van der Meer, K., Penninx, B. & Bensing, J. (2011). Perceived need for mental health care and barriers to care in Netherlands and Australia. *Social Psychiatry and Psychiatric Epidemiology*, 46(10), 1033-1044. DOI: 10.1007/s00127-010-0266-3.

Reynders, A., Kerkhof, A.J.F.M., Molenberghs, G. & Van Audenhove, C. (2015). Help-seeking, stigma and attitudes of people with and without a suicidal past: A comparison between a low and a high suicide rate country. *Journal of Affective Disorders*, 178, 5-11. DOI: 10.1016/j.jad.2015.02.013.

Reynolds, W.M. (1991). *Adult Suicidal Ideation Questionnaire: Professional Manual*. Odessa, FL: Psychological Assessment Resources.

Richards, B.M. (2000). Impact upon therapy and the therapist when working with suicidal patients: Some transference and countertransference aspects. *British Journal of Guidance and Counselling*, 28(3), 325-337. DOI: 10.1080/03069880050118975.

- Rogers, C.R. (2003). *Client Centred Therapy*. London, UK: Constable & Robinson.
- Rubino, G., Barker, C., Roth, T. & Fearon, P. (2000). Therapist empathy and depth of interpretation in response to potential alliance ruptures: The role of therapist and patient attachment styles. *Psychotherapy Research*, 10(4), 408-420. DOI: 10.1093/ptr/10.4.408.
- Rudd, M.D., Joiner, T.E. & Rajab, M.H. (1995). Help negation after acute suicidal crisis. *Journal of Consulting and Clinical Psychology*, 63(3), 499-503. DOI: 10.1037/0022-006X.63.3.499.
- Sacks, H. (1992). *Lectures on Conversation: Volumes. I and II*. Oxford: Blackwell.
- Sheehan, L., Oexle, N., Armas, S.A., Wan, H.T., Bushman, M., Glover, L. & Lewy, S.A. (2019). Benefits and risks of suicide disclosure. *Social Science and Medicine*, 223, 16-23. DOI: 10.1016/j.socscimed.2019.01.023.
- Smith-Hansen, L. & Probert, J. (2014). The active ingredients in successful psychological treatment: Interactions between alliance strength, therapeutic technique, therapist countertransference and treatment outcome. *Journal of the American Psychoanalytic Association*, 62(3), 493-499. DOI: 10.1177/000306511454001.
- Stanton, K.J., Denietolis, Goodwin & Dvir (2020). Childhood trauma and psychosis: An updated review. *Child and Adolescent Psychiatric Clinics of North America*, 29(1), 115-129. DOI: 10.1016/j.chc.2019.08.004.
- Stickley, T. & Freshwater, D. (2006). The art of listening in the therapeutic relationship. *Mental Health Practice*, 9(5), 12-18. DOI: 10.7748/mhp2006.02.9.5.12.c1899.
- Tarrier, N., Gooding, P., Pratt, D., Kelly, J., Awenat, Y. & Maxwell, J. (2013). *Cognitive Behavioural Prevention of Suicide in Psychosis: A Treatment Manual*. London, UK: Routledge.
- Tarrier, N., Taylor, P. & Gooding, P (2008). Cognitive-behavioural interventions to reduce suicide behaviour: A systematic review and meta-analysis. *Behaviour Modification*, 32(1), 77-108. DOI: 10.1177/0145445507304728.
- Tarrier, N., Gooding, P., Pratt, D., Kelly, J., Awenat, Y. & Maxwell, J. (2013). *Cognitive Behavioural Prevention of Suicide in Psychosis: A Treatment Manual*. London, UK: Routledge.
- Tarrier, N., Kelly, J., Maqsood, S., Snelson, N., Maxwell, J., Law, H., Dunn, G & Gooding, P. (2014). The cognitive behavioural prevention of suicide in psychosis: A clinical trial. *Schizophrenia Research*, 156, 2-3, 204-10. DOI: 10.1016/j.schres.2014.04.029.
- Taylor, P.J., Hutton, P. & Wood, L. (2015). Are people at risk of psychosis also at risk of suicide and self-harm? A systematic review and meta-analysis. *Psychological Medicine*, 45(5), 911-926. DOI: 10.1017/S0033291714002074.
- Van Orden, K.A., Witte, T.K., Cukrowicz, K.C., Braithwaite, S.R., Selby, E.A. & Joiner, T.E. (2010). The interpersonal theory of suicide. *Psychological Review*, 117(2), 575-600. DOI: 10.1037/a0018697.
- Verona Network on Sequence Analysis (2016). *Verona Coding Definitions of Emotional Sequences (VR-CoDES)*. Salisbury, UK: International Association for Communication in Healthcare.
- Vijfhuizen, M., Bok, H., Matthew, S.M., Del Piccolo, L. & McArthur, M. (2017). Analysing how negative emotions emerge and are addressed in veterinary consultations, using Verona

Coding Definition of Emotional Sequences (VR-CoDES). *Patient Education and Counselling*, 100, 682-689. DOI: 10.1016/j.pec.2016.11.001.

Weger, H., Castle Bell, G., Minei, E.M. & Robinson, M.C. (2014). The relative effectiveness of active listening in initial interactions. *International Journal of Listening*, 28(1), 13-31. DOI: 10.1080/10904018.2013.813234.

World Health Organisation (2018). Mental health: Suicide data [online]. Available at: http://www.who.int/mental_health/prevention/suicide/suicideprevent/en/ [accessed 9th March 2020].

Zimmermann, C., Del Piccolo, L., Bensing, J., Bergvik, S., De Haes, H., Eide, H., Fletcher, I., Goss, C., Heaven, C., Huphris, G., Kim, Y.M., LAngewitz, W., Meeuswesen, L., Nuebling, M., Rimondinin, M., Salmon, P., van Dulmen, S., Wissow, L., Zandbelt, L. & Finset, A. (2011). Coding patient emotional cues and concerns in medical consultations: The Verona coding definitions of emotional sequences (VR-CoDES). *Patient Education and Counselling*, 82, 141-148. DOI: 10.1016/j.pec.2010.03.017.

Zimmermann, D., Del Piccolo, L. & Finset, A. (2007). Cues and concerns by patients in medical consultations: A literature review. *Psychological Bulletin*, 133(3), 438-463. DOI: 10.1037/0033-2909.133.3.438.

Paper 3:

Critical appraisal

Word count: 6,533 (excluding references)

1. Introduction

The current paper provides a critical appraisal of the research processes involved in completing Papers 1 and 2, respectively. Methodological decisions are discussed, and the strengths and limitations of those decisions are reflected upon. The research is considered within the context of the wider literature, and implications for clinical practice and future research are considered. The researcher also offers personal reflections on the process throughout.

Taken together, Papers 1 and 2 generally explored suicidal experiences in people who also experience psychosis, within the context of psychological intervention delivery. Paper 1 reports on a systematic review (with narrative synthesis) of the research into suicide-related outcomes following psychological interventions in people experiencing psychosis, whilst Paper 2 examines how suicide-related content is discussed by both patients and therapists within psychological therapy sessions.

2. Paper 1: Systematic review

2.1 Rationale for topic

There appears to be a number of differences between people who experience psychosis and people who do not, with regard to suicidal thoughts and behaviours. For example, in comparison to people without psychosis, those who experience psychosis are at a relatively heightened risk of experiencing suicidal thoughts and behaviours (Yates, Lang, Cederlof, Boland, Taylor et al. 2018). Further, many of the risk factors associated with suicidal thoughts and behaviours differ in those who experience psychosis compared with those who do not (Bolton, Gooding, Kapur, Barrowclough & Tarrier, 2007; Fialko, Freeman, Bebbington, Kuipers, Garety et al., 2006; Hawton, Sutton, Haw, Sinclair & Deeks, 2005), such that there may be differences in the mechanisms which underlie suicidal thoughts and behaviour in this population (Bornheimer, 2016; Johnson, Gooding & Tarrier, 2008; Taylor, Gooding, Wood, Johnson, Pratt & Tarrier, 2010).

Despite these differences, the researcher was surprised to find a relative dearth of research into psychological interventions specifically targeting suicidal thoughts and behaviours in people experiencing psychosis. A preliminary search identified very few relevant studies, with most interventions either targeting psychotic experiences only (e.g., Anagnostopoulou, Kyriakopoulos & Alba, 2019; Bighelli, Salanti, Huhn, Schneider-Thoma, Krause et al., 2018; Lutgens, Garipey & Malla, 2017), or targeting suicidal thoughts or behaviours but in samples that were not psychosis-specific (e.g., Calati & Courtet, 2016; Meerwijk, Parekh, Oquendo, Allen, Franck & Lee, 2016). A review examining the inclusion of people experiencing psychosis in clinical trials focusing on suicide-related outcomes (Villa, Ehret & Depp, 2019) found that 61.5% of trials excluded them, which means that comparatively little is actually known about how people experiencing psychosis respond to interventions targeting suicide. Given that targeted interventions are likely to be more effective (Meerwijk et al., 2016; Mewton & Andrews, 2016; Tarrier, Taylor & Gooding, 2008), the researcher found this lack of focused research

puzzling, particularly when the seriousness of the potential consequences of ineffective intervention is considered. It was also notable that very few intervention studies appeared to report on suicide-related serious adverse events (SAEs), despite the existence of guidelines around such reporting (CONSORT, 2010; Grant, Mayo-Wilson, Montgomery, Macdonald, Michie et al., 2018).

A previously published systematic review in this area was identified (Donker, Calear, Busby Grant, Van Spijker, Fenton et al., 2013), but a number of seemingly relevant papers were excluded, for reasons which the researcher could not determine. Further, the researcher believed that some included studies should perhaps have been excluded, as it was not always clear whether the behaviour described was suicidal in intent, and it was not always possible to attribute findings to psychological intervention alone. For example, interventions sometimes included multiple components such as individual therapy, family involvement and crisis support (e.g., Grawe, Falloon, Widen & Skogvol, 2006), which the researcher felt evaluated the impact of a whole service approach, as opposed to a psychological intervention per se. Reasons for the exclusion of studies around self-harm with non-suicidal or unknown intent is discussed below (“Inclusion/exclusion criteria”).

It was therefore decided that an updated systematic review would be beneficial, with stricter criteria around the types of behaviour that would be considered “suicidal”, and around interventions that would be considered “psychological”, and including papers which reported on suicide-related SAEs. The researcher wondered whether sufficient literature would be available to make synthesis worthwhile, but felt that given the high risk of suicidal thoughts and behaviours in this population, limited research into relevant interventions would itself be an important finding.

2.2 Search strategy

Relevant databases (PsycINFO, MEDLINE, EMBASE and British Nursing Index) were identified in accordance with other reviews examining outcomes of psychological interventions (e.g., Calati & Courtet, 2016; Corcoran, Dattalo, Crowley, Brown & Grindle, 2011; Hawton, Witt, Taylor Salisbury, Arensman, Gunnell et al., 2015) and in discussion with library staff (who for example, suggested the British Nursing Index may be more inclusive than CINAHL). Similarly, search terms were chosen based on their use in previous reviews of either psychological interventions or focusing on suicide-related outcomes (e.g., Calati & Courtet, 2016; Corcoran et al., 2011; Hawton et al., 2015; Johnson, Wood, Gooding, Taylor & Tarrier, 2011; Panagiotti, Gooding & Tarrier, 2009).

As the previous review published in this area (Donker et al., 2013) excluded some seemingly relevant papers, the researcher was keen that the search should be as comprehensive as possible in order to capture all relevant papers. As such, synonyms of the more obvious terms for each component of the topic were also used, combined using the Boolean operator “OR” (e.g., “therap*”, “psychotherap*” for the intervention; “schizo*”, “psychos*”, “psychot*” for the sample). In addition to those papers which appeared to meet inclusion criteria, full-texts of all review papers and commentaries that appeared relevant were

also obtained, and the reference sections of these were hand-searched for any additional papers not identified through the original search.

Whilst there is no guarantee that all relevant papers were thus captured and the use of additional search terms or databases may have yielded additional results, a number of factors render it likely that an adequate proportion of the literature was captured to provide an accurate overview (e.g., DeLuca, Mullins, Lyles, Crepaz, Kay & Thadiparthi, 2008). The examination of a substantial number of papers (n=14,197), the identification of those papers through a range of databases, and the combined use of electronic and manual search techniques all increase the likelihood that the majority of literature was captured (DeLuca et al., 2008), such that the researcher felt satisfied that the review was sufficiently comprehensive and inclusive.

2.3 Inclusion/exclusion criteria

Although the researcher was clear that only interventions which were based on psychological theory should be included, they found it challenging to identify an appropriate published definition for use in the review. Many previous reviews examining psychological interventions did not define the term at all, and significant variation existed between those that did. A bespoke definition was therefore developed, combining what the researcher believed to be the most important features from several previously used definitions (see Paper 1, Section 3.2). The definition was designed to be as inclusive as possible, whilst maintaining sufficient specificity that any intervention effects could be attributable specifically to psychological processes, as opposed to other or multiple components working in combination. Papers reporting on psychological interventions as part of a wider treatment offer were therefore excluded, which the researcher recognised may in itself have had an impact on findings. Nonetheless, this was deemed necessary in order to allow reporting on the impact of psychological interventions more precisely.

Only papers which reported on self-harming behaviour with suicidal intent were included, and papers reporting on self-harm with non-suicidal or unknown intent were excluded. The researcher is aware that the distinction between self-harm with and without suicidal intent is not necessarily a straightforward one, and that considerable debate exists around the necessity and utility (or lack thereof) of distinguishing between such behaviours (e.g., Kapur, Cooper, O'Connor & Hawton, 2013; O'Carroll, Berman, Maris, Moscicki, Tanney & Silverman, 1996; Silverman, Berman, Sanddal, O'Carroll & Joiner, 2007). These debates are highlighted by the fact that many people who attempt suicide report ambivalence towards death (e.g., Dorpat, 1963; Henriques, Wenzel, Brown & Beck, 2005), and a large proportion of survivors of suicide attempts experience relief at having survived (Henriques et al., 2005). As such, the researcher recognised that this decision may have had implications for the findings, such as the possible under- or overstatement of the impact of interventions. However, they felt it was necessary to restrict inclusion in this way, in order to provide some clarity and specificity around which behaviours interventions were reportedly impacting.

It was originally planned that due to the relative dearth of literature identified through preliminary searching, all studies exploring suicide-related experiences following psychological intervention would be included, regardless of design or methodology. However, even fewer

papers than expected were eligible for inclusion, such that there was only one qualitative study and two case reports, and it was felt that their potential contributions to the overall findings of the review were limited. In order to ensure that synthesis of the findings was meaningful and generalizable, it was therefore decided that only quantitative studies would be included.

During the process of preliminary searching, it was noted that a small number of papers reported on serious adverse events (SAEs), although many did not. The researcher felt that an understanding of the incidence of suicide-related SAEs during trials of psychological interventions was potentially relevant for the purposes of the review, and the mere presence or absence of reporting would be an interesting finding in itself. It is well-accepted that psychological interventions have the capacity to inadvertently cause harm (Barlow, 2010; Lilienfield, 2007), and guidelines exist around the reporting of trial SAEs (CONSORT, 2010; Grant et al., 2018), in order to maximise patient safety and promote informed decision-making around intervention options. It was therefore decided that papers which reported on suicide-related SAEs by trial arm should be included, even if there was no formal suicide outcome measure (i.e., as a dependent variable), and provided they met all other inclusion criteria.

2.4 Assessment of methodological quality and risk of bias

Identifying an appropriate pre-existing measure for assessing methodological quality and risk of bias presented some challenges, given the small number of eligible studies with relatively diverse designs. The researcher deliberated using a battery of tools, with a specific tool tailored to each type of methodology (e.g., Critical Appraisal Skills Program; CASP, 2019), but felt that the methodological diversity would make synthesis – and therefore meaningful comparison – unfeasible. Given this challenge, and a lack of clarity around how valid or reliable existing tools are anyway (Boland, Cherry & Dickson, 2014), it was considered necessary to develop a bespoke tool that could be used for all included papers.

The Cochrane Risk of Bias tool (RoB; Higgins, Altmanm, Gotzsche, Juni, Oxman et al., 2011; Sterne, Savovic, Page, Elbers, Blencowe et al., 2019) was selected as a basis for adaptation, based on evidence suggesting that it is a relatively robust tool for assessing randomised-controlled trials (RCTs; e.g., Zeng, Zhang, Kwong, Zhang, Li et al., 2015), and that with adaptation, may be particularly useful in assessing psychological therapy research (Munder & Barth, 2018). Adaptations were designed to maximise fidelity to the original tool, whilst enabling assessment of non-RCT research, predominantly through offering a choice of equivalent questions for different types of methodology. For example, a section was added which reframed questions around randomisation so that they referred to control conditions in general. Further, an additional section was developed to assess reporting of SAEs, and adapted versions of the decision flowcharts were also developed for ease of assessment. The researcher was initially concerned that a bespoke tool would be less reliable than existing tools, but these concerns were assuaged somewhat through having an independent researcher assess a random 20% of papers using the tool, a process from which a high level of inter-rater reliability was achieved ($\kappa = 1.0$).

2.5 Analysis

Findings were reported narratively as statistical synthesis was unfeasible. This was because amongst papers that reported on suicide-related outcome measures, the broad range of designs, samples, measures and statistical analyses used meant that statistical synthesis would not be possible, and amongst those that reported suicide-related SAEs, the small numbers meant that statistical analysis would not necessarily be meaningful anyway (Boland et al., 2014; Impellizzeri & Bizzini, 2012). Whilst the researcher was aware that meta-analyses are broadly considered to be the “gold standard” for systematic reviews (Impellizzeri & Bizzini, 2012; Stegenga, 2011), they were also aware of limitations of meta-analyses, such as their increased susceptibility to publication bias, and potential threats to the validity of the findings if biases exist within included data (Rothstein, Sutton & Borenstein, 2005). Given the varied risk of bias ratings awarded to included studies (see Paper 1, Section 4.3), the latter point may be particularly relevant to the current review. Further, given one of the major findings of the review was around the diversity in measurement of suicidal thoughts and behaviours, the common criticism that meta-analysis “combines apples with oranges” felt particularly relevant to the current review (Higgins & Green, 2011).

The researcher gave some consideration to whether narrative presentation of findings somehow limited their validity in comparison to meta-analysis, and reflected upon the tendency in health and social sciences research to hold statistical output from experimental designs in higher regard than other types of research (e.g., Grayson, 2004; McCall & Green, 2004; Stegenga, 2011). As it turned out, the issues of methodological diversity and lack of reporting of SAEs – the very reasons that meta-synthesis was not possible – constituted some of the most important findings of the review in and of themselves, and highlighted some considerations which will be imperative for future research.

2.6 Summary and implications

The main findings of the review were that psychological interventions appeared to be effective in reducing suicidal thoughts and behaviour in people who experience psychosis, but there was such diversity in methodology and lack of reporting of SAEs that it was difficult to estimate the extent of their effectiveness. As discussed in Paper 1, the range of research methods, interventions, outcome measures, analyses, and styles of reporting made findings challenging to summarise meaningfully, such that it was difficult to gain a clear picture of exactly what type of interventions were effective, at reducing which behaviours, and over what period of time. The researcher therefore concluded that an important finding of the review was that future research must attempt to reach a consensus in both measurement and reporting, in order to assist in the synthesis of findings and prevent important knowledge from being minimised or overlooked. For example, measurement might aim to more clearly and consistently both capture and differentiate between suicidal thoughts/urges/plans etc. which are not necessarily acted upon, and physical acts of suicidal behaviour. There are obvious differences in the immediacy of risk of harm associated with each, and they may manifest as a result of different processes (e.g., O'Connor, 2011), such that it is possible they may be differentially susceptible to intervention. Additionally, updated measurement tools which are validated for use across

different settings and which more clearly reflect current understanding of suicidal thoughts and behaviours would also be useful, not least in encouraging the avoidance of stigmatising language (e.g., “commit suicide”).

It is possible that the potential impact of psychological interventions on suicidal thoughts and behaviours was under- or over-stated, due to the exclusion of studies which used other intervention components alongside psychological intervention (e.g., occupational therapy, medication, crisis management, as is sometimes offered as part of a package of early intervention services). The researcher was surprised by the predominance of literature evaluating early intervention services and other types of multi-component interventions, given the inability of this kind of research to determine which part of these services is responsible for any observed effects. Additionally, a number of studies reported changes to medication or other types of intervention during the course of trials, which similarly renders it difficult to identify the source of any change. It therefore seems important that future research into the effectiveness of interventions – psychological or otherwise – should aim to isolate individual intervention components so that their respective utility in fostering change can be accurately assessed. By so doing, it might be possible to allocate resources more efficiently, for example, by removing components that make no positive contribution to outcomes, and enhancing those that do.

The researcher found it somewhat concerning that even at the early, broader stages of the literature search (i.e., before inclusion was finalised), most papers examined for eligibility did not report on SAEs at all, and of those that did, many did not specify the nature of the SAEs or did not report their occurrence by trial arm. The development of guidelines on the reporting of SAEs in trials in general (CONSORT, 2010) and psychological intervention trials more specifically (Grant et al., 2018) are relatively new, which might partially account for underreporting in older trials. However, many of the studies included in the review were published more recently, and underreporting of SAEs appears to be consistent across trial research in general. One study comparing reporting of SAEs in published clinical trials with their corresponding entries on ClinicalTrials.gov found that many trials are never published at all, and of those that are, many either omit reporting of SAEs entirely, do not report SAEs by trial arm, or report numbers that are discrepant with those reported on ClinicalTrials.gov (Tang, Ravaud, Riveros, Perrodeau & Dechartes, 2015). Within psychological intervention trials specifically, a review of NIHR funded trials found no mention of SAEs in any of the final reports (Duggan, Parry, McMurrin, Davidson & Dennis, 2014) and another review found that only around a fifth of trials reported that harms to patients were even monitored (Jonsson, Alaie, Parling & Arnberg, 2014). Even when monitoring was reported, clear descriptions of how they were monitored were not always provided, and no detail was provided regarding what those harms even were (Jonsson et al., 2014). It has been suggested that authors may be unclear about how to define or classify SAEs (Czaja, Schulz, Belle, Burgio, Armstrong et al., 2006), which may be particularly relevant to psychological intervention trials given that it is quite common for people to feel worse before they feel better (termed the “negative therapeutic reaction” by Freud). As such, even when data on SAEs are available, there may be serious limitations to the accuracy of that data. This underreporting and potential inaccuracy of reported SAEs could at best result in biased evidence, and at worst, serious harm to patients. Improved monitoring and reporting of

SAEs is vital for future trials, and journal editors may have an important role to play in enforcing this.

Overall, the findings of Paper 1 suggested that psychological interventions may be effective in reducing suicidal thoughts and behaviours in people who experience psychosis. However, more consistent and transparent research is required to support our understanding of the particular features of intervention that are most useful in this population (e.g., targeted content, length of duration, form of delivery), the precise mechanisms which underlie any improvements (e.g., specific cognitive processes, interpersonal factors, “symptom” reduction), and the extent to which such interventions may cause inadvertent harm in an already vulnerable group of people.

3. Paper 2: Empirical paper

3.1 Rationale for topic

The study reported in Paper 2 represents a substantial deviation from what was originally planned. The researcher has a particular interest in how individuals experiencing psychological distress describe and conceptualise their own experiences, so was excited by the prospect of conducting a study utilising data from real-life audio-recorded therapy sessions. The original plan was that the study would investigate the pathways that people experiencing psychosis describe in therapy as having led them to experience suicidal thoughts and behaviours, using a selection of one or two audio-recordings per person. It was intended that people’s accounts of both long-term stressors (such as financial or relationship difficulties) and short-term triggers (such as recent arguments or receiving bad news) would be explored, in order to develop an understanding of how people experiencing psychosis describe and make sense of their own pathways to suicidality. However, upon familiarisation with the data, it became clear to the researcher that the planned study would not be feasible in the allotted time-frame without substantial modification, and that there might be far more effective and interesting ways to make use of such a rich and unique data source.

A major detail that the researcher noticed was that rather than talking overtly about what led to their suicidal experiences, people tended to talk more generally about events in their everyday lives and how people and situations had made them feel. Explicit mention of suicidal thoughts or behaviours was relatively uncommon, and only by listening to a full series of recordings belonging to each individual, did it seem possible to begin to draw out the narrative through which that individual described the development of their suicidality. The researcher felt that this in itself would make for an interesting study, but given the time constraints associated with the completion of the clinical psychology doctorate, and the fact that most individuals’ datasets were incomplete, it may not have been possible to complete such a piece of work to as high a standard as one might hope, within the allotted time.

The researcher was nonetheless keen to take full advantage of the available data, and sought out alternative ideas on how to meaningfully combine their interest in individuals’ accounts of their suicidality, with the availability of real-life therapy data. In addition, the

researcher hoped that their study should have practical and tangible application to their own clinical work, and the potential to make an original and interesting contribution to our understanding of therapeutic practice. Discussions took place between the researcher and their supervisors around these issues, and Dr Sarah Peters was consulted around her work examining communication in physical healthcare consultations. Dr Peters described a method she had previously used to explore the emotional content of such interactions, namely, the Verona Coding Definitions of Emotional Sequences (VR-CoDES; Del Piccolo, Finset, Mellblom, Figueiredo-Braga, Korsvold et al., 2017; Zimmermann, Del Piccolo, Bensing, Bergvik, Haes et al., 2011). The researcher examined the VR-CoDES literature, and upon further discussion with their supervisors, it was agreed that this method would provide a unique and interesting way of exploring how suicide-related content is communicated within therapeutic interactions. It was therefore decided that the focus of the project would be to adapt the VR-CoDES for use within this context, in order to gain an understanding of how both therapists and patients communicate around the topic of suicide within therapy.

3.2 Rationale for methodology

As discussed in Paper 2, the VR-CoDES were developed for the exploration of emotional communication within medical consultations (Del Piccolo et al., 2017; Zimmermann et al., 2011). VR-CoDES have typically been used to explore the subtle and ambiguous ways in which patients express emotional content within physical healthcare interactions (Zimmermann, Del Piccolo & Finset, 2007), and the encouraging or inhibiting ways in which healthcare providers respond to those expressions (Gorawara-Bhat, Hafskjold, Gulbrandsen & Eide, 2018; Hoglander, Eklund, Eide, Holmstron & Sundler, 2017). The researcher felt that there were obvious parallels between these phenomena and the relative rarity with which individuals tended to talk explicitly about their suicidal thoughts and behaviours within the audio-recorded therapy sessions, and wondered whether therapists' responses to subtle or ambiguous expressions of suicidality might be particularly important in terms of identifying opportunities for intervention and risk management.

As such, it was felt that valuable insights might be gleaned into how suicide-related content is discussed within psychological therapy using a method similar to VR-CoDES. It was planned that the VR-CoDES system would be adapted for use within a psychological therapy (as opposed to medical) setting, and around suicide-related (as opposed to emotional) content. The researcher hoped that with these alterations, the adapted manual would provide a meaningful framework through which the more subtle and ambiguous aspects of therapeutic interactions could be explored, whilst potentially contributing to the development of a novel methodology through which other types of interpersonal interactions could be studied.

The researcher is aware that it would of course have been possible to have pursued an alternative focus and explored aspects of the therapeutic interaction using alternative methodologies. For example, narrative analysis might have enabled exploration of the stories that people told during therapy (Riessman, 1993); discourse analysis may have offered insight into the ways in which people used linguistic and interactional processes to tell those stories (Tannen, Hamilton & Van Dijk, 2015); and perhaps most closely aligned with the current

methodology, conversation analysis might have offered detailed descriptions of patient-therapist interactions (Sidnell, 2010). However, it was felt that none of these approaches offered sufficient sensitivity to adequately capture the more subtle, ambiguous, or incomplete aspects of therapeutic interactions (nor the functions thereof), and that they were all limited in their capacity to compare communications across a range of individuals, therapists and sessions, simultaneously (e.g., Avdi, 2008; Del Piccolo et al., 2017; Tseliou, 2013; Zimmermann et al., 2011).

3.3 Part 1: Development of the adapted coding manual

Suicidal thoughts and feelings are obviously more specific concepts than general emotion, and the therapeutic context clearly differs in lots of ways from medical interactions (e.g., in terms of length and purpose of sessions, duration and nature of relationships, perceived responsibility and necessity for change). It was therefore accepted that substantial adaptations to the VR-CoDES manual would be necessary for meaningful applicability to the target content and context. The researcher aimed to align the adapted manual as closely as possible with the original, whilst ensuring it was sufficiently tailored for the current purposes. Similarly, they aimed to keep the adapted manual as simple and user-friendly as possible, whilst maintaining its comprehensiveness and sensitivity to detail. The process was therefore a challenging one.

A number of obvious differences exist between therapeutic interactions and medical consultations. For example, therapeutic interactions are likely to be more emotion-focused than most medical appointments (Zimmerman et al., 2007) and there is likely to be more time and capacity within therapeutic relationships to accommodate individuals' emotional concerns (Deveugele, Derese, van den Brink-Muinen, Bensing & De Maeseneer, 2002; Hutton & Gunn, 2007). These differences may go some way in explaining the necessity for the many adaptations that were made. Substantial changes to the general coding instructions within the manual were not necessary, as the original coding *process* was maintained. However, the *content* features of coding were necessarily shaped for applicability to the current context, including the individual codes for patient expressions, and the categories of therapist responses. These were developed using a "pilot" selection of five therapy recordings in combination with the suicide literature, alongside ongoing reference to the original manual.

For patient expressions, a detailed list was generated exemplifying the ways in which people talk about their suicidal experiences, both openly and explicitly (concerns), and more vaguely and ambiguously (cues). The list of example cues/concerns from the original manual was used as a basic framework, but with amendments and substitutions made to reflect topic-specific content. Although the adapted list was not intended to be exhaustive, the researcher aimed to provide a sufficient range of examples to enable comprehensive and consistent identification of cues/concerns amongst potential independent coders. The researcher was aware that the coding scheme could necessarily only detect cues/concerns that are common or regularly observed in the literature, and would not be able to detect those that were uncommon or more specific to an individual's circumstances. For example, commonly used metaphors such as feeling lost, suffocating, or in hell, would be identified as cues, but if individuals used more obscure or idiosyncratic language, or referred to aspects of their lives that were closely – but not

obviously – related to their suicidality, these potential cues may go undetected. The researcher reflected that whilst beyond the scope of the current study, the development of comprehensive, person-centred formulations for each individual would likely have aided coding and helped mitigate against this potential limitation.

The therapist response categories were developed in a similar way, using the original manual as a framework, but shaping (and sometimes re-labelling) categories to more accurately reflect what was observed in the pilot recordings. Throughout the course of coding the sessions included in Part 2 (i.e., post pilot phase), further adaptations were made as necessary, for example, when new responses were observed which had not previously occurred. Some examples of the main types of amendments that were made are provided below.

- i) Some new categories were developed which were not present in the original manual. For example, *Referring to relevant past* is only possible if an ongoing relationship exists and/or the provider is aware of, and in a position to refer to, relevant events in the patient's past, which may not be the case within one-off medical interactions.
- ii) Some categories which were coded as providing space in the original manual, were inversely coded as reducing space in the adapted manual. For example, whilst *Content exploration* was originally considered a providing space response, the equivalent code *Focus on content* was believed to reduce space in the current context, due to its potential to distract attention away from difficult underlying issues (Dobson & Dobson, 2018). Similarly, *Empathic response* was originally coded as providing space, but the adapted manual referred to *Empathic closing* as it was believed that such responses showed empathy but nonetheless inhibited opportunity for further disclosure.
- iii) Categories were combined when they were alike in their function and maintaining their separation did not obviously add any value. For example, *Content acknowledgement* and *Affective acknowledgement* were collapsed into *Reflecting/paraphrasing*, as it was felt that the distinction merely reflected the content of what the patient had said, as opposed to the function of the therapist's response. That is, identifying that the therapist had reflected back or paraphrased what the patient had said felt more important than the topic of that reflection (which would have been patient-generated).
- iv) A number of category titles were changed from the original names, to more clearly communicate their function (e.g., *Backchannel* was renamed *Encouraging/holding*).
- v) The original manual instructs on distinguishing between explicit and non-explicit therapist responses, which as far as the researcher could tell, was determined solely by whether or not the therapist directly refers to the content of the patient's previous expression. Neither the manual nor previous VR-CoDES research have necessarily made clear the purpose of making this distinction, and the researcher did not feel that doing so would add any value within the current context, so equivalent explicit and non-explicit categories were therefore combined.

The researcher found adaptation of the therapist response categories somewhat more challenging than they had the framework for patient cues/concerns, as the necessary amendments often felt more subtle and less "clear cut" than they had been for cues/concerns. The researcher sometimes experienced feelings of uncertainty and confusion around accurately

identifying the function of particular therapist responses. This was discussed during supervision, and the researcher reflected on the inevitability of some level of ambiguity or subjectivity in this kind of work.

The researcher was aware that each of the above amendments potentially distanced the adapted manual from the original, but felt that they were necessary in order to both sufficiently address the content and context of interest, and aid user-friendliness. The adaptation process was a time-consuming, and at times frustrating, endeavour, and the researcher reflected throughout on its relative worth in comparison. However, differences in the nature of therapeutic compared with medical interactions was bound to necessitate substantial adaptations, and the relative ease with which the completed manual was subsequently applied to coding the data alleviated some of these concerns.

3.4 Part 2: Application of the adapted coding manual

The audio-recorded therapy sessions provided ideal data to explore the applicability of the adapted manual. Coding was straightforward, and as such, double-coding by the primary supervisor yielded a high level of inter-rater reliability. The researcher felt lucky to have access to such a rich and interesting source of data, and felt that the range of research possibilities were huge, should time and resources have allowed.

Time constraints meant that analysis was necessarily limited to only a select few of the available participants, and only a small proportion of those individuals' therapy recordings. The researcher debated the relative benefits of conducting analyses on a larger number of session recordings belonging to fewer people, compared with fewer recordings for a greater number of people, and wondered whether selecting recordings from particular points in the therapy journey would be most useful. Ultimately, it was predominantly pragmatics that dictated selection, in that sufficient recordings were only available for a limited number of people, and they tended to be earlier on in people's therapy journey. However, the researcher recognises that greater availability of recordings might have yielded slightly different findings, or at least additional points of interest. For example, it might have been interesting to explore in more detail whether discussions around suicide change over the course of therapy, particularly towards the end of therapy when plans are being made for relapse prevention. If time had allowed, there are also numerous alternative courses of enquiry that may have been interesting to pursue, such as whether patient/therapist characteristics or features of the therapeutic relationship were associated with how suicide was discussed in sessions. The researcher feels that this area in general, and this data in particular, is ripe for further exploration, and recommends that the work completed as part of the current thesis is developed and expanded upon in the future.

3.5 Summary and implications

The VR-CoDES manual was successfully adapted for the exploration of suicide-related communication within a psychotherapeutic context. As hoped, the adapted manual enabled systematic analysis of patient-therapist interaction patterns, and provided a detailed description of the more subtle and nuanced features of both patient and therapist communication around suicide-related content. Specifically, analysis revealed that patients were more often vague or

ambiguous in their communications, than explicit, although their expressions were more often offered spontaneously, than elicited by therapists. Therapists more often provided space for further exploration of those expressions, than reduced space, and made particular use of *Holding/encouraging* responses. Whilst these findings are consistent with previous work around the challenges of talking about suicide and the strategies people employ to manage those challenges (Hom, Stanley & Joiner, 2015; Montgomery, 2018; Owens, Belam, Lambert, Donovan, Rapport & Owens, 2012), they are somewhat in contrast to previous VR-CoDES research, which typically reports that healthcare providers more often reduce space for further disclosure (than provide it), and tend to focus predominantly on surface content of expressions (Epstein, Hadee, Carroll, Meldrum, Lardner & Shields, 2007; Zimmerman et al., 2007).

Whilst the adapted VR-CoDES system was able to provide an overview of patterns of interaction around suicide within therapy sessions, this kind of technical coding system cannot account for individual differences between patients and therapists. For example, some patients expressed fewer cues/concerns than others (e.g., Patients 2, 3, and 7); some therapists had more cues/concerns expressed to them than others (e.g., Therapist 3); there were more patient-elicited cues/concerns expressed to some therapists than to others (e.g., Therapist 4); and some therapists gave higher proportions of providing space than reducing space responses compared with others (e.g., Therapists 3 and 4). This type of methodology does not allow for examination of why these differences occurred or how they might impact therapeutic outcomes. Similarly, this methodology merely describes patterns of interaction, and does not attribute any judgement to whether different types of expressions or responses are good or bad, or should be encouraged or discouraged. As such, it is particularly important that the findings of this kind of research are interpreted within the context of other research which is able to provide guidance on what might be beneficial (and less so) in improving therapeutic provision and enhancing clinical outcomes.

Whilst the current study could not comment on the desirability of providing versus reducing space, previous research suggests that allowing people to talk about suicide may be beneficial in both helping them to manage their distress, and preventing harm (Fulginiti, Pahwa, Frey, Rice & Brekke, 2016; Gould, Marrocco, Kleinman, Thomas, Mostkoff et al., 2005; Sheehan, Oexle, Armas, Wan, Bushman et al., 2019), such that providing space responses might arguably be considered preferable. The researcher reflected upon their own clinical practice, and wondered whether they themselves were consistent in offering people sufficient space to talk about their suicidal feelings, whilst balancing this with the need for risk management. The researcher also reflected upon whether providing space is *always* desirable, and whether there might be particular times when it might be more appropriate to “close down” a particular conversation. For example, allowing too much space at the very start of a session, before a plan has been made for that session (e.g., agenda- or goal-setting), could result in a chaotic session with an unclear purpose. Similarly, allowing too much space towards the end of a session may risk the introduction of new distressing material, which the therapist then has limited time to contain. The researcher was surprised by the finding that therapists tended to provide more space within the end section of sessions, as from their own clinical experience, they are aware how anxiety-provoking it can feel when risk issues become apparent towards the

end of sessions, when there is limited time to manage them. Future research might endeavour to explore this interesting and seemingly counterintuitive pattern.

In addition to the suggestions for future research made in Paper 2, replication of and expansion upon the current findings would be beneficial. For example, the data was extracted from audio-recordings of therapy sessions, but the original VR-CoDES includes a coding frame for non-verbal behaviour such as body language and facial expressions (e.g., nodding, appearing distracted). Video-recorded sessions may provide further insight around these aspects of therapeutic interactions, which could unfortunately not be captured within the current study. Further, the therapy delivered in the current study was based on the cognitive-behavioural model, which is manualised and relatively technical in nature. It might be interesting to explore and compare features of similar interactions within other therapeutic models which employ less structured or prescriptive techniques, such as relational or person-centred therapies. Finally, the therapy was offered as a suicide-focused intervention for people experiencing psychosis, so all individuals had experiences of suicidal thoughts or behaviours, and suicide was necessarily already on the agenda. Exploration of how suicide-related content is approached within more general therapeutic settings might further aid our understanding of patient-therapist communication around this sensitive and challenging topic.

4. Dissemination

Both Papers 1 and 2 are intended for submission to *Psychotherapy Research* for publication. Due to Paper 2's connection to the larger CARMS trial, it was agreed that it would not be submitted for publication until after the trial protocol paper or final report (TBC) has been published, but publication will be sought as soon as is appropriate. It is also intended that a lay summary of the findings will be offered to both the patient and therapist participants of the empirical study.

Due to the current global pandemic, other methods of dissemination to the wider academic and clinical communities are not feasible at present. However, opportunities to share the findings of the current thesis will be sought once normal service is resumed; for example, through presentations at academic conferences or within relevant clinical services.

References

- Anagnostopoulou, N., Kyriakopoulos, M. & Alba, A. (2019). Psychological interventions in psychosis in children and adolescents. *European Child Adolescent Psychiatry*, 28(6), 735-746. DOI: 10.1007/s00787-018-1159-3.
- Avdi, E. (2008). Analysing talk in the talking cure: Conversation, discourse and narrative analysis of psychoanalytic psychotherapy. *European Psychotherapy*, 8(1), 69-87.
- Barlow, D.H. (2010). Negative effects from psychological treatments: A perspective. *American Psychologist*, 65(1), 13-20. DOI: 10.1037/a0015643.
- Bighelli, I., Salanti, G., Huhn, M., Schneider-Thoma, J., Krause, M., Reitmeir, C., Wallis, S., Schwermann, F., Pitschel-Walz, G., Barbui, C., Furukawa, T. A. & Leucht, S. (2018). Psychological interventions to reduce positive symptoms in schizophrenia: Systematic review and network analysis. *World Psychiatry*, 17(3), 316-329. DOI: 10.1002/wps.20577.
- Boland, A., Cherry, M.G. & Dickson, R. (2014). *Doing a Systematic Review: A Student's Guide*. London: Sage.
- Bolton, C., Gooding, P., Kapur, N., Barrowclough, C., & Tarrrier, N. (2007). Developing psychological perspectives of suicidal behaviour and risk in people with a diagnosis of schizophrenia: We know they kill themselves but do we understand why? *Clinical Psychology Review*, 27(4), 511-536. DOI: 10.1016/j.cpr.2006.12.001.
- Bornheimer, L.A. (2016). Moderating effects of positive symptoms of psychosis in suicidal ideation among adults diagnosed with schizophrenia. *Schizophrenia Research*, 176, 364-370. DOI: 10.1016/j.schres.2016.07.009.
- Calati, R. & Courtet, P. (2016). Is psychotherapy effective for reducing suicide attempt and non-suicidal self-injury rates? Meta-analysis and meta-regression of literature data. *Journal of Psychiatric Research*, 79, 8-20. DOI: 10.1016/j.jpsychires.2016.04.003.
- Cherry, G., Boland, A. & Dickson, R. (2014). *Doing a Systematic Review: A Student's Guide*. London, UK: Sage.
- CONSORT (2010). 19. *Harms: All Important Harms or Unintended Effects in Each Group* [online]. Available at: <http://www.consort-statement.org/checklists/view/32--consort-2010/116-harms> [accessed 23rd March 2020].
- Corcoran, J., Dattalo, P., Crowley, M., Brown, E. & Grindle, L. (2011). A systematic review of psychosocial interventions for suicidal adolescents. *Children and Youth Services Review*, 33, 2112-2118. DOI: 10.1016/j.chilyouth.2011.06.017.
- Critical Appraisal Skills Program (2019). *CASP Checklists* [online]. Available from: <https://casp-uk.net/casp-tools-checklists/> [accessed 19th April 2020].
- Czaja, S.J., Schulz, R., Belle, S.H., Burgio, L.D., Armstrong, N., Klingler, J. & Stahl, S.M. (2006). Data and safety monitoring in social behavioural intervention trials: The REACH II experience. *Clinical Trials*, 3, 107-118. DOI: 10.1191/1740774506cn136oa.
- Del Piccolo, L., Finset, A., Mellblom, A.V., Figueiredo-Braga, M., Korsvold, L., Zhou, Y., Zimmermann, C. & Humphris, G. (2017). Verona Coding Definitions of Emotional Sequences (VR-CoDES): Conceptual framework and future directions. *Patient Education and Counselling*, 100, 2303-2311. DOI: 10.1016/j.pec.2017.06.026.

- DeLuca, J.B., Mullins, M.M., Lyles, C.M., Crepaz, N., Kay, L. & Thadiparthi, S. (2008). Developing a comprehensive search strategy for evidence based systematic reviews. *Evidence Based Library and Information Practice*, 3(1), 3-32. DOI: 10.18438/B8KP66.
- Deveugele, M., Derese, A., van den Brink-Muinen, A., Bensing, J. & De Maeseneer, J. (2002). Consultation length in general practice: Cross sectional study in six European countries. *BMJ*, 325. DOI: 10.1136/bmj.325.7362.472.
- Dobson, D.J.G. & Dobson, K.S. (2018). Avoidance in the clinic: Strategies to conceptualise and reduce avoidant thoughts, emotions, and behaviours with cognitive-behaviour therapy. *Practice Innovations*, 3(1), 32-42. DOI: 10.1037/pri0000061
- Donker, T., Calear, A., Busby Grant, J., Van Spijker, B., Fenton, K., Hehir, K.K., Cuijpers, P. & Christensen, H. (2013). Suicide prevention in schizophrenia spectrum disorders and psychosis: A systematic review. *BMC Psychology*, 1(1), 6. DOI: 10.1186/2050-7283-1-6.
- Dorpat, T.L. (1963). An evaluation of suicidal intent in suicide attempts. *Comprehensive Psychiatry*, 4(2), 117-125. DOI: 10.1016/S0010-440X(63)80093-0.
- Duggan, C., Parry, G. McMurrin, M., Davidson, K. & Dennis, J. (2014). The recording of adverse events from psychological treatments in clinical trials: Evidence from a review of NIHR-funded trials. *Trials*, 15(335). DOI: 10.1186/1745-6215-15-335.
- Fialko, L., Freeman, D., Bebbington, P.E., Kuipers, E., Garety, P.A., Dunn, G. & Fowler, D. (2006). Understanding suicidal ideation in psychosis: Findings from the psychological prevention of relapse in psychosis (PRP) trial. *Acta Psychiatrica Scandinavica*, 114(3), 177-186. DOI: 10.1111/j.1600-0447.2006.00849.x.
- Fulginiti, A., Pahwa, R., Frey, L.M., Rice, E. & Brekke, J.S. (2016). What factors influence the decision to share suicidal thoughts? A multilevel social network analysis of disclosure among individuals with serious mental illness. *Suicide and Life-Threatening Behaviour*, 46(4), 398-412. DOI: 10.1111/sltb.12224.
- Gorawara-Bhat, R., Hafskjold, L., Gulbrandsen, P. & Eide, H. (2018). Exploring physicians' verbal and nonverbal response to cues/concerns: Learning from incongruent communication. *Patient Education and Counselling*, 100, 1979-1989. DOI: 10.1016/j.pec.2017.06.027.
- Gould, M.S., Marrocco, F.A., Kleinman, M., Thomas, J.G., Mostkoff, K., Cote, J. & Davies, M. (2005). Evaluating iatrogenic risk of youth suicide screening programs: A randomised controlled trial. *JAMA*, 293(13), 1635-1643. DOI: 10.1001/jama.293.13.1635.
- Grant, S., Mayo-Wilson, E., Montgomery, P., Macdonald, G., Michie, S., Hopewell, S., Moher, D. & on behalf of the CONSORT-SPI group (2018). CONSORT-SPI 2018 explanation and elaboration: Guidance for reporting social and psychological intervention trials. *Trials*, 19(406). DOI: 10.1186/s13063-018-2735-z.
- Grayson, D. (2004). Some myths and legends in quantitative psychology. *Understanding Statistics*, 3(1), 101-134. DOI: 10.1207/s15328031us0302_3.
- Hawton, K., Sutton, L., Haw, C., Sinclair, J. & Deeks, J.J. (2005). Schizophrenia and suicide: Systematic review of risk factors. *British Journal of Psychiatry*, 187, 9-20. DOI: 10.1192/bjp.187.1.9.

Hawton, K., Witt, K.G., Taylor Salisbury, T.L., Arensman, E., Gunnell, D., Townsend, E., van Heeringen, K. & Hazell, P. (2015). Interventions for self-harm in children and adolescents. *Cochrane Database of Systematic Reviews*, 12. Art. No.: CD012013. DOI: 10.1002/14651858.CD012013.

Henriques, G., Wenzel, A., Brown, G.K. & Beck, A.T. (2005). Suicide attempters' reaction to survival as a risk factor for eventual suicide. *American Journal of Psychiatry*, 162(11), 2180-2182. DOI: 10.1176/appi.ajp.162.11.2180.

Higgins, J.P., Altman, D.G., Gotzsche, P.C., Juni, P., Moher, D., Oxman, A.D., Savovic, J., Schulz, K.F, Weeks, L. & Sterne, J.A.C. (2011). The Cochrane Collaboration's tool for assessing risk of bias in randomised trials. *BMJ*, 343, d5928. DOI: 10.1136/bmj.d5928.

Higgins, J.P.T. & Green, S. (2011). *Cochrane Handbook for Systematic Reviews of Interventions Version 5.1.0* [online]. Available from: www.handbook.cochrane.org [accessed 29th April 2020].

Hoglander, J., Eklund, J.H., Eide, H., Holmstron, I.K. & Sundler, A.J. (2017). Registered nurses' and nurse assistants' responses to older persons' expressions of emotional needs in home care. *Journal of Advanced Nursing*, 73(12), 2923-2932. DOI: 10.1111/jan.13356.

Hom, Stanley & Joiner (2015). Evaluating factors and interventions that influence help-seeking and mental health service utilization among suicidal individuals: A review of the literature. *Clinical Psychology Review*, 40, 28-39. DOI: 10.1016/j.cpr.2015.05.006.

Hutton, C. & Gunn, J. (2007). Do longer consultations improve management of psychological problems in general practice? A systematic literature review. *BMC Health Services Research*, 7(71). DOI: 10.1186/1472-6963-7-71.

Impellizzeri, F.M. & Bizzini, M. (2012). Systematic review and meta-analysis: A primer. *International Journal of Sports Physical Therapy*, 7(5), 493-503.

Johnson, J., Gooding, P.A. & Tarrier, N. (2008). Suicide risk in schizophrenia: Explanatory models and clinical implications, the Schematic Appraisal Model of Suicide (SAMS). *Psychology and Psychotherapy: Theory, Research and Practice*, 81, 55-77. DOI: 10.1348/147608307X244996.

Johnson, J., Wood, A.M., Gooding, P., Taylor, P.J. & Tarrier, N. (2011). Resilience to suicidality: The buffering hypothesis. *Clinical Psychology Review*, 31, 563-591. DOI: 10.1016/j.cpr.2010.12.007.

Jonsson, U., Alaie, I., Parling, T. & Arnberg, F.K. (2014). Reporting of harms in randomised controlled trials of psychological interventions for mental and behavioural disorders: A review of current practice. *Contemporary Clinical Trials*, 38(1), 1-8. DOI: 10.1016/j.cct.2014.02.005.

Kapur, N., Cooper, J., O'Connor, R. & Hawton, K. (2013). Non-suicidal self-injury v. attempted suicide: New diagnosis or false dichotomy? *British Journal of Psychiatry*, 202, 326-328. DOI: 10.1192/bjp.bp.112.116111.

Lilienfeld, S.O. (2007). Psychological treatments that cause harm. *Perspectives on Psychological Science*, 2, 53-70. DOI: 10.1111/j.1745-6916.2007.00029.x.

Lutgens, D., Garipey, G. & Malla, A. (2017). Psychological and psychosocial interventions for negative symptoms in psychosis: Systematic review and meta-analysis. *British Journal of Psychiatry*, 210(5), 324-332. DOI: 10.1192/bjp.bp.116.197103.

McCall, R.B. & Green, B.L. (2004). Beyond the methodological gold standards of behavioural research: Considerations for practice and policy. *Social Policy Report*, 18(2).

Meerwijk, E.L., Parekh, A., Oquendo, M.A., Allen, E., Franck, L.S. & Lee, K.A. (2016). Direct versus indirect psychosocial and behavioural interventions to prevent suicide and suicide attempts: A systematic review and meta-analysis. *Lancet Psychiatry*, 3, 544–54. DOI: 10.1016/S2215-0366(16)00064-X.

Mewton, L. & Andrews, G. (2016). Cognitive behavioural therapy for suicidal behaviours: Improving patient outcomes. *Psychology Research and Behaviour Management*, 9, 21-29. DOI: 10.2147/PRBM.S84589.

Montgomery, M.R. (2018). An exploration of the psychotherapist's fears, anxieties and changing capacity for risk tolerance, when working with expressed suicidal ideation by a client: A grounded theory study. *Journal of Psychological Therapies*, 3(2), 29-36.

Munder, T. & Barth, J. (2018). Cochrane's risk of bias tool in the context of psychotherapy outcome research. *Psychotherapy Research*, 28(3), 347-355. DOI: 10.1080/10503307.2017.1411628.

O'Carroll, P.W., Berman, A.L., Maris, R.W., Moscicki, E.K., Tanney, B.L. & Silverman, M.M. (1996). Beyond the tower of babel: A nomenclature for suicidology. *Suicide and Life-Threatening Behaviour*, 26(3), 237-252. DOI: 10.1111/j.1943-278X.1996.tb00609.x.

O'Connor, R.C. (2011). Towards an Integrated Motivational-Volitional Model of Suicidal Behaviour. In R.C. O'Connor, S. Platt, J. Gordon (Eds.) *International Handbook of Suicide Prevention: Research, Policy & Practice*. Chichester: Wiley Blackwell.

Owens, G., Belam, J., Lambert, H., Donovan, J., Rapport, F. & Owens, C. (2012). Suicide communication events: Lay interpretation of the communication of suicidal ideation and intent. *Social Science and Medicine*, 75(2), 419-428. DOI: 10.1016/j.socscimed.2012.02.058.

Panagioti, M., Gooding, P. & Tarrier, N. (2009). Post-traumatic stress disorder and suicidal behaviour: A narrative review. *Clinical Psychology Review*, 29, 471-482. DOI: 10.1016/j.cpr.2009.05.001.

Riessman, C.K. (1993). *Narrative Analysis*. Newbury Park: Sage.

Sheehan, L., Oexle, N., Armas, S.A., Wan, H.T., Bushman, M., Glover, L. & Lewy, S.A. (2019). Benefits and risks of suicide disclosure. *Social Science and Medicine*, 223, 16-23. DOI: 10.1016/j.socscimed.2019.01.023.

Rothstein, H.R., Sutton, A.J. & Borenstein, M. (2005). *Publication Bias in Meta-Analyses: Prevention, Assessment and Adjustments*. Chichester: Wiley Blackwell.

Sidnell, J. (2010). *Conversation Analysis: An introduction*. Oxford, UK: Wiley-Blackwell.

Silverman, M.M., Berman, A.L., Sanddal, N.D., O'Carroll, P.W. & Joiner, T.E. (2007). Rebuilding the Tower of Babel: A revised nomenclature for the study of suicidal behaviours. Part 2: Suicide-related ideations, communications and behaviours. *Suicide and Life-Threatening Behaviour*, 37, 264-277. DOI: 10.1521/suli.2007.37.3.264.

Stegenga, J. (2011). Is meta-analysis the platinum standard of evidence? *Studies in History and Philosophy of Biological and Biomedical Sciences*, 42(4), 497-507. DOI: 10.1016/j.shpsc.2011.07.003.

Sterne, J.A.C., Savović, J., Page, M.J., Elbers, R.G., Blencowe, N.S., Boutron, I., Cates, C.J., Cheng, H.-Y., Corbett, M.S., Eldridge, S.M., Hernán, M.A., Hopewell, S., Hróbjartsson, A., Junqueira, D.R., Jüni, P., Kirkham, J.J., Lasserson, T., Li, T., McAleenan, A., Reeves, B.C., Shepperd, S., Shrier, I., Stewart, L.A., Tilling, K., White, I.R., Whiting, P.F., Higgins, J.P.T. (2019) RoB 2: A revised tool for assessing risk of bias in randomised trials. *BMJ*, 366, l4898. DOI: 10.1136/bmj.l4898.

Tannen, D., Hamilton, H.E. & Van Dijk, T.A. (2015). *Handbook of Discourse Analysis*. West Sussex, UK: Wiley Blackwell.

Tang, E., Ravaud, P., Riveros, C., Perrodeau, E. & Dechartes, A. (2015). Comparison of serious adverse events posted at ClinicalTrials.gov and published in corresponding journal articles. *BMC Medicine*, 13(189). DOI: 10.1186/s12916-015-0430-4.

Tarrier, N., Taylor, P. & Gooding, P (2008). Cognitive-behavioural interventions to reduce suicide behaviour: A systematic review and meta-analysis. *Behaviour Modification*, 32(1), 77-108. DOI: 10.1177/0145445507304728.

Taylor, P.J., Gooding, P.A., Wood, A.M., Johnson, J., Pratt, D. & Tarrier, N. (2010). Defeat and entrapment in schizophrenia: The relationship with suicidal ideation and positive psychotic symptoms. *Psychiatry Research*, 178(2), 244-248. DOI: 10.1016/j.psychres.2009.10.015.

Tseliou, E. (2013). A critical methodological review of discourse and conversation analysis studies of family therapy. *Family Process*, 52(4), 653-672. DOI: <https://doi.org/10.1111/famp.12043>.

Villa, J., Ehret, B.C. & Depp, C.A. (2019). Systematic review of the inclusion of people with psychosis in suicide-specific clinical trials. *Crisis*, 28, 1-4. DOI: 10.1027/0227-5910/a000628.

Yates, K., Lang, U., Cederlof, M., Boland, F., Taylor, P., Cannon, M., McNicholas, F., DeVylder, J. & Kelleher, I. (2018). Association of psychotic experiences with subsequent risk of suicidal ideation, suicide attempts, and suicide deaths: A systematic review and meta-analysis of longitudinal population studies. *JAMA Psychiatry*, 76(2), 180-189. DOI:10.1001/jamapsychiatry.2018.3514.

Zeng, Z., Zhang, Y., Kwong, J.S.W., Zhang, C., Li, S., Sun, F., Niu, Y. & Du, L. (2015). The methodological quality assessment tools for preclinical and clinical studies, systematic review and meta-analysis, and clinical practice guideline: A systematic review. *Journal of Evidence-Based Medicine*, 8(1), 2-10. DOI: 10.1111/jebm.12141.

Zimmermann, C., Del Piccolo, L., Bensing, J., Bergvik, S., De Haes, H., Eide, H., Fletcher, I., Goss, C., Heaven, C., Humphris, G., Kim, Y.M., Langewitz, W., Meeuswesen, L., Nuebling, M., Rimondini, M., Salmon, P., van Dulmen, S., Wissow, L., Zandbelt, L. & Finset, A. (2011). Coding patient emotional cues and concerns in medical consultations: The Verona coding definitions of emotional sequences (VR-CoDES). *Patient Education and Counselling*, 82, 141-148. DOI: 10.1016/j.pec.2010.03.017.

Zimmermann, D., Del Piccolo, L. & Finset, A. (2007). Cues and concerns by patients in medical consultations: A literature review. *Psychological Bulletin*, 133(3), 438-463. DOI: 10.1037/0033-2909.133.3.438.

Appendix A – Author guidelines for Psychotherapy Research

Instructions for Authors

Thank you for choosing to submit your paper to us. These instructions will ensure we have everything required so your paper can move through peer review, production and publication smoothly. Please take the time to read and follow them as closely as possible, as doing so will ensure your paper matches the journal's requirements.

Author Services

For general guidance on every stage of the publication process, please visit our Author Services website.

Editing Services

For editing support, including translation and language polishing, explore our Editing Services website.

This journal uses ScholarOne Manuscripts (previously Manuscript Central) to peer review manuscript submissions. Please read the guide for ScholarOne authors before making a submission. Complete guidelines for preparing and submitting your manuscript to this journal are provided below.

About the journal

Psychotherapy Research is the official journal of the Society for Psychotherapy Research. A pan-discipline, pan-theoretical publication, its scope covers all aspects of psychotherapy research from process to outcomes; service evaluation and training. Access to all the online content of the journal from 1991 is available free to all members of SPR.

Psychotherapy Research is an international, peer reviewed journal, publishing high-quality, original research. Please see the journal's Aims & Scope for information about its focus and peer-review policy.

Please note that this journal only publishes manuscripts in English.

Peer review

Taylor & Francis is committed to peer-review integrity and upholding the highest standards of review. Once your paper has been assessed for suitability by the editor, it will then be double blind peer-reviewed by independent, anonymous expert referees. Find out more about what to expect during peer review and read our guidance on publishing ethics.

Preparing your paper

All authors submitting to medicine, biomedicine, health sciences, allied and public health journals should conform to the Uniform Requirements for Manuscripts Submitted to Biomedical Journals, prepared by the International Committee of Medical Journal Editors (ICMJE).

Structure

Authors will need to include a separate 2-3 sentence summary labelled "Clinical or Methodological Significance of this Article" and should also include a word count with their article.

Word limits

Manuscripts reporting results of quantitative or qualitative research generally should not exceed 35 double-spaced pages (including cover page, abstract, text, references, tables, and figures), with margins of at least 1 inch on all sides and a 12-point font. Concise manuscripts are favored over lengthier manuscripts, as long as quality is not compromised in abbreviating a paper. For manuscripts that exceed these page guidelines, authors must provide a rationale in their cover letter to justify the length of their paper. Papers that do not conform to these guidelines will be returned to authors without a peer review.

Style guidelines

Please use APA (American Psychological Association) style guidelines when preparing your paper, rather than any published articles or a sample copy.

Please use American, British-ize spelling style consistently throughout your manuscript.

Please use double quotation marks, except where "a quotation is 'within' a quotation". Note that long quotations should be indented without quotation marks.

Formatting and templates

Papers may be submitted in any standard format, including Word and LaTeX. Figures should be saved separately from the text.

References

All submitted manuscripts should conform to the current APA (American Psychological Association) style. Please use this reference style guide when preparing your paper. An EndNote output style is also available to assist you.

Checklist: What to Include

1. Author details. Please ensure everyone meeting the International Committee of Medical Journal Editors (ICMJE) requirements for authorship is included as an author of your paper. All authors of a manuscript should include their full name and affiliation on the cover page of the manuscript. Where available, please also include ORCiDs and social media handles (Facebook, Twitter or LinkedIn). One author will need to be identified as the corresponding author, with their email address normally displayed in the article PDF (depending on the journal) and the online article. Authors' affiliations are the affiliations where the research was conducted. If any of the named co-authors moves affiliation during the peer-review process, the new affiliation can be given as a footnote. Please note that no changes to affiliation can be made after your paper is accepted. Read more on authorship.
2. Should contain a structured abstract of 200 words.
3. Graphical abstract (optional). This is an image to give readers a clear idea of the content of your article. It should be a maximum width of 525 pixels. If your image is narrower than 525 pixels, please place it on a white background 525 pixels wide to ensure the dimensions are maintained. Save the graphical abstract as a .jpg, .png, or .gif. Please do not embed it in the manuscript file but save it as a separate file, labelled GraphicalAbstract1.
4. You can opt to include a video abstract with your article. Find out how these can help your work reach a wider audience, and what to think about when filming.
5. Between 5 and 6 keywords. Read making your article more discoverable, including information on choosing a title and search engine optimization.
6. Funding details. Please supply all details required by your funding and grant-awarding bodies as follows:
For single agency grants
This work was supported by the [Funding Agency] under Grant [number xxxx].
For multiple agency grants
This work was supported by the [Funding Agency #1] under Grant [number xxxx]; [Funding Agency #2] under Grant [number xxxx]; and [Funding Agency #3] under Grant [number xxxx].
7. Disclosure statement. This is to acknowledge any financial interest or benefit that has arisen from the direct applications of your research. Further guidance on what is a conflict of interest and how to disclose it.
8. Data availability statement. If there is a data set associated with the paper, please provide information about where the data supporting the results or analyses presented in the paper can be found. Where applicable, this should include the hyperlink, DOI or other persistent identifier associated with the data set(s). Templates are also available to support authors.
9. Data deposition. If you choose to share or make the data underlying the study open, please deposit your data in a recognized data repository prior to or at the time of submission. You will be asked to provide the DOI, pre-reserved DOI, or other persistent identifier for the data set.
10. Geolocation information. Submitting a geolocation information section, as a separate paragraph before your acknowledgements, means we can index your paper's study area accurately in JournalMap's geographic literature database and make your article more discoverable to others. More information.
11. Supplemental online material. Supplemental material can be a video, dataset, fileset, sound file or anything which supports (and is pertinent to) your paper. We publish supplemental material online via Figshare. Find out more about supplemental material and how to submit it with your article.
12. Figures. Figures should be high quality (1200 dpi for line art, 600 dpi for grayscale and 300 dpi for colour, at the correct size). Figures should be supplied in one of our preferred file formats: EPS, PS, JPEG, GIF, or Microsoft Word (DOC or DOCX). For information relating to other file types, please consult our Submission of electronic artwork document.

13. Tables. Tables should present new information rather than duplicating what is in the text. Readers should be able to interpret the table without reference to the text. Please supply editable files.
14. Equations. If you are submitting your manuscript as a Word document, please ensure that equations are editable. More information about mathematical symbols and equations.
15. Units. Please use SI units (non-italicized).

Using Third-Party Material in your Paper

You must obtain the necessary permission to reuse third-party material in your article. The use of short extracts of text and some other types of material is usually permitted, on a limited basis, for the purposes of criticism and review without securing formal permission. If you wish to include any material in your paper for which you do not hold copyright, and which is not covered by this informal agreement, you will need to obtain written permission from the copyright owner prior to submission. More information on requesting permission to reproduce work(s) under copyright.

Disclosure Statement

Please include a disclosure statement, using the subheading "Disclosure of interest." If you have no interests to declare, please state this (suggested wording: The authors report no conflict of interest). For all NIH/Wellcome-funded papers, the grant number(s) must be included in the declaration of interest statement. Read more on declaring conflicts of interest.

Clinical Trials Registry

In order to be published in a Taylor & Francis journal, all clinical trials must have been registered in a public repository at the beginning of the research process (prior to patient enrolment). Trial registration numbers should be included in the abstract, with full details in the methods section. The registry should be publicly accessible (at no charge), open to all prospective registrants, and managed by a not-for-profit organization. For a list of registries that meet these requirements, please visit the WHO International Clinical Trials Registry Platform (ICTRP). The registration of all clinical trials facilitates the sharing of information among clinicians, researchers, and patients, enhances public confidence in research, and is in accordance with the ICMJE guidelines.

Complying With Ethics of Experimentation

Please ensure that all research reported in submitted papers has been conducted in an ethical and responsible manner, and is in full compliance with all relevant codes of experimentation and legislation. All papers which report in vivo experiments or clinical trials on humans or animals must include a written statement in the Methods section. This should explain that all work was conducted with the formal approval of the local human subject or animal care committees (institutional and national), and that clinical trials have been registered as legislation requires. Authors who do not have formal ethics review committees should include a statement that their study follows the principles of the Declaration of Helsinki.

Consent

All authors are required to follow the ICMJE requirements on privacy and informed consent from patients and study participants. Please confirm that any patient, service user, or participant (or that person's parent or legal guardian) in any research, experiment, or clinical trial described in your paper has given written consent to the inclusion of material pertaining to themselves, that they acknowledge that they cannot be identified via the paper; and that you have fully anonymized them. Where someone is deceased, please ensure you have written consent from the family or estate. Authors may use this Patient Consent Form, which should be completed, saved, and sent to the journal if requested.

Health and Safety

Please confirm that all mandatory laboratory health and safety procedures have been complied with in the course of conducting any experimental work reported in your paper. Please ensure your paper contains all appropriate warnings on any hazards that may be involved in carrying out the experiments or procedures you have described, or that may be involved in instructions, materials, or formulae.

Please include all relevant safety precautions; and cite any accepted standard or code of practice. Authors working in animal science may find it useful to consult the International Association of Veterinary Editors' Consensus Author Guidelines on Animal Ethics and Welfare and Guidelines for the Treatment of Animals in Behavioural Research and Teaching. When a

product has not yet been approved by an appropriate regulatory body for the use described in your paper, please specify this, or that the product is still investigational.

Submitting Your Paper

This journal uses ScholarOne Manuscripts to manage the peer-review process. If you haven't submitted a paper to this journal before, you will need to create an account in ScholarOne. Please read the guidelines above and then submit your paper in the relevant Author Centre, where you will find user guides and a helpdesk.

Please note that Psychotherapy Research uses Crossref™ to screen papers for unoriginal material. By submitting your paper to Psychotherapy Research you are agreeing to originality checks during the peer-review and production processes.

On acceptance, we recommend that you keep a copy of your Accepted Manuscript. Find out more about sharing your work.

Data Sharing Policy

This journal applies the Taylor & Francis Basic Data Sharing Policy. Authors are encouraged to share or make open the data supporting the results or analyses presented in their paper where this does not violate the protection of human subjects or other valid privacy or security concerns.

Authors are encouraged to deposit the dataset(s) in a recognized data repository that can mint a persistent digital identifier, preferably a digital object identifier (DOI) and recognizes a long-term preservation plan. If you are uncertain about where to deposit your data, please see this information regarding repositories.

Authors are further encouraged to cite any data sets referenced in the article and provide a Data Availability Statement.

At the point of submission, you will be asked if there is a data set associated with the paper. If you reply yes, you will be asked to provide the DOI, pre-registered DOI, hyperlink, or other persistent identifier associated with the data set(s). If you have selected to provide a pre-registered DOI, please be prepared to share the reviewer URL associated with your data deposit, upon request by reviewers.

Where one or multiple data sets are associated with a manuscript, these are not formally peer reviewed as a part of the journal submission process. It is the author's responsibility to ensure the soundness of data. Any errors in the data rest solely with the producers of the data set(s).

Publication Charges

There are no submission fees, publication fees or page charges for this journal.

Colour figures will be reproduced in colour in your online article free of charge. If it is necessary for the figures to be reproduced in colour in the print version, a charge will apply.

Charges for colour figures in print are £300 per figure (\$400 US Dollars; \$500 Australian Dollars; €350). For more than 4 colour figures, figures 5 and above will be charged at £50 per figure (\$75 US Dollars; \$100 Australian Dollars; €65). Depending on your location, these charges may be subject to local taxes.

Copyright Options

Copyright allows you to protect your original material, and stop others from using your work without your permission. Taylor & Francis offers a number of different license and reuse options, including Creative Commons licenses when publishing open access. Read more on publishing agreements.

Complying with Funding Agencies

We will deposit all National Institutes of Health or Wellcome Trust-funded papers into PubMedCentral on behalf of authors, meeting the requirements of their respective open access policies. If this applies to you, please tell our production team when you receive your article proofs, so we can do this for you. Check funders' open access policy mandates here. Find out more about sharing your work.

Open Access

This journal gives authors the option to publish open access via our Open Select publishing program, making it free to access online immediately on publication. Many funders mandate publishing your research open access; you can check open access funder policies and mandates here.

Taylor & Francis Open Select gives you, your institution or funder the option of paying an article publishing charge (APC) to make an article open access. Please contact

openaccess@tandf.co.uk if you would like to find out more, or go to our Author Services website.

For more information on license options, embargo periods and APCs for this journal please go here.

My Authored Works

On publication, you will be able to view, download and check your article's metrics (downloads, citations and Altmetric data) via My Authored Works on Taylor & Francis Online. This is where you can access every article you have published with us, as well as your free eprints link, so you can quickly and easily share your work with friends and colleagues.

We are committed to promoting and increasing the visibility of your article. Here are some tips and ideas on how you can work with us to promote your research.

Article Reprints

You will be sent a link to order article reprints via your account in our production system. For enquiries about reprints, please contact the Taylor & Francis Author Services team at reprints@tandf.co.uk. You can also order print copies of the journal issue in which your article appears.

Queries

Should you have any queries, please visit our Author Services website or contact us here.

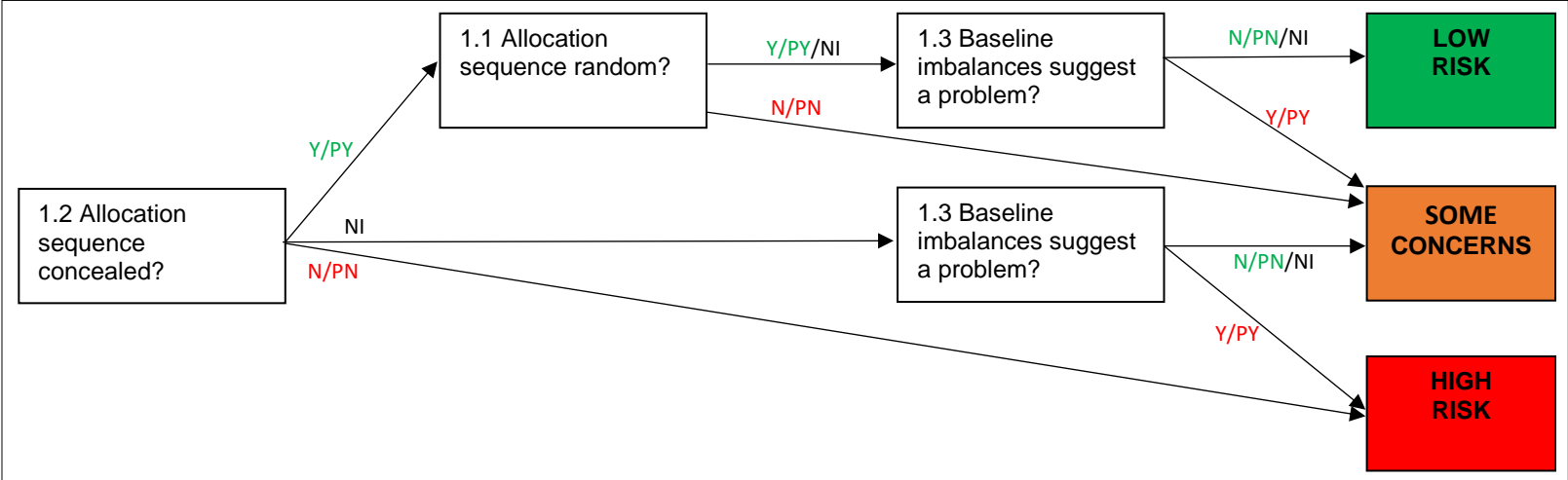
Appendix B – Adapted tool for assessment of methodological quality and risk of bias
(adapted from the Cochrane Risk of Bias tool v2, Sterne et al., 2019; Higgins et al., 2011)

Domain 1: Risk of bias arising from the randomisation process (randomised studies only).		
Signalling question	Elaboration	Response options
1.1 Was the allocation sequence random?	<p>Answer 'Yes' if a random component was used in the sequence generation process.</p> <p>Answer 'No' if no random element was used in generating the allocation sequence or the sequence is predictable.</p> <p>Answer 'No information' if the only information about randomisation methods is a statement that the study is randomised.</p> <p>In some situations, a judgement may be made to answer 'Probably no' or 'Probably yes', for example, in the context of a large trial run by an experienced clinical trials unit.</p>	Y/ PY/ PN/ N/ NI
1.2 Was the allocation sequence concealed until participants were enrolled and assigned to intervention groups?	<p>Answer 'Yes' if the trial used any form of remote or centrally administered method to allocate interventions to participants, where the process of allocation is controlled by an external unit or organization, independent of the enrolment personnel.</p> <p>Answer 'No' if there is reason to suspect that the enrolling investigator or the participant had knowledge of the forthcoming allocation.</p>	Y/ PY/ PN/ N/ NI
1.3 Did baseline differences between intervention groups suggest a problem with the randomisation process?	<p>Answer 'No' if no imbalances are apparent or if any observed imbalances are compatible with chance.</p> <p>Answer 'Yes' if there are imbalances that indicate problems with the randomization process, including:</p> <ul style="list-style-type: none"> (1) substantial differences between intervention group sizes, compared with the intended allocation ratio; or (2) a substantial excess in statistically significant differences in baseline characteristics between intervention groups, beyond that expected by chance; or (3) imbalance in one or more key prognostic factors, or baseline measures of outcome variables, that is very unlikely to be due to chance and for which the between-group difference is big enough to result in bias in the intervention effect estimate. <p>Also answer 'Yes' if there are other reasons to suspect that the randomisation process was problematic:</p> <ul style="list-style-type: none"> (4) excessive similarity in baseline characteristics that is not compatible with chance. <p>Answer 'No information' when there is no useful baseline information available.</p>	Y/ PY/ PN/ N/ NI

Risk of bias judgement

See algorithm (below).

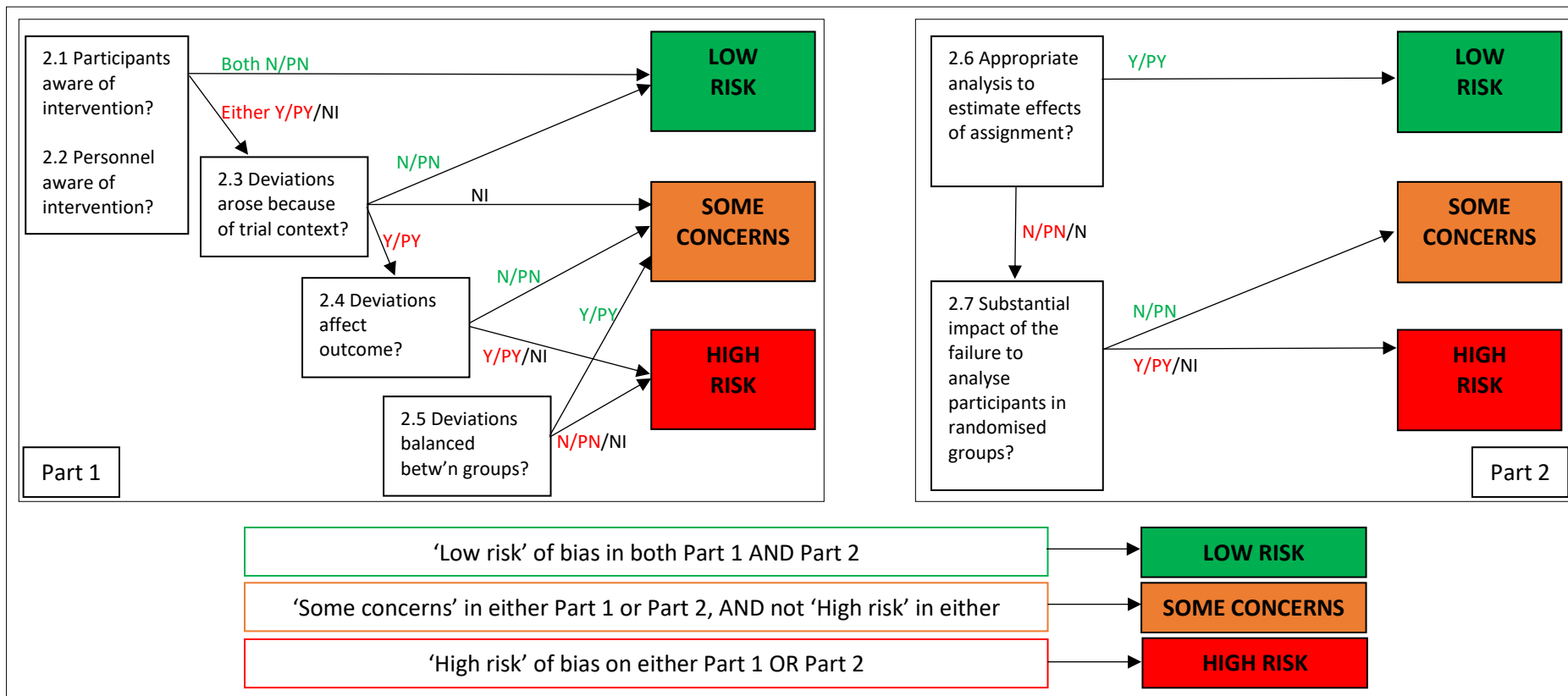
**LOW RISK /
SOME CONCERNS /
HIGH RISK**



Domain 1 decision algorithm.

Domain 2: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention) (controlled studies only).		
Signalling question	Elaboration	Response options
2.1 Were participants aware of their assigned intervention during the trial?	Answer 'Yes' if participants were unaware of their assigned intervention (highly unlikely to be the case for psychological interventions). Otherwise answer 'No'.	Y/ PY/ PN/ N/ NI
2.2 Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	Answer 'Yes' if therapists were unaware of the intervention to which patients were assigned (highly unlikely to be the case for psychological interventions). Otherwise answer 'No'.	Y/ PY/ PN/ N/ NI
2.3 If Y/PY/NI to 2.1 or 2.2, were there deviations from the intended intervention that arose because of the trial context?	<p>Answer 'Yes' or 'Probably yes' only if there is evidence, or strong reason to believe, that the trial context led to failure to implement the protocol interventions or to implementation of interventions not allowed by the protocol.</p> <p>Answer 'No' or 'Probably no' if there were changes from assigned intervention that are inconsistent with the trial protocol, such as non-adherence to intervention, but these are consistent with what could occur outside the trial context.</p> <p>Answer 'No' or 'Probably no' for changes to intervention that are consistent with the trial protocol, for example cessation of a drug intervention because of acute toxicity or use of additional interventions whose aim is to treat consequences of one of the intended interventions.</p> <p>The answer 'No information' may be appropriate, because trialists do not always report whether deviations arose because of the trial context.</p>	NA/ Y/ PY/ PN/ N/ NI
2.4 If Y/PY to 2.3, were these deviations likely to have affected the outcome?	Changes from assigned intervention that are inconsistent with the trial protocol and arose because of the trial context will impact on the intervention effect estimate if they affect the outcome, but not otherwise.	NA/ Y/ PY/ PN/ N/ NI
2.5 If Y/PY/NI to 2.4, were these deviations from	Changes from assigned intervention that are inconsistent with the trial protocol and arose because of the trial context are more likely to impact on the intervention effect estimate if they are not balanced between the intervention groups.	NA/ Y/ PY/ PN/ N/ NI

intended intervention balanced between groups?		
2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?	Both intention-to-treat (ITT) analyses and modified intention-to-treat (mITT) analyses excluding participants with missing outcome data should be considered appropriate. Both naïve 'per-protocol' analyses (excluding trial participants who did not receive their assigned intervention) and 'as treated' analyses (in which trial participants are grouped according to the intervention that they received, rather than according to their assigned intervention) should be considered inappropriate. Analyses excluding eligible trial participants post-randomisation should also be considered inappropriate, but post-randomisation exclusions of ineligible participants (when eligibility was not confirmed until after randomisation, and could not have been influenced by intervention group assignment) can be considered appropriate.	Y/ PY/ PN/ N/ NI
2.7 If N/PN/NI to 2.6, was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomised?	This question addresses whether the number of participants who were analysed in the wrong intervention group, or excluded from the analysis, was sufficient that there could have been a substantial impact on the result. It is not possible to specify a precise rule: there may be potential for substantial impact even if fewer than 5% of participants were analysed in the wrong group or excluded, if the outcome is rare or if exclusions are strongly related to prognostic factors.	NA/ Y/ PY/ PN/ N/ NI
Risk of bias judgement	See algorithm (below).	LOW RISK / SOME CONCERNS / HIGH RISK

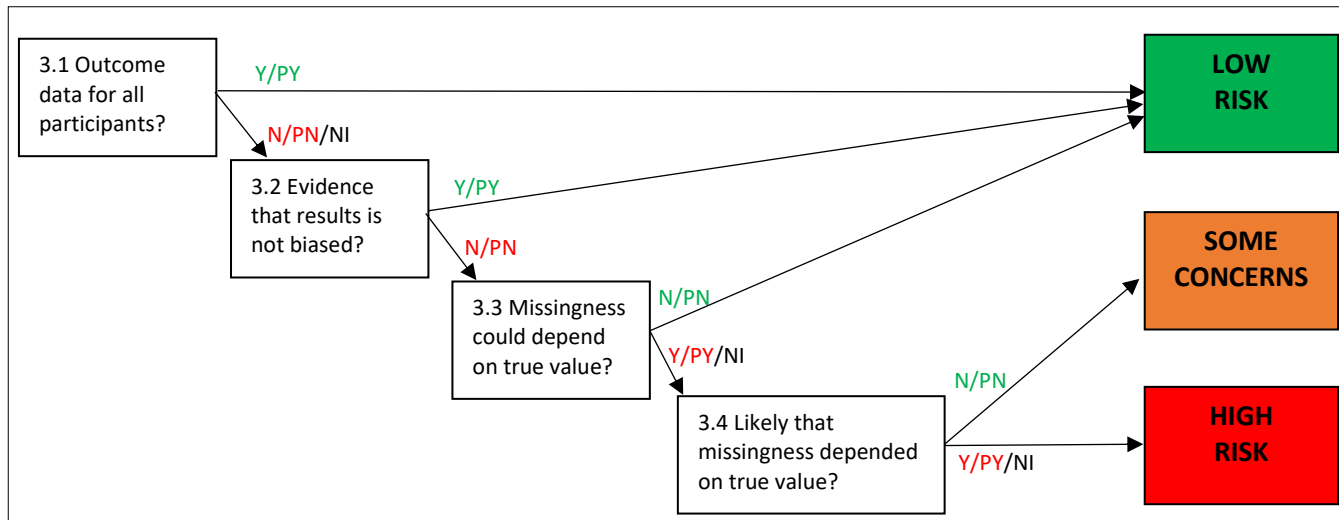


Domain 2 decision algorithm.

Domain 3: Risk of bias due to missing outcome data (all studies).

Signalling question	Elaboration	Response options
<p>3.1 Were data for this outcome available for all, or nearly all (>80%), participants randomised?</p>	<p>“Nearly all” should be interpreted as that the number of participants with missing outcome data is sufficiently small that their outcomes, whatever they were, could have made no important difference to the estimated effect of intervention. Only answer ‘No information’ if the trial report provides no information about the extent of missing outcome data.</p>	<p>Y/ PY/ PN/ N/ NI</p>
<p>3.2 If N/PN/NI to 3.1, is there evidence that the result was not biased by missing outcome data?</p>	<p>Evidence that the result was not biased by missing outcome data may come from: (1) analysis methods that correct for bias; or (2) sensitivity analyses showing that results are little changed under a range of plausible assumptions about the relationship between missingness in the outcome and its true value.</p>	<p>NA/ Y/ PY/ PN/ N</p>
<p>3.3 If N/PN to 3.2, could missingness in the outcome depend on its true value?</p>	<p>If loss to follow up, or withdrawal from the study, could be related to participants’ health status, then it is possible that missingness in the outcome was influenced by its true value. However, if all missing outcome data occurred for documented reasons that are unrelated to the outcome then the risk of bias due to missing outcome data will be low (for example, failure of a measuring device or interruptions to routine data collection).</p>	<p>NA/ Y/ PY/ PN/ N/ NI</p>
<p>3.4 If Y/PY/NI to 3.3, is it likely that missingness in the outcome depended on its true value?</p>	<p>This question distinguishes between situations in which (i) missingness in the outcome could depend on its true value (assessed as ‘Some concerns’) from those in which (ii) it is likely that missingness in the outcome depended on its true value (assessed as ‘High risk of bias’). Five reasons for answering ‘Yes’ are: 1. Differences between intervention groups in the proportions of missing outcome data. 2. Reported reasons for missing outcome data provide evidence that missingness in the outcome depends on its true value. 3. Reported reasons for missing outcome data differ between the intervention groups. 4. The circumstances of the trial make it likely that missingness in the outcome depends on its true value. 5. In time-to-event analyses, participants’ follow up is censored when they stop or change their assigned intervention, for example because of drug toxicity or, in cancer trials, when participants switch to second-line chemotherapy. Answer ‘No’ if the analysis accounted for participant characteristics that are likely to explain the relationship between missingness in the outcome and its true value.</p>	<p>NA/ Y/ PY/ PN/ N/ NI</p>

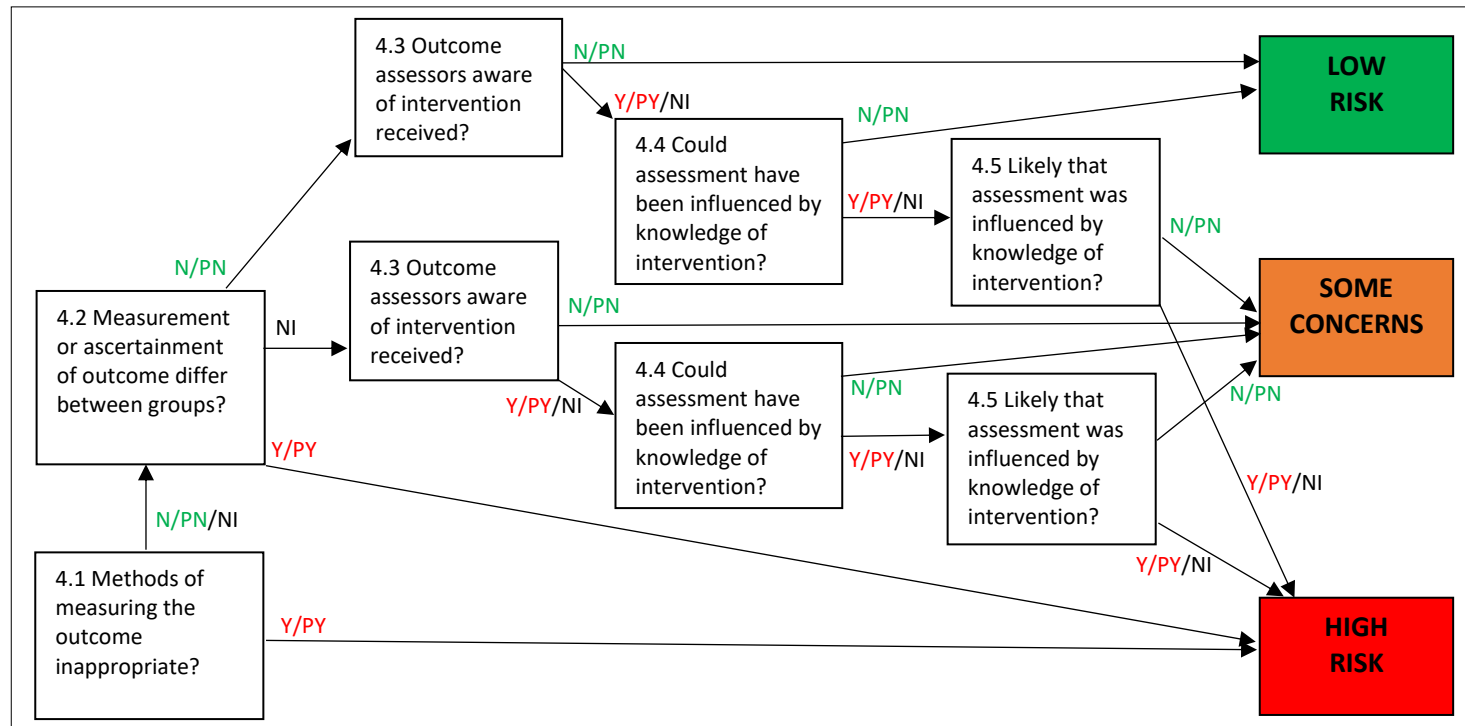
Risk of bias judgement	See algorithm (below).	LOW RISK / SOME CONCERNS / HIGH RISK
------------------------	------------------------	-----------------------------------------------------------------



Domain 3 decision algorithm.

Domain 4: Risk of bias in measurement of the outcome (controlled studies only).		
Signalling question	Elaboration	Response options
4.1 Was the method of measuring the outcome inappropriate?	In most circumstances, for pre-specified outcomes, the answer to this question will be 'No' or 'Probably no'. Answer 'Yes' or 'Probably yes' if the method of measuring the outcome is inappropriate, for example because: (1) it is unlikely to be sensitive to plausible intervention effects; or (2) the measurement instrument has been demonstrated to have poor validity.	Y/ PY/ PN/ N/ NI
4.2 Could measurement or ascertainment of the outcome have differed between intervention groups?	Comparable methods of outcome measurement (data collection) involve the same measurement methods and thresholds, used at comparable time points. Differences between intervention groups may arise because of 'diagnostic detection bias' in the context of passive collection of outcome data, or if an intervention involves additional visits to a healthcare provider, leading to additional opportunities for outcome events to be identified.	NA/ Y/ PY/ PN/ N/ NI
4.3 If N/PN/NI to 4.1 and 4.2, were outcome assessors aware of the intervention received by study participants?	Answer 'No' if outcome assessors were blinded to intervention status. For participant-reported outcomes, the outcome assessor is the study participant.	NA/ Y/ PY/ PN/ N/ NI
4.4 If Y/PY/NI to 4.3, could assessment of the outcome have been influenced by knowledge of intervention received?	Knowledge of the assigned intervention could influence participant-reported outcomes (such as level of pain), observer-reported outcomes involving some judgement, and intervention provider decision outcomes. They are unlikely to influence observer-reported outcomes that do not involve judgement, for example all-cause mortality.	NA/ Y/ PY/ PN/ N/ NI
4.5 If Y/PY/NI to 4.4, is it likely that assessment of the outcome was influenced by knowledge of intervention received?	When there are strong levels of belief in either beneficial or harmful effects of the intervention, it is more likely that the outcome was influenced by knowledge of the intervention received. Examples may include patient-reported symptoms in trials of homeopathy, or assessments of recovery of function by a physiotherapist who delivered the intervention.	NA/ Y/ PY/ PN/ N/ NI

Risk of bias judgement	See algorithm (below).	LOW RISK / SOME CONCERNS / HIGH RISK
------------------------	------------------------	-----------------------------------------------------------------

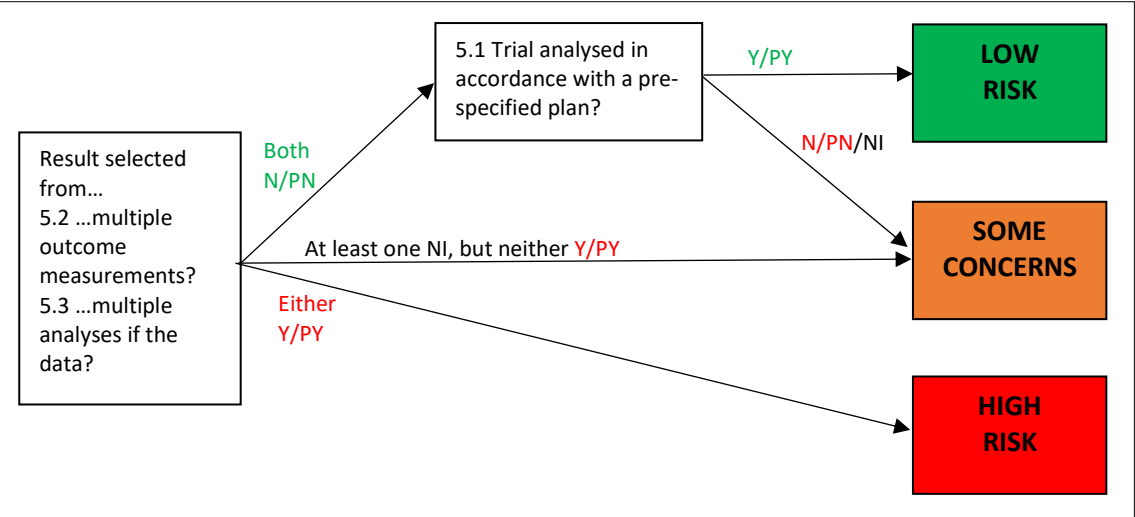


Domain 4 decision algorithm.

Domain 5: Risk of bias in selection of the reported result (studies with analyses only).

Signalling question	Elaboration	Response options
<p>5.1 Were the data that produced this result analysed in accordance with a pre-specified plan that was finalised before unblinded outcome data were available for analysis?</p>	<p>To avoid the possibility of selection of the reported result, finalization of the analysis intentions must precede availability of unblinded outcome data to the trial investigators. Changes to analysis plans that were made before unblinded outcome data were available, or that were clearly unrelated to the results do not raise concerns about bias in selection of the reported result.</p>	<p>Y/ PY/ PN/ N/ NI</p>
<p>5.2 Is the result being assessed likely to have been selected on the basis of the results, from multiple eligible outcome measurements with the outcome domain?</p>	<p>Answer 'Yes' or 'Probably yes' if there is clear evidence (usually through examination of a trial protocol or statistical analysis plan) that a domain was measured in multiple eligible ways, but data for only one or a subset of measures is fully reported (without justification), and the fully reported result is likely to have been selected on the basis of the results. Answer 'No' or 'Probably no' if there is clear evidence (usually through examination of a trial protocol or statistical analysis plan) that all eligible reported results for the outcome domain correspond to all intended outcome measurements. OR There is only one possible way in which the outcome domain can be measured (hence there is no opportunity to select from multiple measures). OR Outcome measurements are inconsistent across different reports on the same trial, but the trialists have provided the reason for the inconsistency and it is not related to the nature of the results. Answer 'No information' if analysis intentions are not available, or the analysis intentions are not reported in sufficient detail to enable an assessment, and there is more than one way in which the outcome domain could have been measured.</p>	<p>NA/ Y/ PY/ PN/ N/ NI</p>
<p>5.3 Is the result being assessed likely to have been selected on the basis of the results, from multiple eligible analyses of the data?</p>	<p>Answer 'Yes' or 'Probably yes' if there is clear evidence (usually through examination of a trial protocol or statistical analysis plan) that a measurement was analysed in multiple eligible ways, but data for only one or a subset of analyses is fully reported (without justification), and the fully reported result is likely to have been selected on the basis of the results. Answer 'No' or 'Probably no' if there is clear evidence (usually through examination of a trial protocol or statistical analysis plan) that all eligible reported results for the outcome measurement correspond to all intended analyses. OR</p>	<p>NA/ Y/ PY/ PN/ N/ NI</p>

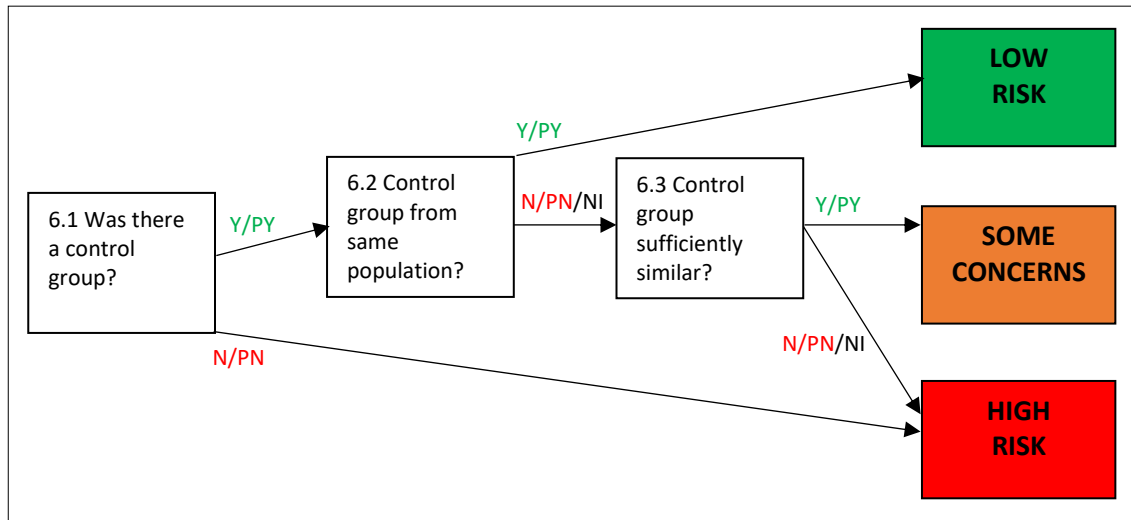
	<p>There is only one possible way in which the outcome measurement can be analysed (hence there is no opportunity to select from multiple analyses). OR</p> <p>Analyses are inconsistent across different reports on the same trial, but the trialists have provided the reason for the inconsistency and it is not related to the nature of the results.</p> <p>Answer 'No information' if analysis intentions are not available, or the analysis intentions are not reported in sufficient detail to enable an assessment, and there is more than one way in which the outcome measurement could have been analysed.</p>	
Risk of bias judgement	See algorithm (below).	<p>LOW RISK / SOME CONCERNS / HIGH RISK</p>



Domain 5 decision algorithm.

Domain 6: Risk of bias related to control group (non-randomised studies only).

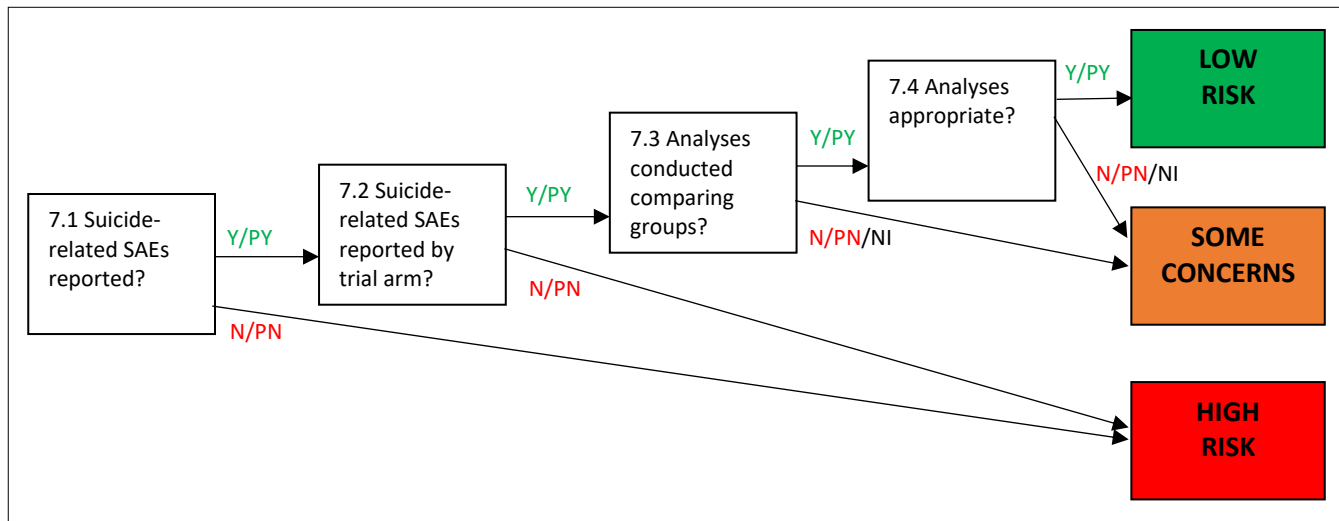
Signalling question	Elaboration	Response options
6.1 Was there a control group?	Answer 'Yes' if there was more than one group between which comparison were made. Otherwise answer 'No'.	Y/ PY/ PN/ N
6.2 If Y/PY to 6.1, was the control group from the same population as the experimental group?	Answer 'Yes' or 'Probably yes' if comparison groups were drawn from the same population. For example, this would apply to appropriately randomised trials, but might also include non-random allocation if it is unlikely allocation to intervention groups would be related to outcomes (e.g., if patients from the same ward at the same hospital were sampled, but were allocated to intervention groups in temporal order as opposed to randomly). Answer 'No' or 'Probably no' if comparison groups were recruited from different populations or in different ways.	NA/ Y/ PY/ PN/ N/ NI
6.3 If Y/PY to 6.1, was the control group sufficiently similar/ matched to the experimental group?	Answer 'Yes' or 'Probably yes' if comparison groups were not identical, but participants were drawn from sufficiently similar populations for it to be reasonable not to expect that there would be any major differences between them (e.g., matched participants from different inpatient wards in the same hospital). Answer 'No' or 'Probably no' if comparison groups were recruited from different populations or in different ways and were not matched in any way.	NA/ Y/ PY/ PN/ N/ NI
Risk of bias judgement	See algorithm (below).	LOW RISK / SOME CONCERNS / HIGH RISK



Domain 6 decision algorithm.

Domain 7: Risk of bias related to reporting of suicide-related serious adverse events (SAEs) (all studies).

Signalling question	Elaboration	Response options
7.1 Were suicide-related SAEs reported? outcome data were available for analysis?	Answer 'Yes' or 'Probably yes' if numbers of suicide-related SAEs or AEs were reported (even if reported as zero). Otherwise answer 'No' or 'Probably no'.	Y/ PY/ PN/ N
7.2 If Y/PY to 7.1, were suicide-related SAEs reported by trial arm?	Answer 'Yes' or 'Probably yes' if numbers of suicide-related SAEs or AEs were broken down by trial arm (even if reported as zero). Otherwise answer 'No' or 'Probably no'.	NA/ Y/ PY/ PN/ N
7.3 If Y/PY to 7.2, were any analyses conducted comparing suicide-related SAEs between groups?	Answer 'Yes' or 'Probably yes' if any analyses were conducted comparing numbers of suicide-related SAEs by trial arm. Otherwise answer 'No' or 'Probably no'.	NA/ Y/ PY/ PN/ N/ NI
7.4 If Y/PY to 7.3, were analyses appropriate?	Answer 'Yes' or 'Probably yes' if the analyses conducted were appropriate for comparison purposes. Otherwise answer 'No' or 'Probably no'.	NA/ Y/ PY/ PN/ N/ NI
Risk of bias judgement	See algorithm (below).	LOW RISK / SOME CONCERNS / HIGH RISK



Domain 7 decision algorithm.

Appendix C – Table illustrating participant and recording selection process

ASIQ Rank	Available recordings from sessions 1-8	Therapist ID	Include or exclude?	Reason	Patient ID
1	6	1	Include	N/a	1
2	4	2	Include	N/a	3
3	4	3	Include	N/a	5
4.5	3	2	Exclude	Insufficient availability of recordings	
4.5	1	2	Exclude	Insufficient availability of recordings	
6	1	1	Exclude	Insufficient availability of recordings	
7	5	1	Include	N/a	2
8	8	1	Exclude	Overrepresentation of therapist	
9	0	6	Exclude	Insufficient availability of recordings	
10	3	4	Exclude	Insufficient availability of recordings	
11	0	7	Exclude	Insufficient availability of recordings	
13	7	4	Include	N/a	6
13	0	7	Exclude	Insufficient availability of recordings	
13	2	4	Exclude	Insufficient availability of recordings	
15	0	7	Exclude	Insufficient availability of recordings	
16	7	1	Exclude	Overrepresentation of therapist	
17	8	1	Exclude	Overrepresentation of therapist	
18.5	8	1	Exclude	Overrepresentation of therapist	
18.5	3	4	Exclude	Insufficient availability of recordings	
20	3	1	Exclude	Insufficient availability of recordings	
21	3	4	Exclude	Insufficient availability of recordings	
22	0	7	Exclude	Insufficient availability of recordings	
23.5	6	4	Include	N/a	7
23.5	0	4	Exclude	Insufficient availability of recordings	
25	6	2	Include	N/a	4
26	4	5	Include	N/a	8
27	0	6	Exclude	Insufficient availability of recordings	
28	0	6	Exclude	Insufficient availability of recordings	
29	0	6/7	Exclude	Insufficient availability of recordings	
30	6	1	Exclude	Overrepresentation of therapist	
31.5	8	4	Exclude	Overrepresentation of therapist	
31.5	2	4	Exclude	Insufficient availability of recordings	
33	5	2	Exclude	Overrepresentation of therapist	
35	3	1	Exclude	Insufficient availability of recordings	
35	5	1	Exclude	Overrepresentation of therapist	
35	5	4	Exclude	Overrepresentation of therapist	
37	8	4	Exclude	Overrepresentation of therapist	
38	0	6	Exclude	Insufficient availability of recordings	
39	1	4	Exclude	Insufficient availability of recordings	

Appendix D – Adapted coding manual

(adapted from Verona Coding Definitions of Emotional Sequences)

Units of analysis

- In conversation within therapy sessions we find a sequence of turns that alternatively correspond to the patient and the therapist. Within patient turns we can identify what we call cues and concerns. Within therapist turns we can identify responses which follow cues and concerns, and which provide or reduce space.
- Units of analysis are any turn or part of a turn, said by the patient or therapist, which could be classified as either a “cue or concern expressed by a patient” (section 1, below), or a “therapist response following a patient cue/concern” (section 2, below).
- When more than one type of patient expression is given in the same turn (i.e., a cue and a concern), they can be divided out into units of analysis, whereas when only one type is present in a turn, the turn itself is the unit of analysis. If a cue and a concern are present, they are coded separately.
- Every therapist response that follows a patient cue/concern has to be coded. This means there should be at least as many therapist response units of analysis coded as patient cues/concerns coded.
- When more than one type of therapist response is given in the same turn following a cue/concern (i.e., a providing space response and a reducing space response), they can be divided out into units of analysis, whereas when only one response is given in a turn, the turn itself is the unit of analysis. If a providing space response and a reducing space response are present, they are coded separately.

Four steps to coding:

Step 1: Identification of patient expressed cues/concerns.

Step 2: Coding of cues/concerns as patient- or therapist-elicited.

Step 3: Coding of therapist responses as providing space reducing space for further disclosure.

Step 4: Coding of therapist responses into individual categories.

Below are instructions for each step and definitions of each relevant component.

Step 1: Identification of patient expressed cues/concerns.

Concerns

- A clear and unambiguous expression of current or past suicidal thoughts, feelings, urges, plans or behaviour, where the thought/ feeling/ urge/ plan/ behaviour is explicitly verbalised (e.g., Patient: “I made a plan to end my life”; “I thought about taking an overdose”).
- A clear and unambiguous expression of current or past self-harm, self-injury or self-poisoning, or thoughts thereof, regardless of whether or not intent to die is explicit (e.g., Patient: “I took an overdose”; I thought about cutting myself”).
- Either of the above but pertaining to other people (e.g., explicit mention of a family member’s suicide or a friend’s self-harm).
- Included are patient expressions confirming therapists’ assumptions or questions (e.g., Therapist: “Was that when you thought about ending your life?” Patient: “Yes”.).
- Concerns may or may not require further exploration.

Cues

- A verbal hint suggesting an underlying suicidal thought/feeling, which would need clarification from the therapist. Instances include:
 - a) Vague or unspecified words/phrases.
These may look similar to concerns, in that if interpreted in one way, they might be perceived as expressing suicidality, but alternative interpretation may mean something else entirely. For example, “I wanted to disappear” could mean “I wanted to take my life”, or alternatively “I wanted to be invisible”.
 - b) Verbal hints to hidden concerns.
These may take the form of metaphors, unusual descriptions, emphasis, exclamations, allusions, or reference to circumstances, to describe a feeling or state. For example, “it’s all so pointless”, “I’m suffocating”, “I can’t do it anymore”.
 - c) Words or phrases which emphasise correlates of suicidal states (e.g., hopelessness, impulsiveness, perfectionism, burdensomeness, entrapment).
These indicate a known major correlate of suicidality, but must also suggest some underlying distress or adverse emotion attached to it. For example, “I wanted it to be perfect” would not count as a cue unless it was followed by “and no matter what I do, I get it wrong”.
 - d) Nonverbal cues – e.g., sighing, crying, silence after therapist questions.
- Cues require information gathering and/or facilitation to help the patient express their concerns.

Cues	Concerns
<p>Active attraction to death E.g., wanting to die, wishing to be dead.</p> <p>Passive attraction to death E.g., not wanting to live anymore, not wanting to be here anymore, wanting to disappear, giving up.</p> <p>Entrapment/“stuckness” E.g., having had enough, feeling unable to go on, needing to get out, needing to escape, having no way out, having no escape.</p> <p>Burdensomeness/uselessness E.g., others being better off without one, nobody noticing/missing one if one was not around, feeling like a burden to others, not deserving to live, feeling worthless, feeling totally alone.</p> <p>Hopelessness E.g., having no hope, feeling hopeless, feeling totally lost, seeing no hope of change, not seeing the point, things feeling pointless.</p> <p>Functional difficulties E.g., significant deterioration in functioning, struggling to manage.</p> <p>Emotional difficulties E.g., having unbearable thoughts/ feelings, significant low mood/ depression, significant</p>	<p>Thoughts/plans/urges relating to:</p> <ul style="list-style-type: none"> - Suicide (attempting, “committing”, dying by) - Taking/ ending one’s own life - Killing oneself - Harming/hurting oneself - Specific methods (e.g., overdose, hanging, jumping from height) - Other people dying by/attempting suicide - Writing a suicide note <p>Reference to plans made/ acts already carried out:</p> <ul style="list-style-type: none"> - Method (e.g., overdose, hanging) - Means (e.g., gathering tablets, researching ligatures) - Specific steps regarding dying by suicide (e.g., gathering tablets; planning when to overdose) <p><i>NB. Reference to plans/acts are only coded as concerns if explicitly related to suicide thoughts, plans, urges or attempts. For example, talking about a bridge or tablets would not be coded as a concern unless mentioned within the context of jumping from it or overdosing on them.</i></p>

deterioration in mood, struggling with feelings, being in crisis.

Metaphors

E.g., exploding, drowning, suffocating, losing, being in a bad place/hell.

Other suggestions of underlying suicidal thoughts or behaviours

- Writing a note (content unspecified)
 - Consequences of self-harming/ attempting suicide/ being dead
 - Reasons for self-harming/ attempting suicide/ dying by suicide.
 - Vague/ ambiguous comments alluding to “*doing something/ anything/ it*”
 - Vague/ ambiguous responses to direct questions about suicide (e.g., Therapist: “*Was that when you thought about suicide?*” Patient: “*I’m not sure*”)
-

Step 2: Coding of cues/concerns as patient- or therapist-elicited.

Therapist-elicited cues/concerns

- These are an indicator of space given to the patient to explicate their concerns without needing to take initiatives.
- All cues/concerns which are coherently and logically connected with the therapist’s previous turn are included. This includes responses to the therapist’s closed questions, focused open-ended questions (e.g., “how did you feel about that?”), non-focused open-ended questions (e.g., “tell me more?”).

Patient-elicited cues/concerns

- These are an indicator of the patient’s initiatives or active struggle to direct the therapist’s attention to their suicidality.
- The patient introduces cues/concerns without having been expected or invited to by the therapist.
- These may or may not be connected with what was said in the previous exchange – either representing or suggesting a topic change, or stressing the importance of a topic for the patient.
- These include patient continuations of content from their previous turn, when a therapist Holding/encouraging (Back Channel) response intervenes.

General cue/concern coding rules:

- Relevant expressions should be coded as cues or concerns, plus a source indication (patient- or therapist-elicited).
- Cues do not need to be labelled according to their criteria (a) to (d) – these are simply coding aids.
- A cue/concern is only coded once when repeated in a turn, but may be coded separately if:
 - o They belong to different coding categories.
 - o They are repeated in subsequent turns.
- If in doubt about whether to code as a cue or a concern, consider if suicide-related content has been clearly verbalised or made explicit in the preceding turn of the therapist. If this is the case, code as a concern. If not, code as a cue.
- If still in doubt about whether to code as a cue or a concern, code as a cue.

- If in doubt about coding something as a cue or not at all, consider whether the expression would need exploration or should be followed up. If it should, code as a cue. If not, no need to code.
- If in strong doubt about whether something needs to be coded, do not code it.

Step 3: Coding of therapist responses as providing space reducing space for further disclosure.

The therapists' response to patient cues/concerns are coded according to whether the response provides space or reduces space for further disclosure/ exploration of the cue/concern, regardless of the intention of the therapist.

Providing space responses

- Any response which allows space for further disclosure/exploration of the cue/concern is coded as providing space.

Reducing space responses

- Any response which closes down further disclosure/exploration of the cue/concern is coded as reducing space.

Step 4: Coding of therapist responses into individual categories.

Therapist responses are then further coded into categories reflecting the nature of the responses.

Responses which *provide space* for further disclosure/ exploration

Holding/encouraging

The therapist utters any word or sound (but not a full statement) which indicates that they are listening and allows the patient space to continue uninterrupted.

Examples: "ok", "right", "mm-hm", "yeah"

(NB. Similar to "*Back channel*" in the original manual).

Reflecting/paraphrasing

The therapist repeats the patient's previous statement in the same or similar words, or attempts to verify their own understanding by rephrasing what the patient has said. This would include echoing, reflecting back, paraphrasing, summarising, checking or concluding a sentence formulated by the patient. All of these allow the patient to choose to take things further without explicitly asking for further or new information.

Example:

Patient: "I'm so tired of it"

Therapist: "It sounds like it's really worn you out"

(NB. Similar to "*Content acknowledgement*" and "*Affective acknowledgement*" in the original manual).

Asking for expansion/ further info

The therapist explicitly asks for additional information on the content of the cue/concern, or for clarification of the patient's meaning, in a way that facilitates (as opposed to inhibits) the conversation. Included in this category are closed and open questions, queries of clarification, and educated guesses expressed as questions.

Example:

Patient: "Dying seems like the only solution"

Therapist: "What is it about dying that you think would make things better?"

(NB. Similar to "*Active invitation*" and "*Affective exploration*" in the original manual).

Referring to relevant past

The therapist brings up a relevant point previously discussed, which related to what the patient is talking about in the present, in a way that facilitates (as opposed to inhibits) further discussion. This includes explicit questions about relevant events in the patient's past, exploring

links between the current situation and the past, and reminders of patient-therapist conversations from earlier on or previous sessions.

Example:

Patient: "We started arguing again and I had to get out of there"

Therapist: "Because you said those fights have been triggering in the past?"

(NB. There is no similar category in the original manual).

Silent space

The therapist provides a clear space or pause for at least 3 seconds, allowing the patient to say more if they wish to, without explicit questioning or prompting.

NB. A certain amount of judgement is necessary to distinguish use of silence on the therapist's part from inattention or engagement in other activity (in which case, responses may be coded as *Dismissing/ignoring*, *Distracted by external stimulus* or *Interrupting* – see below).

(NB. Similar to *Silence* in the original manual).

Responses which *reduce space* for further disclosure/ exploration

Focus on content

The therapist attends only to concrete or factual content of the patient's cue/concern, making comment on or asking about surface content (as opposed to using the opportunity to explore the patient's internal experience or exploring underlying meaning).

Example:

Patient: "I felt like I couldn't go on any longer"

Therapist: "What day was this?"

(NB. There is no similar category in the original manual).

Leading/telling

The therapist informs, gives advice, offers reassurance, or makes suggestions about what the patient thinks, feels or means, but does not invite further disclosure about the cue/concern.

Example:

Patient: "I'm so sick of it being like this"

Therapist: "It won't always be like this"

(NB. Similar to *Information-advise* in the original manual).

Dismissing/ignoring

The therapist seemingly either completely misses the cue/concern, or actively blocks talking about what the patient introduces.

Example 1:

Patient: "The voices were unbearable"

Therapist: "Were you taking your medication?"

Example 2:

Patient: "The voices were really bad"

Therapist: "OK, shall we pick up on what we were doing last week?"

(NB. Similar to *Ignoring* and *Shutting down* in the original manual).

Deferring to future

The therapist suggests that further exploration of the cue/concern is delayed. Further talk about the cue/concern is prevented at that time, but it is communicated that there is intention to return to the subject.

Example:

Patient: "I'm so worried I won't be able to cope"

Therapist: "I'd like to talk about that a bit more, later"

(NB. Similar to *Postponement* in the original manual).

Distracted by external stimulus

The therapist's attention is drawn to something in the environment, at the expense of responding to what the patient has said. This could be, for example, a noise, an external interruption, or their own papers/equipment.

Example:

Patient: "I've been feeling really low"

Therapist: (Shuffling papers) "I thought I had some worksheets here but maybe I've left them in the car"

(NB. There is no similar category in the original manual).

Minimising

The therapist uses a response which expresses an explicit refusal to talk further about the cue/concern, accompanied by a devaluation, disconfirmation or minimisation of what was said. This could either be on a factual or affective level.

Example:

Patient: I'm so worried I won't be able to cope.

Therapist: There's no need for you to worry.

(NB. Similar to Active blocking in the original manual).

Change of direction

The therapist changes the frame of reference of the cue/concern or steers the focus of the conversation away from what the patient appears to have intended. The therapist may focus on an aspect of the patient's expression that is unrelated to the cue/concern, or may introduce a brand-new subject.

NB. This response may be an invitation to talk, but not to talk about the cue/concern in the same terms introduced by the patient.

Example:

Patient: "I feel like I can't take much more of the voices"

Therapist: "How do they make you feel about yourself?"

(NB. Similar to *Switching* in the original manual).

Interrupting

The therapist speaks over the patient or intervenes mid-sentence. This may be to ask for further information, but the interruption nevertheless closes down what the patient was saying at that time.

Example:

Patient: "It's hopeless, I feel like things are never going to-"

Therapist: "Have you felt like that all week?"

(NB. There is no similar category in the original manual).).

Empathic closing

The therapist uses a response which has an empathic function, but nonetheless closes down the conversation. They may show understanding of the patient's feelings, but without offering any reflection or asking for further clarification.

Example:

Therapist: "That sounds hard" / "I understand" / "I can imagine".

(NB. Similar to *Implicit empathy* in the original manual, although the original manual considers *Implicit empathy* to be a providing space response).